



PROJECT MANUAL

MODERNIZATION OF STATE & HUD AIDED PUBLIC HOUSING



50 STACKPOLE STREET GENERATOR REPLACEMENT

U.S. HUD-AIDED DEVELOPMENT: Concord River Mill
LOWELL, MASSACHUSETTS

<p>LOWELL HOUSING AUTHORITY 350 Moody Street Lowell, MA 01854 (978) 937-3500 FAX: (866) 547-0474 (All bids to be delivered, opened and read at this address.)</p>	<p>PROJECT ADDRESS: Concord River Mill 50 Stackpole Street Lowell, MA 01850 Ashley Joyce, Property Manager</p>
<p>Mony Var, Chairperson Rodney Elliott, Vice-Chairperson Philip L. Shea, Commissioner</p>	<p>Matthew Marr, Commissioner Joanie Bernes, Commissioner Tha Chhan, Executive Director</p>

Procurement Director

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Chief Procurement Officer
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rbrousseau@lhma.org
(Note: all communication for this IFB must be by and through the Procurement Department.)

Architect

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375 Faunce Corner Road, Suite D
Dartmouth, MA 02747-1258
Architect's Representative:
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Capital Asset Manager

Laura Watts
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build@lhma.org

BID RELEASE DATE: March 27, 2024

PRE-BID SITE VISIT: April 3, 2024, 11:00 AM

LAST DAY TO SUBMIT WRITTEN QUESTIONS: April 17, 2024, by 3:00 PM

FILED SUB BIDS DUE: April 19, 2024 @ 11:00 AM

GC BIDS DUE: April 26, 2024 @ 11:00 AM

All documents may be downloaded from: www.lhma.org/bids



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50 Stackpole Street Generator Replacement
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*Lowell Housing Authority
Department of Finance and Procurement
350 Moody Street, Lowell, MA 01854
Invitation for Bids (IFB)*



CONTRACTOR BID SUBMISSION CHECKLIST

To ensure that your bids are acceptable, and are not rejected due to mistakes, we are providing this Checklist for your convenience. It does not have to be included with your bid. If this checklist is not submitted it is an informality that will not void the bid.

Please do not submit the entire IFB document. **Only** submit the required forms, bonds, certifications and any additional submittals/data sheets, etc.

- _____ Form for General Bid (bid pricing sheet)
- _____ Form for Filed Sub Bids (bid pricing sheet)
- _____ 5% Bid Bond
- _____ DCAMM Update Statement & Certificate of Eligibility
- _____ Bidders Reference Form
- _____ Section 3 Policy Form #'s 1 & 2 (General & Filed Sub Bidders must submit)
- _____ Non-Collusion Form
- _____ Tax Compliance Certification
- _____ Form W9
- _____ Certificate of Corporate Vote of Authorization
- _____ OSHA Certification
- _____ Representations, Certifications and Other Statements of Bidders Public and Indian Housing Programs Form HUD 5369-A

ADVERTISEMENT FOR IFB # 2024-5

The Lowell Housing Authority and the Board of Commissioners, the Awarding Authority, invite sealed bids from Contractors for the replacement of a generator at Concord River Mill located at 50 Stackpole Street for the Lowell Housing Authority in Lowell, Massachusetts, in accordance with the documents prepared by TBA Architects, Inc.

The Project consists of: plumbing and electrical work associated with the replacement of a 60KW generator.

The work is estimated to cost \$147,890.00.

Bids are subject to M.G.L. c.149 §44A-J and to minimum wage rates as required by M.G.L. c.149 §§26 to 27H inclusive, Davis Bacon Wage Determination for Building Construction (MA4), 40 U.S.C. 276, 29 C.F.R. 1.

A Pre-Bid Site Visit shall take place on **April 3, 2024 @ 11:00 AM**. Interested Contractors should meet at 50 Stackpole Street, Lowell, MA 01850.

The IFB is available to download at www.lhma.org/bids as of March 27, 2024. **Filed Sub-Bids** are due at the Lowell Housing Authority Dept. of Finance & Procurement, 350 Moody Street Lowell, MA 01854 by **11:00 AM on April 19, 2024**, and **General Contractor Bids** are due by **11:00 AM on April 26, 2024**.

All Bids should be clearly labeled and delivered to: Lowell Housing Authority, 350 Moody St., Lowell, MA 01854 **Attn: Dept. of Finance & Procurement**, and received no later than the date and time specified above.

All bids shall be accompanied by a bid deposit that is not less than five (5%) of the greatest possible bid amount (considering all alternates) and made payable to the Lowell Housing Authority.

Bid Forms and Contract Documents will be available to download from www.lhma.org/bids.

The LHA reserves the right to cancel the IFB, reject any or all bids and waive informalities.

END OF SECTION

ADVERTISEMENT

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

**Instructions to Bidders for Contracts
Public and Indian Housing Programs**

Lowell Housing Authority
350 Moody Street, P.O.Box 60
Lowell, MA 01853-0060

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.

LOWELL HOUSING AUTHORITY

LOWELL, MASSACHUSETTS

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 —

Lowell Housing Authority
Department of Finance and Procurement
350 Moody Street
Lowell, MA 01854

[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, except 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 be 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 [X] 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.

**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)(1) 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)(1) 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 [30] calendar days or per statute.

(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.

(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)

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)		For HUD HQ/FmHA use only	
Reason for submission:			
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) <input type="checkbox"/> Existing <input type="checkbox"/> Rehabilitation <input type="checkbox"/> 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. 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. 05/31/2019)

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 Experience"**.

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	<input type="checkbox"/> A. No adverse information; form HUD-2530 approval recommended. <input type="checkbox"/> B. Name match in system <input type="checkbox"/> C. Disclosure or Certification problem <input type="checkbox"/> D. Other (attach memorandum)	
Staff	Processing and Control		
Supervisor	Director of Housing/Director, Multifamily Division	Approved <input type="checkbox"/> Yes <input type="checkbox"/> 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 – 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 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.



FORM FOR GENERAL BID

TO THE AWARDING AUTHORITY:

A. The undersigned proposes to furnish all labor and materials required for _____ (project) , for the Lowell Housing Authority in Lowell Massachusetts with the accompanying plans and specifications prepared by _____ (name of architect or engineer) for the contract price specified below, subject to additions and deductions according to terms of the specifications.

B. This bid includes addenda # _____

C. The Proposed Total Contract Price \$ _____

In words _____

D. The subdivision of the proposed contract price is as follows:

Item 1. The work of the general contractor, being all work other than that covered by

Item 2. \$ _____.

Item 2. Sub-bids as follows:

Sub-Trade	Name of Sub-Bidder	Amount	Bonds required Indicated by "Yes" or "No"
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
Total of Item 2		\$ _____	

The undersigned agrees that each of the above-named sub-bidders will be used for the work indicated at the amount stated, unless a substitution is made. The undersigned further agrees to pay the premiums for the performance and payment bonds furnished by sub-bidders as requested herein and that all of the cost of all such premiums is included in the amount set forth in Item 1 of this bid. The undersigned agrees that if he is selected as general contractor, he will promptly confer with the awarding authority on the question of sub-bidders; and that the awarding authority may substitute for any sub-bid listed above a sub-bid filed with the awarding authority by another sub-bidder for the sub-trade

against whose standing and ability the undersigned makes no objection; and that the undersigned will use all such finally selected sub-bidders at the amounts named in their respective sub-bids and be in every way as responsible for them and their work as if they had been originally named in this general bid, the total contract price being adjusted to conform thereto.

- E. The undersigned agrees that, if he is selected as general contractor, he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the awarding authority and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price; provided, however, that if there is more than 1 surety company, the surety companies shall be jointly and severally liable.

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date: _____

(Name of General Bidder)

By _____
(Name of Person Signed Bid and Title)

(Business Address)

(City and State)

(Phone)

(Email Address)



FORM FOR FILED SUB-BID

To all General Bidders Except those Excluded:

A. The undersigned proposes to furnish all labor and materials required for completing, in accordance with the hereinafter described plans, specifications and addenda, all the work specified in Section No. _____ of the specifications and in any plans specified in such section, prepared by _____ (name of architect or engineer) for _____ (project) in _____ (city or town), Massachusetts, for the contract sum of _____ dollars (\$_____).

For Alternate No. _____; Add \$_____ Subtract \$_____

[Repeat preceding line for each alternate]

B. This sub-bid includes addenda numbered _____

C. This sub-bid

may be used by any general bidder except:

may only be used by the following general bidders:

[To exclude general bidders, insert "X" in one box only and fill in blank following that box. Do not answer C if no general bidders are excluded.]

D. The undersigned agrees that, if he is selected as a sub-bidder, he will, within 5 days, Saturdays, Sundays and legal holidays excluded, after presentation of a subcontract by the general bidder selected as the general contractor, execute with such general bidder a subcontract in accordance with the terms of this sub-bid, and contingent upon the execution of the general contract, and, if requested so to do in the general bid by the general bidder, who shall pay the premiums therefor, or if prequalification is required pursuant to section 44D 3/4, furnish a performance and payment bond of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority, in the full sum of the subcontract price.

E. The names of all persons, firms and corporations furnishing to the undersigned labor or labor and materials for the class or classes or part thereof of work for which the provisions of the section of the specifications for this sub-trade require a listing in this paragraph, including the undersigned if customarily furnished by persons on his own payroll and in the absence of a contrary provision in the specifications, the

name of each such class of work or part thereto and the bid price for such class of work or part thereof are:

Name	Class of Work	Bid Price
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

[Do not give bid price for any class or part thereof furnished by undersigned.]

F. The undersigned agrees that the above list of bids to the undersigned represents bona fide bids based on the hereinbefore described plans, specifications and addenda and that, if the undersigned is awarded the contract, they will be used for the work indicated at the amounts stated, if satisfactory to the awarding authority.

G. The undersigned further agrees to be bound to the general contractor by the terms of the hereinbefore described plans, specifications, including all general conditions stated therein, and addenda, and to assume toward him all the obligations and responsibilities that he, by those documents, assumes toward the owner.

H. The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon according to all the requirements of the plans and specifications: -

1. Have been in business under present business name _____ years.

2. Ever failed to complete any work awarded? _____

3. List one or more recent buildings with names of the general contractor and architect on which you served as a sub-contractor for work of similar character as required for the above-named building.

Building	Architect	General Contractor	Amount of Contract
(a) _____	_____	_____	_____
(b) _____	_____	_____	_____
(c) _____	_____	_____	_____

4. Bank reference _____

I. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section forty-four F. The undersigned further certifies under penalties of perjury that this sub-bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint

venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date: _____

(Name of General Bidder)

By _____
(Name of Person Signed Bid and Title)

(Business Address)

(City and State)

(Phone)

(Email Address)

**PRIME/GENERAL UPDATE STATEMENTS ARE NOT PUBLIC RECORDS AND
ARE NOT OPEN TO PUBLIC INSPECTION (M.G.L. C.149, §44D)**

TO ALL BIDDERS AND AWARDING AUTHORITIES

A COMPLETED AND SIGNED PRIME/GENERAL CONTRACTOR UPDATE STATEMENT MUST BE SUBMITTED WITH EVERY PRIME/GENERAL BID FOR A CONTRACT PURSUANT TO M.G.L. c.149, §44A AND M.G.L. c. 149A. ANY PRIME/GENERAL BID SUBMITTED WITHOUT AN APPROPRIATE UPDATE STATEMENT IS INVALID AND MUST BE REJECTED.

Caution: This form is to be used for submitting Prime/General Contract bids. It is not to be used for submitting Filed Sub-Bids or Trade Sub-Bids.

AWARDING AUTHORITIES

If the Awarding Authority determines that the bidder does not demonstrably possess the skill, ability and integrity necessary to perform the work on the project, it must reject the bid.

BIDDER'S AFFIDAVIT

I swear under the pains and penalties of perjury that I am duly authorized by the bidder named below to sign and submit this Prime/General Contractor Update Statement on behalf of the bidder named below, that I have read this Prime/General Contractor Update Statement, and that all of the information provided by the bidder in this Prime/General Contractor Update Statement is true, accurate, and complete as of the bid date.

Bid Date

Print Name of Prime/General Contractor

Project Number
(or name if no number)

Business Address

Awarding Authority

Telephone Number

SIGNATURE⇒

Bidder's Authorized Representative

INSTRUCTIONS

INSTRUCTIONS TO BIDDERS

- This form must be completed and submitted by all Prime/General contractors bidding on projects pursuant to M.G.L. c. 149, §44A and M.G.L. c. 149A.
- You must give complete and accurate answers to all questions and provide all of the information requested. MAKING A MATERIALLY FALSE STATEMENT IN THIS UPDATE STATEMENT IS GROUNDS FOR REJECTING YOUR BID AND FOR DEBARRING YOU FROM ALL PUBLIC CONTRACTING.
- **This Update Statement must include all requested information that was not previously reported on the Application used for your firm's most recently issued (not extended or amended) Prime/General Contractor Certificate of Eligibility. The Update Statement must cover the entire period since the date of your Application, NOT since the date of your Certification.**
- You must use this official form of Update Statement. Copies of this form may be obtained from the awarding authority and from the Asset Management Web Site: www.mass.gov/dcam .
- If additional space is needed, please copy the appropriate page of this Update Statement and attach it as an additional sheet.
- See the section entitled "Bidding Limits" in the *Instructions to Awarding Authorities* for important information concerning your bidding limits.

INSTRUCTIONS TO AWARDING AUTHORITIES

Determination of Bidder Qualifications

- It is the awarding authority's responsibility to determine who is the lowest eligible and responsible bidder. You must consider all of the information in the low bidder's Update Statement in making this determination. Remember: this information was not available to the Division of Capital Asset Management and Maintenance at the time of certification.
- The bidder's performance on the projects listed in Parts 1 and 2 must be part of your review. Contact the project references.
- AWARDING AUTHORITIES ARE STRONGLY ENCOURAGED TO REVIEW THE LOW BIDDER'S

ENTIRE CERTIFICATION FILE AT THE DIVISION OF CAPITAL ASSET MANAGEMENT AND MAINTENANCE. Telephone (617) 727-9320 for an appointment.

Bidding Limits

Single Project Limit: The total amount of the bid, including all alternates, may not exceed the bidder's Single Project Limit.

Aggregate Work Limit: The annual value of the work to be performed on the contract for which the bid is submitted, when added to the annual cost to complete the bidder's other currently held contracts, may not exceed the bidder's Aggregate Work Limit. Use the following procedure to determine whether the low bidder is within its Aggregate Work Limit:

Step 1 Review Update Statement Question #2 to make sure that all requested information is provided and that the bidder has accurately calculated and totaled the annualized value of all incomplete work on its currently held contracts (column 9).

Step 2 Determine the annual dollar value of the work to be performed on your project. This is done as follows:

(i) If the project is to be completed in less than 12 months, the annual dollar value of the work is equal to the full amount of the bid.

(ii) If the project will take more than 12 months to complete, calculate the number of years given to complete the project by dividing the total number of months in the project schedule by 12 (calculate to 3 decimal places), then divide the amount of the bid by the calculated number of years to find the annual dollar value of the work.

Step 3 Add the annualized value of all of the bidder's incomplete contract work (the

total of column 9 on page 5) to the annual dollar value of the work to be performed on your project. **The total may not exceed the bidder's Aggregate Work Limit.**

Correction of Errors and Omissions in Update Statements

Matters of Form: An awarding authority shall not reject a contractor's bid because there are mistakes or omissions of form in the Update Statement submitted with the bid, provided the contractor promptly

corrects those mistakes or omissions upon request of the awarding authority. [810 CMR 8.05(1)].

Correction of Other Defects: An awarding authority may, in its discretion, give a contractor notice of defects, other than mistakes or omissions of form, in the contractor's Update Statement, and an opportunity to correct such defects, provided the correction of such defects is not prejudicial to fair competition. An awarding authority may reject a corrected Update Statement if it contains unfavorable information about the contractor that was omitted from the Update Statement filed with the contractor's bid. [810 CMR 8.05(2)].

PART 1 - COMPLETED PROJECTS

LIST ALL PUBLIC AND PRIVATE *BUILDING* PROJECTS YOUR FIRM HAS COMPLETED SINCE THE DATE OF APPLICATION FOR YOUR MOST RECENTLY ISSUED (NOT EXTENDED OR AMENDED) DCAM CERTIFICATE OF ELIGIBILITY. YOU MUST REPORT ALL REQUESTED INFORMATION NOT PREVIOUSLY REPORTED ON THAT DCAM APPLICATION*.

PROJECT TITLE & LOCATION	WORK CATEGORY	CONTRACT PRICE	START DATE	DATE COMPLETED

Attach additional sheets if necessary

* If your firm has been terminated from a project prior to completion of the work or has failed or refused to complete its work under any contract, full details and an explanation must be provided. See Part 3 of this Update Statement.

PROVIDE THE FOLLOWING REFERENCE INFORMATION FOR EACH COMPLETED PROJECT LISTED ON THE PREVIOUS PAGE.

PROJECT TITLE	COMPANY NAME	CONTACT PERSON	TELEPHONE
	OWNER: Owner	Contact Person	Telephone
	DESIGNER: Designer	Contact Person	Telephone
	GC: GC	Contact Person	Telephone
	OWNER: Owner	Contact Person	Telephone
	DESIGNER: Designer	Contact Person	Telephone
	GC: GC	Contact Person	Telephone
	OWNER: Owner	Contact Person	Telephone
	DESIGNER: Designer	Contact Person	Telephone
	GC: GC	Contact Person	Telephone
	OWNER: Owner	Contact Person	Telephone
	DESIGNER: Designer	Contact Person	Telephone
	GC: GC	Contact Person	Telephone
	OWNER: Owner	Contact Person	Telephone
	DESIGNER: Designer	Contact Person	Telephone
	GC: GC	Contact Person	Telephone

Is your company or any individual who owns, manages or controls your company affiliated with any owner, designer or general contractor named above, either through a business or family relationship? YES NO

Are any of the contact persons named above affiliated with your company or any individual who owns, manages or control your company, either through a business or family relationship? YES NO

If you have answered YES to either question, explain. _____

PART 2 - CURRENTLY HELD CONTRACTS

LIST ALL PUBLIC AND PRIVATE BUILDING AND NON-BUILDING *CONSTRUCTION* PROJECTS YOUR FIRM HAS UNDER CONTRACT ON THIS DATE REGARDLESS OF WHEN OR WHETHER THE WORK COMMENCED.

1	2	3	4	5	6	7	8	9
PROJECT TITLE & LOCATION	WORK CATEGORY	START AND END DATES	ON SCHEDULE (yes / no)	CONTRACT PRICE	% NOT COMPLETE	\$ VALUE OF WORK NOT COMPLETE (col. 5 X col. 6)	NO. OF YEARS REMAINING (see note below)	ANNUALIZED VALUE OF INCOMPLETE WORK (col. 7 ÷ col. 8) (divided by)

ANNUALIZED VALUE OF ALL INCOMPLETE CONTRACT WORK (Total of Column 9)

\$ _____

- Column 8
- If less than one year is left in the project schedule, write 1.
 - If more than 12 months are left in the project schedule, divide the number of months left in the project schedule by 12 (calculate to three decimal places).

PROVIDE THE FOLLOWING REFERENCE INFORMATION FOR EACH INCOMPLETE PROJECT LISTED ON THE PREVIOUS PAGE.

PROJECT TITLE	COMPANY NAME	CONTACT PERSON	TELEPHONE
	OWNER: Owner	Contact Person	Telephone
	DESIGNER: Designer	Contact Person	Telephone
	GC: GC	Contact Person	Telephone
	OWNER: Owner	Contact Person	Telephone
	DESIGNER: Designer	Contact Person	Telephone
	GC: GC	Contact Person	Telephone
	OWNER: Owner	Contact Person	Telephone
	DESIGNER: Designer	Contact Person	Telephone
	GC: GC	Contact Person	Telephone
	OWNER: Owner	Contact Person	Telephone
	DESIGNER: Designer	Contact Person	Telephone
	GC: GC	Contact Person	Telephone
	OWNER: Owner	Contact Person	Telephone
	DESIGNER: Designer	Contact Person	Telephone
	GC: GC	Contact Person	Telephone

Is your company or any individual who owns, manages or controls your company affiliated with any owner, designer or general contractor named above either through a business or family relationship? YES NO

Are any of the contact persons named above affiliated with your company or any individual who owns, manages or control your company, either through a business or family relationship? YES NO

If you have answered YES to either question, explain. _____

PART 3 - PROJECT PERFORMANCE

For Parts 3 and 4, if you answer YES to any question, please provide on a separate page a complete explanation. Information you provide herein must supplement the Application for your most recently issued (not extended or amended) DCAM Certificate of Eligibility. You must report all requested information not previously reported on that DCAM Application for Prime/General Certificate of Eligibility. Include all details [project name(s) and location(s), names of all parties involved, relevant dates, etc.].

	YES	NO
1. Has your firm been terminated on any contract prior to completing a project or has any officer, partner or principal of your firm been an officer, partner or principal of another firm that was terminated or failed to complete a project?	<input type="checkbox"/>	<input type="checkbox"/>
2. Has your firm failed or refused either to perform or complete any of its work under any contract prior to substantial completion?	<input type="checkbox"/>	<input type="checkbox"/>
3. Has your firm failed or refused to complete any punch list work under any contract?	<input type="checkbox"/>	<input type="checkbox"/>
4. Has your firm filed for bankruptcy, or has any officer, principal or individual with a financial interest in your current firm been an officer, principal or individual with a financial interest in another firm that filed for bankruptcy?	<input type="checkbox"/>	<input type="checkbox"/>
5. Has your surety taken over or been asked to complete any of your work under any contract?	<input type="checkbox"/>	<input type="checkbox"/>
6. Has a payment or performance bond been invoked against your current firm, or has any officer, principal or individual with a financial interest in your current firm been an officer, principal or individual with a financial interest in another firm that had a payment or performance bond invoked?	<input type="checkbox"/>	<input type="checkbox"/>
7. Has your surety made payment to a materials supplier or other party under your payment bond on any contract?	<input type="checkbox"/>	<input type="checkbox"/>
8. Has any subcontractor filed a demand for direct payment with an awarding authority for a public project on any of your contracts?	<input type="checkbox"/>	<input type="checkbox"/>
9. Have any of your subcontractors or suppliers filed litigation to enforce a mechanic's lien against property in connection with work performed or materials supplied under any of your contracts?	<input type="checkbox"/>	<input type="checkbox"/>
10. Have there been any deaths of an employee or others occurring in connection with any of your projects?	<input type="checkbox"/>	<input type="checkbox"/>
11. Has any employee or other person suffered an injury in connection with any of your projects resulting in their inability to return to work for a period in excess of one year?	<input type="checkbox"/>	<input type="checkbox"/>

PART 4 - Legal or Administrative Proceedings; Compliance with Laws

Please answer the following questions. Information must supplement all judicial and administrative proceedings involving bidder’s firm, which were instituted or concluded (adversely or otherwise) since your firm’s Application for your most recently issued (not extended or amended) Certificate of Eligibility. You must report all requested information not previously reported on that DCAM Application for Prime/General Certificate of Eligibility.

The term “administrative proceeding” as used in this Prime/General Contractor Update Statement includes (i) any action taken or proceeding brought by a governmental agency, department or officer to enforce any law, regulation, code, legal, or contractual requirement, except for those brought in state or federal courts, or (ii) any action taken by a governmental agency, department or officer imposing penalties, fines or other sanctions for failure to comply with any such legal or contractual requirement.

The term “anyone with a financial interest in your firm” as used in this Section “I”, shall mean any person and/or entity with a 5% or greater ownership interest in the applicant’s firm.

If you answer YES to any question, on a separate page provide a complete explanation of each proceeding or action and any judgment, decision, fine or other sanction or result. Include all details (name of court or administrative agency, title of case or proceeding, case number, date action was commenced, date judgment or decision was entered, fines or penalties imposed, etc.).

	YES	NO
1. Have any civil, judicial or administrative proceedings involving your firm or a principal or officer or anyone with a financial interest in your firm been brought, concluded, or settled relating to the procurement or performance of any construction contract, including but not limited to actions to obtain payment brought by subcontractors, suppliers or others?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have any criminal proceedings involving your firm or a principal or officer or anyone with a financial interest in your firm been brought, concluded, or settled relating to the procurement or performance of any construction contract including, but not limited to, any of the following offenses: fraud, graft, embezzlement, forgery, bribery, falsification or destruction of records, or receipt of stolen property?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have any judicial or administrative proceedings involving your firm or a principal or officer or anyone with a financial interest in your firm been brought, concluded, or settled relating to a violation of any state’s or federal procurement laws arising out of the submission of bids or proposals?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have any judicial or administrative proceedings involving your firm or a principal or officer or anyone with a financial interest in your firm been brought, concluded, or settled relating to a violation of M.G.L. Chapter 268A, the State Ethics Law?	<input type="checkbox"/>	<input type="checkbox"/>

PART 4 - Legal or Administrative Proceedings; Compliance with Laws (continued)

	YES	NO
5. Have any judicial or administrative proceedings involving your firm or a principal or officer or anyone with a financial interest in your firm been brought, concluded, or settled relating to a violation of any state or federal law regulating hours of labor, unemployment compensation, minimum wages, prevailing wages, overtime pay, equal pay, child labor or worker's compensation?	<input type="checkbox"/>	<input type="checkbox"/>
6. Have any judicial or administrative proceedings involving your firm or a principal or officer or anyone with a financial interest in your firm been brought, concluded, or settled relating to a violation of any state or federal law prohibiting discrimination in employment?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have any judicial or administrative proceedings involving your firm or a principal or officer or anyone with a financial interest in your firm been brought, concluded, or settled relating to a claim of repeated or aggravated violation of any state or federal law regulating labor relations?	<input type="checkbox"/>	<input type="checkbox"/>
8. Have any proceedings by a municipal, state, or federal agency been brought, concluded, or settled relating to decertification, debarment, or suspension of your firm or any principal or officer or anyone with a financial interest in your firm from public contracting?	<input type="checkbox"/>	<input type="checkbox"/>
9. Have any judicial or administrative proceedings involving your firm or a principal or officer or anyone with a financial interest in your firm been brought, concluded, or settled relating to a violation of state or federal law regulating the environment?	<input type="checkbox"/>	<input type="checkbox"/>
10. Has your firm been fined by OSHA or any other state or federal agency for violations of any laws or regulations related to occupational health or safety? Note: this information may be obtained from OSHA's Web Site at www.osha.gov	<input type="checkbox"/>	<input type="checkbox"/>
11. Has your firm been sanctioned for failure to achieve DBE/MBE/WBE goals, workforce goals, or failure to file certified payrolls on any public projects?	<input type="checkbox"/>	<input type="checkbox"/>
12. Other than previously reported in the above paragraphs of this Section I, have any administrative proceedings or investigations involving your firm or a principal or officer or anyone with a financial interest in your firm been brought, concluded, or settled by any local, state or federal agency relating to the procurement or performance of any construction contract?	<input type="checkbox"/>	<input type="checkbox"/>
13. Are there any other issues that you are aware which may affect your firm's responsibility and integrity as a building contractor?	<input type="checkbox"/>	<input type="checkbox"/>

PART 5 - SUPERVISORY PERSONNEL

List all supervisory personnel, such as project managers and superintendents, who will be assigned to the project if your firm is awarded the contract. **Attach the resume of each person listed below.**

NAME	TITLE OR FUNCTION

PART 6 - CHANGES IN BUSINESS ORGANIZATION OR FINANCIAL CONDITION

Have there been any changes in your firm’s business organization, financial condition or bonding capacity since the date your current Certificate of Eligibility was issued? Yes No

If YES, attach a separate page providing complete details.

PART 7 – LIST OF COMPLETED CONSTRUCTION PROJECTS SUBMITTED TO THE DIVISION OF CAPITAL ASSET MANAGEMENT AND MAINTENANCE.

Attach here a copy of the list of completed construction projects which was submitted with your firm’s DCAM Application for your most recently issued (not extended or amended) DCAM Certificate of Eligibility. The Attachment must include a complete copy of the entire Section G – “Completed Projects” and the final page – “Certification” (Section J) containing the signature and date that the Completed Projects list (Section G) was submitted to the Division of Capital Asset Management and Maintenance.



**SUB-BIDDERS' UPDATE STATEMENTS ARE NOT PUBLIC RECORDS AND
ARE NOT OPEN TO PUBLIC INSPECTION (M.G.L. C.149, §44D)**

Sub-Bidder Update Statement

TO ALL SUB-BIDDERS, TRADE CONTRACTORS AND AWARDING AUTHORITIES

A COMPLETED AND SIGNED SUB-BIDDER UPDATE STATEMENT MUST BE SUBMITTED WITH EVERY FILED SUB-BID PURSUANT TO M.G.L. c.149, §44F AND EVERY TRADE SUB-BID PURSUANT TO M.G.L. c. 149A. ANY FILED SUB-BID OR TRADE SUB-BID SUBMITTED WITHOUT AN APPROPRIATE SUB-BIDDER UPDATE STATEMENT IS INVALID AND MUST BE REJECTED.

Caution: This form is to be used for submitting Filed Sub-Bids and Trade Sub-Bids Only

AWARDING AUTHORITIES

If the Awarding Authority determines that the Sub-Bidder is not competent to perform the work as specified on the project, it should reject the bid.

SUB-BIDDER'S AFFIDAVIT

I swear under the pains and penalties of perjury that I am duly authorized by the bidder named below to sign and submit this Sub-Bidder Update Statement on behalf of the bidder named below, that I have read this Sub-Bidder Update Statement, and that all of the information provided by the bidder in this Sub-Bidder Update Statement is true, accurate, and complete as of the bid date.

Bid Date

Print Name of Sub-Bidder or Trade Contractor

Project Number
(or name if no number)

Business Address

Awarding Authority

Telephone Number

SIGNATURE⇒

Bidder's Authorized Representative

INSTRUCTIONS

INSTRUCTIONS TO SUB-BIDDERS

- This form must be completed and submitted by all Filed Sub-Bidders bidding on projects and Trade Contractors bidding on projects.
- You must give complete and accurate answers to all questions and provide all of the information requested. MAKING A MATERIALLY FALSE STATEMENT IN THIS SUB-BIDDER UPDATE STATEMENT IS GROUNDS FOR REJECTING YOUR BID AND FOR DEBARRING YOU FROM ALL PUBLIC CONTRACTING.
- This Sub-Bidder Update Statement must include all requested information that was not previously reported on the application used for your company's most recently issued (not extended or amended) Sub-Bidder Certificate of Eligibility. **The Sub-Bidder Update Statement must cover the entire period since the date of that application, NOT since the date of your Certification.**
- You must use this official form of Sub-Bidder Update Statement. Copies of this form may be obtained from the awarding authority or from the DCAMM Web Site:
www.mass.gov/DCAMM/certification.
- If additional space is needed, please copy the appropriate page of this Sub-Bidder Update Statement and attach it as an additional sheet.
- It is acceptable to attach your projects in progress and completed projects spreadsheet for Part 7.

INSTRUCTIONS TO AWARDING AUTHORITIES

Determination of Sub-Bidder Qualifications

- It is the awarding authority's responsibility to determine each responsible bidder. You must consider all of the information in the bidder's Sub-Bidder Update Statement in making this determination. **Remember: this information was not available to the Division of Capital Asset Management and Maintenance at the time of certification.**
- The Sub-Bidder's performance on the projects listed in Parts 1 and 2 must be part of your review.
- Contact the project references.
- AWARDING AUTHORITIES ARE STRONGLY ENCOURAGED TO REVIEW THE LOW BIDDERS CERTIFICATION FILE. WITH THE IMPLEMENTATION OF ELECTRONIC DOCUMENT MANAGEMENT FILE REVIEWS CAN BE PROVIDED ELECTRONICALLY. To discuss your request/options contact DCAMM's Contractor Certification (857) 204-1305.

Correction of Errors and Omissions in Sub-Bidder Update Statements

Matters of Form: An awarding authority shall not reject a Sub-Bidder's bid because there are mistakes or omissions of form in the Sub-Bidder Update Statement submitted with the bid provided the Sub-Bidder promptly corrects those mistakes or omissions upon request of the awarding authority.

Correction of Other Defects: An awarding authority may, in its discretion, give a Sub-Bidder notice of minor defects and omissions as to form in the Sub-Bidder's Update Statement and provide an opportunity to correct its Sub-Bidder Update Statement. However, the Sub-Bidder shall not be allowed to make corrections to a Sub-Bidder Update Statement if material information about the Sub-Bidder was omitted from the Sub-Bidder Update Statement filed with the Sub-Bidder's bid. The Awarding Authority shall advise DCAMM of any material omissions in a Sub-Bidder's Update Statement.

PART 1 - COMPLETED PROJECTS

List All Public And Private Projects Of \$20,000 or more your company has completed since the date of application for your most recently issued (not extended or amended) Sub-Bidder Certificate Of Eligibility*.

PROJECT TITLE & LOCATION	WORK CATEGORY	CONTRACT PRICE	START DATE	DATE COMPLETED

Attach additional sheets if necessary

* If your company has been terminated from a project prior to completion of the work or has failed or refused to complete its work under any contract, full details and an explanation must be provided. See Part 3 of this Sub-Bidder Update Statement.

PROVIDE THE FOLLOWING REFERENCE INFORMATION FOR EACH COMPLETED PROJECT LISTED ON THE PREVIOUS PAGE.

PROJECT TITLE		COMPANY NAME	CONTACT PERSON	TELEPHONE	EMAIL ADDRESS
	OWNER:				
	DESIGNER				
	GC:				
	OWNER:				
	DESIGNER				
	GC:				
	OWNER:				
	DESIGNER				
	GC:				
	OWNER:				
	DESIGNER				
	GC:				
	OWNER:				
	DESIGNER				
	GC:				
	OWNER:				
	DESIGNER				
	GC:				

Is your company or any individual who owns, manages or controls your company affiliated with any owner, designer or general contractor named above, either through a business or family relationship? YES NO

Are any of the contact persons named above affiliated with your company or any individual who owns, manages or control your company, either through a business or family relationship? YES NO

If you have answered YES to either question, explain. _____

PART 2 – PROJECTS IN PROGRESS CONTRACTS

List all public and private projects of \$20,000 or more your company has under contract on this date regardless of when or whether the work commenced.

1	2	3	4	5	6	7
PROJECT TITLE & LOCATION	WORK CATEGORY	START AND END DATES (MM/YYYY)	ON SCHEDULE (yes / no)	CONTRACT PRICE	% NOT COMPLETE	\$ VALUE OF WORK NOT COMPLETE (col. 5 X col. 6)

PROVIDE THE FOLLOWING REFERENCE INFORMATION FOR EACH INCOMPLETE PROJECT LISTED ON THE PREVIOUS PAGE.

PROJECT TITLE		COMPANY NAME	CONTACT PERSON	TELEPHONE	EMAIL ADDRESS
	OWNER:				
	DESIGNER				
	GC:				
	OWNER:				
	DESIGNER				
	GC:				
	OWNER:				
	DESIGNER				
	GC:				
	OWNER:				
	DESIGNER				
	GC:				
	OWNER:				
	DESIGNER				
	GC:				

Is your company or any individual who owns, manages or controls your company affiliated with any owner, designer or general contractor named above either through a business or family relationship? YES NO

Are any of the contact persons named above affiliated with your company or any individual who owns, manages or control your company, either through a business or family relationship? YES NO

If you have answered YES to either question, explain. _____

PART 3 - GENERAL PERFORMANCE (in the prime update it's called Project Performance – can we change it?)

For Parts 3 and 4, if you answer YES to any question, please provide on a separate page a complete explanation. Information you provide herein must supplement the application for your most recently issued (not extended or amended) DCAMM Sub-Bidder Certificate of Eligibility. You must report all requested information not previously reported on that application. Include all details [project name(s) and location(s), names of all parties involved, relevant dates, etc.].

	YES	NO
1. Has your company been terminated on any contract prior to completing a project or has any officer, partner or principal of your company been an officer, partner or principal of another company that was terminated or failed to complete a project?	<input type="checkbox"/>	<input type="checkbox"/>
2. Has your company failed or refused either to perform or complete any of its work under any contract prior to substantial completion?	<input type="checkbox"/>	<input type="checkbox"/>
3. Has your company failed or refused to complete any punch list work under any contract?	<input type="checkbox"/>	<input type="checkbox"/>
4. Has your company filed for bankruptcy, or has any officer, principal or individual with a financial interest in your current company been an officer, principal or individual with a financial interest in another company that filed for bankruptcy?	<input type="checkbox"/>	<input type="checkbox"/>
5. Has your surety taken over or been asked to complete any of your work under any contract?	<input type="checkbox"/>	<input type="checkbox"/>
6. Has a payment or performance bond been invoked against your current company, or has any officer, principal or individual with a financial interest in your current company been an officer, principal or individual with a financial interest in another company that had a payment or performance bond invoked?	<input type="checkbox"/>	<input type="checkbox"/>
7. Has your surety made payment to a materials supplier or other party under your payment bond on any contract?	<input type="checkbox"/>	<input type="checkbox"/>
8. Has any subcontractor filed a demand for direct payment with an awarding authority for a public project on any of your contracts?	<input type="checkbox"/>	<input type="checkbox"/>
9. Have any of your subcontractors or suppliers filed litigation to enforce a mechanic's lien against property in connection with work performed or materials supplied under any of your contracts?	<input type="checkbox"/>	<input type="checkbox"/>
10. Have there been any deaths of an employee or others occurring in connection with any of your projects?	<input type="checkbox"/>	<input type="checkbox"/>
11. Has any employee or other person suffered an injury in connection with any of your projects resulting in their inability to return to work for a period in excess of one year?	<input type="checkbox"/>	<input type="checkbox"/>

PART 4 - Legal or Administrative Proceedings; Compliance with Laws

Please answer the following questions. Information must supplement all judicial and administrative proceedings involving bidder’s company, which were instituted or concluded (adversely or otherwise) since your company’s Application for your most recently issued (not extended or amended) Sub-Bidder Certificate of Eligibility. You must report all requested information not previously reported on that DCAMM Application.

The term “administrative proceeding” as used in this Sub-Bidder Update Statement includes (i) any action taken or proceeding brought by a governmental agency, department or officer to enforce any law, regulation, code, legal, or contractual requirement, except for those brought in state or federal courts, or (ii) any action taken by a governmental agency, department or officer imposing penalties, fines or other sanctions for failure to comply with any such legal or contractual requirement.

The term “anyone with a financial interest in your company” as used in this Section “1”, shall mean any person and/or entity with a 5% or greater ownership interest in the applicant’s company.

If you answer YES to any question, on a separate page provide a complete explanation of each proceeding or action and any judgment, decision, fine or other sanction or result. Include all details (name of court or administrative agency, title of case or proceeding, case number, date action was commenced, date judgment or decision was entered, fines or penalties imposed, etc.).

	YES	NO
1. Have any civil, judicial or administrative proceedings involving your company or a principal or officer or anyone with a financial interest in your company been brought, concluded, or settled relating to the procurement or performance of any construction contract, including but not limited to actions to obtain payment brought by subcontractors, suppliers or others?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have any criminal proceedings involving your company or a principal or officer or anyone with a financial interest in your company been brought, concluded, or settled relating to the procurement or performance of any construction contract including, but not limited to, any of the following offenses: fraud, graft, embezzlement, forgery, bribery, falsification or destruction of records, or receipt of stolen property?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have any judicial or administrative proceedings involving your company or a principal or officer or anyone with a financial interest in your company been brought, concluded, or settled relating to a violation of any state’s or federal procurement laws arising out of the submission of bids or proposals?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have any judicial or administrative proceedings involving your company or a principal or officer or anyone with a financial interest in your company been brought, concluded, or settled relating to a violation of M.G.L. Chapter 268A, the State Ethics Law?	<input type="checkbox"/>	<input type="checkbox"/>

PART 4 - Legal or Administrative Proceedings; Compliance with Laws (continued)

	YES	NO
5. Have any judicial or administrative proceedings involving your company or a principal or officer or anyone with a financial interest in your company been brought, concluded, or settled relating to a violation of any state or federal law regulating hours of labor, unemployment compensation, minimum wages, prevailing wages, overtime pay, equal pay, child labor or worker’s compensation?	<input type="checkbox"/>	<input type="checkbox"/>
6. Have any judicial or administrative proceedings involving your company or a principal or officer or anyone with a financial interest in your company been brought, concluded, or settled relating to a violation of any state or federal law prohibiting discrimination in employment?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have any judicial or administrative proceedings involving your company or a principal or officer or anyone with a financial interest in your company been brought, concluded, or settled relating to a claim of repeated or aggravated violation of any state or federal law regulating labor relations?	<input type="checkbox"/>	<input type="checkbox"/>
8. Have any proceedings by a municipal, state, or federal agency been brought, concluded, or settled relating to decertification, debarment, or suspension of your company or any principal or officer or anyone with a financial interest in your company from public contracting?	<input type="checkbox"/>	<input type="checkbox"/>
9. Have any judicial or administrative proceedings involving your company or a principal or officer or anyone with a financial interest in your company been brought, concluded, or settled relating to a violation of state or federal law regulating the environment?	<input type="checkbox"/>	<input type="checkbox"/>
10. Has your company been fined by OSHA or any other state or federal agency for violations of any laws or regulations related to occupational health or safety? Note: this information may be obtained from OSHA’s Web Site at www.osha.gov	<input type="checkbox"/>	<input type="checkbox"/>
11. Has your company been sanctioned for failure to achieve DBE/MBE/WBE goals, workforce goals, or failure to file certified payrolls on any public projects?	<input type="checkbox"/>	<input type="checkbox"/>
12. Other than previously reported in the above paragraphs of this Section I, have any administrative proceedings or investigations involving your company or a principal or officer or anyone with a financial interest in your company been brought, concluded, or settled by any local, state or federal agency relating to the procurement or performance of any construction contract?	<input type="checkbox"/>	<input type="checkbox"/>
13. Are there any other issues that you are aware which may affect your company’s responsibility and integrity as a building contractor?	<input type="checkbox"/>	<input type="checkbox"/>

PART 5 - SUPERVISORY PERSONNEL

List all supervisory personnel who will be assigned to the project if your company is awarded the contract.

Attach the resume of each person listed below.

NAME	TITLE OR FUNCTION

PART 6 - CHANGES IN BUSINESS ORGANIZATION OR FINANCIAL CONDITION

Have there been any changes in your company’s business organization, financial condition or bonding capacity since the date your current Contractor Certificate of Eligibility was issued? Yes No

If YES, attach a separate page providing complete details.

PART 7 – LIST OF COMPLETED CONSTRUCTION PROJECTS SUBMITTED TO THE DIVISION OF CAPITAL ASSET MANAGEMENT AND MAINTENANCE ALONG WITH CERTIFICATION SIGNATURE PAGE.

Attach here a copy of the list of completed construction projects which was submitted with your company’s application for your most recently issued (not extended or amended) Sub-Bidder Certificate of Eligibility. The Attachment must include a complete copy of the entire Completed Projects spreadsheet and the final page Certification Page of the online application, containing the signature and date the completed projects list was submitted to the Division of Capital Asset Management and Maintenance.



GENERAL CONTRACTOR CERTIFICATE OF NON-COLLUSION

Pursuant to M.G.L. Ch. 30B, §10, the undersigned hereby certifies, under penalties of perjury, that this bid or proposal has been made and submitted in good faith and without fraud or collusion with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature of person submitting contract/bid

Date

Name of Business



**FILED SUB BIDDER
CERTIFICATE OF NON-COLLUSION**

Pursuant to M.G.L. Ch. 30B, §10, the undersigned hereby certifies, under penalties of perjury, that this bid or proposal has been made and submitted in good faith and without fraud or collusion with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature of person submitting contract/bid

Date

Name of Business

BIDDER'S REFERENCE FORM

Bidders Name _____ Phone: () _____

LHA/Project Title: _____ Email: _____

The bidder must provide five (5) business references for projects performed & completed within the past five (5) years. Attach additional pages if necessary.

(1) Reference Name: _____ Phone: () _____

Address: _____ Email: _____ Description

and date(s) of work: _____

(2) Reference Name: _____ Phone: () _____

Address: _____ Email: _____

Description and date(s) of work: _____

(3) Reference Name: _____ Phone: () _____

Address: _____ Email: _____

Description and date(s) of work: _____

(4) Reference Name: _____ Phone: () _____

Address: _____ Email: _____

Description and date(s) of work: _____

(5) Reference Name: _____ Phone: () _____

Address: _____ Email: _____

Description and date(s) of work: _____

References will be contacted to confirm the bidder's skills, abilities and qualifications to faithfully perform the work as specified.



CERTIFICATE OF TAX COMPLIANCE

Pursuant to M.G.L. c. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief that I, or the company for which I am completing this bid, is in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Federal Identification Number or
SS #

Signature of Individual or Corporate Name

Corporate Officer Signature

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

Note: If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note: ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or “doing business as” (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity’s name as shown on the entity’s tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a “disregarded entity.” See Regulations section 301.7701-2(c)(2)(iii). Enter the owner’s name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner’s name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity’s name on line 2, “Business name/disregarded entity name.” If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys’ fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note: You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note: See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.SSA.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/Businesses and clicking on Employer Identification Number (EIN) under Starting a Business. Go to www.irs.gov/Forms to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to www.irs.gov/OrderForms to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note: Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.

You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.

You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions.

You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor ²
5. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee ¹
b. So-called trust account that is not a legal or valid trust under state law	The actual owner ¹
6. Sole proprietorship or disregarded entity owned by an individual	The owner ³
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity ⁴
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

*Note: The grantor also must provide a Form W-9 to trustee of trust.

Note: If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes.

Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at spam@uce.gov or report them at www.ftc.gov/complaint. You can contact the FTC at www.ftc.gov/idtheft or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see www.IdentityTheft.gov and Pub. 5027.

Visit www.irs.gov/IdentityTheft to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

CONTRACT REQUIREMENTS

OWNER-CONTRACTOR AGREEMENT**LOWELL HOUSING AUTHORITY**

This agreement made the day of , 2017 by and between the Lowell Housing Authority hereinafter called the "Owner", and hereinafter called the "Contractor", witnesseth, that the Owner and the Contractor, for the consideration hereinunder named, agree as follows:

Article 1. Scope of Work: The Contractor shall perform all Work required by the Contract Documents for U.S. HUD-Aided Development MA 1-3 referred to in the Contract Documents prepared by Description of Project Robert Willam Hannon, Architect acting as and referred to as the "Architect".

Article 2. Time of Completion: The Contractor shall commence work under this Contract on the date specified in the written "Notice to Proceed" and shall bring the Work to Substantial Completion within calendar days of said date. Damages for delays in the performance of the Work shall be in accordance with Article 9 of the General Conditions of the Contract.

Article 3. Contract Sum: The Owner shall pay the Contractor, in current funds, for the performance of the Work, subject to additions and deductions by Change Order, of the Contract Sum of:

\$

Contract Amount in Words

Contract Amount in Dollars

Schedule of Unit Prices: Project Manual Section and the cost to be paid by the Owner or credited by the Contractor per unit specified:

No. 1. N/A

No. 2. N/A

No. 3. N/A

Article 4. The Contract Documents: The following, together with this Agreement, form the Contract and all are as fully a part of the contract as if attached to this Agreement or repeated herein: The Advertisement, Bidding Documents, Contract Forms, Conditions of the Contract, and Specifications as enumerated in the Table of Contents, the drawings as enumerated in the List of Contract Drawings, HUD forms HUD-5370 or HUD-5370-EZ, HUD-5370-C Sections I and II, HUD-92554M. Forms and all Modifications issued after execution of the Contract. Terms used in this Agreement which are defined in the Conditions of the Contract shall have the meanings designated in those Conditions. Link: <http://bit.ly/HUD-FORMS>

Article 5. Alternates: The following Alternates have been accepted and their costs are included in the Contract Sum stated in Article 3 of this Agreement:

Alternate No(s): none through none

Article 6. REAP Certification: Pursuant to G.L. c.62(c) §49(a), the individual signing this Contract on behalf of the Contractor, hereby certifies, under the penalties of perjury, that to the best of their knowledge and belief the Contractor has complied with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support. (St.1983, c.233, Revenue Enforcement and Protection Program (REAP) as amended).

Article 7. Worker Documentation Certification: In accordance with Executive Order 481 the undersigned further certifies under the penalties of perjury that the Contractor shall not knowingly use undocumented workers in connection with the performance of this contract; that pursuant to federal requirements, the Contractor shall verify the immigration status of all workers assigned to such contract without engaging in unlawful discrimination; and that it shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker(s). The Contractor understands and agrees that breach of any of these terms during the contract period may be regarded as a material breach, subjecting the Contractor to sanctions, including but not limited to monetary penalties, withholding of payments, contract suspension or termination.

Article 8. Conflict of Interest: The Contractor covenants, that (1) presently, there is no financial interest and shall not acquire any such interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Agreement or which would violate M.G.L. c.268A, as amended; (2) in the performance of this Contract, no person having any such interest shall be employed by the Contractor or engaged as a subcontractor by the contractor; and (3) no partner or employee of the firm is related

by blood or marriage to any Board Member or employee of the Awarding Authority.

Article 9. Conflicts of Interest, organizational, federal requirements:

(a) The Contractor warrants that to the best of its knowledge and belief and except as otherwise disclosed, it does not have any organizational conflict of interest which is defined as a situation in which the nature of work under this contract and a contractor's organizational, financial, contractual or other interests are such that:

- (i) Award of the contract may result in an unfair competitive advantage; or
- (ii) The Contractor's objectivity in performing the contract work may be impaired.

(b) The Contractor agrees that if after award it discovers an organizational conflict of interest with respect to this contract or any task/delivery order under the contract, he or she shall make an immediate and full disclosure in writing to the Contracting Officer which shall include a description of the action which the Contractor has taken or intends to take to eliminate or neutralize the conflict. The LHA may, however, terminate the contract or task/delivery order for the convenience of the LHA if it would be in the best interest of the LHA.

(c) In the event the Contractor was aware of an organizational conflict of interest before the award of this contract and intentionally did not disclose the conflict to the Contracting Officer, the LHA may terminate the contract for default.

Article 10. Submittals and Invoicing: Contractor shall comply with all federal and state laws or regulations under which this Contract is issued, including without limitation submission of certified payrolls. [Federal Form WH-347](#) or [MA Prev. Wage Forms](#) as applicable may be used for this purpose.

- | | |
|---|---|
| 10.1 A unique invoice number; | 10.7 Service time period, total hours billed per-service, per-site, the approved rate and product delivery date(s); |
| 10.2 Contractor's name, address and telephone number; | 10.8 Work order approved by LHA designee; |
| 10.3 Date of invoice and/or billing period; | 10.9 Total U.S. (\$) dollar amount billed; and |
| 10.4 Applicable contract number; | 10.10 A Certified Payrolls for each week, Federal Form WH-347 or MA Prev. Wage Forms as applicable. |
| 10.5 Applicable purchase order number; | |
| 10.6 Description of goods/services rendered; | |

Article 11. Validation: This Contract will not be valid until signed by the Executive Director of the Lowell Housing Authority.

In Witness Whereof, the Parties Hereto Have Caused This Instrument to be Executed Under Seal.

¹ CONTRACTOR:

² AWARDING AUTHORITY:

Lowell Housing Authority
PO Box 60, 350 Moody St.
Lowell, MA 01853

By: _____

 Name & Title

By: _____
 Tha Chhan, Executive Director
 Name & Title

Witness: _____

Certified as to Fund Availability:

Fund/Appropriation

Sherry Giblin, CFO

Attest: _____

¹ If a Corporation, attach a notarized copy of the Corporate Vote authorizing signatory to sign Contract.

² If signed by someone other than a Housing Authority Board member, attach a copy of Certified Board Vote authorizing the signatory to sign the Contract.

CERTIFICATE OF VOTE SIGNATORY AUTHORIZATION

_____, 2017

I hereby certify that a meeting of the Board of Directors of the _____ duly called and held at _____ on the _____ day of _____, 2017. At which a quorum was present and acting, it was voted that _____ of _____ be and hereby is authorized to execute and deliver for _____ and on behalf of the Corporation a Contract with Lowell Housing Authority, for _____ work to be done at (HUD) (State -Aided) Housing Project No. _____ in the City of Lowell, MA.; and to act as principal to execute bids, contracts and bonds in connection therewith, which Bids, Contracts and/or Bonds were presented to and made part of the records of said meeting.

I further certify that _____ is duly qualified and acting _____ of the Corporation and that said vote has not been Repealed, Rescinded or Amended.

A true copy of the record,

ATTEST: _____

(CORPORATE SEAL)

On this _____ day of _____ 2017, before me, the undersigned Notary Public, personally appeared _____, duly designated by the board of directors and proved to me, through satisfactory evidence of identification, which was _____, that s/he is the person whose name is signed on the foregoing documents, and acknowledged to me that s/he signed it voluntarily for its stated purpose and that it was her/his free act and deed.

Notary Public

My Commission Expires: _____

CERTIFICATE OF CORPORATE VOTE OF AUTHORIZATION

Date: _____ 20__

I hereby certify that a meeting of the Board of Directors of the:

NAME OF CORPORATION

duly called and held at _____ on the ___ day of _____ 20__

at which a quorum was present and acting, it was voted that _____

NAME OF CORPORATE OFFICER

of the _____, be and hereby is authorized to execute and deliver

NAME OF CORPORATION

for and on behalf of the Corporation, a Contract with _____ Housing Authority, for

work to be done at State-Aided Housing Development No. _____ in the City/Town of _____

And to act as principal to execute bonds in connection therewith, which Contract and Bonds were presented to and made part of the records of said meeting.

I further certify that _____ is duly qualified and acting

NAME OF CORPORATE OFFICER

_____ of the Corporation and that said vote has not been repealed,

TITLE

rescinded or amended.

A true copy of the record,

ATTEST: _____

(CORPORATE SEAL)

On this ___ day of _____ 20____, before me, the undersigned Notary Public, personally appeared _____, duly designated by the board of directors and proved to me, through satisfactory evidence of identification, which was _____, that s/he is the person whose name is signed on the foregoing documents, and acknowledged to me that s/he signed it voluntarily for its stated purpose and that it was her/his free act and deed.

Notary Public

My Commission Expires:

PERFORMANCE BOND

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, as **Principal**, and _____, as **Surety**, are held and firmly bound unto the _____ **HOUSING AUTHORITY**, as **Obligee**, in the sum of _____ **dollars (\$ _____)** to be paid to the Obligee, for which payments, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said **Principal** has made a contract with the **Obligee**, bearing the date of _____, **20__** for the _____ in _____, Massachusetts.
PROJECT TITLE

NOW, the condition of this obligation is such that if the **Principal** and all Subcontractors under said contract shall well and truly keep and perform all the undertakings, covenants, agreement, terms and conditions of said contract on its part to be kept and performed during the original term of said contract and any extensions thereof that may be granted by the Obligee, with or without notice to the **Surety**, and during the life and any guarantee required under the contract, and shall also well and truly keep and perform all the undertakings, covenants, agreements, terms and conditions of any and all duly authorized modifications, alterations changes or additions to said contract that may hereafter be made, notice to the **Surety** of such modifications, alterations, changes or additions being hereby waived, then this obligation shall become null and void; otherwise, it shall remain in full force and virtue.

IN THE EVENT, that the contract is abandoned by the **Principal**, or in the event that the Obligee, under the provisions of Article 19 of the General Conditions of said contract terminates the employment of the **Principal** or the authority of the **Principal** to continue the work, said **Surety** hereby further agrees that said **Surety** shall, if requested in writing by the Obligee, take such action as is necessary to complete said contract.

IN WITNESS WHEREOF, the **Principal** and **Surety** have hereunto set their hands and seals this:
_____ Day of _____ 20__

PRINCIPAL _____

SURETY _____

By: _____

By: _____

SEAL

ATTORNEY-IN FACT

Attest: _____

Attest: _____

The rate for this bond is _____% for the first \$ _____ and _____% for the next \$ _____

The total premium for this bond is \$ _____

BOND NO. _____

PAYMENT BOND

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, as **Principal**, and _____, as **Surety**, are held and firmly bound unto the _____ **HOUSING AUTHORITY**, as **Obligee**, in the sum of _____ dollars (\$ _____) to be paid to the Obligee, for which payments, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said **Principal** has made a contract with the **Obligee**, bearing the date of _____, **20**____ for the _____ in _____, Massachusetts.
PROJECT TITLE

NOW the conditions of this obligation are such that if the **Principal** and all subcontractors under said contract shall pay for all labor performed or furnished and for all materials used or employed in said contract and in any and all duly authorized modifications, alterations, extensions of time, changes or additions to said contract that may hereafter be made, notice to the **Surety** of such modifications, alterations, extensions of time, changes or additions being hereby waived, the foregoing to include any other purposes or items set out in, and to be subject to, provisions of M.G.L. c.30 §39A, and M.G.L. c.149 §29, as amended, then this obligation shall become null and void; otherwise it shall remain in full force and virtue.

IN WITNESS WHEREOF, the **Principal** and **Surety** have hereunto set their hands and seals this:

_____ Day of _____ 20____

PRINCIPAL _____

SURETY _____

By: _____

By: _____

SEAL

ATTORNEY-IN FACT

Attest: _____

Attest: _____

The rate for this bond is _____% for the first \$ _____ and _____% for the next \$ _____

The total premium for this bond is \$ _____

GENERAL CONDITIONS

General Conditions for Construction Contracts - Public Housing Programs

U.S. Department of Housing and Urban
Development
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 \$250,000.**

Public reporting burden for this collection of information is estimated to average 1.0 hours 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. Comments regarding the accuracy of this burden estimate and any suggestions for reducing this burden can be sent to the Reports Management Officer, Office of Policy Development and Research, REE, Department of Housing and Urban Development, 451 7th St SW, Room 4176, Washington, DC 20410-5000. When providing comments, please refer to OMB Approval No. 2577-0157. 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 75. 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. 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. HUD may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB number.

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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, **Schedule** 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

of the work, and that it has investigated and satisfied itself

- (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

- (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 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 **Construction** 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 contractor 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

- (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 **Construction 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

- (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

accordance with the terms and conditions of the

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 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 **Convenience** 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

- (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 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 noncompliance 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 including 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 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.

(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 prioritization requirements and shall state the minimum percentages of labor hour requirements established in the Benchmark Notice (FR-6085-N-04).

(d) The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 75, 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 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.

(e) 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.

(f) Contracts, subcontracts, grants, or subgrants subject to Section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 5307(b)) or subject to tribal preference requirements as authorized under 101(k) of the Native American Housing Assistance and Self-Determination Act (25 U.S.C. 4111(k)) must provide preferences in employment, training, and business opportunities to Indians and Indian organizations, and are therefore not subject to the requirements of 24 CFR Part 75.

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 **Acts** 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

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 \$27 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. DOL posts current fines at: <https://www.dol.gov/whd/govcontracts/cwhssa.htm#cmp>
 - (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.

() 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.

SUPPLEMENTARY CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

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

OMB Approval No. 2502-0598
(Exp. 06/30/2017)

Public Reporting Burden for this collection of information is estimated to average 0.2 hours 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. Response to this request for information is required in order to receive the benefits to be derived. 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. While no assurance of confidentiality is pledged to respondents, HUD generally discloses this data only in response to a Freedom of Information Act request.

Article 1: Labor Standards

A. Applicability. The Project or program to which the construction work covered by this Contract pertains is being assisted or insured by the United States of America, and the following Federal Labor Standards Provisions are included in this Contract or related instrument pursuant to the provisions applicable to such Federal assistance or insurance. Any statute or regulation contained herein shall also include any subsequent amendment or successor statute or regulation.

B. Minimum Wages. Pursuant to Section 212 of the National Housing Act, as amended, 12 U.S.C. 1715c, the minimum wage provisions contained in this paragraph B do not apply to those projects with Security Instruments insured under Section 221(h)(1) designed for less than 9 families and they do not apply to those projects with Security Instruments insured under either Section 220 or 233 designed for less than 12 families.

1. (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the Project) shall 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 (40 U.S.C. 3141(2)(B)(ii)) 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 particular 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 on 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.

(ii) (a) Any class of laborers or mechanics that is not listed in the wage determination and that is to be employed under this Contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) 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, U.S. Department of Labor, Washington, D.C. 20210 (“**Administrator**”). The Administrator, or an authorized representative, shall approve, modify, or disapprove every additional classification action within thirty (30) days of receipt and so advise HUD or its designee or shall notify HUD or its designee within the thirty (30) day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) 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 for determination. The Administrator, or an authorized representative, shall issue a determination within thirty (30) days of receipt and so advise HUD or its designee or shall notify HUD or its designee within the thirty (30) day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs B.1.(ii)(b) or (c) of this Article, shall be paid to all workers

performing work in the classification under this Contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit that 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.

(iv) 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. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. 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 on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 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, sponsor, applicant, or Owner, 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.

3. Payrolls, records, and certifications.

(i) 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 at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, 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 (40 U.S.C. 3141(2)(B)(ii))), 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 any costs reasonably anticipated in providing benefits under a plan or program described in Section 1 (b)(2)(B) of the Davis-Bacon Act (40 U.S.C. 3141(2)(B)(ii)), 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. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii)(a) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the Contract, but if the agency is not such a party, the Contractor shall submit the payrolls to the applicant, sponsor, or Owner, as the case may be, 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 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/forms/wh347.pdf> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the Contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant sponsor, or Owner, as the case may be, for transmission to HUD or its designee, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b) 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:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete.

(2) 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;

(3) 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.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph B.3.(ii)(b) of this Article.

(d) 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 Sections 3801 et seq of Title 31 of the United States Code.

(iii) The Contractor or subcontractor shall make the records required under subparagraph B.3.(i) of this Article available for inspection, copying, or transcription by authorized representatives of HUD or its designee 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, sponsor, applicant, or Owner, 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.

4. Apprentices and Trainees.

(i) **Apprentices.** Apprentices shall 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, or with a State Apprenticeship Agency recognized by such Office, or if a person is employed in his or her first ninety (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 the Office of Apprenticeship, 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 above, 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 the 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 journeymen 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 determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship, or a State Apprenticeship Agency recognized by such Office, withdraws approval of an apprenticeship program, the Contractor shall no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) **Trainees.** Except as provided in 29 CFR 5.16, trainees shall 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's 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 on 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 on 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 on 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 on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws

approval of a training program, the Contractor shall no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements. The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this Contract.

6. Subcontracts. The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraphs 1 through 10 of this paragraph B and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage determination, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all Contract clauses referenced in this subparagraph.

7. Contract termination and debarment. A breach of the Contract clauses in 29 CFR 5.5 may be grounds for termination of the Contract, and for debarment as a contractor or a subcontractor as provided in 29 CFR 5.12.

8. 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.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this Contract 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 HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

(i) 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 Government contracts by virtue of Section 3(a) of the Davis-Bacon Act (40 U.S.C. 3144(b)(2)) or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act (40

U.S.C. 3144(b)(2)) or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Department . . . makes, passes, utters or publishes any statement, knowing the same to be false . . . shall be fined under this title or imprisoned not more than two years, or both."

C. Contract Work Hours and Safety Standards Act.

1. Applicability and Definitions. This paragraph C of Article 1 is applicable only if a direct form of federal assistance is involved, such as Section 8, Section 202/811 Capital Advance, grants etc., and is applicable only where the prime contract is in an amount greater than \$100,000. As used in this paragraph C, the terms "laborers" and "mechanics" include watchmen and guards.

2. Overtime requirements. No contractor or subcontractor contracting for any part of the Contract work that may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty (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 forty (40) hours in such workweek.

3. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the immediately preceding subparagraph C.2, the Contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, the 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 such subparagraph, 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 forty (40) hours without payment of the overtime wages required by the clause set forth in such subparagraph.

4. 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 under any other Federal contract with the same prime contractor, or under 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 clause set forth in subparagraph 3 of this paragraph C.

5. **Subcontracts.** The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraphs 1 through 5 of this paragraph C and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in such subparagraphs 1 through 5.

D. Certification.

For projects with Security Instruments insured under the National Housing Act, as amended, that are subject to paragraph B of this Article 1, the Contractor is required to execute the Contractor's Prevailing Wage Certificate within HUD-92448 as a condition precedent to insurance by HUD of the Loan, or an advance thereof, made or to be made by the Lender in connection with the construction of the Project.

Article 2: Equal Employment Opportunity

A. **Applicability.** This Article 2 applies to any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee.

B. The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, disability, or national origin. The Contractor 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, disability or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided setting forth the provisions of this nondiscrimination clause.

C. The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor state that all qualified applicants shall receive consideration for employment without regard to race, color, religion, sex, disability, or national origin.

D. The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice to be provided advising the said labor union or workers representatives of the Contractor's commitments hereunder, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

E. The Contractor shall comply with all provisions of Executive Order 11246 of September 24, 1965 and of the rules, regulations, and relevant orders of the Secretary of Labor.

F. The Contractor shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and 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.

G. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and Contractor may be declared ineligible for further government contracts or federally assisted construction 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, regulations or order of the Secretary of Labor, or as otherwise provided by law.

H. The Contractor shall include the provisions of paragraphs A through H of this Article 2 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 shall be binding upon each subcontractor or vendor. The Contractor shall take such action with respect to any subcontract or purchase order as HUD or the Secretary of Labor may direct as a means of enforcing such provisions, including sanctions for noncompliance. *Provided, however,* that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by HUD or the Secretary of Labor, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Article 3: Equal Opportunity for Businesses and Lower Income Persons Located Within the Project Area

A. This Article 3 is applicable to projects covered by Section 3, as defined in 24 CFR Part 135.

B. The work to be performed under this Contract is on a project assisted under a program providing direct Federal financial assistance from HUD and 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 requires that to the greatest extent feasible opportunities for training and employment be given to lower income residents of the unit of local government or the metropolitan area (or non-metropolitan county) as determined by HUD in which the Project is located and contracts for work in connection with the Project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the same metropolitan area (or non-metropolitan county) as the Project.

Article 4: Health and Safety

A. This Article 4 is applicable only where the prime contract is in an amount greater than \$100,000.

B. No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his or her health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

C. The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to 29 CFR Part 1926, and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, 40 USC 3701 et seq.

D. The Contractor shall include the provisions of this Article 4 in every subcontract so that such provisions shall be binding on each subcontractor. The Contractor shall take such action with respect to any subcontract as HUD or the Secretary of Labor shall direct as a means of enforcing such provisions.

Equal Employment Opportunity

CONTRACTOR'S AFFIRMATIVE ACTION REQUIREMENTS HUD-98198 (9-79)

- A. **Attachment A** is the Goals and Timetables for Minority and Female Utilization under this contract. They are expressed as percentages of the aggregate workforce in each trade. The goal for minority participation is 4.0%, trade by trade, of the workforce. The goal for the participation of women is 6.9%, trade by trade, of the workforce. These goals must be included in all non-exempt subcontracts also.

- B. **Attachment B** is called the "Equal Employment Opportunity (EEO) Clause." This must be included in all contracts, subcontracts and/or purchase orders which exceed \$10,000. The EEO Clause consists of paragraphs 1-7.

- C. **Attachment C** covers the Equal Opportunity Standards (EOS). This part details the obligations of prime and non-exempt subcontractors working under the contract.
 - 1. It defines the applicable minority groups;
 - 2. It defines the Affirmative Action (AA) requirements in paragraphs 7a - 7p;
 - 3. It spells out your obligations in dealing with craft unions;
 - 4. It defines the sanctions and penalties for non-compliance on the part of subcontractors,
 - 5. Requires you to identify a responsible company official who will monitor, report and evaluate you AA efforts

ATTACHMENT A

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Employment Opportunity (EEO) Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade: 4.0

Goals for female participation for each trade: 6.9

These goals are applicable to all the contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is Lowell, Massachusetts.

3. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4. shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60.4.3 (a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and females employment and training must substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees to trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.
4. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction contract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the following information for the General Contractor and each Subcontractor: name, address and telephone number; employer identification number; estimated dollar amount of each contract; estimated starting and completion dates of each contract; and the geographical area in which the contract is to be performed. The address is as follows:

Office of Federal Contract Compliance
U.S. Department of Labor
JFK Federal Building - Room E235
Boston, MA 02203

ATTACHMENT B

EQUAL EMPLOYMENT OPPORTUNITY (EEO) CLAUSE

The applicant agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such a grant, contract, loan, insurance, or guarantee, the following equal opportunity clause:

During the performance of this contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay, or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
3. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractors' commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The Contractor will furnish all information and reports required by Executive order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of ascertain compliance with such rules, regulations, and orders.
6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction 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.

7. The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) 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 Subcontractor or vendor. The will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided however, that in the event a Contractor becomes involved in, or is threatened with litigation with a Subcontractor or vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided that if the applicant so participating is a State or local government the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of Contractors and Subcontractors with the equal opportunity clause and the rules, regulations, and relevant order of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibilities for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a Contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon Contractors and Subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee): refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

ATTACHMENT C

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION 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 Employers 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 Island (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 the 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 make good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in Paragraph 7a 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. The Contractor is expected to make substantially uniform progress toward 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 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 organization's 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 of community organization and of what action was taken with respect to each such individuals. 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 therefore, 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 opportunity 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 complied 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 newspaper, 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 terms with on-site 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 Contractor 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 Contractors 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 non-segregated 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.
 - 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 the contractor association, joint contractor union, contractor-community, or other similar group of which the contractor is a member and a 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 work force 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 Contractors, 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 also 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 regulating, 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 60-4.3.
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 shall as 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 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 established different standards of compliance or upon the application of requirements for the hiring of local or other residents (e.g. those under the Public Work Employment Act of 1977 and the Community Development Block Grant Program).

END OF SECTION

**Equal Employment
Opportunity Certification**
Excerpt From 41 CFR §60-1.4(b)

**U.S. Department of Housing
and Urban Development**
Office of Housing
Federal Housing Commissioner

Department of Veterans Affairs
OMB Control No. 2502-0029
(exp. 9/30/2016)

The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause:

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin, such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
- (3) The contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor.
- (5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

- (6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction 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.
- (7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) 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 subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: **Provided, however,** That in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work:

Provided, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and Federally-assisted construction contracts pursuant to the Executive order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed

Firm Name and Address	By
	Title

upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

Excerpt from HUD Regulations

200.410 Definition of term "applicant".

- (a) In multifamily housing transactions where controls over the mortgagor are exercised by the Commissioner either through the ownership of corporate stock or under the provisions of a regulatory agreement, the term "applicant" as used in this subpart shall mean the mortgagor.
- (b) In transactions other than those specified in paragraph(a) of this section, the term "applicant" as used in this subpart shall mean the builder, dealer or contractor performing the construction, repair or rehabilitation work for the mortgagor or other borrower.

200.420 Equal Opportunity Clause to be included in contracts and subcontracts.

- (a) The following equal opportunity clause shall be included in each contract and subcontract which is not exempt:

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of the nondiscrimination clause.

- (2) The contractor will in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard race, creed, color, or national origin.

- (3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided, advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notices in conspicuous places available to employees and applicants for employment.

- (4) The contractor will comply with all provisions of Executive Order 10925 of March 6 1961, as amended, and of the regulations, and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

- (5) The contractor will furnish all information and reports required by Executive Order 10925 of March 6, 1961, as amended, and by the regulations, and orders of the said Committee, or pursuant thereto, and will permit access to his books, records, and accounts by HUD and the Committee for purposes of investigation to ascertain compliance with such regulations, and orders.

- (6) In the event of the contractor's non-compliance with the nondiscrimination clause of this contract or with any of the said regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or Federally-assisted construction contracts in accordance with procedures authorized in Executive Order 10925 of March 6, 1961, as amended, and such other sanctions may be imposed and remedies invoked provided in the said Executive Order or by regulations, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

- (7) The contractor will include the provisions of Paragraphs(1) through (7) in every subcontract or purchase order unless exempted by regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to Section 303 of Executive Order 10925 of March 6, 1961, as amended, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase orders as HUD may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by HUD, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

- (b) Except in subcontracts for the performance of construction work at the site of construction, the clause is not required to be inserted in subcontracts below the second tier. Subcontracts may incorporate by reference to the equal opportunity clause.

200.425 Modification in and exemptions from the regulations in this subpart.

- (a) The following transactions and contracts are exempt from the regulations in this subpart:

- (1) Loans, mortgages, contracts and subcontracts not exceeding \$10,000.

- (2) Contract and subcontracts not exceeding \$100,000 for standard commercial supplies or raw material;

- (3) Contracts and subcontracts under which work is to be or has been performed outside the United States and where no recruitment of workers within the United States is involved. To the extent that work pursuant to such contracts is done within the United States, the equal opportunity clause shall be applicable;

- (4) Contracts for the sale of Government property where no appreciable amount of work is involved; and

- (5) Contracts and subcontracts for an indefinite quantity which are not to extend for more than one year if the purchaser determines that the amounts to be ordered under any such contract or subcontract are not reasonably expected to exceed \$100,000 in the case of contracts or subcontracts for standard commercial supplies and raw materials, or \$10,000 in the case of all other contracts and subcontracts.

SECTION 00.73.36

EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

1. DEFINITIONS

For purposes of this Section 00.73.36, the following additional definitions shall apply:

- A.** "Minority" means a person who meets one or more of the following definitions:
 - (1.)** American Indian or Native American means: all persons having origins in any of the original peoples of North America and who are recognized as an Indian by a tribe or tribal organization.
 - (2.)** Asian means: All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian sub-continent, or the Pacific Islands, including, but Not limited to China, Japan, Korea, Samoa, India, and the Philippine Islands.
 - (3.)** Black means: All persons having origins in any of the Black racial groups of Africa, including, but not limited to, African-Americans, and all persons having origins in any of the original peoples of the Cape Verdean Islands.
 - (4.)** Eskimo or Aleut means: All persons having origins in any of the peoples of Northern Canada, Greenland, Alaska, and Eastern Siberia.
 - (5.)** Hispanic means: All persons having their origins in any of the Spanish-speaking peoples of Mexico, Puerto Rico, Cuba, Central or South America, or the Caribbean Islands.
- B.** "Commission" or "MCAD" means the Massachusetts Commission Against Discrimination.
- C.** "E.E.O. Officer" or Equal Employment Opportunity Officer means those persons designated by the Contractor, the Owner, or any other agency or party having jurisdiction under this contract, that serve in a capacity to implement this Section.

2. CONDITIONS

- A.** The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age, handicap, or sex. The aforesaid provision shall include, but not be limited to, the following: employment upgrading, demotion or transfer; recruitment advertising; recruitment layoff; termination; rates of pay or other forms of compensation; conditions or privileges of employment; and selection for apprenticeship.
- B.** The Contractor shall post notices provided by the Commission, in conspicuous places, setting forth the provisions of the Fair Employment Practices Law of the Commonwealth.
- C.** The Contractor shall undertake in good faith affirmative action measures designed to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, age, handicap, or sex, and to eliminate and remedy any effects of such discrimination in the past. Such affirmative action shall entail positive and aggressive measures to ensure equal opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, layoff or termination, rate of compensation, and in-service or apprenticeship training programs. This affirmative action shall include all action required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, age or sex.
- D.** The Contractor shall not discriminate on grounds of race, color, religious creed, national origin, age, or sex in employment practices, in the selection or retention of Subcontractors, or in the procurement of materials and rentals of equipment.
- E.** The Commission and a designee of the Owner shall have access to the construction site and all applicable records of the Contractor and Subcontractors.
- F.** The Contractor's EEO Certificate must be signed by the low general and all filed sub-bidders as a condition of Contract validation by the Department.

3. MINORITY GOAL **MINIMUM MINORITY PERCENTAGES**

- A. Pursuant to his/her obligations under the preceding section, the Contractor shall strive to achieve on this project the labor participation goals contained herein

The participation goals for this project shall be 15.3% for minorities and 6.9% for women.

- B. The participation goals, as set forth herein, shall not be construed as quotas or set-asides; rather, such participation goals will be used to measure the progress of the Commonwealth's equal opportunity, non-discrimination and affirmative action program. Additionally, the participation goals contained herein should not be seen or treated as a floor or as a ceiling for the employment of particular individuals or group of individuals.
- C. Such job categories shall include but not be limited to those "Classes of Work" enumerated in M.G.L. c.149 §44F and for trades covered by Item 1 of the Contractor's bid.
- D. These percentages shall apply to the Contractor and to all Subcontractors, regardless of tier, for all on-site Work.

4. REFERRALS

- A. In the hiring of minority journeymen, apprentices, trainees and advanced trainees, the Contractor shall rely on referrals from a multi-employer affirmative action program approved by the Department or the Commission; and traditional referral methods utilized by the construction industry, where such referrals are needed to meet minority hiring requirements. The Contractor shall keep accurate records of such requests for referrals.
- B. Records of employment referral orders, prepared by the Contractor, shall be made available to the Owner and to the Department upon request.

5. EEO WORK FORCE REPORTING PROCEDURES

- A. The Contractor shall provide the following information to the Owner on copies of the forms found at the end of this Section.

(1.) Weekly Manpower Reports 00.73.36.04: The Contractor shall prepare a report after each week of activity, reflecting the actual working hours of all personnel identified as minority or non-minority.

- (a) This report shall be received by the Owner no later than the Friday following the week reported.
- (b) Failure to provide information shall result in sanctions as provided in this section.

6. COMPLIANCE - REPORTS AND INFORMATION

- A. The Contractor shall provide all information and reports required by the Owner or the Department and will permit access to its facilities and to any books, records, accounts and other sources of information which may be determined by the Owner or the Department to affect the employment of personnel. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the Owner or the Department as appropriate and shall set forth what efforts have been made to obtain the information.

7. COMPLIANCE - INVESTIGATIONS

- A.** Whenever the Owner's EEO Officer, the MCAD, or the Department believes the Contractor may not be operating in compliance with the terms of these requirements, the Department shall conduct an investigation, and may confer with the parties, to verify such allegations. The Department shall not initiate an investigation without prior notice to the Contractor.
- B.** If the Department finds the Contractor in non-compliance, it shall make a preliminary report, and notify the Contractor in writing of the steps necessary to bring such Contractor into compliance. A copy of this report shall be sent to the Department's Affirmative Action Officer.

8. COMPLIANCE - DEPARTMENT - AFFIRMATIVE ACTION INVESTIGATION

- A.** If the Contractor fails or refuses to fully perform the steps necessary to achieve compliance, the Department shall make a report of non-compliance to the Department's Affirmative Action Officer, who will then conduct an investigation.
- B.** Should the Department's Affirmative Action Officer find the Contractor in non-compliance a final report recommending the imposition of one or more of the sanctions listed below shall be issued.
- C.** Within fifteen (15) days of said report the Department shall, after due notice and giving the Contractor an opportunity to respond, move to impose one or more of the following sanctions to attain compliance.
- D.** If the Department's Affirmative Action Office believes the Contractor has taken or is taking every possible measure to achieve compliance, a report shall show the Contractor is in compliance.

9. SANCTIONS

- A.** For each week that the Contractor fails or refuses to comply, the Department may recover from the Contractor, 1/100 of 1% of the original Contract Sum or \$1000 whichever sum is greater, in the nature of liquidated damages.
- B.** If a Subcontractor is in non-compliance, the Department may recover from the Contractor, 1/10 of 1% of the Subcontract Sum, or \$400 whichever sum is greater, in the nature of liquidated damages, to be assessed by the Contractor as a back charge against the Subcontractor for each week that Subcontractor fails or refuses to comply.
- C.** The Owner may suspend part or all of any payment due under the contract until such time as the Contractor or any Subcontractor is able to demonstrate compliance with the terms of the Contract;
- D.** The Owner may terminate, or cancel part or all of the Contract, in accordance with the provisions of Article 19 of the General Conditions, unless the Contractor or any Subcontractor is able to demonstrate, within a specified time, compliance with the terms of the Contract.
- E.** The Contractor may request the Department and Owner to suspend the sanctions conditionally. Whereupon the Department shall investigate corrective measures taken by the Contractor and shall either lift or re-impose the sanctions.

10. SEVERABILITY

- A.** The provisions of this section are severable, and if any of these provisions shall be held unconstitutional by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions of the Contract.

END OF EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS
00.73.36

FORM OF CONTRACTOR'S EQUAL EMPLOYMENT CERTIFICATION

This form must be completed and submitted by the Contractor prior to the signing of the Owner-Contractor Agreement.

This certifies that:

Contractor

Street Address

City/State/Zip Code

1. Intends to use the following listed construction trades in the work under this contract:

2. Will comply with the minority manpower ratio and specific affirmative action steps contained in Section 00.73.36 of this Contract; and
3. Will obtain similar certifications from each of its subcontractors and submit to the Owner prior to the award of any subcontract under this contract the subcontractor's certification.

SIGNATURE OF AUTHORIZED REPRESENTATIVE OF CONTRACTOR

NAME AND TITLE

DATE

Contract and Subcontract Activity

U.S. Department of Housing and Urban Development

OMB Approval No.: 2535-0117 (exp. 1/31/2013)

Public Reporting Burden for this collection of information is estimated to average .50 hours 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 information is voluntary. HUD may not collect this information, and you are not required to complete this form, unless it displays a currently valid OMB Control Number.

Executive Order 12421 dated July 14, 1983, directs the Minority Business Development Plans shall be developed by each Federal Agency and that these annual plans shall establish minority business development objectives. The information is used by HUD to monitor and evaluate MBE activities against the total program activity and the designated minority business enterprise (MBE) goals. The Department requires the information to provide guidance and oversight for programs for the development of minority business enterprise concerning Minority Business Development. If the information is not collected HUD would not be able to establish meaningful MBE goals nor evaluate MBE performance against these goals. While no assurances of confidentiality is pledged to respondents, HUD generally discloses this data only in response to a Freedom of Information request.

Privacy Act Notice - The United States Department of Housing and Urban Development, Federal Housing Administration, is authorized to solicit the information requested in this form by virtue of Title 12, United States Code, Section 1701 et seq., and regulations promulgated thereunder at Title 12, Code of Federal Regulations. It will not be disclosed or released outside the United States Department of Housing and Urban Development without your consent, except as required or permitted by law.

1. Grantee/Project Owner/Developer/Sponsor/Builder/Agency	Check if: PHA <input type="checkbox"/> IHA <input type="checkbox"/>	2. Location (City, State, ZIP Code)		
3a. Name of Contact Person	3b. Phone Number (Including Area Code)	4. Reporting Period <input type="checkbox"/> Oct. 1 - Sept. 30 (Annual-FY)	5. Program Code (Not applicable for CPD programs.) See explanation of codes at bottom of page. Use a separate sheet for each program code. <input style="width:40px; height:20px;" type="text"/>	6. Date Submitted to Field Office

Grant/Project Number or HUD Case Number or other identification of property, subdivision, dwelling unit, etc. 7a.	Amount of Contract or Subcontract 7b.	Type of Trade Code (See below) 7c.	Contractor or Subcontractor Business Racial/Ethnic Code (See below) 7d.	Woman Owned Business (Yes or No) 7e.	Prime Contractor Identification (ID) Number 7f.	Sec. 3 7g.	Subcontractor Identification (ID) Number 7h.	Sec. 3 7i.	Contractor/Subcontractor Name and Address 7j.										
									Name	Street	City	State	Zip Code						

- | | | |
|--|---|---|
| <p>CPD:
1 = New Construction
2 = Education/Training
3 = Other</p> <p>7c: Type of Trade Codes:
Housing/Public Housing:
1 = New Construction
2 = Substantial Rehab.
3 = Repair
4 = Service
5 = Project Mangt.</p> | <p>7d: Racial/Ethnic Codes:
1 = White Americans
2 = Black Americans
3 = Native Americans
4 = Hispanic Americans
5 = Asian/Pacific Americans
6 = Hasidic Jews</p> | <p>5: Program Codes (Complete for Housing and Public and Indian Housing programs only):
1 = All insured, including Section 8
2 = Flexible Subsidy
3 = Section 8 Noninsured, Non-HFDA
4 = Insured (Management)</p> <p>5 = Section 202
6 = HUD-Held (Management)
7 = Public/Indian Housing</p> |
|--|---|---|

Previous editions are obsolete.

This report is to be completed by grantees, developers, sponsors, builders, agencies, and/or project owners for reporting contract and subcontract activities of \$10,000 or more under the following programs: Community Development Block Grants (entitlement and small cities); Urban Development Action Grants; Housing Development Grants; Multifamily Insured and Noninsured; Public and Indian Housing Authorities; and contracts entered into by recipients of CDBG rehabilitation assistance.

Contracts/subcontracts of less than \$10,000 need be reported only if such contracts represent a significant portion of your total contracting activity. Include only contracts executed during this reporting period.

This form has been modified to capture Section 3 contract data in columns 7g and 7i. Section 3 requires that the employment and other economic opportunities generated by HUD financial assistance for housing and community development programs shall, to the greatest extent feasible, be directed toward low- and very low-income persons, particularly those who are recipients of government assistance for housing. Recipients using this form to report Section 3 contract data must also use Part I of form HUD-60002 to report employment and training opportunities data. Form HUD-2516 is to be

completed for public and Indian housing and most community development programs. Form HUD-60002 is to be completed by all other HUD programs including State administered community development programs covered under Section 3.

A Section 3 contractor/subcontractor is a business concern that provides economic opportunities to low- and very low-income residents of the metropolitan area (or nonmetropolitan county), including a business concern that is 51 percent or more owned by low- or very low-income residents; employs a substantial number of low- or very low-income residents; or provides subcontracting or business development opportunities to businesses owned by low- or very low-income residents. Low- and very low-income residents include participants in Youthbuild programs established under Subtitle D of Title IV of the Cranston-Gonzalez National Affordable Housing Act.

The terms "low-income persons" and "very low-income persons" have the same meanings given the terms in section 3(b)(2) of the United States Housing Act of 1937. Low-income persons mean families (including single persons) whose incomes do not exceed 80 per centum of the median income for the area, as determined by the Secretary, with adjustments for smaller and larger families, except that the Secretary

may establish income ceilings higher or lower than 80 per centum of the median for the area on the basis of the Secretary's findings that such variations are necessary because of prevailing levels of construction costs or unusually high or low-income families. Very low-income persons means low-income families (including single persons) whose incomes do not exceed 50 per centum of the median family income for the area, as determined by the Secretary with adjustments for smaller and larger families, except that the Secretary may establish income ceilings higher or lower than 50 per centum of the median for the area on the basis of the Secretary's findings that such variations are necessary because of unusually high or low family incomes.

Submit two (2) copies of this report to your local HUD Office within ten (10) days after the end of the reporting period you checked in item 4 on the front.

Complete item 7h. only once for each contractor/subcontractor on each semi-annual report.

Enter the prime contractor's ID in item 7f. for all contracts and subcontracts. Include only contracts executed during this reporting period. PHAs/IHAs are to report all contracts/subcontracts.

Community Development Programs

1. **Grantee:** Enter the name of the unit of government submitting this report.
3. **Contact Person:** Enter name and phone of person responsible for maintaining and submitting contract/subcontract data.
- 7a. **Grant Number:** Enter the HUD Community Development Block Grant Identification Number (with dashes). For example: B-32-MC-25-0034. For Entitlement Programs and Small City multi-year comprehensive programs, enter the latest approved grant number.
- 7b. **Amount of Contract/Subcontract:** Enter the dollar amount rounded to the nearest dollar. If subcontractor ID number is provided in 7f, the dollar figure would be for the subcontract only and not for the prime contract.
- 7c. **Type of Trade:** Enter the numeric codes which best indicates the contractor's/subcontractor's service. If subcontractor ID number is provided in 7f., the type of trade code would be for the subcontractor only and not for the prime contractor. The "other" category includes supply, professional services and all other activities except construction and education/training activities.
- 7d. **Business Racial/Ethnic/Gender Code:** Enter the numeric code which indicates the racial/ethnic /gender character of the owner(s) and controller(s) of 51% of the business. When 51% or more is not owned and controlled by any single racial/ethnic/gender category, enter the code which seems most appropriate. If the subcontractor ID number is provided, the code would apply to the subcontractor and not to the prime contractor.
- 7e. **Woman Owned Business:** Enter Yes or No.
- 7f. **Contractor Identification (ID) Number:** Enter the Employer (IRS) Number of the Prime Contractor as the unique identifier for prime recipient of HUD funds. Note that the Employer (IRS) Number must be provided for each contract/subcontract awarded.
- 7g. **Section 3 Contractor:** Enter Yes or No.
- 7h. **Subcontractor Identification (ID) Number:** Enter the Employer (IRS) Number of the subcontractor as the unique identifier for each subcontract awarded from HUD funds. When the subcontractor ID Number is provided, the respective Prime Contractor ID Number must also be provided.
- 7i. **Section 3 Contractor:** Enter Yes or No.

7j. Contractor/Subcontractor Name and Address: Enter this information for each
Previous editions are obsolete.

firm receiving contract/subcontract activity only one time on each report for each firm.

Multifamily Housing Programs

1. **Grantee/Project Owner:** Enter the name of the unit of government, agency or mortgagor entity submitting this report.
3. **Contact Person:** Same as item 3 under CPD Programs.
4. **Reporting Period:** Check only one period.
5. **Program Code:** Enter the appropriate program code.
- 7a. **Grant/Project Number:** Enter the HUD Project Number or Housing Development Grant or number assigned.
- 7b. **Amount of Contract/Subcontract:** Same as item 7b. under CPD Programs.
- 7c. **Type of Trade:** Same as item 7c. under CPD Programs.
- 7d. **Business Racial/Ethnic/Gender Code:** Same as item 7d. under CPD Programs.
- 7e. **Woman Owned Business:** Enter Yes or No.
- 7f. **Contractor Identification (ID) Number:** Same as item 7f. under CPD Programs.
- 7g. **Section 3 Contractor:** Enter Yes or No.
- 7h. **Subcontractor Identification (ID) Number:** Same as item 7h. under CPD Programs.
- 7i. **Section 3 Contractor:** Enter Yes or No.
- 7j. **Contractor/Subcontractor Name and Address:** Same as item 7j. under CPD Programs.

Public Housing and Indian Housing Programs

PHAs/IHAs are to report all contracts/subcontracts. Include only contracts executed during this reporting period.

1. **Project Owner:** Enter the name of the unit of government, agency or mortgagor entity submitting this report. Check box as appropriate.
3. **Contact Person:** Same as item 3 under CPD Programs.
4. **Reporting Period:** Check only one period.
5. **Program Code:** Enter the appropriate program code.
- 7a. **Grant/Project Number:** Enter the HUD Project Number or Housing Development Grant or number assigned.
- 7b. **Amount of Contract/Subcontract:** Same as item 7b. under CPD Programs.
- 7c. **Type of Trade:** Same as item 7c. under CPD Programs.
- 7d. **Business Racial/Ethnic/Gender Code:** Same as item 7d. under CPD Programs.
- 7e. **Woman Owned Business:** Enter Yes or No.
- 7f. **Contractor Identification (ID) Number:** Same as item 7f. under CPD Programs.
- 7g. **Section 3 Contractor:** Enter Yes or No.
- 7h. **Subcontractor Identification (ID) Number:** Same as item 7h. under CPD Programs.
- 7i. **Section 3 Contractor:** Enter Yes or No.
- 7j. **Contractor/Subcontractor Name and Address:** Same as item 7j. under CPD Programs.



Massachusetts Department of
Housing and Community Development



EEO CONTRACTOR'S WEEKLY MANPOWER REPORT

_____ Housing Authority Development No. _____ Contract Amount \$ _____
 General Contractor: _____ **Minority** Participation Goal **15.3%** **Women** Participation Goal **6.9%**
 Name of Contractor Filing Report: _____ Trade(s): _____
 Week Ending: _____ Report No.: _____ Check Here if you are a non-filed Subcontractor
 Check Here if this is a Final Report Date Work Began: _____ Date Work Completed _____

Job Category	# of Employees	Weekly Total Manhours	Total Manhours to Date	# of Minorities	Weekly Total Minority Manhours	Weekly % Minority Manhours	# of Women	Weekly Total Women Manhours	Weekly % Women Manhours	Total Manhours to Date	Total Minority Manhours to Date	% of Minority Manhours to Date	Total Women Manhours to Date	% of Women Manhours to Date

Mail Reports to: Awarding Authority Prepared by: _____
 Title: _____
 Date: _____ 20____

00.73.39
SUPPLIER DIVERSITY PROGRAM - EXECUTIVE ORDER 524
MINORITY AND WOMEN BUSINESS ENTERPRISES

1. PROJECT REQUIREMENTS

General bidders must agree to contract with minority and women-owned businesses as certified by the Supplier Diversity Office (SDO) formerly known as SOMWBA. The amount of participation which shall be reserved for such enterprises shall not be less than the percentages stated in document 00.11.00 Advertisement found elsewhere in these contract documents.

2. DEFINITIONS:

For purposes of this Section 00.73.39.00 the following definitions shall apply:

- A. "Minority business enterprise" or "MBE", means a business enterprise that is owned and controlled by one or more socially or economically disadvantaged persons. Such disadvantage may arise from cultural, racial, chronic economic circumstances or background or other similar cause. Such persons include, but are not limited to, African Americans, Cape Verdeans, Western Hemisphere Hispanics, Asians, American Indians, Eskimos, and Aleuts. For purposes of section 61 and of section 40N of chapter 7, the term "minority owned business" shall have the same meaning as "minority business enterprise".
- B. "SDO" means the Supplier Diversity Office. ,
- C. "Minority Business Enterprise" (MBE) means a business organization which is owned and controlled fifty-one percent (51%) or more by one or more minority group members and certified as such by SDO.
- D. "Women Business Enterprise" (WBE) means a business organization which is owned and controlled fifty-one percent (51%) or more by one or more women and certified as such by SDO.
- E. "MBE/WBE Manufacturer" means a person or firm certified by SDO and engaged in the process of making, fabricating, constructing, forming or assembling a product(s) from raw, unfinished, semi-finished, or finished materials through a direct contract with a contractor, subcontractor, or supplier.
- F. "MBE/WBE Subcontractor" means a person or firm certified as such by SDO and contractually engaged by the contractor to perform a portion (a) of the contracted Work, including labor, materials and supplies, or (b) labor, materials and supplies, or any combination thereof.
- G. "MBE/WBE Supplier" means a person or firm certified as such by SDO and engaged in selling of materials and supplies to contractors, subcontractors, and/or manufacturers for the purpose of constructing, repairing, remodeling, adding to or subtracting from, or improving any building, structure or property through a direct contract with a contractor or subcontractor. Said MBE/WBE must sustain substantial financial risk in the process of performing/supplying the work for this contract.
- H. "Amount of Participation" means the percentage stated on the advertisement of the final contract amount which is to be contracted to MBE/WBEs for work to be performed on this contract in accordance with this Section 00.73.39.

3. JOINT VENTURES

- A. A Joint Venture shall mean a business arrangement between MBE/WBEs and a non-SDO certified General Contractor, in which the MBE or WBE has at least a twenty-five percent (25%) interest in the Contract, and in which the other has at least the required minimum percentage of participation

in the Contract. It is expected that the M/WBE having the minimum 25% interest will participate in the management and decision making aspects of the project proportionate to its percentage of ownership and interest in the Contract.

- B. An M/WBE Joint Venture shall mean a business arrangement wherein a SDO certified MBE or WBE serves as a General Contractor and engages the services of another SDO certified MBE or WBE (whichever is required) in an amount not less than twenty-five percent (25%) of the Contract amount, and in which the management and decision making aspects of the project are shared to the degree of participation and ownership in the Contract.

4. CONDITIONS

- A. Once the Contractor agrees to comply with these provisions, and within 5 working days after receipt of bids, unless an extension of time or waiver for compliance is granted in accordance with Article 3 of the Instructions to Bidders, the apparent low bidder must submit a completed Participation Schedule and Letters of Intent covering each SDO certified MBE and WBE used to satisfy the requirements of this Section 00.73.39. These letters shall include the contract items the MBEs and/or WBEs are proposing to perform and the prices that the MBEs and/or WBEs propose to charge for the work.
- B. MBE and WBEs listed on the Participation Schedule may be any combination of MBE/WBE Subcontractors, MBE/WBE Manufactures, or MBE/WBE Suppliers as defined in Paragraph 2.G.
- C. Letters of Intent are not required from filed sub-bidders who are SDO Certified MBEs or WBEs.
- D. The amount of participation of MBE/WBEs listed in The Participation Schedule must total at least the percentage set forth in the Advertisement. The amounts indicated in the Letter of Intent shall not be less than the amount shown on the Participation Schedule. The SDO Certified MBEs and/or WBEs for whom Letters of Intent are submitted must be identical to the ones listed on the Participation Schedule. No substitutions shall be made without the written approval of the Owner.
- E. The Contractor may include MBEs and/or WBEs utilized by non-certified subcontractors to satisfy the requirements of this article.
- F. MBE/WBE Certification from any other agency/municipality shall not be considered applicable for this Contract.
- G. If a filed sub-bidder listed as a MBE and/or WBE is rejected for failure to obtain a performance and payment bond from a surety qualified to do business in the Commonwealth when requested by the general bidder to do so at the time of bid, said failure shall not entitle the general bidder to avoid the requirements of this Section 00.73.39.
- H. The Contractor shall not change the MBEs and/or WBEs listed in the Participation Schedule or make any other such MBE/WBE substitutions after the Contract has been executed or during construction without the written approval of the Owner.

5. COMPLIANCE

- A. The Contractor must provide information as is necessary, in the judgment of the Owner to ascertain compliance with the terms of this Section 00.73.39.
- B. The Contractor shall provide an executed Contractor's Affidavit of Payment to Minority Business Enterprises Form 00.73.39.05 as found in this Section.
- C. If the Contractor desires to comply with this Section 00.73.39, but for reasons beyond its control cannot do so in accordance with the Participation Schedule, the Contractor must submit to the Owner the reason for its inability to comply and proposed revisions to the Participation Schedule stating how conditions of this Section 0073.39 are to be met.

6. MBE/WBE REPORTING PROCEDURES

- A. The Contractor shall provide, an executed Contractor's Affidavit of Payment to Minority Business Enterprises 00.73.39.05 on a copy of the form found at the end of this Section.
- (1.) The Owner may request copies of canceled checks to confirm compliance.
 - (2.) This affidavit shall be submitted by the Contractor as payments are made to MBE/WBEs for Work completed on this project.
 - (3.) Affidavits shall be sent to:
Department of Housing and Community Development
100 Cambridge Street – 3rd Floor
Boston, MA 02114
ATT: Construction Contract Specialist
 - (4.) Failure to submit by these reports could result in sanctions described in Paragraph 7.

7. SANCTIONS

- A. If at any time during the life of this Contract, the Contractor is found to be out of compliance with this Section 00.73.39, sanctions may be imposed within fifteen (15) working days after notification to the Contractor of said violation. If within those fifteen (15) days the Contractor remedies the non-compliance to the satisfaction of the Owner or provides compelling documentation as outlined in Paragraph 8.B said sanctions may be postponed or waived. If the Contractor requires more than fifteen (15) days to remedy non-compliance, it shall make a written request to the Owner for a time extension. This request shall be made within the original fifteen (15) day period.
- B. If the Contractor fails to comply with the terms of these conditions, the Owner may impose the following sanctions:
- (.1) require the Contractor to provide equivalent substitute participation with SDO Certified MBEs and/or WBEs acceptable to the Owner and at no additional cost to the Owner; or
 - (.2) suspend any payment for the Work that should have been but was not performed by a MBE and/or WBE pursuant to the Participation Schedule.
- C. To the extent that the Contractor has not complied with the terms of these conditions, the Owner may withhold from any Certificate for Payment moneys equivalent to the product of the percentage of completion times the MBE and/or WBE dollar amount, minus the amount already paid to MBEs and/or WBEs for Work performed under the contract, minus any amounts withheld for previous non-compliance.

8. RECOURSE

- A. The Owner has the option not to impose sanctions if the Contractor demonstrates, to the satisfaction of the Department, that the Contractor has taken every possible measure to comply with Section 00.73.39. This may constitute a reason for waiving this Section in whole or in part.
- B. To demonstrate every possible measure, the Contractor shall furnish:
- (.1) the name of each firm solicited for quotations on each Subcontract, the price quoted by each, and whether or not the firm solicited was a minority or woman-owned business;
 - (.2) the reason for not subcontracting with a minority or woman-owned business enterprise when applicable;
 - (.3) evidence showing efforts by the Contractor to supplement its own and SDO lists of minority and woman-owned business sources by contacting the Small Business Administration, trade organizations, the General Services Administration (U.S. Government), minority contractors' organizations, community organizations and other likely sources of names of additional minority or woman-owned business firms capable of performing the Work; and
 - (.4) evidence showing other efforts to comply with this Section 00.73.39.

9. WAIVERS

The Owner has the discretion to determine that compliance with the participation goals is not feasible and may be reduced or waive these goals. To reduce or waive the MBE/WBE participation goals the apparent low general bidder must make this request in writing to the Owner no later than five (5) working days after the general bid opening. ***See Article 3.3 - Instructions to Bidders.***

10. SEVERABILITY

The provisions of this section are severable, and if any of these provisions shall be held unconstitutional by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions of the Contract.

End of 00.73.39

**SUPPLIER DIVERSITY PROGRAM - EXECUTIVE ORDER 524
MINORITY AND WOMEN OWNED BUSINESS ENTERPRISES**

SDO CERTIFIED MBE/WBE PARTICIPATION SCHEDULE

- This form must be submitted by the apparent low general bidder within five working days of receipt of bids.
- Letters of Intent from all MBEs or WBEs listed must be submitted with this Participation Schedule.

Project _____

Name of Project

The undersigned intends to subcontract with the following firms for the listed work and dollar amounts:

Name of Company	Description of Work	MBE or WBE	Supplier or Subcontractor	Value of Participation
1 _____	_____	_____	_____	\$ _____
2 _____	_____	_____	_____	\$ _____
3 _____	_____	_____	_____	\$ _____
4 _____	_____	_____	_____	\$ _____
5 _____	_____	_____	_____	\$ _____
6 _____	_____	_____	_____	\$ _____
7 _____	_____	_____	_____	\$ _____
8 _____	_____	_____	_____	\$ _____
Dollar Value of MBE Commitment:				\$ _____
Dollar Value of WBE Commitment:				\$ _____
Total Dollar Value Commitment:				\$ _____

BIDDER CERTIFICATION

The undersigned certifies under the penalties of perjury that (1) it intends to subcontract with the above listed firms for the identified work and dollar amounts unless a waiver or partial waiver has been granted by the Owner and (2) certifies that he/she has read Section 00.73.39 conditions contained in the contract documents with regards to MBE/WBE participation and is authorized to bind the contractor to the commitment set forth above.

Date _____

Name of General Contractor

Authorized Signature

Address

City, State & Zip Code

SDO CERTIFIED MBE/WBE LETTER OF INTENT

- This form is provided for SDOA Certified MBEs and WBEs being utilized as on this contract.
- This form must be completed by each SDO Certified MBE or WBE and submitted by the general bidder.
- General bidders or filed sub-bidders that are SDO Certified MBEs and WBEs may omit this form.

TO: General Bidder

FROM SDO Certified MBE or WBE

Name: _____
 Street Address: _____
 City/Town _____
 Phone: _____
 Fax: _____
 Email: _____

Name: _____
 Street Address: _____
 City/Town _____
 Phone: _____
 Fax: _____
 Email: _____

RE: Project: _____
Name of Project

1. My company intends to perform work in connection with the above project as:

- an individual a corporation a partnership
- a joint venture with _____
- other
(explain) _____

2. My company is certified by SDO as a MBE WBE in the following categories:

3. My company has not changed its ownership, control, or management in any ways that affect certification since obtaining SDO certification

4. My company understands that if your company is awarded the contract, your company intends to enter into an agreement to perform the work described below for the price indicated. My company also understands that your company will make substitutions only as allowed by Section 00.73.39 of the above project

5. My company intends to **Brief Description of work** _____

This Work includes: Labor & Materials Labor Only Materials only

for a total amount of _____ Dollars \$ _____

Date _____

 Authorized Signature of SCE

 Name and Title

Please advise the Owner immediately if either party attempts to renegotiate this agreement



CONTRACTOR'S AFFIDAVIT OF PAYMENTS TO MINORITY BUSINESS ENTERPRISES (GC FORM)

Date: _____

TO: Department of Housing & Community Development
Dean Harris, SDP Coordinator
100 Cambridge Street, Suite 300
Boston, MA 02202
Phone: (617) 573-1177
Fax: (617) 573-1285

FROM:

Name of Contractor

Address

City, State, Zip

RE: Contract: _____ Housing Authority Project No. _____

Original Contract Amount \$ _____

Record Period Ending _____

KNOW ALL MEN BY THESE PRESENTS:

The undersigned certifies that they have met the Minority Business Enterprise (MBE) and Women Owned Business Enterprises (WBE) requirements for the above named contract which states in part that the General Contractor:

- 1. Shall submit this form quarterly or at any time requested by DHCD, completing the information below;
2. Have subcontracted with the following M/WBEs in the dollar amounts enumerated in the Participation Schedule and Letters of Intent in effect at the time of contract execution; and
3. Have made the following payments to each of the W/MBEs for work performed on this project.

Table with 5 columns: MBE/WBE, Work Performed Performed, Subcontractor Amount, Total Payments to Date, Payments this Quarter. The table contains several rows of blank lines for data entry.

In WITNESS WHEREOF, the undersigned has signed and sealed this instrument under the pain and penalty of perjury.

This _____ Day of _____ 20__

Name of General Contractor

Signed and Sealed

On this ____ day of _____ 20__, before me, the undersigned Notary Public, personally appeared _____, duly designated by the board of directors and proved to me, through satisfactory evidence of identification, which was _____, that s/he is the person whose name is signed on the foregoing documents, and acknowledged to me that s/he signed it voluntarily for its stated purpose and that it was her/his free act and deed.

Notary Public
My Commission Expires:

11/07/2016

Lowell Housing Authority

Section 3 Program

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Overview of Section 3 Requirements

Section 3 is a provision of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u) that is regulated by the provisions of 24 CFR 75. Section 3 regulations ensure that employment and other economic opportunities generated by certain HUD financial assistance shall, to the greatest extent feasible, and consistent with existing Federal, State and local laws and regulations, be directed to low- and very low-income persons, particularly those who are recipients of government assistance for housing, and to business concerns which provide economic opportunities to low- and very low-income persons.

Purpose of This Document

This plan outlines how the Lowell Housing Authority (LHA) and its subrecipients, contractors and subcontractors will comply with HUD's Section 3 requirements in implementing Lowell Housing Authority's public housing program. LHA will, to the greatest extent feasible, ensure that employment and other economic opportunities are directed to low- and very low-income persons (Section 3 workers and Targeted Section 3 workers) and to eligible businesses (Section 3 Businesses) and requires the same of its contractors. These requirements do not supersede Government requirements for competitive procurement and Davis Bacon wages. These requirements do not supersede the requirements of Massachusetts laws regarding bidding and construction.

LHA may amend its Section 3 Policies and Procedures document as necessary to ensure continued compliance with HUD's requirements and/or to reflect updated Section 3 guidance and outreach strategies.

Section 3 Coordinator

LHA's Section 3 Coordinator serves as the central point of contact for Section 3 compliance for LHA and its subrecipients, contractors and subcontractors supporting the program. Subrecipients, contractors, subcontractors and others are encouraged to reach out to LHA's Section 3 Coordinator with questions regarding Section 3 compliance:

Sherry Giblin
Chief Financial Officer
sgiblin@lhma.org

Employment, Training and Contracting Goals

A. Safe Harbor Compliance

LHA will be considered to have complied with the Section 3 requirements and met safe harbor, if they certify that they followed the required prioritization of effort and met or exceeded the Section 3 benchmarks, absent evidence of the contrary.

Prior to the beginning of work, contractors and subcontractors will be required to certify that they will follow the required prioritization of effort for Section 3 workers, Targeted Section 3 workers, and Section 3 business concerns as outlined below in section C. After completion of the project, on the Section 3 Cumulative Report, contractors and subcontractors will be required to certify that they followed the prioritization of effort requirements.

B. Safe Harbor Benchmarks

LHA has established employment and training goals that subrecipients, contractors, and subcontractors should meet in order to comply with Section 3 requirements outlined in 24 CFR Part 75.9. The safe harbor benchmark goals are as follows:

- 1) Twenty-five (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 fiscal year are Section 3 workers.

Section 3 Labor Hours/Total Labor Hours = 25%

And

- 2) Five (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 fiscal year are Targeted Section 3 workers, as defined at CFR 24 Part 75.11.

Targeted Section 3 Labor Hours/Total Labor Hours = 5%

At the time of bid, the contractor will be required to present a list of the projected number of available positions expected to be needed to complete the project. In an effort to assist contractors with meeting or exceeding the Section 3 goals, LHA will do the following:

- 1) Share Section 3 Plan with contractors and subcontractors and explain policies and procedures.
- 2) Require contractor to sign Certification of Intent to Comply with Section 3
- 3) Review Section 3 benchmarks and prioritization of effort with contractors and subcontractors to ensure goals are understood.
- 4) Inform contractors about the HUD Section 3 Opportunity Portal
<https://hudapps.hud.gov/OpportunityPortal/>
- 5) Require contractors to notify LHA of their interests regarding employment of Section 3 workers prior to hiring.
- 6) Encourage local businesses to register on the HUD Business Registry and direct contractors to the HUD Section 3 Business registry
<https://www.hud.gov/section3businessregistry>
- 7) Leverage LHA's communication outlets (Website, digital signage, Facebook) to effectively communicate employment and contracting opportunities that arise.
- 8) Require contractors to submit a list of core employees (including administrative, clerical, planning and other positions pertinent to the construction trades) at the time of contract award.

It is not intended for contractors and subcontractors to terminate existing employees, but to make every effort feasible to meet Section 3 benchmark goals by utilizing existing qualified workforce and by considering qualified eligible Section 3 workers and Targeted Section 3 workers (per the prioritization of effort outlined in Section #3) before any other person, when hiring additional employees is needed to complete proposed work to be performed with HUD funding.

HUD establishes and updates Section 3 benchmarks for Section 3 workers and/or Targeted Section 3 workers through a document published in the Federal Register, not less frequently than once every 3 years. Given that the Section 3 benchmarks are subject to change every three years or sooner, LHA will review and update the Section 3 Plan every 3 years/months, as needed.

It is the responsibility of contractors to implement efforts to achieve Section 3 compliance. Any contractor that does not meet the Section 3 benchmarks must demonstrate why meeting the benchmarks was not feasible. All contractors submitting bids or proposals to the LHA are required to certify that they will comply with the requirements of Section 3.

C. CERTIFICATION OF PRIORITIZATION OF EFFORT FOR EMPLOYMENT, TRAINING, AND CONTRACTING

Under the LHA Section 3 Program, contractors and subcontractors should make best efforts to provide employment and training opportunities to Section 3 workers in the priority order listed below:

- 1) To residents of the public housing projects for which the public housing financial assistance is expended.
- 2) To residents of other public housing projects managed by the PHA that is providing assistance or for residents of Section 8-assisted housing managed by the PHA.
- 3) To participants in Youth Build programs; and
- 4) To low- and very low-income persons residing within the metropolitan area (or nonmetropolitan county) in which the assistance is expended.

Contractors and subcontractors will be required to certify that they will and have made best efforts to follow the prioritization of effort requirements prior to the beginning work and after work is completed.

Contracting

Under the LHA's Section 3 Program, contractors and subcontractors must make their best efforts to award contracts and subcontracts to business concerns that provide economic opportunities to Section 3 workers in the following order or priority:

- 1) Section 3 business concerns that provide economic opportunities for residents of public housing projects for which the assistance is provided.
- 2) Section 3 business concerns that provide economic opportunities for residents of other public housing projects or Section-8 assisted housing managed by the PHA that is providing assistance.
- 3) Youth Build programs; and

- 4) Section 3 business concerns that provide economic opportunities to Section 3 workers residing within the metropolitan area (or nonmetropolitan county) in which the assistance is provided.

Section 3 Eligibility and Certifications

To qualify as a Section 3 worker, Targeted Section 3 worker, or a Section 3 business concern, each must self-certify that they meet the applicable criteria.

Businesses who misrepresent themselves as Section 3 business concerns and report false information to LHA may have their contracts terminated as default and be barred from ongoing and future considerations for contracting opportunities.

A. Contractor Section 3 Worker and Targeted Section 3 Worker Certification

A Section 3 worker seeking certification shall submit self-certification documentation to the recipient contractor or subcontractor, that the person is a Section 3 worker or Targeted Section 3 worker as defined in 24 CFR Part 75. For the purposes of Section 3 worker eligibility, LHA will use individual income rather than family/household income to determine eligibility. The income limits will be determined annually using the guidelines published <https://www.huduser.org/portal/datasets/il.html>.

Persons seeking the Section 3 worker preference shall demonstrate they meet one or more of the following criteria currently or when hired within the past five years, as documented:

- 1) A low or very low-income resident (the worker's income for the previous or annualized calendar year is below the income limit established by HUD); or
- 2) Employed by a Section 3 business concern; or
- 3) A Youth Build participant.

Persons seeking the Targeted Section 3 worker preference shall demonstrate that it meets one or more of the following criteria:

- 1) Employed by a Section 3 business concern or
- 2) Currently meets or when hired met at least one of the following categories as documented within the past five years:
 - a) A resident of public housing; or
 - b) A resident of other public housing projects or Section 8-assisted housing; or
 - c) A YouthBuild participant.

B. Section 3 Worker and Targeted Section 3 Worker Certification

All residents of LHA's Federal and State Public Housing Developments, the HCVP program, and other state assisted housing programs administered by the LHA qualify as Section 3 residents and are considered to be Sec 3 eligible. All residents of Lowell whose incomes are 80% or less of the medium family income for the Lowell HUD MFI table can also qualify for Section 3 status. The

LHA will require that all applicants who are identified as Section 3 eligible provide a Section 3 Resident Application with the appropriate supporting documentation to the LHA Section 3 Officer.

C. Section 3 Business Concern Certification

LHA encourages contractors and subcontractors to make their best efforts to award contracts and subcontracts to Section 3 business concerns.

Businesses that believe they meet the Section 3 Business requirements can self-register in the HUD Business registry, here: <http://www.hud.gov/Sec3Biz>. Businesses may seek Section 3 Business Concern preference by demonstrating that it meets one or more of the following criteria:

- 1) At least 51 percent of the business is owned and controlled by low- or very low-income persons; or
- 2) At least 51 percent of the business is owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing; or
- 3) Over 75 percent of the labor hours performed for the business over the prior three-month period are performed by Section 3 workers.

Businesses that seek Section 3 preference shall certify, or demonstrate to LHA, contractors, or subcontractors, that they meet the definitions provided in the above. Businesses may demonstrate eligibility by submitting the Section 3 Business Concern Certification Form. Section 3 Business Concern Certification Forms must be submitted at the time of bid/proposal.

Section 3 Contracting Policy and Procedures

The Authority shall, to the greatest extent feasible and consistent with Commonwealth of Massachusetts bid laws, direct its efforts to ensuring that contracts are awarded to Section 3 Business Concerns in the following order of priority, as more fully defined in the applicable federal regulations, presently codified as 24 CFR § 135.36:

1. Businesses that are 51% or more owned and controlled by residents of LHA development for which Section 3 covered assistance is expended or whose full-time permanent workforce includes 30% of these persons as employees.
2. Businesses that are 51% or more owned and controlled by any LHA residents whose full-time permanent workforce includes 30% of any LHA residents.
3. HUD Youth-Build programs being carried out in Lowell.
4. Businesses that are 51% or more owned and controlled by Section 3 residents of Lowell whose full-time permanent workforce includes 30% of Section 3 residents of Lowell, or subcontract more than 25% of the total amount of subcontracts to Section 3 businesses.
5. LHA will include standard Section 3 language in all of its contracts to ensure compliance with regulations in 24 CFR Part 75. LHA will take appropriate actions upon finding that a contractor is in violation of 24 CFR Part 75 and does not knowingly

contract with any contractor that has been found in violation of the Section 3 regulations.

In addition, contractors and subrecipients are required to include language in all Section 3 covered contracts or agreements for subcontractors to meet the requirements of 24 CFR Part 75.9.

For businesses, 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.

Reporting Requirements

A. Monthly Reporting

Contractors are required to submit monthly activity reports to LHA's Section 3 Coordinator by the 10th of each month.

B. Final Reporting

- 1) Once a project is completed, contractors must submit a final Section 3 cumulative report.
- 2) Upon completion of a project, LHA's Section 3 project coordinator will conduct a final review of the project's overall performance and compliance.
- 3) LHA's Section 3 coordinator will submit the Section 3 data into HUD's reporting system.

Section 3 Complaint Procedure

In an effort to resolve complaints due to non-compliance through an internal process, the LHA encourages submittal of such complaints to the Section 3 Officer as follows:

1. Complaints of non-compliance should be filed in writing and must contain the names of the complainant and a brief description of the alleged violation of 24 CFR 135.
2. Complaints must be filed within thirty (30) calendar days after the complainant becomes aware of the alleged violation.
3. An investigation will be conducted if the complaint is found to be valid.
4. The LHA will review the findings for accuracy and completeness before it is released to complainants.

If complainants wish to have their concerns considered outside of the LHA, a complaint may be filed with:

The HUD program office is responsible for the public housing financial assistance or the Section 3 project, or to the local HUD field office. These offices can be found through the HUD website, www.hud.gov/.

Complainants may be eligible to bring complaints under other federal laws. The U.S. Equal Employment Opportunity Commission (EEOC) is responsible for enforcing federal laws that make it illegal to discriminate against a job applicant or an employee because of the person's race, color, religion, sex (including pregnancy), national origin, age (40 or older), disability or genetic

information (medical history or predisposition to disease). For more information about complainant rights, please contact EEOC at: www.EEOC.gov.

The Department of Labor Office of Federal Contract Compliance Programs (OFCCP) enforces, for the benefit of job seekers and wage earners, the contractual promise of affirmative action and equal employment opportunity required of those who do business with the Federal government. More information about the services they provide can be obtained at: <http://www.dol.gov/ofccp/>.

SECTION 3 SUBMISSION FORMS

Form 1	Certification of Intention to Comply with Section 3	Submit with Bid/Proposal
Form 2	Section 3 Hiring, Training, and Subcontracting Opportunities	Submit with Bid/Proposal
Form 3	Monthly Section 3 Report	Submit Monthly and at Completion of Project
Form 4	Section 3 Worker Affidavit Certification of Section 3 Worker And Targeted Section 3 Worker	Submit with Form 3
Form 5	Section 3 Business Certification Certification for Business Concerns Seeking Section 3 Preference in Contracting	Submit with Form 3



FORM 1

Certification of Intent to Comply with Section 3

This form is to be submitted by proposers with their bid/ proposal. Failure to submit this form will result in the rejection of your bid/proposal.

I hereby certify that:

1. I am the _____ [Insert Title] of _____ [Insert Name of Proposer] (the "Company");
2. I am duly authorized by the Company to submit a proposal on its behalf to the Lowell Housing Authority for _____ [Insert Project Name and Number] and to execute any and all documents required to be filed as a condition of such proposal;
3. I have read and understood the Section 3 Provision, which applies Section 3 of the Housing and Urban Development Act of 1968, as amended, and the Section 3 regulations found at 24 CFR 135.
4. The Company will comply with the requirements of 24 CFR 135 and the Section 3 Provision. This includes ensuring that, to the greatest extent feasible, at least twenty-five **(25) percent or more of the total number of labor hours worked by all Workers on a Section 3 project are Section 3 Workers; and Five (5) percent or more are Targeted Section 3 Workers.**
5. The Company is responsible for the compliance of its subcontractors and will ensure that its subcontractors comply with the requirements set out in 24 CFR 135 and the Section 3 Provision.
6. Any vacant positions filled after the contract award notification but before contract execution will not be filled to circumvent the Company's Section 3 obligations.

Signed under the penalties of perjury

Company

Date

Signature
Duly Authorized



FORM 2

Section 3 Hiring, Training, and Contracting Opportunities

This form is to be completed by the proposer on behalf of itself and all projected subcontractors, if any. Provide estimates of hiring and contracting needs on the project.

HIRING OPPORTUNITIES

Job Category	Number of positions needed to complete project	Number of positions filled by current employees*	Number of positions to be filled by Section 3 Workers	Anticipated dates of work
<i>Example: Tenant Coord</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>10/1/21- 12/31/21</i>
1) Technicians				
2) Office/Clerical				
3) Trade				
4) Trade				
5) Trade				
6) Tenant Coordinator				
7) Other:				
Totals				

SUBCONTRACTING OPPORTUNITIES

Sub-trade and Company (if known)	Filed Sub-trade? (Y/N)	Section 3 Business Concern? (YIN)	Specification Reference	Amount of Contract
<i>Example: HVAC Inc.</i>		<i>y</i>	<i>06200</i>	<i>8,000</i>
1)				
2)				
3)				-

The above tables represent an accurate estimate of workforce and subcontracting needs for this project and also represent the number of Section 3 Workers, Targeted Section 3 Workers, and business concerns that the company proposes to employ and/or contract with.

Signed under the penalties of perjury.

Company: _____

Date: _____

By: _____



FORM 3

Monthly Section 3 Report

This form or a certified substitute document containing the information requested below is to be completed by the consultant and all subcontractors, if any, and submitted upon request. Attach verifications (e.g. • Section 3 Workers Affidavit and copy of photo identification) as necessary.

LHA Project _____

Month Ending _____

SECTION 3 WORKER LABOR HOURS

Employee Name	Job Title	Targeted/Section 3 Worker? (Y/N)	Address	Date Hired	Labor Hours this month	Labor Hours to date
<i>Example: Gladys Jones</i>	<i>Project Assistant</i>	<i>y</i>	<i>Franklin Field, 100 Ames St. Dorchester, MA 02124</i>	<i>10/15/2021</i>	<i>80</i>	<i>200</i>
1)						
2)						
3)						
4)						
5)						

SECTION 3 BUSINESS CONCERNS

Section 3 Business Concern	Address	Dates of Work	Contract Price	Paid to Date	Amount Remaining to be paid
<i>Example: ABC Security Co.</i>	<i>123 Main St., Boston MA 02111</i>	<i>11/1/20- 5/30/21</i>	<i>15,000</i>	<i>2,500</i>	<i>12,500</i>
1)					
2)					
3)					
4)					

Company: _____

e _____

Signature: _____

Print Name & Title _____

FORM 4

Section 3 Worker Self-Certification Form- Public Housing	U.S. Department of Housing and Urban Development Office of Field Policy and Management	HUD FORM 4736D OMB Approval Number 2501-0041 (Exp. 04/30/2025)
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(In compliance with Section 3 of the HUD Act of 1968 and 24 CFR Part 75)

Public reporting for this collection of information is estimated to average 0.5 hours 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.

Section 3 of the Housing and Urban Development Act of 1968, as amended by the Housing and Community Development Act of 1992 (Section 3), and 12 U.S.C. § 1701u ensure that employment and other economic opportunities generated by Federal financial assistance for housing and community development programs are, to the greatest extent feasible, directed toward low- and very low-income persons, particularly those who receive government assistance for housing. The regulations are found at 24 CFR Part 75. This collection of information is required in order to ensure that a worker can be certified as an eligible Section 3 worker as outlined in 24 C.F.R. § 75.31. The information will be used by the Department to ensure compliance with Section 3 of the HUD Act of 1968 employer certification requirements listed in 24 CFR § 75.31, to assess the results of the Department's efforts to meet the statutory objectives of Section 3, to prepare reports to Congress, and by recipients to ensure they are complying with their recordkeeping requirements found in the regulation, and as a self-monitoring tool.

Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions to reduce this burden, to Anna P. Guido, Reports Management Officer, QDAM, Department of Housing and Urban Development, 451 7th Street, SW, Room 4176, Washington, DC 20410-5000. When providing comments, please refer to OMB Approval No. XXXX-XXXX. HUD may not conduct and sponsor, and a person is not required to respond to, a collection of information unless the collection displays a valid control number. No assurances of confidentiality are provided for this information collection.

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 (Not 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:

<ul style="list-style-type: none">• Income for the previous calendar year is below the income limit*• A participant in a means-tested program such as public housing or Section 8-assisted housing• A YouthBuild Participant*	Income limit \$XX,XXX
---	--------------------------

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

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.

<p>___ A participant in a means-tested program such as public housing or Section 8-assisted housing</p> <p>___ A YouthBuild participant*</p>
--

*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

FORM 5

CERTIFICATION FOR BUSINESS CONCERNS SEEKING SECTION 3
PREFERENCE IN CONTRACTING AND DEMONSTRATION OF CAPABILITY

Name of Business _____

Address of Business _____

Type of Business: Corporation Partnership
 Sole Proprietorship Joint Venture

Attached is the following documentation as evidence of status:

For Business claiming status as a Section 3 resident-owned enterprise:

- Copy of resident lease
- Copy of receipt of public assistance
- Copy of evidence of participation in a public assistance program
- Other evidence

For business entity as applicable:

- Copy of Articles of Incorporation
- Certificate of Good Standing
- Assumed Business Name Certificate
- Partnership Agreement
- List of owners/stockholders and % ownership of each
- Corporation Annual Report
- Organization chart with names and titles and brief function statement
- Latest Board minutes appointing officers
- Additional documentation

For business claiming Section 3 status by subcontracting 25 percent of the dollar awarded to qualified Section 3 business:

- List of subcontracted Section 3 business(es) and subcontract amount

For business claiming Section 3 status, claiming at least 30 percent of their workforce are currently Section 3 residents or were Section 3 eligible residents within 3 years of date of first employment with the business:

- List of all current full-time employees
- List of employees claiming Section 3 status
- PHA/IHA Residential lease less than 3 years from day of employment
- Other evidence of Section 3 status less than 3 years from date of employment

Evidence of ability to perform successfully under the terms and conditions of the proposed contract:

- Current financial statement
- Statement of ability to comply with public policy
- List of owned equipment
- List of all contracts for the past two years

Authorizing Name and Signature

(Corporate Seal)

Attested by: _____

PREVAILING WAGES AND LABOR
REGULATIONS

EMPLOYEE RIGHTS UNDER THE DAVIS-BACON ACT

FOR LABORERS AND MECHANICS EMPLOYED ON FEDERAL OR FEDERALLY ASSISTED CONSTRUCTION PROJECTS

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

PREVAILING WAGES

You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

ENFORCEMENT

Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from future federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY

If you do not receive proper pay, or require further information on the applicable wages, contact the Contracting Officer listed below:

Rita V. Brousseau
Chief Procurement Officer
Lowell Housing Authority
350 Moody Street, Lowell, MA 01854
(978) 364-5341 rbrousseau@lhma.org

or contact the U.S. Department of Labor's Wage and Hour Division.



For additional information:

1-866-4-USWAGE

(1-866-487-9243) TTY: 1-877-889-5627



WWW.WAGEHOUR.DOL.GOV

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Office of Labor Relations
FEDERAL LABOR STANDARDS COMPLAINT INTAKE FORM

HUD FORM 4731

OMB Approval No. 2501-0018
 (Exp. 08/31/2010)

Name of complainant	Social Security Number
Current address of complainant (Street/City/State/Zip Code)	Permanent address, if different from current address
Telephone (including area code) (Home/Cell/Other)	E-Mail address
Project name, location and contract/project number	Prime contractor company name
Employer (company) name	Employer: name of owner/responsible party
Employer address	Employer: contact information (Telephone/Cell/Other)

- Check one:**
- Current employee
 - Former employee
 - Other (specify)

Period employed on the project

From:

To:

Occupation/job title:

Duties performed (be specific)

Tools used and/or equipment operated

Wage Rate: \$ per Hour Day Week Piece Other (specify):

Hours usually worked on the project

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Usual start and stop times

Start work time:

End work time:

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Office of Labor Relations
FEDERAL LABOR STANDARDS COMPLAINT INTAKE FORM

HUD FORM 4731
OMB Approval No. 2501-0018
 (Exp. 08/31/2010)

Name of complainant	Social Security Number
---------------------	------------------------

	Yes	No		Yes	No
Were meal breaks taken? If yes, how long were the breaks? _____	<input type="checkbox"/>	<input type="checkbox"/>	Did the employer keep time records?	<input type="checkbox"/>	<input type="checkbox"/>
Paid Overtime (time and ½) after 40 hours?	<input type="checkbox"/>	<input type="checkbox"/>	Did the complainant keep time records?	<input type="checkbox"/>	<input type="checkbox"/>
Paid for all hours worked?	<input type="checkbox"/>	<input type="checkbox"/>	Does complainant have other personal records (pay stubs, log books, etc.) he/she can provide?	<input type="checkbox"/>	<input type="checkbox"/>
Was/is the complainant an Apprentice?	<input type="checkbox"/>	<input type="checkbox"/>	Were fringe benefits paid?	<input type="checkbox"/>	<input type="checkbox"/>

If fringe benefits were paid, check all that apply:

- | | | |
|--|---|--|
| <input type="checkbox"/> Cash in lieu of fringe benefits | <input type="checkbox"/> Life insurance | <input type="checkbox"/> Pension |
| <input type="checkbox"/> Health insurance | <input type="checkbox"/> Dental insurance | <input type="checkbox"/> Holiday/Sick/Vacation |

Identify other fringe benefits paid

Names of others affected by the alleged violation(s)

Names of others who can verify/attest to the complainant's allegations

- Continuation sheets attached**
 Complainant's personal interview attached

Complaint taken by:

Name (print clearly)	Phone number (including area code) and E-mail address
Title	Agency, office
Signature	Date

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining data needed, and completing and reviewing the collection of information. The information is considered sensitive and will not be released without your approval. Provision of this information is voluntary. This agency may not collect this information, and you are not required to complete this form, unless it displays a currently valid Office of Management and Budget (OMB) control number. HUD and local agencies administering HUD-assisted programs must enforce Federal wage and reporting requirements on covered HUD-assisted construction and maintenance work. Enforcement activities include collecting information from laborers and mechanics and other interested parties regarding information about their employment on covered projects.

PAYROLL

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



Rev. Dec. 2008

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

OMB No.: 1235-0008
Expires: 04/30/2021

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							(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS					(9) NET WAGES PAID FOR WEEK		
				HOURS WORKED EACH DAY										FICA	WITH- HOLDING TAX	OTHER	TOTAL DEDUCTIONS				
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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 it 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

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)

_____;
(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 231 OF TITLE 31 OF THE UNITED STATES CODE.

Project Wage Rate Sheet

U.S. Department of Housing and Urban Development
Office of Labor Relations

PROJECT NAME:			WAGE DECISION NUMBER/MODIFICATION NUMBER:			
PROJECT NUMBER:			PROJECT COUNTY:			
WORK CLASSIFICATION	BASIC HOURLY RATE (BHR)	FRINGE BENEFITS	TOTAL HOURLY WAGE RATE	LABORERS FRINGE BENEFITS:		\$ TOTAL WAGE
				GROUP #	BHR	
Bricklayers			\$			\$
Carpenters			\$			\$
Cement Masons			\$			\$
Drywall Hangers			\$			\$
Electricians			\$			\$
Iron Workers			\$			\$
Painters			\$	OPERATORS FRINGE BENEFITS:		\$ TOTAL WAGE
				GROUP #	BHR	
Plumbers			\$			\$
Roofers			\$			\$
Sheet Metal Workers			\$			\$
Soft Floor Layers			\$			\$
Tapers			\$			\$
Tile Setters			\$	TRUCK DRIVERS FRINGE BENEFITS:		\$ TOTAL WAGE
				GROUP #	BHR	
OTHER CLASSIFICATIONS						
			\$			\$
			\$			\$
			\$			\$
ADDITIONAL CLASSIFICATIONS (HUD Form 4230-A)						
WORK CLASSIFICATION	BASIC HOURLY RATE	FRINGE BENEFITS	TOTAL HOURLY WAGE RATE	DATE OF HUD SUBMISSION TO DOL	DATE OF DOL APPROVAL	
			\$			
			\$			
			\$			
			\$			

Prevailing Wages and Labor Regulations

1. Prevailing Wage Rates

- a. The rate per hour to be paid to mechanics, apprentices, teamsters, chauffeurs, and laborers employed on the Work shall not be less than the rate of wages in the attached Davis Bacon Wage Rates. This schedule shall continue to be the minimum rate of wages for said employees during the life of this Contract.
- b. Keep a legible copy of said schedule posted on the site at all times. Provide the Owner, on a weekly basis, and keep an on-site file of the wage rates and classifications of labor employed on this Work in order that they may be available for inspection by the Owner, Department, Architect, or any agency having jurisdiction.
- c. Pay reserve police officers employed on the Work the prevailing rate of wages to regular police officers as required by MGL c149 §34B, as amended. Such police officers shall be covered by Worker's Compensation Insurance and Employers Liability Insurance provided by the Contractor.

2. Apprentice Requirements

- a. Apprentices employed pursuant to this determination of wage rates must be registered and approved by the State Apprenticeship Council.

3. Employee OSHA Safety Training

- a. All employees who work on this construction site must have no less than 10 hours of OSHA-approved safety and health training. See Chapter 306 of the Acts of 2004.
- b. The Contractor and all Subcontractors shall furnish to the Owner, with the certified payroll reports, documentation indicating that each employee has successfully completed 10 hours of a course in construction safety and health. This course must be approved by the United States Occupational Health and Safety Administration (OSHA).

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work, 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 I(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 particular 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 on 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.

(ii) (a) Any class of laborers or mechanics 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 the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) 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, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 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. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) 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 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. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) 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.

(iv) 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. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. 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 on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, 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. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. 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 any 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. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, 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 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b) 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:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(2) 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;

(3) 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.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b).

(d) 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 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee 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, sponsor, applicant or owner, 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.

4. Apprentices and Trainees.

(i) **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 Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, 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 the Office of Apprenticeship Training, Employer and Labor Services 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 above, 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 journeymen 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 determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, 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.

(ii) **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 on 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 on 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 on the wage determination for the 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 on 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.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. 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

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract 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 HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. 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 Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be

awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1 01 0, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration..... makes, utters or publishes any statement knowing the same to be false..... shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. 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 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 clause set forth in subparagraph (1) of this paragraph, 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 clause set forth in subparagraph (1) of this paragraph, 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 the clause set forth in subparagraph (1) of this paragraph.

(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 other Federal contract with the same prime contract, 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 clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety. The provisions of this paragraph C are applicable where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and 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 USC 3701 et seq.

(3) The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

"General Decision Number: MA20240004 03/22/2024

Superseded General Decision Number: MA20230004

State: Massachusetts

Construction Type: Residential

Counties: Barnstable, Berkshire, Bristol, Essex, Hampden, Hampshire, Middlesex, Norfolk, Plymouth, Suffolk and Worcester Counties in Massachusetts.

RESIDENTIAL CONSTRUCTION PROJECTS (including single family homes and apartments up to and including 4 stories)

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

<p>If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:</p>	<ul style="list-style-type: none"> . Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
<p>If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:</p>	<ul style="list-style-type: none"> . Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/05/2024
1	01/19/2024
2	03/01/2024
3	03/22/2024

BRMA0001-026 08/01/2023

LOWELL CHAPTER

MIDDLESEX COUNTY (Acton, Asby, Ashland, Ayer, Bedford, Billerica, Boxboro, Carlisle, Chemsford, Dracut, Dunstable, Framingham, Ft. Devens, Groton, Holliston, Hopkinton, Hudson, Littleton, Lowell, Maynard, Natick, North Acton, Pepperell, Sherborn, Shirley, South Acton, Stow, Tewksbury, Townsend, Tyngsboro, West Acton, Westford, Wilmington) NORFOLK (Medfield, Medway, Mills) WORCESTER (Ashburnham, Athol, Fitchburg, Gardner, Harvard, Hopedale, Hubbardston, Lancaster, Leominster, Lunenburg, Milford, Petersham, Phillipston, Princeton, Royalston, Southboro, Sterling, Templeton, Westminster, Winchendon)

	Rates	Fringes
Bricklayer, Plasterer, Stonemason.....	\$ 62.40	34.40

BRMA0001-027 08/01/2023

SPRINGFIELD/PITTSFIELD CHAPTER
 BERKSHIRE, HAMPDEN, HAMPSHIRE, WORCESTER (Warren) COUNTIES

	Rates	Fringes
Bricklayer, Plasterers, Stonemasons, Tile Layers.....	\$ 50.81	32.27

BRMA0001-028 08/01/2023

FOXBORO CHAPTER
 BRISTOL (Attleboro, Berkley, Dighton, Mansfield, North Attleboro, Norton, Raynham, Rehoboth, Seekonk, Taunton) NORFOLK (Bellingham, Canton, Dedham, Foxboro, Franklin, Norfolk, Norwood, Plainville, Sharon, Walpole, Westwood, Wrentham) PLYMOUTH (Lakeville)

	Rates	Fringes
BRICKLAYER.....	\$ 62.40	34.40

BRMA0001-029 08/01/2023

WORCESTER CHAPTER
 (Auburn, Barre, Blackstone, Berlin, Bolton, Boylston, Brookfield, Charlton, Clinton, Douglas, Dudley, Grafton, hardwick, Holden, Leicester, Mendon, Millbury, Millville, New Braintree, Northboro, Northbridge, Oakham, Oxford, Paxton, Rutland, Shrewbury, Southbridge, Spencer, Sturbridge, Sutton, Upton, Uxbridge, Webster, Westboro, West Boylston, Worcester)

Rates	Fringes
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Bricklayer, Plasterer,
 Stonemason.....\$ 60.26 33.71

 BRMA0003-026 08/01/2023

BOSTON CHAPTER
 MIDDLESEX (Arlington, Cambridge, Everett, Malden, Medford,
 Melrose, Somerville) NORFOLK (Brookline, Milton) SUFFOLK

	Rates	Fringes
BRICKLAYER.....	\$ 62.40	34.40

 BRMA0003-027 08/01/2023

LYNN CHAPTER
 ESSEX (Amesbury, Andover, Beverly, Boxford, Danvers, Essex,
 Georgetown, Gloucester, Groveland, Hamilton, Haverhill,
 Ipswich, Lawrence, Lynn, Lynnfield, Manchester, Nahant,
 Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley,
 Salisbury, Salem, Saugus, Swampscott, Topsfield, Wakefield,
 Wenham, West Newbury) MIDDLESEX (Reading, North Reading,
 Wakefield)

	Rates	Fringes
Bricklayer, Plasterer.....	\$ 62.40	34.40

 BRMA0003-028 08/01/2023

NEWTON CHAPTER
 MIDDLESEX (Newton); NORFOLK (Dover, Needham, Wellesley)

	Rates	Fringes
Bricklayer, Plasterer.....	\$ 62.40	34.40

 BRMA0003-029 08/01/2023

NEW BEDFORD CHAPTER
 BARNSTABLE, BRISTOL (Acushnet, Darmouth, Fairhave, Fall River,
 Freetown, New Bedford, Somerset, Swansea, Westport) PLYMOUTH
 (Marion, Mattapoisett, Rochester, Wareham)

	Rates	Fringes
BRICKLAYER.....	\$ 62.40	34.40

 BRMA0003-030 08/01/2023

QUINCY CHAPTER
 NORFOLK (Avon, Braintree, Cohasset, Holbrook, Quincy, Randolph,
 Stoughton, Weymouth) PLYMOUTH (Abington, Bridgewater, Brockton,
 Carver, Duxbury, East Bridgewater, Halifax, Hanover, Hanson,
 Hingham, Hull, Kingston, Marshfield, Middleboro, Norwell,
 Pembroke, Plymouth, Rockland, Scituate, West Bridgewater,
 Whitman)

	Rates	Fringes
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Bricklayer, Plasterer.....	\$ 62.40	34.40
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BRMA0003-031 08/01/2023

WALTHAM CHAPTER
MIDDLESEX (Belmont, Burlington, Concord, Lixington, Lincoln,
Stoneham, Sudbury, Waltham, Watertown, Wayland, Weston,
Winchester, Woburn)

	Rates	Fringes
Bricklayer, Plasterer.....	\$ 62.40	34.40

BRMA0003-032 08/01/2023

BARNSTABLE, BRISTOL, SUFFOLK AND WORCESTER

	Rates	Fringes
Tile Layer.....	\$ 62.40	34.40

* CARP0327-003 03/01/2024

MIDDLESEX (Belmont, Cambridge, Everett, Malden, Medford,
Somerville) NORFOLK (Brookline, Dedham, Milton) and SUFFOLK

	Rates	Fringes
Carpenters (Including Drywall Hanging & Acoustical Ceiling Installation).....	\$ 57.20	31.04

* CARP0336-008 03/01/2024

WORCESTER COUNTY
(except Gilbertville, Hardwick, Warren, West Brookfield)

	Rates	Fringes
Carpenters (Including Drywall Hanging & Acoustical Ceiling Installation).....	\$ 46.86	30.94

* CARP0336-014 03/01/2024

BERKSHIRE, HAMPDEN, HAMPSHIRE AND WORCESTER (Gilbertville,
Hardwick, Warren, West Brookfield)

	Rates	Fringes
Carpenters (Including Drywall Hanging & Acoustical Ceiling Installation).....	\$ 40.96	27.39

* CARP0339-003 03/01/2024

BRISTOL (Attleborough, North Attleborough) ESSEX, MIDDLESEX
(Except Belmont, Cambridge, Everett, Malden, Medford,
Somerville) NORFOLK (Bellingham, Canton, Foxboro, Franklin,
Medfield, Medway, Millis, Needham, Norfolk, Norwood,

Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood, Wrentham) and PLYMOUTH (Duxbury, Hanover, Hingham, Hull, Marshfield, Norwell, Pembroke, Rockland and Scituate)

Rates Fringes

Carpenters (Including Drywall Hanging & Acoustical Ceiling Installation).....\$ 46.86 30.94

CARP0624-008 09/01/2017

BARNSTABLE, BRISTOL (Except Attleboro and North Attleboro) AND PLYMOUTH (Bridgewater, Brockton, Kingston, Lakeville, Middleboro, Plymouth, South Hanover, Whitman)

Rates Fringes

Carpenters (Including Drywall Hanging & Acoustical Ceiling Installation).....\$ 39.28 27.90

CARP0723-001 10/01/2023

ZONE 2: BARNSTABLE, BERKSHIRE, BRISTOL, ESSEX, HAMPDEN, HAMPSHIRE, PLYMOUTH, WORCESTER COUNTIES AND PART OF MIDDLESEX, NORFOLK AND SUFFOLK COUNTIES (All other cities and towns in Massachusetts + Chelsea & Winthrop)

Rates Fringes

CARPENTER (New Wood Frame Construction not exceeding 4 stories including basement) Wood framing, siding and exterior trim work.....\$ 25.55 12.62 All other carpentry work on wood frame projects.....\$ 25.55 12.62

CARP0723-002 10/01/2023

ZONE 1: MIDDLESEX, NORFOLK AND SUFFOLK COUNTIES (Consists of Boston, Islands of Boston Harbor, Brookline, Cambridge, Dedham, Malden, Medford and Somerville)

Rates Fringes

Carpenters (New Wood Frame Construction not exceeding 4 stories including basement) Wood framing, siding and exterior trim work.....\$ 30.61 13.62 All other carpentry work on wood frame projects.....\$ 30.61 13.62

ELEC0007-008 07/02/2023

HAMPDEN (Except Chester and Holyoke); HAMPSHIRE (Belchertown, Ware)

	Rates	Fringes
ELECTRICIAN.....	\$ 48.01	27.71

ELEC007-009 07/02/2023		

BERKSHIRE; HAMPDEN (Chester, Holyoke); HAMPSHIRE (Except Belchertown, Ware)

	Rates	Fringes
ELECTRICIAN.....	\$ 48.01	27.71
Teledata System Installer (Berkshire County).....	\$ 48.01	27.71

ELEC0096-004 09/03/2023		

MIDDLESEX (Ashby, Ashland, Ayer, Ft. Devens, Groton, Hopkinton, Hudson, Marlboro, Pepperell, Shirley, Stow, Townsend); WORCESTER (Except Warren)

	Rates	Fringes
ELECTRICIAN.....	\$ 45.99	33.06
Teledata System Installer.....	\$ 34.49	31.44

ELEC0096-005 09/04/2022		

WORCESTER (Warren)

	Rates	Fringes
ELECTRICIAN.....	\$ 45.99	30.92

ELEC0099-005 06/01/2021		

BRISTOL (North & South Attleboro, Seekonk)

	Rates	Fringes
ELECTRICIAN.....	\$ 43.61	54.71%

* ELEC0103-002 03/01/2024		

ESSEX (Amesbury, Andover, Boxford, Georgetown, Groveland, Haverhill, Lawrence, Merrimac, Methuen, Newbury, Newburyport, North Andover, Rowley, Salisbury, West Newbury); MIDDLESEX (Bedford, Billerica, Boxboro, Burlington, Carlisle, Chelmsford, Dracut, Dunstable littleton, Lowell, North Reading, Tewksbury, Tyngsboro, Westford, Wilmington)

	Rates	Fringes
ELECTRICIAN.....	\$ 61.86	36.14

* ELEC0103-004 03/01/2024		

ESSEX (Beverly, Danvers, Essex, Gloucester, Hamilton, Ipswich, Manchester, Marblehead, Middleton, Peabody, Rockport, Salem, Topsfield, Wenham)

	Rates	Fringes
ELECTRICIAN.....	\$ 61.86	36.14

* ELEC0103-010 03/01/2024

ESSEX (Lynn, Lynnfield, Nahant, Saugus, Swampscott); MIDDLESEX (Acton, Arlington, Belmont, Cambridge, Concord, Everett, Framingham, Holliston, Lexington, Lincoln, Malden, Maynard, Medford, Melrose, Natick, Newton, Reading, Sherborn, Somerville, Stoneham, Sudbury, Wakefield, Waltham, Watertown, Wayland, Weston, Winchester, Woburn); NORFOLK (Bellingham, Braintree, Brookline, Canton, Coahasset, Dedham, Dover, Foxboro, Franklin, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth, Wrentham); PLYMOUTH (Hingham and Hull); SUFFOLK

	Rates	Fringes
ELECTRICIAN.....	\$ 61.39	36.14
Teledata System Installer (ESSEX; MIDDLESEX {Excluding Ashby, Ashland, Ayer, Ft. Devens, Groton, Hokinton, Hudson, Marlboro, Pepperell, Shirley, Stow, Townsend}; NORFOLK {Excluding Avon, Holbrook, Plainville, Randolph, Stoughton}; SUFFOLK)...	\$ 49.49	33.93

ELEC0223-011 09/01/2023

BARNSTABLE, BRISTOL (Except Attleboro, North Attleboro, Seekonk); NORFOLK (Avon, Halbrook, Randolph, Sloughton); PLYMOUTH (Except Hingham and Hull Townships)

	Rates	Fringes
ELECTRICIAN.....	\$ 47.87	29.92
Teledata System Installer (PLYMOUTH COUNTY (except Townships of Hingham and Hull)).....	\$ 40.69	27.40

ELEV0004-003 01/01/2023

BARNSTABLE, BRISTOL, ESSEX, MIDDLESEX, NORFOLK AND SUFFOLK

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 68.38	37.335+a+b

FOOTNOTE FOR ELEVATOR MECHANICS

- a. Vacation: 6%/under 5 years based on regular hourly rate for all hours worked. 8%/over 5 years based on regular hourly rate for all hours worked.
- b. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

ELEV0041-007 01/01/2023

BERKSHIRE, HAMPDEN AND HAMPSHIRE

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 61.13	37.335+a+b

FOOTNOTE:

- a. Vacation: 6%/under 5 years based on regular hourly rate for all hours worked. 8%/over 5 years based on regular hourly rate for all hours worked.
- b. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

ENGI0004-017 12/01/2023

BARNSTABLE; BRISTOL; ESSEX; MIDDLESEX, NORFOLK; PLYMOUTH; SUFFOLK; and WORCESTER (Remainder of County)

	Rates	Fringes
Power Equipment Operator: Excavators & Loaders.....	\$ 54.43	32.45

FOOTNOTE:

- a. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Labor Day, Memorial day, Independence Day, Patriot's Day, Columbus Day, Veteran's Day, Thanksgiving Day and Christmas Day.

ENGI0004-018 12/01/2023

WORCESTER (Athol, Barre, Brookfield, East Brookfield, hardwick, New Braintree, North Brookfield, Oakham, Petersham, Phillipston, Royalston, Struthbridge, Templeton, Warren, West Brookfield, Winchendon)

	Rates	Fringes
Power Equipment Operator: Excavators & Loaders.....	\$ 54.43	32.45

FOOTNOTES:

- a. New Year's Day, Washington's Birthday, Memborial Day, Independence Day, Labor Day, Patriots Day, Columbus Day, Veteran's Day, Thanksgiving Day and Christmas Day.

ENGI0098-012 12/01/2016

BERKSHIRE; HAMPDEN and HAMPSHIRE COUNTIES

	Rates	Fringes
Power Equipment Operator: Excavators & Loaders.....	\$ 33.68	23.96+A

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day and Christmas Day

LAB00473-003 12/01/2021

BERKSHIRE, HAMPSHIRE (Chesterfield, Cummington, Goshen, Middlefield, Plainfield and Worthington)

	Rates	Fringes
Laborers: Mason Tender, Stone/Stucco.....	\$ 28.66	23.57

LAB00596-007 12/01/2021

HAMPDEN, HAMPSHIRE (except Chesterfield, Cummington, Goshen, Middlefield, Plainfield and Worthington)

	Rates	Fringes
Laborers: Mason Tender, Stone/Stucco.....	\$ 32.75	26.02

PAIN0035-016 01/01/2019

BERKSHIRE, HAMPDEN, AND HAMPSHIRE COUNTIES

	Rates	Fringes
PAINTER (DRYWALL FINISHING ONLY).....	\$ 32.33	26.35

PAIN0035-017 01/01/2019

BARNSTABLE, BRISTOL, ESSEX, MIDDLESEX, NORFOLK, PLYMOUTH, SUFFOLK, AND WORCESTER COUNTIES

	Rates	Fringes
PAINTER (DRYWALL FINISHING ONLY).....	\$ 39.86	30.25

PLAS0534-006 07/01/2023

MIDDLESEX; NORFOLK AND SUFFOLK COUNTIES

	Rates	Fringes
PLASTERER.....	\$ 48.19	39.37

* PLUM0004-006 03/01/2024

MIDDLESEX (Ashby, Ayer-West of Greenville branch of Boston and Maine Railroad, Ft. Devens, Groton, Shirley, Townsend)
WORCESTER (except Hopedale and Southboro)

	Rates	Fringes
Plumbers, Pipefitters		

(including HVAC work).....\$ 53.95 28.42

* PLUM0012-008 03/03/2024

ESSEX(Ames, Andover, Beverly, Boxford, Byfield, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence,Manchester, Marblehead, Merrimac, Methuem, Middleton, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salem, Salisbury, Topsfieild, Wenham, West Newbury)

Rates Fringes

PLUMBER.....\$ 67.74 35.03

* PLUM0012-009 03/03/2024

ESSEX(Lynn, Lynnfield, Nahant, Saugus, and Swampscott); MIDDLESEX (Acton, Arlington, Ashland, Ayer-except west of Greenville Branch of Boston & Maine Rail Road, Bedford, Belmont, Billerica, Boxboro, Burlington, Cambridge, Carlisle, Chelmsford, Concord, Dracut, Dunstable, Everett, Framingham, Hudson, Holliston, Hopkinton, Lexington, Lincoln, Littleton, Lowell, Malden, Marlboro, Maynard, Medford, Melrose, Natick, Newton, North Reading, Pepperell, Reading, Sherborn, Somerville, Stoneham, Stow, Sudbury, Tewksbury, Tyngsboro, Wakefield, Waltham, Watertown, Wayland, Westford, Wilmington, Winchester, Wobrun); NORFOLK (Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklin, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth, Wrentham); PLYMOUTH (Hingham, Hull, Scituate); SUFFOLK; WORCESTER (Hopedale and Southboro)

Rates Fringes

PLUMBER.....\$ 67.74 35.03

PLUM0051-006 09/01/2018

BARNSTABLE; BRISTOL; PLYMOUTH (Except Hingham, Hull, Scituate)

Rates Fringes

Plumbers, Pipefitters (including HVAC work).....\$ 42.04 29.91

* PLUM0104-005 03/17/2024

BERKSHIRE (Becket, Otis, Sandisfield); HAMPDEN; HAMPSHIRE

Rates Fringes

Plumbers, Pipefitters (including HVAC work).....\$ 47.51 29.35

FOOTNOTE FOR PLUMBERS & STEAMFITTERS:

A. Paid holidays: Independence Day and Labor Day, provided the employee has been employed seven days prior to the holiday by the same employer.

* PLUM0104-011 03/17/2024

BERKSHIRE (Except Becket, Otis, Sandisfield)

	Rates	Fringes
Plumbers, Pipefitters (including HVAC work).....	\$ 47.51	29.35

FOOTNOTE FOR PLUMBERS & STEAMFITTERS:

A. Paid holidays: Independence Day and Labor Day, provided the employee has been employed seven days prior to the holiday by the same employer.

PLUM0537-006 09/01/2023

ESSEX (Ames, Andover, Beverly, Boxford, Byfield, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence, Lynn, Lynnfield, Manchester, Marblehead, Merrimac, Methuen, Middleton, Nahant, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salem, Salisbury, Saugus, Swampscott, Topsfield, Wenham, West Newbury); MIDDLESEX (Acton, Arlington, Ashford, Ayer-except west of Greenville Branch of Boston & Maine Rail Road, Bedford, Belmont, Billerica, Boxboro, Burlington, Cambridge, Carlise, Chelmsford, Concord, Dracut, Dunstable, Everett, Framingham, Hudson, Holliston, Hopkinton, Lexington, Lincoln, Littleton, Lowell, Malden, Marlboro, Maynard, Medford, Melrose, Natick, Newton, North Reading, Pepperell, Reading, Sherborn, Somerville, Stoneham, Stow, Sudbury, Tewksbury, Tyngsboro, Wakefield, Watham, Watertown, Wayland, Westford, Wilmington, Winchester and Woburn), NORFOLK (Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklin, Medford, Medway, Millis, Milton, Needham, Norfolk, Norwood, Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth and Wrentham); PLYMOUTH (Hingham, Hull, Scituate); SUFFOLK; WORCHESTER (Hopedale and Southboro)

	Rates	Fringes
Pipefitter including HVAC work...	\$ 63.48	36.67

ROOF0033-006 02/01/2024

BARNSTABLE, BRISTOL, ESSEX, MIDDLESEX, NORFOLK, SUFFOLK, WORCESTER

	Rates	Fringes
Rofer, Waterproofers/Caulkers...	\$ 50.03	34.94

ROOF0248-004 07/16/2023

BERKSHIRE, HAMPDEN, HAMPSHIRE

	Rates	Fringes
Rofer, Waterproofers/Caulkers...	\$ 38.41	29.15
ROOFER: Slate & Tile Roof.....	\$ 38.41	29.15

* SHEE0017-004 02/01/2024

WORCESTER (Harvard, Lancaster)

	Rates	Fringes
Sheet metal worker.....	\$ 57.86	45.82

* SHEE0017-010 10/01/2023

BARNSTABLE, BRISTOL (Acushnet, Dartmouth, Dighton, Fairhaven, Fall River, Freetown, New Bedford, Rehoboth, Seekonk, Somerset, Swansea, Westport); PLYMOUTH (Marion, Mattapoisett, Rochester, Wareham)

	Rates	Fringes
Sheet Metal Worker.....	\$ 39.29	36.22

* SHEE0017-011 02/01/2024

BRISTOL (Attleboro, Berkley, Easton, Mansfield, North Attleboro, Norton, Raynham, Taunton); ESSEX; MIDDLESEX; NORFOLK; PLYMOUTH (Except Marion Mattapoisett, Rochester, Wareham); SUFFOLK

	Rates	Fringes
Sheet Metal Worker.....	\$ 57.86	45.82

SHEE0063-002 01/01/2022

WORCESTER (Except Harvard & Lancaster)

	Rates	Fringes
Sheet metal worker.....	\$ 38.01	32.21

SHEE0063-004 01/01/2022

BERKSHIRE, HAMPDEN AND HAMPSHIRE COUNTIES

	Rates	Fringes
Sheet metal worker.....	\$ 38.01	32.21

SUMA2003-001 01/08/2003

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 39.38	
FLOOR LAYER: Carpet.....	\$ 31.96	
LABORER		
Unskilled.....	\$ 18.73	6.33
PAINTER		
Brush & Roller, excluding drywall finishing.....	\$ 30.86	

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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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>.

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 classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all

rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of 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. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write 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 the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator

(See 29 CFR Part 1.8 and 29 CFR Part 7). Write 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 by 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

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

TECHNICAL SPECIFICATIONS

LOWELL HOUSING AUTHORITY
INSTRUCTIONS TO BIDDERS

ARTICLE 1 - BIDDER'S REPRESENTATION

1.1 Each General Bidder or Sub-bidder (hereinafter called the "Bidder") by making a bid or sub-bid (hereinafter called "bid") represents that:

1. The Bidder has read and understands the Contract Documents and the bid is made in accordance therewith.
2. The Bidder has visited the site and is familiar with the local conditions under which the Work has to be performed.

1.2 Failure to so examine the Contract Documents and site will not relieve any Bidder from any obligation under the bid as submitted.

ARTICLE 2 - GENERAL BIDDER'S AND FILED SUB-BIDDER'S CERTIFICATION

2.1 General bids shall be submitted with the following:

1. A Certificate of Eligibility on the appropriate form prescribed and issued by the Division of Capital Asset Management and Maintenance (DCAMM), showing that the Bidder is eligible to bid on projects of this size in the specified category of work – Electrical; and
2. A Contractor Update Statement, DCAMM Form.
3. The Contractor Update Statement is not a public record as defined in DCAMM regulation 810 CMR 8.06 and will not be open to public inspection.

2.2 Advertised filed sub-bids shall be submitted with the following:

1. A Sub-Bidder Certificate of Eligibility on the appropriate form prescribed and issued by DCAMM showing that the sub-bidder is eligible to bid on public projects in the specified category of work – Plumbing; and
2. A Sub-Bidder Update Statement on a form prescribed by DCAMM.

2.3 It is the Sub-Bidder's responsibility to obtain the necessary forms from DCAMM and make application in sufficient time for evaluation of the application and issuance of a Sub-Bidder Certificate of Eligibility prior to bid.

2.4 The Sub-Bidder Update Statement is not a public record as defined in DCAMM regulation 810 CMR 8.06 and will not be open to public inspection.

2.5 All employees who work on this construction site must have no less than 10 hours of OSHA-approved safety and health training.

2.6 The Contractor and all subcontractors on this project will be required to provide certification of compliance with the requirement of 2.5 above in accordance with the provisions of these Contract

Documents.

- 2.7 The Contractor and all subcontractors shall be completely responsible for compliance with EPA Lead Renovator Requirements including EPA regulation 40 CFR 745.

ARTICLE 3 - MBE/WBE PARTICIPATION GOALS

- 3.1 Refer to the Advertisement for the applicability of this Article 3.
- 3.2 The participation goals that must be contracted with minority-owned and/or women-owned enterprises is stated in the Advertisement. If the Advertisement does not include participation goals, paragraphs 3.3 -3.6 below shall not apply.
- 3.3 The apparent low Bidder must submit the SDO Certified MBE/WBE Participation Schedule (Form HUD-2516) and Letters of Intent from all of the firms listed on the Schedule within five (5) working days after receipt of general bids. Letters of Intent are not required for filed Subcontractors. However, filed Sub-bidders who are SDO Certified shall be listed on the Participation Schedule.
- 3.4 If the general contractor requires any of the following it must do so in writing to the Housing Authority within five (5) working days after receipt of general bids.
1. a time extension for the submission of Its Participation Schedule & Letter(s) of Intent;
 2. a reduction in the participation goals stated in the Advertisement; or
 3. a waiver from the participation goal requirements. If the Housing Authority determines that compliance with participation goals are not feasible it has the discretion to reduce or waive these goals at any time prior to contract award. Such waiver shall be granted only upon, the General Contractors showing that good faith efforts have been made to comply with the participation goals.
 4. The completed Participation Schedule, Letters of Intent and, if necessary, requests for a reduction in participation goals or a waiver from participation goals may be sent electronically to: bulding@lhma.org with a hard copy mailed to:

Lowell Housing Authority
350 Moody Street
PO Box 60
Lowell, MA 01853
Attn: Capital Asset Management

- 3.5 The Bidder must submit with its contract submission executed subcontracts with all subcontractors or a purchase order or invoice from material suppliers or manufacturers listed on the Participation Schedule.
- 3.6 Filed Sub-bidders are not required to submit a Participation Schedule. They may, at their option, submit a Letter of Intent with their bid if they are an SDO certified enterprise.

ARTICLE 4- REQUESTS FOR INTERPRETATION

- 4.1 Bidders shall promptly notify the Authority of any ambiguity, inconsistency, or error which they may

discover upon examination of the Contract Documents, the site, and local conditions.

- 4.2 Bidders requiring clarification or interpretation of the Contract Documents shall make a written request to the Chief Procurement Officer. The CPO will answer such requests if received seven (7) calendar days before the date for receipt of the bids.
- 4.3 Interpretation, correction, or change in the Contract Documents will be made by written Addendum which will become part of the Contract Documents. Neither the Housing Authority nor the Architect will be held accountable for any oral interpretations, corrections, or changes.
- 4.4 Addenda will be made available on the Authority's website at www.lhma.org/bids.
- 4.5 Copies of addenda will be made available for inspection at the locations listed in the Advertisement where Contract Documents are on file.

ARTICLE 5 - PREPARATION AND SUBMISSION OF BIDS

5.1 Forms and Bid Preparation

1. Bids shall be submitted on the "Form for General Bid" or the "Form for Sub-Bid", as appropriate, furnished at no cost by the Housing Authority. The forms enclosed in the Project Manual shall not be extracted or used. Additional forms are available at the location listed in the Advertisement.
2. All entries on the bid form shall be made by typewriter or in ink.
3. Sums shall be expressed in both words and figures in the space indicated on the bid form. Where there is a discrepancy between the bid sum expressed in words and the bid sum expressed in figures, the words shall control.
4. If the requirement of Performance and Payment Bonds for filed sub-contractors is left blank by the General Bidder on the Form for General Bid, the Housing Authority shall interpret this as a "yes". No increase in contract price will be allowed for providing these bonds.
5. Costs for subcontractor's bond premiums shall be paid for by the General Contractor in accordance with M.G.L. c.149 §44F.

5.2 Bid Deposits shall be:

1. at least five percent (5%) of the greatest possible bid amount, considering all alternates;
2. made payable to the **Lowell Housing Authority**;
3. conditioned upon faithful performance by the principal of the agreements contained in the bid, and in the form of:
 - a. cash,
 - b. certified check, treasurer's or cashier's check issued by a responsible bank or trust company, or
 - c. a bid bond issued by a surety company licensed to do business in the Commonwealth of Massachusetts.

4. retained until the execution and delivery of the Owner/Contractor Agreement if they represent the bid deposit of one of the three (3) lowest responsible and eligible General Bidders or one of the three (3) lowest Sub-bidders in a filed sub-bid trade, or a sub-bidder listed by one of the three (3) lowest General Bidders.

5.3 Delivery of Filed Sub-Bids

1. Sub-bids, including the bid deposit, DCAMM Sub-Bidder Certificate of Eligibility, a signed DCAMM Sub-Bidder Update Statement and other required documents shall be enclosed in a sealed envelope with the following plainly marked on the outside:

Filed Sub-Bid for: _____

- Name of Housing Authority and Project/Bid Number
- Sub-bid Section Number
- Trade
- Sub-bidder's Name, Business Address, and Phone Number

5.4 Delivery of General Bids

1. General Bids, including the bid deposit, DCAMM Certificate of Eligibility and Update Statement and other required documents shall be enclosed in a sealed envelope with the following plainly marked on the outside:

General Bid for. _____

- Name of Housing Authority and Project/Bid Number
- Bidder's Name, Business Address, and Phone Number
- Date and time for receipt of bids as set forth in the Advertisement.

- 5.4.1 Timely delivery of a bid to the location designated shall be the full responsibility of the Bidder.

5.5 Sub-Trade Solicitations

1. If the General Bidders are instructed to carry an amount for a given sub-trade listed under Item 2, General Bidder's shall list the sub-trade, and amount provided by the Housing Authority. The line under bonds required on the General Bid Form should be left blank or marked N/A in order for subparagraph 5.5.2 to be applicable.
2. Upon solicitation of a subcontractor to perform the work required by the sub-trade as mentioned in subparagraph 5.5.1, the selected General Contractor's contract amount will be adjusted as follows:
 - a. The difference between the subcontract amount and the amount carried in the bid.
 - b. The total cost of the subcontractor's bonds, if the selected General Contractor requires such bonds after the solicitation is completed and if the selected General Contractor complied with 5.4. above, and
 - c. The resultant cost difference for General Contractor's Bonds premiums.
3. Overhead and Profit for supervision of the sub-trade in question shall be included by all General Bidders in its Item 1.

4. Additional overhead and profit are not allowed on the incremental difference as stated in M.G.L. c.149 §44F(4)(a)(2) nor on the costs for the additional bond premiums.

ARTICLE 6 - ALTERNATES

A. General Bidders

- 6.1 Each General Bidder shall acknowledge Alternates by listing the individual Alternate number in Section C on the Form for General Bid and enter the dollar amount of addition or subtraction necessitated by each Alternate listed in the corresponding space.
- 6.2 General Bidders shall enter on the Form for General Bid a single amount for each Alternate which shall consist of the Sub-bidders' amounts and the amount for work performed by the General Contractor.
- 6.3 In the event an Alternate does not involve a change in dollar value, the General Bidder shall so indicate by listing the individual Alternate number and acknowledge the Alternate by inserting "No Change", "No Charge", "N/C" or "0" in the corresponding space provided for the dollar value of that Alternate.
- 6.4 The Low Bidder will be determined on the basis of the sum of the base bid and the accepted alternates.

B. Filed Sub Bidders

- 6.5 Each Sub-bidder shall acknowledge Alternates by listing the individual alternate number in Section A on the Form for Sub Bid and enter the dollar amount of addition or subtraction necessitated by each Alternate listed in the corresponding space.
- 6.6 If an Alternate does not involve a change to a sub-trades in dollar value the sub bidder shall so indicate by listing the individual alternate number in the space provided and acknowledge the alternate by inserting "No Change", "No Charge", "N/C" or "0" in the corresponding space provided for the dollar value of the alternate.
- 6.7 If the alternate does not affect the sub-trade category of work so indicate by writing "N/A". Sub-bidders are encouraged to list and acknowledge all alternates.

ARTICLE 7 - WITHDRAWAL OF BIDS

7.1 Before Opening of Bids

1. Any bid may be withdrawn prior to the time designated for receipt of bids upon written request. Withdrawal of bids must be confirmed over the Bidder's signature by written notice post-marked or sent by facsimile on or before the date and time set for receipt of bids.
2. Withdrawn bids may be resubmitted up to the time designated for the receipt of bids.

7.2 After Opening of Bids

1. Bidders may withdraw a bid, without penalty, any time up to the time of Award as defined in paragraph 8.1, and upon demonstrating, to the satisfaction of the Housing Authority, that a bona fide clerical error was made during the preparation of the bid. Failure to conclusively demonstrate a bona fide clerical error may result in forfeiture of the bid deposit.

7.3 In the event of a general bid withdrawal after opening of bids, the Housing Authority shall consider the bid from next lowest eligible and responsible bidder.

7.4 Sub-bid Withdrawal/ Substitution

1. Selection - Should a filed sub-bidder listed on the Form for General Bid of the selected General Contractor (per Article 8 of these instructions) withdraw its bid, be unable to provide performance and payment bonds as required by the selected General Contractor, or otherwise refuse to sign a subcontract with the selected General Contractor, the housing authority and the selected General Contractor shall consider the other sub-bids to which the housing authority and the selected General Contractor make no objection and substitute a new sub-bidder for such trade.
2. Process: If the selected General Contractor:
 - a. required bonds (on the Form for General Bid) for the sub-bidder who withdrew then the selected General Contractor's contract amount shall be adjusted to account for (1) the difference between the amount of the sub-bid listed on the Form for General Bid and the amount of the replacement sub-bid, and (2) the incremental difference in the cost of the General Contractor bonds premiums, but (3) there will be no compensation for additional subcontractor bond premiums, or
 - b. did not require bonds (on the Form for General Bid) for the sub-bidder who withdrew and now the selected General Contractor wants bonds from the replacement sub-bidder, then the selected General Contractor's contract amount shall be adjusted (1) to account for the difference between the amount of the sub-bid listed on the Form for General Bid and the amount of the replacement sub-bid, (2) the amount for the new sub-bidder's performance and payment bonds, and (3) the incremental difference in the cost of the General Contractor bond premiums.
3. There shall be no adjustment to the selected General Contractor's contract amount except as set forth in 7.4.2 (1) and 7.4.2 (2). Additional overhead and profit are not allowed on the incremental difference in the sub-bids or on the costs for the additional bond premiums.

ARTICLE 8 - CONTRACT AWARD

- 8.1 Award means both the determination and selection of the lowest, responsible and eligible bidder, by Housing Authority board vote.
- 8.2 The Housing Authority will award the contract to the lowest responsible and eligible bidder within thirty days, Saturdays, Sundays, and legal holidays excluded after the opening of bids in accordance with M.G.L c.149 §44A.
- 8.3 The Contract will be awarded to the lowest responsible and eligible Bidder, except in the event of substitution as provided under M.G.L. c. 149, §§44E and 44F, in which cases the procedure as required by said sections shall govern the award of the Contract.
- 8.4 N/A
- 8.5 The Housing Authority reserves the right to waive any informality in or to reject any or all Bids if it be

in the public interest to do so.

- 8.6 The Housing Authority also reserves the right to reject any sub-bid if it determines that such sub-bid does not represent the bid of a person competent to perform the work as specified, or if less than three sub-bids are received for a sub-trade, or if bid prices are not reasonable for acceptance without further competition.
- 8.7 As used herein, the term "lowest responsible and eligible bidder" shall mean the General Bidder whose bid is the lowest of those Bidders demonstrably possessing the skill, ability, and integrity necessary for the faithful performance of the work, and who meets the requirements for Bidders set forth in M.G.L. c.149, §44A-J and is not debarred from bidding under M.G.L. c.149, §44C, *or from any department or agency of the federal government*; and
- 8.8 Who shall certify that they are able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the *first* certified payroll report for each employee and that he will comply fully with all laws and regulations applicable to awards made subject to MGL ch. 149, §44A-J.

ARTICLE 9 - FORMS REQUIRED FOR CONTRACT APPROVAL

- 9.1 Upon Award, the General Bidder shall complete the following forms to ensure prompt contract validation. These forms will be provided to the selected General Bidder by the Housing Authority. Submit originals of each.
1. Owner/Contractor Agreement and Form of Corporate Vote.
 2. Form of Performance Bond and Form of Payment Bond must be submitted by the General Contractor, in accordance with Article 18 of the General Conditions. The dates on the bonds must coincide with the contract date, and a current Power-of-Attorney must be attached to each bond. Performance and Payment Bonds must also be submitted for all filed subcontractors, if required by the General Bidder on its Form for General Bid, in the total amount of the subcontract payable to the General Contractor.
 3. Insurance Certificates for the General Contractor and all filed subcontractors are required and must be submitted in accordance with Article 16 of the General Conditions.
 4. General Contractors must indicate on Builders Risk insurance Certificate or installation floater if stored materials are covered.
 5. Form of Contractor's Equal Employment Certification in accordance with the Specification.
 6. Form of Sub-Contractor's Equal Employment Certification in accordance with the Specification.
 7. Form of Subcontract for all filed subcontractors - executed and submitted on the statutory subcontract form.

8. Subcontracts with MBE/WBE subcontractors - executed on a form agreeable between both parties.
9. Purchase Orders to, or Invoices from, MBE/WBE suppliers.
10. Statement of Management or Internal Accounting Controls and a Statement prepared by a CPA expressing an opinion to the state of Management Controls, as required by M.G.L. c.30, §39R. This applies to the General Contractor only.
11. Evidence of Certification with 40 CFR part 745 Lead Renovation, Repair and Painting Program.

ARTICLE 10 - CONTRACT VALIDATION

- 10.1 The Owner-Contractor Agreement shall not be valid until signed by the Housing Authority Board or signature as delegated by the Housing Authority Board to the Executive Director.
- 10.2 The Notice to Proceed for construction shall not be issued until the Owner/Contractor Agreement has been approved by the Housing Authority Board or Its Designee.
- 10.3 Incomplete or unacceptable submissions of forms required by paragraphs 9.2 - 9.7 will delay the validation of the Owner/Contractor Agreement.

END OF SECTION
INSTRUCTIONS TO BIDDERS

SECTION 010400

PROJECT COORDINATION

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. All of the Contract Documents, including Drawings, Invitation for Bids and Division 1 - General Requirements, apply to the Work of this Section.
- B. Carefully examine all of the Contract Documents for requirements which effect the Work of this Section. The exact scope of Work of this Section cannot be determined without a thorough review of all specification Sections and other Contract Documents.

1.2 SUMMARY

- A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
 - 1. Coordination.
 - 2. Progress Meetings.
 - 3. Administrative and supervisory personnel.
 - 4. General installation provisions.
 - 5. Cleaning and protection.

1.3 COORDINATION

- A. Coordination: Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.

No claim for extra compensation or extension of Contract time will be allowed for conditions resulting from a lack of said coordination and cooperation.

- 1. Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
 - 2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for the Owner and separate Contractors where coordination of their Work is required.

- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Project Close-out activities.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated in, the Work. Refer to other sections for disposition of salvaged materials that are designated as Owner's property.

1.4 PRE-CONSTRUCTION CONFERENCE

- A. The Engineer will schedule a pre-construction conference and organizational meeting at the Project site no later than 10 days after execution of the Agreement and prior to commencement of construction activities. Attend the meeting to review responsibilities and personnel assignments.
- B. Attendees: The Owner, Engineer and their consultants, the Contractor and its superintendent, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the Work.
 - 1. Notify and arrange for attendance by all parties except the Engineer and Owner.
- C. Agenda: Items of significance that could affect progress will be discussed, including such topics as:
 - 1. Tentative construction schedule.
 - 2. Critical Work sequencing.
 - 3. Designation of responsible personnel.
 - 4. Procedures for processing field decisions and Change Orders.
 - 5. Procedures for processing Applications for Payment.
 - 6. Distribution of Contract Documents.
 - 7. Submittal of Shop Drawings, Product Data and Samples.
 - 8. Preparation of record documents.
 - 9. Use of the premises.
 - 10. Office, Work and storage areas.
 - 11. Equipment deliveries and priorities.
 - 12. Safety procedures.
 - 13. First aid.
 - 14. Security.
 - 15. Housekeeping.
 - 16. Working hours.

1.5 SUBMITTALS

- A. Staff Names: Within 15 days of Notice to Proceed, submit a list of the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.

1.6 COORDINATION MEETINGS

- A. Conduct Project coordination meetings at regularly scheduled times convenient for all parties involved. Project coordination meetings are in addition to regular progress meetings.
- B. Request representation at each meeting by every party currently involved in coordination or planning for the construction activities involved.
- C. Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.7 PROGRESS MEETINGS

- A. The Engineer will conduct progress meetings at the Project site at regularly scheduled intervals. Coordinate dates of meetings with preparation of the payment request.
- B. Attendees: Notify each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities, to attend these meetings. Persons familiar with the Project and authorized to conclude matters relating to progress shall be represented.
- C. Agenda: Review and correction or approval of minutes of the previous progress meeting. Review of other items of significance that could affect progress. Topics for discussion as appropriate to the current status of the Project.
 - 1. Contractor's Construction Schedule: Prepare a written report including progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 2. Review of present and future needs of each entity present, including such items as:
 - a. Interface requirements.
 - b. Time.
 - c. Sequences.
 - d. Deliveries.
 - e. Off-site fabrication problems.
 - f. Access.
 - g. Site utilization.
 - h. Temporary facilities and services.
 - i. Hours of Work.
 - j. Hazards and risks.
 - k. Housekeeping.
 - 1. Quality and Work standards.
 - m. Change Order proposals.
 - n. Documentation of information for payment requests.

- D. Reporting: The Engineer will prepare and distribute copies of minutes of the meeting to each party present. Contractor shall distribute copies to other parties who should have been present.
 - 1. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.
- E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Engineer for final decision.
- F. Recheck measurements and dimensions, before starting each installation.
- G. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- H. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.
- I. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Engineer for final decision.

3.2 CLEANING AND PROTECTION

- A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

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- C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

END OF SECTION 010400

SECTION 01 05 00

CONDUCT OF WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including the General and Supplementary Conditions and Division 0 – Bidding Documents, Contract Forms, and Conditions of the Contract and Division 1 – General Requirements, apply to the work of this Section.
- B. Carefully examine all the Contract Documents for requirements which affect the work of this Section. The exact scope of this Section cannot be determined without a thorough review of all specification sections and other Contract Documents.
- C. This Section contains general information that applies to all work performed under this Contract and is inherently made a part of each Specification Section.

1.02 SUMMARY

- A. This section specifies administrative and supervisory requirements necessary to perform the work.
- B. Nothing in this Section shall be construed as limiting the Contractor's responsibility for coordination of the work, materials and methods, meeting the project construction schedule, or for the safety of persons or property.

1.03 PROJECT DIRECTORY

- A. Within 15 days of Notice to Proceed, submit a Project Directory. Provide contact information for the Authority's representatives, Authority Building Managers, Architect, Architect's Consultants, and Contractor's principal staff, including the Superintendent, Project Manager and other personnel in attendance at the site. Identify individuals, their duties and responsibilities; list their addresses, email addresses and telephone numbers. Update and redistribute the Project Directory as information changes.
 - 1. Include contact information for each principal subcontractor, major suppliers, and other entities of interest to the Project.
 - 2. Also include project safety information, including contract numbers for police, fire, emergency medical services, and nearest hospital.
 - 3. Post copies of the list in the Project meeting room, the temporary field office, and by each temporary telephone.
 - 4. Provide 24 hour emergency numbers for the Contractor's Superintendent and another responsible person.

1.04 HOURS OF WORK

- A. Unless specifically authorized by the Authority, in writing, the work must be conducted between the hours of 8:00 AM and 4:30 PM Monday through Friday. No work shall be conducted on holidays in the City of Lowell, Saturdays, or Sundays other than for emergencies or unless specifically authorized by the Authority.

- B. Construction shall conform to the Construction Project Schedule and Conditions of the Contract established by the Authority and in accordance with the Contract between the Authority and the Contractor.
- C. If such work is authorized by the Authority, representatives of the Authority's Operations Department and the Construction Representative must be present on site at all times at the expense of the Contractor. The Contractor shall reimburse the Authority for the worker's time at their hourly rate established in their contract with the Authority, including, but not limited to, overtime pay, fringe benefits, and labor burden. The Contractor shall reimburse the Authority with a check made out to the Lowell Housing Authority and delivered to the designated Contracting Officer for the work. The Contractor shall not directly compensate the Authority's representative.
- D. No work is to be done on Saturdays, Sundays, or the following holidays, other than for emergencies:
 - 1. New Year's Day.
 - 2. Martin Luther King Day.
 - 3. President's Day.
 - 4. Evacuation Day (St. Patrick's Day).
 - 5. Patriot's Day.
 - 6. Memorial Day.
 - 7. Bunker Hill Day.
 - 8. Juneteenth.
 - 9. July 4th.
 - 10. Labor Day.
 - 11. Columbus Day.
 - 12. Veteran's Day.
 - 13. Thanksgiving.
 - 14. Christmas Day.

1.05 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit his use of the premises for the Work and for storage, to allow for:
 - 1. Authority occupancy.
 - 2. Public use.
 - 3. Work by other Contractors.
- B. Coordinate use of premises under direction of Architect and the Authority.
- C. Assume full responsibility for the protection and safekeeping of Products under this Contract, stored on the site. Any injury which may come to it from frost, water, accident, or any other cause and any injury which may come to any of the work shall be repaired immediately by the Contractor at his own expense and without additional cost to the Authority. This shall also apply to any abutting or adjoining work on or adjacent to the premises. The Contractor shall be responsible for any damage and in the event of such damage, the Contractor shall repair the damage immediately at his own cost and without additional cost to the Authority.
- D. Move any stored Products, under Contractor's control, which interfere with operations of the Authority or separate contractor.
- E. Obtain and pay for the use of additional storage or work areas needed for operations.

- F. Debris or any nature shall be completely removed from the site at the end of each days work and disposed of in accordance with all Federal, State and local regulations.
 - 1. At the Preconstruction Conference, the Contractor shall list and identify the disposal contractor/s and the dump site to be used for this work. The disposal contractor/s and dumpsite are subject to the Authority's approval, and shall not be changed without the written approval of the Authority.
- G. General Contractor shall be responsible for costs associated with the fire protection tests, resets and any other costs associated with contacting the Authority's Fire Protection Monitoring Company for support to this project. Generator Contractor shall be responsible with coordination with fire protection monitoring company.

1.06 AUTHORITY'S OCCUPANCY

- A. Full Occupancy by the Authority: The Authority will occupy the site and existing buildings for during the entire construction period. Perform work under the Contract in a manner so as not to interfere with the Authority's operations. Cooperate with the Authority at all times in order to minimize conflicts and facilitate Authority's usage.
 - 1. The Contractor's attention is especially called to the fact that continuous operation of services for this project is mandatory. During the period of construction of the new work and/or alterations to the existing work, the progress and sequence of installation shall be carefully planned and approved by the Authority, If the project is to be left without heat, hot water, city water, electricity, gas, sanitary facilities, or any other services, the Contractor shall provide **72 hours** written notification to the Authority before proceeding.
 - 2. Elevator operation: this is an occupied building. The schedule for removal of elevators in service must be approved by the Authority.
- B. Considerations for occupants during construction:
 - 1. The Contractor shall take all necessary precautions to ensure the public safety and convenience of the occupants during construction.
 - 2. If any work area is left without heat, hot water, domestic water, electricity, gas, sanitary facilities, or any other services, the Authority must notify occupants a minimum of 72 hours in advance of any shutdown of services. If the Authority will not allow this shutdown, but wants instead a temporary means of supplying said services, the Contractor shall supply all labor, materials, and whatever may be required to supply said temporary services at no extra cost to the Authority and in accordance with the state and local regulations on health and safety.
 - 3. The work shall be done with as little inconvenience as reasonably possible and without danger to the occupants and to the permanent structures, within the project area. Any damage to buildings, roads, public roads, bituminous concrete areas, fences, lawn areas, trees, shrubbery, electric or telephone poles, underground utilities, etc. shall be repaired by the Contractor at his/her own expense. Damaged property shall be returned to its original condition prior to the damages within a reasonable time period, except all utility outages shall be repaired immediately.
 - 4. Tools, construction equipment, and construction materials are not to be left unattended at any time, unless in a secured area with no public access. Open areas left during the course of construction must be covered or otherwise made safe.

5. The Contractor shall, at all times, leave an unobstructed way along the roadways and walks, and shall maintain barriers and lights for the protection of all persons and property in all locations where he has material stored or work going on, and during the entire time such work is going on or material is stored.
6. Only materials and/or equipment intended and necessary for immediate use shall be brought into public areas used by the Authority. At the end of each work day and at the completion of each phase of work, equipment and leftover or unused materials shall be removed from all public areas.
7. Workers shall refrain from smoking while performing work inside this building, including basements. The Contractor shall remove from the project workers who consistently violate this provision.
8. The Contractor shall cooperate at all times with the Authority and the Architect, and ensure the cooperation of its key personnel and that of its subcontractors.
9. The Contractor shall require all construction personnel to limit or moderate unnecessary noise, especially radios and noisy speech in common areas.
10. Contractor shall coordinate with tenant coordinator, provided by LHA, for the elevator when not in service during construction. The tenant coordinator will be on call between 8:00 AM and 8:00PM every day during construction period **including weekends and holidays**.
11. General Contractor shall provide information and schedule to the LHA and tenant coordinator of all work associated with this contract.

1.07 COMMUNICATIONS

- A. All notices, demand, requests, instructions, approvals, and claims must be in writing.
- B. Any such notice shall be deemed to have been given as of the time of delivery, or of actual receipt by hand or in the case of mailing, when it should have been received in due course of post.
- C. For communicating purposes, the office address of the Contractor shall be that stated on the signature page of the Contract; that of the Authority shall be as stated in the Notice to Contractors. Any subsequent change in address of either party shall be communicated to the other in writing.

1.08 CONTRACT DOCUMENTS (PLANS AND SPECIFICATIONS)

- A. The Authority will furnish to the Contractor, without charge, all copies of the Contract Documents (Drawings and Specifications) reasonably necessary for performance of Work.

1.09 WORK BY LOWELL HOUSING AUTHORITY

- A. The Authority will enable the Contractor to perform the construction work in accordance with the approved operational plan and remove obstructions that may prevent work to assure continuity of the work.
- B. Refer to Section 010100 Summary of Work which identifies work performed by the LHA or under separate contract.

1.10 WORK PLAN REQUIREMENTS

- A. Operation and Sequencing Plan: Submit a detailed operation and sequencing plan for approval, detailing order, work method, and schedule in which all construction activities will be completed in each address. Any changes to this operational plan shall be approved by the Owner.

- B. Work Order, General: Except as otherwise indicated in this Section, the work shall be performed continuously, with each trade and subcontractor completing work at each site.
1. Coordinate and schedule all trades to comply with this requirement. The Authority will not accept as the basis for a change order or extension of contract time, any cost or delays incurred by the Contractor's or any subcontractor's failure to meet the approved schedule.
 2. Work that in the sole opinion of the Architect does not affect building occupancy, inconvenience occupants, or interfere with the Authority's operations, may be performed in any order at Contractor's option.
 3. For purpose of limiting Contractor's responsibility for damage caused by occupancy, the Work will be accepted by the Authority in phases, a building, or part thereof, at a time. Warranties and guarantee periods shall begin on the date all work is determined to be Complete. Refer to Section 017000.
- C. Work Order Phasing Requirements: Comply with the following phasing requirements:
1. Refer to Section HYDRAULIC PASSENGER ELEVATORS.
- D. Scheduling Considerations:
1. Coordinate work of all trades which may affect occupied adjacent areas to maximize the amount of work done during days when there are system shutdowns.

1.11 DAILY WORK PROCEDURES

- A. The work must be completed in a continuous non-interrupted operation. The Contractor must use sufficient personnel and adequate equipment to complete all the necessary work requirements within a minimum period of time.
- B. The Contractor must retain on the Work during its progress a competent, non-working full-time representative satisfactory to the Authority. The representative shall not be changed, except with the consent of the Authority. The representative must be fully licensed to perform this work in the City of Lowell and shall be in full charge of the work and all instructions given to this person by the Architect shall be binding. A copy of the representative's current licenses (or the licenses of any representative under consideration for change) shall be provided to the Authority before he/she begins the work.
- C. The Contractor must supply to the Authority the name and telephone/pager number of a responsible person who may be contacted during off-hour emergencies on the Project. **The Contractor shall remain "on call" 24 hours per day in the event of an emergency.** Response time shall be within **forty-five (45) minutes** of receiving verbal notification of an emergency. The Project Manager and/or Project Superintendent on site **must be able to be reached immediately** during the hours of work via beeper or telephone. Any work which is directly connected to the Scope of Work as outlined in this contract shall be corrected as soon as possible.
- D. All personnel working on site must sign in daily on "Sign In" sheets at the site office or at another designated area. The Contractor must check in daily with the Management Office prior to the start of the work.
- E. The Contractor is responsible for obtaining any keys necessary for access to work areas in a timely manner in order to prevent delay of the work. Keys shall be returned to the Authority at times approved by the Authority.
- F. The Contractor is responsible for the security of partially completed work until the project is

finally accepted by the Owner.

- G. Workers shall refrain from smoking while performing any work inside buildings. The Contractor shall remove from the project workers who consistently violate this provision.
- H. Protect sitework. Any and all site finishes and amenities damaged by the Contractor shall be replaced otherwise restored to their original condition, at the Contractor's expense.
- I. Roof surfaces and waterproofed surfaces shall not be subjected to traffic nor shall they be used for storage of materials unless approved by the Authority. Where activity must take place in order to carry out the Work, adequate protection must be provided.

1.12 CLEANING DURING CONSTRUCTION

- A. Conduct cleaning and disposal operations with local ordinances and anti-pollution laws.
 - 1. Do not burn rubbish and waste materials on site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Do not dispose of wastes into streams or waterways.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. Do not allow materials and rubbish to drop free or be thrown from upper floors but remove by use of a material hoist or rubbish chutes.
- D. Maintain the site free from accumulations of waste, debris, and rubbish. Broom clean exposed concrete surfaces, paved surfaces, window sills, roof areas, patios, or other areas below the work as often as reasonably required in order to maintain a clean site throughout the work acceptable to the Authority.
- E. Provide on-site covered containers for collection of waste materials and rubbish.
- F. At the end of each work day, remove and legally dispose waste materials and rubbish from site. Disposal shall be in compliance with all applicable laws, ordinances, codes, and by-laws.
- G. All precautions must be made so that the interior of buildings are not dirtied by the work. Interior public spaces are to be left as clean as they were prior to the commencement of the work every day. Should any debris or dust fall into any common area or dwelling unit as a result of construction activity, the Contractor shall, by the end of each work day:
 - 1. Dust furniture and surfaces, using oil or other cleaning.
 - 2. Mop floors using a cleaning agent and water.
 - 3. Vacuum rugs. Professionally clean rugs if vacuuming is inadequate to remove debris.
 - 4. Clean and polish windows and other glass or plastic glazing surfaces.
 - 5. Clean and polish all metal surfaces, including architectural hardware.
 - 6. Use only cleaning materials recommended by the manufacturer of the surface to be cleaned, which will not create a hazard to the health or property, which will not damage surfaces, and which are approved by the Authority.
 - 7. Remove grease, mastic, adhesive, dust, dirt, debris, stains, labels, fingerprints, and other foreign materials from sight-exposed interior surfaces.
 - 8. Polish glossy surfaces to a clear shine.

9. Leave pipe and duct spaces, plenums, furred spaces and the like clean of debris and decayable materials.
10. Replace filters and clean ducts, blowers, and coils if units were operated during construction.

H. The Authority's responsibility for cleaning commences at Substantial Completion or at acceptance of partially completed work.

1.13 CONSTRUCTION REPRESENTATIVE

- A. If the Authority and Architect agree, the Authority may provide one or more Construction representatives to assist in carrying out the Architect's responsibilities at the site. The Construction Representative shall observe and report on construction activities such as number and category of workers on-site, schedule and progress, conformance to bid documents, safety and general conduct of the work, etc: and keep daily written reports, inform the A/E and the Authority immediately of any deviation from the contract requirements, attend weekly job meetings with the Authority, the A/E and the Contractor, and assists in reviewing payment requisitions and change proposal requests. Duties and limitations of the Construction Representative's shall be further explained at the pre- construction conference.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION PROVISIONS:

- A. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
- B. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- C. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.
- D. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.
- E. Recheck measurements and dimensions, before starting each installation.
- F. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.
- G. Mounting Heights: This intent of the project is to provide UFAS and MAAB compliant devices and equipment. Mounting heights shall comply with the latest edition of referenced standards. Where mounting heights are not indicated, immediately notify the Architect.

- H. Tolerances: The Work shall comply with the construction tolerances as enumerated in the latest editions of UFAS and MAAB. Work not in compliance with referenced standards shall be corrected at the expense of the Contractor.
- I. Tools, construction equipment, and construction materials are not to be left unattended at any time, unless in a secured area with no public access. Open areas left during the course of construction must be covered or otherwise made safe.
- J. The Contractor is responsible for the security of partially completed work until the project is finally accepted by the Owner.

3.02 CLEANING AND PROTECTION

- A. Provide dust-proof partitions or other approved physical barriers to separate the work area from the occupied portions of the structure. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period.
 - 1. Maintain the site free from accumulations of waste, debris, and rubbish. Broom clean exposed concrete surfaces, paved surfaces, window sills, roof areas, patios, or other areas below the work as often as reasonably required in order to maintain a clean site throughout the work acceptable to the Authority.
- C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

END OF SECTION 01 05 00

SECTION 011100

SUMMARY OF THE WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Contracting Requirements and Division 01 General Requirements apply to this Section.

1.02 SCOPE

- A. Attention is directed to the fact that the building will be fully occupied and functioning. Perform all work without undue interference to the continuing operations of facility. The Contractor's access to the building is to be restricted as hereinafter specified.
- B. The work includes without limiting the generality thereof, the work to be performed for the Concord River Mill Generator Replacement indicated on the contract documents and specifications.

1.03 CONTRACT DOCUMENTS

- A. The Drawings of this contract are as follows:
P1.0 PLUMBING - LEGEND, DEMO, NEW WORK, DETAILS
M1.0 MECHANICAL – LEGEND, NOTES AND FLOOR PLANS
E0.1 ELECTRICAL – SYMBOLS AND SCHEDULES
E1.0 ELECTRICAL – FLOOR PLANS
- B. In the event of conflicts or discrepancies among the contract Documents, the Documents shall be interpreted on the basis of the following priorities:
- | | |
|--------|---|
| First | Agreement |
| Second | Addenda with later date having greater priority. |
| Third | General Conditions |
| Fourth | Drawings and Specifications – The most stringent shall apply. |
- C. On Drawings, large scale detail shall govern smaller scale Drawings. In case of conflicts between drawings and specifications, or within either the drawings or specifications, the Engineer may interpret the Documents so as to secure the most substantial and comprehensive performance of the work consistent with the intent and requirements of the Contract, and such work shall be performed by the Contractor without extra cost to the Owner. It is understood that in the event of unresolved discrepancies, the Contractor shall have bid the most expensive material and method in each case.
- D. The word "Architect" where it appears in documents shall be used interchangeably with the word "Engineer" and for the purpose of this agreement is GGD Consulting Engineers, Inc.
- E. The word "General Contractor" where it appears in the documents shall be used interchangeably with the word "Contractor".

1.04 COORDINATION

- A. Before commencing any work, the Contractor shall prepare a sequence of operations of all work under this Contract and shall submit it, to the Engineer, for approval.
- B. Before commencing any work, the Contractor shall consult with the Owner regarding the use of any on site facility, including, but not limited to yard areas, parking areas, storage areas, etc., that may be required to prosecute the work. There will be limited parking spaces allocated for workers vehicles and for Contractor's vehicles or trucks and only at the discretion of the Owner.
- C. The Contractor shall be responsible for the proper fittings of all work and the coordination of the operations of all trades, contractors or material men engaged upon the work. He shall be prepared to guarantee each of his contractors the dimensions which may be required for the fitting of their work to all surrounding work and shall do or cause the contractors to do all cutting, fitting, adjusting and patching necessary to make the several parts of the work come together properly and to fit the work to receive or to be received by that of other contractors.
- D. The Contractor shall give competent superintendence to the work at all times during the progress of the work. The Contractor shall also provide an adequate staff for proper coordination and expediting.
- E. The Contractor shall layout his own work, and he shall be responsible for all lines, elevations and measurements, and other work executed by him under the Contract. He must exercise proper precaution to verify the figures shown on the drawings before laying out the work and will be held responsible for any error resulting from his failure to exercise such precaution.
- F. The Contractor shall be in charge of the entire Job Operations and shall be responsible for the prompt job coordination of all trades and Owner's separate Contractors, if they are on the job during the Contractor's operation. Contractors shall route their action through the Contractor's office to avoid confusion and job delay.

1.05 CUTTING AND PATCHING

- A. All necessary cutting, drilling, grouting and patching to fit together properly the several parts of the work shall be done by this Contractor. Carefully lay out work in advance. Perform all work with minimum damage to existing construction.
- B. Patch or replace any existing construction to remain which may be damaged or destroyed during course of work. Restore to original condition and/or match existing surrounding construction. Perform all work with skilled mechanics of the trades involved at no additional cost.
- C. New construction shall meet existing construction in a neat, finished workmanlike fashion. Intent of alteration work is to produce a neat, finished job, combining existing and new construction. Furnish and install any incidentals of finish, trim and closure to achieve these results.
- D. Patch all holes, cracks, openings and recesses left by installation and/or removal of any items in exposed existing surfaces and finish to match existing.
- E. In all exposed existing surfaces which become concealed in the completed construction, remove all loose, unsound, insecurely attached and/or destroyed material and debris.

- F. The Contractor shall not damage or endanger any portion of the work or the work of the Owner or any separate contractors by cutting, patching or otherwise altering any work. The Contractor shall not cut or otherwise alter the work of the Owner or any separate Contractor except with the written consent of the Owner and of such separate contractor. The Contractor shall not unreasonably withhold from the Owner or any separate Contractor his consent to cutting or otherwise altering the work performed hereunder.
- G. Cutting or demolition of concrete or masonry shall be done using methods previously approved by the Engineer. Where cutting or other demolition work will remain wholly or in part exposed in the finished work, or should they depend for final outcome on the proper fitting of prefabricated or pre-produced items, the Engineer may require a drawing showing the precise location of work to be cut or demolished.

1.06 CONSTRUCTION SCHEDULING

- A. The work shall commence as specified under the Owner's Notice to Proceed and shall proceed in a continuous and uninterrupted manner until completion
 - 1. On or before September 25, 2024 for the project shall be substantially complete and the generator shall be fully operational by September 25, 2024.
 - 2. Project schedule shall be strictly adhered to for the system to be fully operational by September 25, 2024 anticipated schedule is as follows:
 - a. Project Award – May 22, 2024
 - b. Submittals – May 22, 2024 thru June 5, 2024
 - c. Product Lead Time – June 5, 2024 thru August 28, 2024
 - d. Demolition – August 21, 2024 thru September 11, 2024
 - e. Installation – August 28, 2024 thru September 25, 2024
 - f. Commissioning – September 25, 2024 thru October 2, 2024
 - g. Closeout – October 2, 2024 thru October 16, 2024

1.07 SAFETY REGULATIONS

- A. The provisions of the Federal Occupational Safety and Health Act (OSHA) apply to the execution of the Work of this Contract, in addition to all other laws, ordinances, rules, regulations, and orders of any Federal, State, or local public authority bearing on the performance of the Work.

1.08 EXAMINATION OF SITE AND EXISTING CONDITIONS

- A. Each General Bidder shall visit the site of the proposed work and fully acquaint himself with the conditions as they exist, so that he may fully understand and evaluate the facilities, difficulties and restrictions attending the execution of the work under this Contract. Arrangements to visit the site shall be made in advance.
- B. Bidders shall thoroughly examine and be familiar with the drawings and specifications. Each general bidder shall refer to the drawings and specifications and shall include in his bid all work required to complete the project.
- C. Plans, surveys, measurements, calculations, estimates and statements as to the conditions under which the work is to be performed are believed to be correct, but each bidder shall examine the site and conditions for himself, as no allowance will be made for any errors or inaccuracies that may be found therein, and neither the Owner nor the Engineer represent that they are even approximately correct. Each Bidder shall determine by his own investigation and research, all conditions affecting the work to be done and labor and material needed, and shall make his bid in sole reliance thereon.

- D. Before ordering any material or doing any work, all measurements shall be verified by the Contractor at the Site. No extra charge or compensation will be allowed on account of the difference between actual dimensions and the measurements indicated on the drawings. Any difference which may be found shall be submitted to the Engineer for consideration before proceeding with the work.

1.09 MASSACHUSETTS SALES AND USE TAX

- A. An exemption number is assigned to the Owner as an exempt purchaser under the Sales Act, Chapter 14 of the Acts of 1966 to the extent that materials and supplies are used or incorporated in the performance of the Contract.

1.10 POSSESSION PRIOR TO COMPLETION

- A. The Owner shall have the right to take possession of, or use, any completed or partially completed part of the work. Such possession or use shall not be implied to be an acceptance of any part of the work not completed in accordance with the Contract.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION 011100

SECTION 013300

SUBMITTALS

PART 1 - GENERAL

1.01 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

- A. Shop drawings are drawings, diagrams, schedules and other data which shall be specifically prepared for the Work by the Contractor, manufacturer, supplier or distributor to illustrate some portion of the work.
- B. Product data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished to illustrate a material, product or system for some portion of the work.
- C. Samples are physical examples which shall illustrate materials, equipment, or workmanship, and shall establish standards by which work is judged.
- D. The Contractor shall review, approve and submit with reasonable promptness and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate contractor all shop drawings, project data and samples required by the Contract Documents.
- E. By approving and submitting shop drawings, product data and samples, the Contractor represents that he has determined and verified all materials, field measurements and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained with such submittals with the requirement of the work and of the Contract Documents.
- F. The Engineer will review and take appropriate action upon submittal of Shop Drawings, Product Data and Samples, but only for conformance with the design concept of the Work and the information given on the Contract Documents. Such action will be taken with reasonable promptness so as to cause no delay. The Engineer's acceptance of a specific item shall not indicate approval of an assembly of which the item is a component. The Engineer's review of a Shop Drawing does not include the checking of dimensions, clearness, or quantities nor the verification of actual field conditions which shall be the Contractor's responsibility.
- G. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Engineer's approval of Shop Drawings, Product Data or Samples unless the Contractor has specifically informed the Engineer in writing of such deviation at the time of submission and the Engineer has given written acceptance of the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in Shop Drawings, Product Data or Samples by the Engineer's approval thereof.
- H. The Contractor shall direct specific attention, in writing on resubmitted Shop Drawings, Product Data, or Samples, to revisions other than those requested by the Engineer on previous submittals.
- I. No portion of the Work requiring submission of a Shop Drawing, Product Data, or Sample shall be commenced until the submittal has been approved by the Engineer as provided herein. All such portions of the Work shall be in accordance with accepted submittals.

1.02 SUBMITTAL REQUIREMENTS

- A. Standard manufactured items - submit PDF documents of manufacturer's data sheets, showing illustrated cuts of the item(s) to be furnished, scale details, sizes, dimensions, capacities, performance characteristics, wiring diagrams, controls, and other pertinent information. If more than one size or type is shown, indicate clearly each item(s) to be furnished.
- B. For all other shop drawings, maximum size of shop drawing shall be 24" x 36". On completion of checking, the Engineer will obtain record prints of each transparency, returning the transparency to the Contractor.
- C. Submittals returned "approved" and/or "approved as noted", shall be distributed and processed as set forth below.
- D. The Contractor shall obtain and distribute adequate prints for construction, including one print of each for the Owner's project representative, and then return the transparencies to the Contractor supplier from whom he originally received them.
- E. Submittals returned "amend and resubmit" or "not approved" shall be processed as set forth below.
- F. The Contractor shall first obtain a record print and then forward the transparencies to source for correction of original drawings, and resubmission of a new as above.
- G. Each drawing shall have the title block on the right hand side containing the following data:
 - Name of Product
 - Engineer
 - General Contractor
 - Contractor
 - Date of Submission
- H. Each drawing shall have a clear space on the right hand side for approval stamp of both the Engineer and the Contractor. The Engineer's stamp shall contain the following data:
 - _____ Approved
 - _____ Approved as Noted
 - _____ Amend & Resubmit
 - _____ Not Approved

The Engineer and Contractor shall insert the date of action taken and an identification of the person taking the action.

1.03 SHOP DRAWING GRADING

- Approved: No corrections, no marks

- Approved as Noted: Resubmission not required. Minor amount of corrections; all items can be fabricated without further corrections to original drawing; checking is complete and all corrections are deemed obvious without ambiguity.

- Amend & Resubmit: Resubmission required. Items must not be fabricated without further corrections. Checking is not complete; details of items checked are to be clarified further before full approval can be given. Resubmit new drawings with noted corrections.

- Not Approved" Drawing is rejected as not in accord with the contract. When returning drawing reasons for rejection will be stated. Correct and resubmit. Do not fabricate.

1.04 PROGRESS SCHEDULE

- A. In order to facilitate coordination and fitting, prepare a "Plan of Operations and Progress Schedule" which shall show concisely the manner in which work will be started, prosecuted, and how the interrelationship of the work is to be completed. The overall timing shall conform to the requirements of the Owner agreement. The Plan of Operations and Progress Schedule shall be "weighted" to schedule each trade in proportion to the entire project.
- B. The Plan of Operations and Progress Schedule shall be specific in nature within any particular sub-trade; e.g., the Contractor's Schedule shall indicate the start and finish of the various portions of work within the scope of his work. The schedule shall reveal the commencement date and completion date for each and every phase of the work such as underground duct banks, utility co. scheduling, switchboard modifications, etc.
- C. In preparing the above Plan of Operations and Progress Schedule the Contractor shall assure that the methods, dates and other pertinent matter are acceptable to the Engineer and, when completed, he shall submit to and obtain approval from the Engineer.
- D. After approval of the above Plan of Operations and Progress Schedule the Contractor shall be responsible for seeing that it is adhered to and for ascertaining that proper coordination is maintained between work of all trades. Approval of the above Plan of Operations and Progress Schedule will not relieve the Contractor from completing the project on time.
- E. If for any reason the progress schedule should fall behind schedule by 15 calendar days (maximum), the Contractor shall prepare a new progress schedule which shall be changed to indicate the manner in which the Contractor will complete the project within the time allowed for construction.

1.05 SCHEDULE OF MATERIALS

- A. Within two (2) weeks after the award of Contract, the Contractor shall submit to the Engineer a schedule of any materials specified for the work which are likely to cause delay due to unavailability, extended delivery dates, or any other reason.
- B. The schedule shall contain a list of materials, the name of the supplier or suppliers that the Contractor contacted in attempting to purchase the material, the project delivery dates and the reason for the anticipated delay.

- C. The Contractor shall assume full responsibility for delay attributed to unavailability, insufficient time for delivery and/or installation of material or performance of the work, unless he has conformed with paragraphs A. and B. above, except as noted in paragraph D. below.
- D. Delays in delivery of material caused by factors beyond the Contractor's control and occurring after the time stipulated in Paragraph A. above, shall not be deemed to be the responsibility of the Contractor.

1.06 SCHEDULE OF VALUES

- A. Prior to the first request for payment, the Contractor shall submit to the Engineer and the Owner a Schedule of Values of the various portions of the work in sufficient detail to reflect various major components of each trade, including quantities when requested, aggregating the total contract sum, and divided so as to facilitate payments for work under each Section in accordance with the Contract Form. The schedule shall be prepared in such form as specified or as the Engineer or Owner may approve, and it shall include data to substantiate its accuracy. Each item in the Schedule of Values, including breakdown and values, requires the approval of the Engineer and the Owner and shall be used only as a basis for the Contractor's request for payment.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION 013300

SECTION 015000

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including Drawings, Invitation for Bids and Division 01 - General Requirements, apply to the Work of this Section.
- B. Carefully examine all of the Contract Documents for requirements which affect the Work of this Section. The exact scope of Work of this Section cannot be determined without a thorough review of all specification Sections and other Contract Documents.

1.02 REQUIREMENTS INCLUDED

- A. Temporary Facilities and Controls including the following:
 - 1. Hoisting Equipment and Machinery.
 - 2. Maintenance of Access.
 - 3. Dust Control.
 - 4. Noise Control.
 - 5. Indoor Air Quality (IAQ) Management.
 - 6. Cleaning During Construction.
 - 7. Construction Barriers.
 - 8. Parking.
 - 9. Debris Control and Removal.
 - 10. Safety Protection.
 - 11. Vehicle and Equipment Protection.
 - 12. Project Identification Sign.
 - 13. Delivery of Materials.
 - 14. Shut Down Notice.

1.03 HOISTING EQUIPMENT AND MACHINERY

- A. All hoisting equipment and machinery required for the proper and expeditious prosecution and progress of the work shall be furnished, installed, operated and maintained in safe condition by the individual Subcontractors and is so stated in each appropriately related Section of the Specifications. All costs for hoisting operating services shall be borne by the Subcontractors unless specifically excepted in the Contract Documents.
 - 1. A licensed equipment manufacturer's representative shall be present at all times, to witness the erection and dismantling of all hoisting equipment and machinery, whenever such equipment is being erected or dismantled. No such work will be performed without the presence of such representative.
 - 2. Hoisting equipment and machinery erection and dismantling shall be performed only by trained, certified, and experienced riggers qualified to perform such work.
 - 3. Copies of such licenses and/or certifications, clearly indicating qualifications, shall be provided to the Owner prior to commencement of such erecting and dismantling work.
- B. Review Drawings for hoisting requirements and openness of traffic access routes to installed destinations of specified equipment and furnishings.

1.04 MAINTENANCE OF ACCESS

- A. The General Contractor shall provide and maintain for the duration of his contract, a means of access to, around and within the site, as indicated on the Contract Drawings, for vehicular traffic and authorized personnel. This means of access shall be construed to sustain the weight of equipment customarily engaged for use in construction projects of this type and magnitude. The General Contractor shall, without additional compensation from the owner, furnish labor and materials as may be required from time to time to maintain this means of access in an acceptable condition as determined by the Designer. Pedestrian access shall provide adequate protection against falling debris, slippage, adequate lighting, warning and directional signs, and protection against construction activities.

1.05 DUST CONTROL

- A. The General Contractor shall have all Subcontractors provide adequate means for the purpose of preventing dust caused by construction operations from creating a hazard, nuisance, and from entering adjacent occupied areas throughout the period of the construction contract.
- B. This provision does not supersede any specific requirements for methods of construction or applicable general conditions set forth in the Contract Articles with added regard to performance obligations of the General Contractor.

1.06 NOISE CONTROL

- A. Work must be scheduled and performed in such a manner as to not interfere with the operations of the Owner. Construction work that is deemed by the Owner to be excessively noisy may be required to be done during non-normal working hours and at no additional expense to the Owner.
- B. Comply with requirements of authorities having jurisdiction. Develop and maintain a noise-abatement program and enforce strict discipline over all personnel to keep noise to a minimum.
- C. Execute construction work by methods and by use of equipment which will reduce excess noise.
 - 1. Equip air compressors with silencers, and power equipment with mufflers.
 - 2. Manage vehicular traffic and scheduling to reduce noise.
 - 3. No heavy equipment may be started or idled before 7A.M.

1.07 INDOOR AIR QUALITY (IAQ) MANAGEMENT

- A. Minimize exposure of building occupants, indoor surfaces, and ventilation air distribution systems to environmental tobacco smoke. At a minimum, take the following measures:
 - 1. Prohibit smoking in the building.
 - 2. Locate exterior designated smoking areas at least 25 feet away from entries, outdoor air intakes, and operable windows.
- B. Construction Indoor Air Quality Management Plan Submittal:
 - 1. The proposed Plan shall include, but not be limited to, the following:
 - a. Protection of ventilation system components during construction.

- b. Cleaning and replacing contaminated ventilation system components after construction, including filtration media.
 - c. Temporary ventilation.
 - d. Protection of absorptive materials from moisture damage when stored on-site and after installation, including exterior wall rain protection.
 - e. Sequence of finish installation plan.
 - f. Selection of cleaning products and procedures to be used during construction and final cleaning.
 - g. Schedule of emission test data recorded by General Contractor's testing laboratory.
- C. Take special care to prevent accumulation of moisture on materials and within packaging during delivery, storage, and handling to prevent development of mold and mildew inside packaging and on products.
- D. Immediately remove from site and properly dispose of materials showing signs of mold and mildew, including materials with moisture stains.

1.08 CLEANING DURING CONSTRUCTION

- A. Control accumulation of waste materials and rubbish; periodically dispose of off-site in a legal manner. The General Contractor shall bear all costs, including fees resulting from such disposal.
- B. Clean interior areas prior to start of finish work and maintain areas free of dust and other contaminants during finish operations.
- C. Maintain project in accordance with all local, Commonwealth of Massachusetts, and Federal Regulatory Requirements.
- D. Store volatile wastes in covered metal containers, and remove from premises.
- E. Prevent accumulation of wastes which create hazardous conditions.
- F. Provide adequate ventilation during use of volatile or noxious substances.
- G. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Do not dispose of wastes into streams or waterways.
 - 4. Identify potential sources of cleaning water runoff and propose abatement procedures.
- H. Use only those materials which will not create hazards to health or property and which will not damage surfaces.
- I. Use only those cleaning materials and methods recommended by manufacturer of surface materials to be cleaned.
- J. Execute cleaning to ensure that the buildings, the sites, and adjacent properties are maintained free from accumulations of waste materials and rubbish and windblown debris, resulting from construction operations.

- K. Provide on-site containers for collection of waste materials, debris, and rubbish.
- L. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal dump site (DEP approved).
- M. Handle material in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.
- N. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not damage surrounding surfaces.

1.09 CONSTRUCTION BARRIERS

- A. Proper construction barriers shall be provided around the contract work areas as defined by the Contract Drawings or as directed by the Owner/Engineer.
- B. Construction barriers shall consist of traffic cones, ribbons, tapes, secure fencing, trench covers, wood barriers, warning signs, directional signs, and other traffic materials to keep traffic and people from area of construction and maintain ongoing operations.
- C. Barriers shall be erected at such approved locations as are necessary, sufficiently cross-braced and supported adequately from floors and ceilings as required.

1.10 PARKING

- A. Parking: Parking spaces on site are very limited and the Owner will provide designated parking lot spaces near the construction site for the Contractor's use. The Contractor shall state his/her parking and staging area requirements during the Pre-construction Meeting. The area(s) for materials storage will then be agreed to between the Contractor and the Owner. The limits of material storage will be delineated by the Contractor with construction fencing and enforced throughout the Contract.

1.11 DEBRIS CONTROL AND REMOVAL

- A. Debris shall not be permitted to accumulate or migrate and the work shall at all times be kept satisfactorily clean. Facility trash receptors shall not be used for the disposal of debris. Dumpster shall be provided by the General Contractor for removal of debris for all Subcontractors.
- B. Remove debris from the work site on a daily basis and dispose of same at any (private or public) DEP approved dump that the General Contractor may choose providing that the General Contractor shall make all arrangements and obtain all approvals and permits necessary from the owner or officials in charge of such dumps. Proposed dump site shall be submitted to be approved by Owner prior to start of demolition. During disposal process, copies of daily receipts from dumpsite shall be submitted on a regular basis.

1.12 SAFETY PROTECTION

- A. At no time shall the work be left unattended without proper safety protection and shall not be left unprotected to the weather and accessible to the public. It is the responsibility of the General Contractor to maintain proper safety protection for the public while work is in progress or unattended.

1.13 VEHICLE AND EQUIPMENT PROTECTION

- A. All construction activities shall be performed in such a manner so as not to dust, stain or damage any building elements, equipment, vehicles, etc. within general vicinity of the construction work area. Any damage to these items shall be cleaned and repaired at the expense of the General Contractor.
 - 1. All construction vehicles and equipment on site shall be effectively disabled and secured when not in use.

1.14 DELIVERY OF MATERIALS

- A. All Materials shall be delivered to the Contractor's or Sub-Contractor's warehouse or may be delivered to the site if the Contractor's representative is present to receive them.
- B. No materials will be received by Owner's personnel, either on site or at the Owner's shipping and receiving dock.

1.15 SHUT DOWN NOTICE

- A. If required for unit replacement, the Contractor shall notify the Owner's Project Manager at least fourteen (14) working days in advance, of the need for Owner personnel to shut down or modify any utilities or building systems. If, due to Owner emergencies or staffing shortages, the Housing Authority personnel are unable to provide the required shut down or modifications, the contractor shall reschedule their work at no cost to the Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 015000

SECTION 016000

MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including Drawings, Invitation for Bids and Division 1 - General Requirements, apply to the Work of this Section.
- B. Carefully examine all of the Contract Documents for requirements which effect the Work of this Section. The exact scope of Work of this Section cannot be determined without a thorough review of all specification Sections and other Contract Documents.

1.02 REQUIREMENTS INCLUDED

- A. Material and equipment incorporated into the work:
 - 1. Conform to applicable specifications and standards.
 - 2. Comply with size, make, type and quality specified, or as specifically reviewed by the engineer.
 - 3. Manufactured and fabricated products:
 - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
 - b. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.
 - c. Two or more items of the same kind shall be identical, by the same manufacturer.
 - d. Products shall be suitable for service conditions.
 - e. Equipment capacities, sizes and dimensions specified shall be adhered to unless variations are specifically approved by Engineer.
 - 4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.
 - 5. Carry in your bid premium cost to manufacturer equipment required to meet project schedule.

1.03 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accordance with schedules specified herein.
- B. Transport all materials and equipment on legally approved conveyances as required or recommended by the respective manufacturer or supplier.
- C. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
- D. Immediately on delivery, inspect shipments to assure compliance with requirements of contract documents and reviewed submittals, and that products are properly protected and undamaged.
- E. Remove from the site any material or item of equipment damaged during the transportation or handling process, and immediately replace at no additional cost to the owner.

F. Carry in your bid premium time for expediting delivery of equipment in order to meet schedule.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION 016000

SECTION 017329

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including Drawings, Invitation for Bids and Division 1 - General Requirements, apply to the Work of this Section.
- B. Carefully examine all of the Contract Documents for requirements which affect the Work of this Section. The exact scope of Work of this Section cannot be determined without a thorough review of all specification Sections and other Contract Documents.

1.02 QUALITY ASSURANCE

- A. General:
 - 1. This Section specifies coordination and procedural requirements related to cutting and patching work.
 - 2. Cutting and Patching is Defined:
 - a. Cutting work in place to install or attach something to or in existing surface or newly constructed work of this Contract.
 - b. Cutting work in place to make various parts of total assembly fit together properly or to adjust size of previously-prepared opening to make something fit as integral part of finishing process.
 - c. Cutting preexisting construction in place before starting work of this Contract, where total or selective demolition is not scheduled, to make something fit as integral part of work of this Contract.
 - d. Cutting work in place to provide samples for conformance with Contract requirements or preexisting surface to allow inspection of partially-concealed construction.
 - 3. Perform all cutting and patching of preexisting and new construction as required for proper completion, integration, and execution of work of Contract as work of this Section, except where cutting and patching is specified to be performed by specific Specification Sections.
- B. Requirements for Structural Work:
 - 1. Do not cut and patch structural work in manner that would result in reduction of load-carrying capacity or of load-deflection ratio.
 - 2. Obtain approval of cutting and patching proposal from Engineer and Owner's Representative before cutting and patching following structural elements:
 - a. Foundation construction.
 - b. Structural concrete.
 - c. Structural steel.
 - d. Structural decking.
 - e. Stair systems.

f. Miscellaneous structural metals.

C. Operational and Safety Limitations:

1. Do not cut and patch operational elements or safety-related components in a way which would result in reducing their capacity to perform as intended, increased maintenance, or decreased operational life or safety.
2. Obtain approval of cutting and patching proposal before cutting and patching following operational elements or safety-related systems:
 - a. Primary operational systems and equipment.
 - b. Air or smoke barriers.
 - c. Water, moisture, or vapor barriers.
 - d. Membranes and flashings.
 - e. Fire protection systems.
 - f. Noise and vibration control elements and systems.
 - g. Electrical wiring systems.

D. Visual Requirements:

1. Do not cut and patch work exposed on building exterior or in its occupied spaces in way that would, in Architect's opinion, result in lessening building's aesthetic qualities.
2. Do not cut and patch work in way which would result in substantial visual evidence of cut and patch work.
3. Remove and replace work judged by Engineer to be visually unsatisfactorily cut and patched.

1.03 SUBMITTALS

A. Procedural Proposal for Cutting and Patching:

1. When approval of procedures for cutting and patching is required, submit proposed procedures for work well before time work will be performed and request approval to proceed.
2. Include following information, as applicable, in submittal:
 - a. Describe extent of cutting and patching required and how it is to be performed; indicate why it cannot be avoided.
 - b. Describe anticipated results of work in terms of changes to existing work including structural, operational, and visual changes, and other significant elements.
 - c. List products to be used and firms that will perform work.
 - d. Give dates when work is expected to be performed.
 - e. List utilities that will be disturbed or affected by work, including those that will be relocated and those that will be out of service temporarily.
 - f. Indicate how long utility service will be disrupted.
3. Where cutting and patching structural work involves addition of reinforcement, submit details and engineering calculations to show how that reinforcement is integrated with original structure to satisfy requirements.
4. Approval by Architect to proceed with cutting and patching work does not waive Architect's right to later require complete removal and replacement of work found unsatisfactorily cut and patched.

1.04 COORDINATION

- A. Provide required protection including, but not limited to, shoring, bracing, and support to maintain structural integrity of work.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General:
 - 1. Except as otherwise indicated or as directed by Architect, use materials for cutting and patching that are identical to existing materials.
 - a. Prepare mockups of materials and procedures to be used in cutting and patching.
 - b. Submit samples to requirements of Section 01.33.00 before beginning mockup work, to ensure acceptability of materials scheduled to be used for acceptance by Architect as being identical to or similar in performance to materials being cut and patched.
 - c. Architect reserves right to reject mockups and samples, where unacceptable due to size, color, texture, composition, or installed appearance, quality of installation, or anticipated performance.
 - 2. If identical materials are not available or cannot be used, use materials that match existing adjacent surfaces to fullest extent possible regarding visual effect.
 - 3. Use materials for cutting and patching that will result in equal, or better, performance characteristics.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Temporary Support: Provide temporary support of work to be cut.
- B. Protection:
 - 1. Protect existing construction during cutting and patching to prevent damage.
 - 2. Provide protection from adverse weather conditions for that part of Project that may be exposed during cutting and patching operations.
 - 3. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
 - 4. Take precautions not to cut existing pipe, conduit, or duct serving Building but scheduled to be relocated until provisions have been made to bypass them.

3.02 PERFORMANCE

A. General:

1. Notification: If the Contractor or any subcontractor discovers or encounters any asbestos-containing materials (ACM) that may affect the work during the performance of the work, the Contractor shall immediately:
 - a. Notify the Engineer of the presence of the suspect ACM and request instructions for proper action and removal by others.
 - b. Take whatever steps and measures which are necessary to reduce, control, or eliminate the risk of exposure to workers and the public from the ACM.
2. Cut existing construction using methods least likely to damage elements to be retained or adjoining construction.
3. Where cutting is required, use hand or small power tools designed for sawing or grinding, not hammering and chopping.
4. Cut holes and slots neatly to size required with minimum disturbance of adjacent surfaces.
5. Temporarily cover openings when not in use.
6. To avoid marring existing finished surfaces, cut or drill from exposed or finished side into concealed surfaces.
7. Cut through concrete and masonry using cutting machine such as carborundum saw or diamond core drill.

B. Pipe and Conduit:

1. Bypass utility services such as pipe and conduit, before cutting, where such utility services are shown or required to be removed, relocated, or abandoned.
2. Cut off conduit and pipe in walls or partitions to be removed.
3. After bypassing and cutting, cap, valve, or plug and seal tight remaining portion of pipe and conduit to prevent entrance of moisture or other foreign matter.

C. Patching:

1. Patch with seams that are durable and as invisible as possible.
2. Comply with specified tolerances for work.
3. Where feasible, inspect and test patched areas to demonstrate integrity of work.
4. Restore exposed finishes of patched areas.
5. Where necessary, extend finish restoration into retained adjoining work in way that will eliminate evidence of patching and refinishing.

D. Walls and Partitions:

1. Where removal of walls or partitions extends one finished area into another finished area, patch and repair floor and wall surfaces in new space to provide an even surface of uniform color and appearance.
2. Remove existing floor and wall coverings and replace with new materials.

E. Painted Surfaces: Where patch occurs in smooth painted surface, extend final paint coat over entire unbroken surface containing patch, after patched area has received prime and base coat.

F. Ceilings: Patch, repair, or rehang existing ceiling as necessary to provide an even plane surface of uniform appearance.

- G. Refer to Section 078413 for firestopping all penetrations through walls, partitions, floors, and ceilings, used and provided under this Contract, including capping all future holes and conduits.

3.03 CLEANING

A. General:

1. Thoroughly clean areas and spaces where work is performed or used as access to work.
2. Completely remove paint, mortar, oils, putty, and items of similar nature.
3. Thoroughly clean piping, conduit, and similar features before applying paint or other finish.
4. Employ experienced workers or professional cleaners.
5. Clean each surface or unit to condition expected in normal, commercial building cleaning and maintenance program.
6. Restore damaged pipe covering to its original condition.

END OF SECTION 017329

SECTION 017700
CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All of the Contract Documents, including Drawings, Invitation for Bids and Division 1 - General Requirements, apply to the Work of this Section.
- B. Carefully examine all of the Contract Documents for requirements which effect the Work of this Section. The exact scope of Work of this Section cannot be determined without a thorough review of all specification Sections and other Contract Documents.

1.02 SUMMARY

- A. This section includes administrative and procedural requirements for contract closeout including, but not limited to the following:
 - 1. Final Cleaning
 - 2. As Built Drawings
 - 3. Operating and Maintenance Requirements
 - 4. Demonstration and Training
 - 5. Closeout Requirements and Submittals
 - 6. Guarantees and Warranties

1.03 FINAL CLEANING

- A. Unless otherwise specified under the various Sections of the Specifications, the General Contractor shall perform final cleaning operations as herein specified prior to final inspection.
- B. Maintain project site free from accumulations of waste, debris, and rubbish, caused by operations. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave project clean and ready for occupancy.
- C. Cleaning shall include all surfaces, interior and exterior in which the Contractor has had access whether existing or new.
- D. Refer to Sections of the Specifications for cleaning of specific products or work.
- E. Use only those materials which will not create hazards to health or property and which will not damage surfaces.
- F. Use only those cleaning materials and methods that are recommended by the manufacturer of surface material to be cleaned.
- G. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- H. Repair, patch, and touch up marred surfaces to specified finish to match adjacent surfaces.
- I. Broom clean exterior paved surfaces and rake clean other surfaces of the grounds.

- J. Leave pipe and duct spaces, plenums, furred spaces and the like clean of debris and decayable materials.
- K. At the end of the project, General Contractor and each Subcontractor shall remove all his tools, equipment, machinery, and surplus materials from the job site. The General Contractor shall remove all waste materials and rubbish from the project at this time. All temporary structures shall be removed and the project shall be left clean.

1.04 AS-BUILT DRAWINGS

- A. As-built Drawings shall consist of all the Contract Drawings. As-built Drawings shall be kept up-to-date. Information from on-going Work shall be recorded on As-built Drawings within 48 hours of Work being performed.
- B. The General Contractor and all Subcontractors shall be required to maintain one set of As-built Drawings, as the work relates to their Sections of the Specifications, at the site.
- C. The As-built Drawings shall be stored and maintained in the General Contractor's field office apart from other documents used for construction. The Record Drawings shall be maintained in a clean, dry and legible condition and shall not be used for construction purposes.
- D. As-built Drawings, as submitted by the General Contractor shall be verified in the field by the Designer or his Consultants. Verification by the Designer shall occur during the construction process and prior to the related work being completed and covered up.
- E. The following information shall be indicated on the As-built Drawings:
 - 1. Record all changes, including change orders, in the location, size, number and type both horizontally and vertically of all elements of the project which deviate from those indicated on all the Contract Drawings.
 - 2. Each of the utilities and appurtenances shall be referenced by showing a tag number, area served and function on the As-built Drawings.
- F. At the end of each month and before payment for materials installed, the General Contractor, his Subcontractors, and agents of the Commonwealth shall review As-built Drawings for purpose of payment. IF THE CHANGES IN LOCATION OF ALL INSTALLED ELEMENTS ARE NOT SHOWN ON THE AS-BUILT DRAWINGS AND VERIFIED IN THE FIELD, THEN THE MATERIAL SHALL NOT BE CONSIDERED AS INSTALLED AND PAYMENT WILL BE WITHHELD.

1.05 OPERATING AND MAINTENANCE REQUIREMENTS

- A. At least two weeks prior to the time of turning over this contract to the Operating Agency for Use and Occupancy, or Final Acceptance, the General Contractor shall secure and deliver to the Operating Agency via the Designer, three (3) complete, indexed files, containing approved operating and maintenance manuals, shop drawings, record of paint colors, floor and ceiling materials and other data as follows.
 - 1. Operating manuals and operating instructions for each model and type of equipment in each of the various systems. Include operating instructions for systems integrating several pieces of equipment.
 - 2. Catalog data sheets for each item of mechanical or electrical or equipment actually installed including performance curves, rating data and parts lists.
 - 3. Catalog sheets, maintenance manuals, and approved shop drawings of all mechanical or electrical equipment controls and fixtures with all details clearly indicated, including size of lamps and other maintenance supplies.

4. Operating procedures, including startup, shutdown, seasonal and weekend operations.
5. Description of controls and sequence of operations.
6. Maintenance Data:
 - a. Manufacturer's information, including list of spare parts.
 - b. Name, address, and telephone number of Installer or supplier.
 - c. Maintenance procedures.
 - d. Maintenance and service schedules for preventive and routine maintenance.
 - e. Maintenance record forms.
 - f. Sources of spare parts and maintenance materials.
 - g. Copies of maintenance service agreements.
 - h. Copies of warranties and bonds.
 - i. Name, address and telephone numbers of repair and service companies for each of the systems installed.
7. Names, addresses and telephone numbers of all Sub-contractors and suppliers, together with repair and service companies for each of the major systems installed under this contract.

1.06 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 1. Provide instructors experienced in operation and maintenance procedures.
 2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
 3. Schedule training with Owner's personnel with at least fourteen (14) days' advance notice.
 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.

1.07 CLOSEOUT REQUIREMENTS AND SUBMITTALS

- A. Procedural Requirements Prior to Use and Occupancy: Punch List:
 1. During the finishing stages of the project, the Contractor shall make frequent inspections with subcontractors, the Designer, and the Owner, so as to progressively check for and correct faulty work.
 2. During the course of construction of the project, the Contractor shall procure and maintain test records and certificates that will be required prior to issuance of the Department of Public Safety (DPS) Certificate of Occupancy.

1.08 GUARANTEES AND WARRANTIES

- A. Submit to the Designer all extended guarantees and warranties that have been specified in various, individual Sections of the Specifications. Guarantees shall be assembled by Specification No. and Section in accordance with Specifications Table of Contents.
 1. Guarantees and warranties shall be enforceable in the Commonwealth of Massachusetts and subject to interpretation in accordance with the laws of the Commonwealth of Massachusetts.

- B. Unless more stringent requirements are otherwise specified, guarantee all work against defects of materials, equipment and workmanship for one year from the date of Final Acceptance or the date of issue of Certificate of Use/Occupancy for the building or portion thereof, whichever occurs first.
- C. Place in satisfactory condition in every particular all guaranteed work and correct all defects.
- D. Make good all damage to building, site equipment, or contents thereof, including redecoration which, in the opinion of the Designer, results from the use of material, equipment or workmanship which are inferior, defective or not in accord with the terms of the Contract.
- E. Delivery of any warranty required does not relieve the Contractor from any obligation assumed under other provisions of the Contract.
- F. Deliver guarantees and warranties to the Designer before or with the application for Final Payment.
- G. At the end of the Contractor's one (1) year guarantee period, the Contractor shall transfer manufacturers' equipment and material warranties that are still in force to the Operating Agency.
- H. The general warranty set forth in the General Conditions is in addition to, exclusive of, and not in substitution of such guarantees as may be required in the Specifications.

PART 2 – PRODUCTS
Not Used

PART 3 – EXECUTION
Not Used

END OF SECTION 017700

SECTION 02 41 19

SELECTIVE
DEMOLITION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of the building as required for repair, modification or new construction.
2. Removal and legal disposal of demolished materials from the site.
3. The scope of work for demolition and removal shall prepare for the work of this Contract, for new construction and alterations.

1.03 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Protect for Installation by Others: Detach items from existing construction and protect on-site for installation by others.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.04 RELATED WORK

- A. Section 011000 GENERAL REQUIREMENTS for Temporary Facilities and Controls:
 1. Maintenance of access, cleaning during construction, dust and noise control.
- B. Division 22 Plumbing
- C. Division 23 MECHANICAL
- D. Division 26 ELECTRICAL

1.05 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.06 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and noise control. Indicate proposed locations and construction of barriers and temporary egress paths.
- B. Schedule of Selective Demolition Activities that includes but is not limited to the following:
1. Detailed sequence of selective demolition and removal work, with start and end dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 2. Interruption of utility services, if any. Indicate how long utility services will be interrupted.
 3. Coordination for shutoff, capping, and continuation of utility services.
 4. Use of loading area and main entrance.
 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.
- D. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

1.07 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.08 QUALITY ASSURANCE

- A. *This area is Reserved.*

1.09 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.10 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties. Notify warrantor before proceeding.
- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.
- C. Dust wall and construction enclosures: Polyethylene Sheeting. Fire-retardant, string reinforced high density polyethylene sheeting, 6 mil. NFPA 701-04, ASTM E 84.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that utilities have been disconnected and capped as required, before starting selective demolition operations.
- B. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

- E. Perform a review of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
 - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
- F. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
 - 1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

3.02 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Arrange to shut off indicated utilities with utility companies.
 - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3.03 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Comply with requirements for access and protection specified in Section 015000 "Construction Facilities and Temporary Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 3. Cover and protect furniture, furnishings, and equipment that have not been removed.
 - 4. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in DIVISION 1 General Requirements.

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

1. Strengthen or add new supports when required during progress of selective demolition.

3.04 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly.

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

3.05 SELECTIVE DEMOLITION PROCEDURES FOR METAL WINDOWS

- A. Carefully remove window and hardware where indicated on drawings to be removed.

3.06 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. No major concrete demolition is expected. If required for new work: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

- B. No major masonry demolition is expected. If required for new work: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts. Salvage face brick for re-use in patching.

3.07 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Coordinate debris removal with Owner. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.

3.08 CLEANING

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

END OF SECTION
024119

SECTION 078413

PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All of the Contract Documents, including Drawings, Invitation for Bids and Division 1 - General Requirements, apply to the Work of this Section.
- B. Carefully examine all of the Contract Documents for requirements which effect the Work of this Section. The exact scope of Work of this Section cannot be determined without a thorough review of all specification Sections and other Contract Documents.

1.02 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Through-penetration firestop systems for penetrations through fire-resistance-rated constructions, including both empty openings and openings containing penetrating items.
- B. Items To Be Installed Only: Not Applicable.
- C. Items To Be Furnished Only: Not Applicable.
- D. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
 - 1. Section 230000 - HEATING, VENTILATING AND AIR CONDITIONING for piping penetrations.

1.03 PERFORMANCE REQUIREMENTS

- A. General: For penetrations through fire-resistance-rated constructions, including both empty openings and openings containing penetrating items, provide through-penetration firestop systems that are produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated.
- B. F-Rated Systems: Provide through-penetration firestop systems with F-ratings indicated, but not less than that equaling or exceeding fire-resistance rating of constructions penetrated, as determined per ASTM E 814.
- C. For through-penetration firestop systems exposed to view, traffic, moisture, and physical damage, provide products that, after curing, do not deteriorate when exposed to these conditions both during and after construction.
 - 1. For piping penetrations for plumbing and wet-pipe sprinkler systems, provide moisture-resistant through-penetration firestop systems.

2. For floor penetrations with annular spaces exceeding 4 inches in width and exposed to possible loading and traffic, provide firestop systems capable of supporting floor loads involved, either by installing floor plates or by other means.
3. For penetrations involving insulated piping, provide through-penetration firestop systems not requiring removal of insulation.

1.04 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For each through-penetration firestop system, show each type of construction condition penetrated, relationships to adjoining construction, and type of penetrating item. Include firestop design designation of qualified testing and inspecting agency that evidences compliance with requirements for each condition indicated.
 1. Submit documentation, including illustrations, from a qualified testing and inspecting agency that is applicable to each through-penetration firestop system configuration for construction and penetrating items.
- C. Through-Penetration Firestop System Schedule: Indicate locations of each through-penetration firestop system, along with the following information:
 1. Types of penetrating items.
 2. Types of constructions penetrated, including fire-resistance ratings and, where applicable, thicknesses of construction penetrated.
 3. Through-penetration firestop systems for each location identified by firestop design designation of qualified testing and inspecting agency.
- D. Qualification Data: For Installer.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Either a firm that has been approved by FMG according to FMG 4991, "Approval of Firestop Contractors" or a firm experienced in installing through-penetration firestop systems similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction of a minimum of five projects with a record of successful performance. Qualifications include having the necessary experience, staff, and training to install manufacturer's products per specified requirements.
- B. Source Limitations: Obtain through-penetration firestop systems, for each kind of penetration and construction condition indicated, through one source from a single manufacturer.
- C. Fire-Test-Response Characteristics: Provide through-penetration firestop systems that comply with the following requirements and those specified in Part 1 "Performance Requirements" Article:
 1. Firestopping tests are performed by a qualified testing and inspecting agency. A qualified testing and inspecting agency is UL or another agency performing testing and follow-up inspection services for firestop systems acceptable to authorities having jurisdiction.
 2. Through-penetration firestop systems are identical to those tested per testing standard referenced in "Part 1 Performance Requirements" Article. Provide rated systems complying with the following requirements:

- a. Through-penetration firestop system products bear classification marking of qualified testing and inspecting agency.
- b. Through-penetration firestop systems correspond to those indicated by reference to through-penetration firestop system designations listed in the UL "Fire Resistance Directory."

D. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver through-penetration firestop system products to Project site in original, unopened containers or packages with intact and legible manufacturers' labels identifying product and manufacturer, date of manufacture, lot number, shelf life if applicable, qualified testing and inspecting agency's classification marking applicable to Project, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials for through-penetration firestop systems to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

1.07 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install through-penetration firestop systems when ambient or substrate temperatures are outside limits permitted by through-penetration firestop system manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.
- B. Ventilate through-penetration firestop systems per manufacturer's written instructions by natural means or, where this is inadequate, forced-air circulation.

1.08 COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that through-penetration firestop systems are installed according to specified requirements.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate through-penetration firestop systems.
- C. Do not cover up through-penetration firestop system installations that will become concealed behind other construction until each installation has been examined building inspector, if required by authorities having jurisdiction.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, through-penetration firestop systems that may be incorporated into the Work include, but are not limited to, those systems indicated in the Through-Penetration Firestop System Schedule at the end of Part 3.
 - 1. BioFireShield; RectorSeal Corporation.
 - 2. Hilti, Inc.
 - 3. Specified Technologies, Inc. (STI).
 - 4. 3M; Fire Protection Products Division.

2.02 FIRESTOPPING MATERIALS

- A. Compatibility: Provide through-penetration firestop systems that are compatible with one another; with the substrates forming openings; and with the items, if any, penetrating through-penetration firestop systems, under conditions of service and application, as demonstrated by through-penetration firestop system manufacturer based on testing and field experience.
- B. Materials: Provide through-penetration firestop systems containing primary materials and fill materials which are part of the tested assemblies indicated in the Through-Penetration Firestop System Schedule at the end of Part 3. Fill materials are those referred to in directories of referenced testing and inspecting agencies as "fill," "void," or "cavity" materials.
- C. Accessories: Provide components for each through-penetration firestop system that are needed to install fill materials and to comply with Part 1 "Performance Requirements" Article. Use only components specified by through-penetration firestop system manufacturer and approved by qualified testing and inspecting agency for firestop systems indicated

2.03 MIXING

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

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of work. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Surface Cleaning: Clean out openings immediately before installing through-penetration firestop systems to comply with firestop system manufacturer's written instructions and with the following requirements:
 - 1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of through-penetration firestop systems.
 - 2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with through-penetration firestop systems. Remove loose particles remaining from cleaning operation.
 - 3. Remove laitance and form-release agents from concrete.
- B. Priming: Prime substrates where recommended in writing by through-penetration firestop system manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

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

3.03 THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLATION

- A. General: Install through-penetration firestop systems to comply with Part 1 "Performance Requirements" Article and with firestop system manufacturer's written installation instructions and published drawings for products and applications indicated.
- B. Install forming/damming/backing materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
- C. Install fill materials for firestop systems by proven techniques to produce the following results:
 - 1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items as required to achieve fire-resistance ratings indicated.
 - 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
 - 3. For fill materials that will remain exposed after completing Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.04 FIELD QUALITY CONTROL

- A. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.
- B. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.
- C. Where deficiencies are found, repair or replace through-penetration firestop systems so they comply with requirements.
- D. Proceed with enclosing through-penetration firestop systems with other construction only after inspection reports are issued and firestop installations comply with requirements.

3.05 CLEANING AND PROTECTING

- A. Clean off excess fill materials adjacent to openings as Work progresses by methods and with cleaning materials that are approved in writing by through-penetration firestop system manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that through-penetration firestop systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated through-penetration firestop systems immediately and install new materials to produce systems complying with specified requirements.

3.06 THROUGH-PENETRATION FIRESTOP SYSTEM SCHEDULE

CONCRETE FLOORS		UL-CLASSIFIED SYSTEMS			
TYPE OF PENETRANT	F-RATING HR	HILTI	STI	3M	BIO-FIRE
CIRCULAR BLANK OPENINGS	1	FA 0006, CAJ 0070	C-AJ-0094, C-AJ-0100	CAJ 0009	CAJ 0056
	2	FA 0006, CAJ 0070	C-AJ-0094, C-AJ-0100	CAJ 0009	CAJ 0056
	3	CAJ 0055	C-AJ-0014	CAJ 0009	CAJ 0056
SINGLE METAL PIPES OR CONDUIT	1	CAJ 1226, CAJ 1278, FA 1017	C-AJ-1080, C-AJ-1240, F-A-1110	CAJ 1058	CAJ 1264
	2	CAJ 1226, CAJ 1278, FA 1017	C-AJ-1080, C-AJ-1240, F-A-1110	CAJ 1058	CAJ 1264
	3	CAJ 1226, CAJ 1278, FA 1017	C-AJ-1080, C-AJ-1240, F-A-1110	CAJ 1058	CAJ 1264
	4	CAJ 8095, CBJ 1034	C-AJ-1217	CAJ 1044	N/A
SINGLE NON-METALLIC PIPE OR CONDUIT (I.E. PVC, CPVC, ABS, ENT)	1	CAJ 2109, CAJ 2168, FA 2054, FA 2067	C-AJ-2297, F-A-2192, F-A-2210	CAJ 2189, CAJ 2117, CAJ 2027	CAJ 2131
	2	CAJ 2109, CAJ 2168, FA 2054, FA 2067	C-AJ-2297, F-A-2192, F-A-2210	CAJ 2189, CAJ 2117	CAJ 2131
	3	CAJ 2109, CAJ 2168, FA 2054,	C-AJ-2297, F-A-2192	CAJ 2005, CAJ 2117	CAJ 2152
	4	N/A*	C-AJ-2364	N/A*	N/A
SINGLE OR BUNDLED CABLES	1	FA 3007, CAJ 3095,	C-AJ-3154, F-A-3021, F-A-3037	CAJ 3021	CAJ 3103
	2	FA 3007, CAJ 3095,	C-AJ-3154, F-A-3021, F-A-3037	CAJ 3021	CAJ 3103
	3	FA 3007, CAJ 3095,	C-AJ-3154, F-A-3021, F-A-3037	CAJ 3030	CAJ 3103
	4	N/A*	C-AJ-3154, C-AJ-3214	N/A*	N/A
CABLE TRAY	1	CAJ 4034, CAJ 4054, CAJ 4017	C-AJ-4029, C-AJ-4088	CAJ 4003	CAJ 4048
	2	CAJ 4034, CAJ 4054, CAJ 4017	C-AJ-4029, C-AJ-4088	CAJ 4003	CAJ 4048

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3	CAJ 4034, CAJ 4017	C-AJ-4029, C-AJ-4060	CAJ 4003	CAJ 4048
4	N/A*	N/A*	N/A*	N/A

CONCRETE FLOORS (CONTINUED)		UL-CLASSIFIED SYSTEMS			
TYPE OF PENETRANT	F-RATING HR	HILTI	STI	3M	BIO-FIRE
SINGLE INSULATED PIPES	1	FA 5016, FA 5017, CAJ 5090, CAJ 5091,	C-AJ-5079, C-AJ-5087, F-A-5041	CAJ 5080, CAJ 5024, CAJ 5017	CAJ 5082
	2	FA 5016, FA 5017 CAJ 5090, CAJ 5091,	C-AJ-5079, C-AJ-5087, F-A-5041	CAJ 5080, CAJ 5024, CAJ 5017	CAJ 5082
	3	FA5016, CAJ 5061, CAJ 5090,	C-AJ-5079, C-AJ-5029, F-A-5041	CAJ 5024, CAJ 5017	CAJ 5006
	4	CBJ 5006	N/A*	N/A*	N/A
ELECTRICAL BUSWAY	1	CAJ 6006, CAJ 6017	C-AJ-6003, C-AJ-6019	CAJ 6001, CAJ 6002	CAJ 6026
	2	CAJ 6006, CAJ 6017	C-AJ-6003, C-AJ-6019	CAJ 6001, CAJ 6002	CAJ 6026
	3	CAJ 6006, CAJ 6017	C-AJ-6003, C-AJ-6019	CAJ 6001, CAJ 6002	N/A
NON-INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	CAJ 7046 CAJ 7051	C-AJ-7023, C-AJ-7027	CAJ 7003, CAJ 7021	CAJ 7036
	2	CAJ 7046 CAJ 7051	C-AJ-7023, C-AJ-7027	CAJ 7003, CAJ 7021	N/A
	3	CAJ 7046 CAJ 7051	C-AJ-7023, C-AJ-7027	CAJ 7003, CAJ 7021	N/A
MIXED PENETRANTS	1	CAJ 8056, CAJ 8095, CAJ 8099	C-AJ-8093, C-AJ-8113, C-AJ-8181	CAJ 8001, CAJ 8013	CAJ 8051
	2	CAJ 8056, CAJ 8095, CAJ 8099	C-AJ-8093, C-AJ-8113, C-AJ-8181	CAJ 8001, CAJ 8013	CAJ 8051
	3	CAJ 8056, CAJ 8095, CAJ 8099	C-AJ-8093, C-AJ-8113, C-AJ-8181	CAJ 8001, CAJ 8013	CAJ 8051
	4	CAJ 8095	N/A*	N/A*	N/A

CONCRETE OR BLOCK WALLS	UL-CLASSIFIED SYSTEMS
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TYPE OF PENETRANT	F-RATING	HILTI	STI	3M	BIO-FIRE
CIRCULAR BLANK OPENINGS	1	CAJ 0055, CAJ 0070	C-AJ-0094, C-AJ-0100	CAJ 0009	CAJ 0056
	2	CAJ 0055, CAJ 0070	C-AJ-0094, C-AJ-0100	CAJ 0009	CAJ 0056
	3	CAJ 0055	C-AJ-0014	CAJ 0009	CAJ 0056
SINGLE METAL PIPES OR CONDUIT	1	CAJ 1226, CAJ 1278,	C-AJ-1080	CAJ 1058	CAJ 1264
	2	CAJ 1226, CAJ 1278,	C-AJ-1080	CAJ 1058	CAJ 1264
	3	CAJ 1226, CAJ 1278,	C-AJ-1080	CAJ 1058	CAJ 1264
	4	CAJ 8095, CBJ 1034, WJ 1042	W-J-1170	CAJ 1044	WJ 1064
SINGLE NON-METALLIC PIPE OR CONDUIT (I.E. PVC, CPVC, ABS, ENT)	1	CAJ 2109, WJ 2108, WJ 2121	W-J-2076, C-AJ-2297	CAJ 2189, CAJ 2117, CAJ 2027	CAJ 2131
	2	CAJ 2109, WJ 2108, WJ 2121	W-J-2076, C-AJ-2297	CAJ 2189, CAJ 2117, CAJ 2027	CAJ2131
	3	CAJ 2109, CAJ 2168, WJ 2091	C-AJ-2297, W-J-2085	CAJ 2005, CAJ 2117, CAJ 2027	CAJ2152
	4	WJ 2091	W-J-2085, W-J-2217	N/A*	N/A
SINGLE OR BUNDLED CABLES	1	CAJ 3095, WJ 3060 WJ 3074	W-J-3090, W-J-3180	CAJ 3021	WJ 3071
	2	CAJ 3095, WJ 3060 WJ 3074	W-J-3090, W-J-3180	CAJ 3021	WJ 3071
	3	CAJ 3095, WJ 3050	C-AJ-3154, C-AJ-3214	CAJ 3030	CAJ 3103
	4	WJ 3050	C-AJ-3154, C-AJ-3214	N/A*	N/A
CABLE TRAY	1	CAJ 4034, CAJ 4054, WJ 4016,	C-AJ-4029, C-AJ-4088	CAJ 4003	CAJ 4048
	2	CAJ 4034, CAJ 4054, WJ 4016,	C-AJ-4029, C-AJ-4088	CAJ 4003	CAJ 4048
	3	CAJ 4034, WJ 8007	C-AJ-4029, W-J-4068	CAJ 4003	CAJ 4048
	4	WJ 8007	W-J-4066, W-J-4068	N/A*	N/A

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CONCRETE OR BLOCK WALLS (CONT)		UL-CLASSIFIED SYSTEMS			
TYPE OF PENETRANT	F-RATING	HILTI	STI	3M	BIO-FIRE
SINGLE INSULATED PIPES	1	CAJ 5090, CAJ 5091, WJ 5042	W-J-5005, W-J-5012	CAJ 5080, CAJ 5024, CAJ 5017	CAJ 5082
	2	CAJ 5090, CAJ 5091, WJ 5042	W-J-5005, W-J-5012	CAJ 5080, CAJ 5024, CAJ 5017	CAJ 5082
	3	CAJ 5090, CAJ 5091,	C-AJ-5079, C-AJ-5029	CAJ 5024, CAJ 5017	CAJ 5006
	4	WJ 5028, CBJ 5006	W-J-5072	N/A*	N/A
ELECTRICAL BUSWAY	1	CAJ 6006, CAJ 6017	C-AJ-6003, C-AJ-6019	CAJ 6001, CAJ 6002	CAJ 6026
	2	CAJ 6006, CAJ 6017	C-AJ-6003, C-AJ-6019	CAJ 6001, CAJ 6002	CAJ 6026
	3	CAJ 6006, CAJ 6017	C-AJ-6003, C-AJ-6019	CAJ 6001, CAJ 6002	N/A
NON-INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	CAJ 7046, WJ 7029, WJ 7022	W-J-7089, W-J-7005, W-J-7092	CAJ 7003, CAJ 7021	CAJ 7036
	2	CAJ 7046, WJ 7029, WJ 7022	W-J-7089, W-J-7005, W-J-7092	CAJ 7003, CAJ 7021	CAJ 7036
	3	CAJ 7046 CAJ 7051	C-AJ-7023, C-AJ-7027	CAJ 7003, CAJ 7021	N/A
MIXED PENETRANTS	1	CAJ 8096, CAJ 8099 WJ 8007	C-AJ-8093, C-AJ-8113, C-AJ-8181	CAJ 8001, CAJ 8013	CAJ 8051
	2	CAJ 8096, CAJ 8099 WJ 8007	C-AJ-8093, C-AJ-8113, C-AJ-8181	CAJ 8001, CAJ 8013	CAJ 8051
	3	CAJ 8099 WJ 8007	C-AJ-8093, C-AJ-8113, C-AJ-8181	CAJ 8001, CAJ 8013	CAJ 8051
	4	WJ 8007	N/A*	N/A*	N/A

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WOOD FLOORS		UL-CLASSIFIED SYSTEMS			
TYPE OF PENETRANT	F-RATING	HILTI	STI	3M	BIO-FIRE
METAL PIPES OR CONDUIT	1	FC 1009, FC 1059	F-C-1074	FC 1002	FC 1031
	2	FC 1009, FC 1059	F-C-1074	FC 1002	FC 1031
NON-METALLIC PIPE OR CONDUIT	1	FC 2025, FC 2126	F-C-2032, F-C-2157	FC 2024	FC 2059
	2	FC 2025, FC 2126	F-C-2044, F-C-2020	FC 2024	FC 2059
SINGLE OR BUNDLED CABLES	1	FC 3012, FC 3044	F-C-3010	FC 3017	FC 3050
	2	FC 3012	F-C-3013	FC 3017	N/A
INSULATED PIPES	1	FC 5004, FC 5036, FC 5037	F-C-5043	FC 5014	FC 5025
	2	FC 5004	F-C-5043	N/A*	FC 5025
NON-INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	FC 7013	F-C-7014, F-C-7023	FC 7001	
MIXED PENETRANTS	1	FC 8014, FC 8026	F-C-8036, F-C-8045, F-C-8029	FC 8013	N/A
	2	N/A*	F-C-8001	N/A*	N/A

GYPSUM WALLBOARD ASSEMBLIES		UL-CLASSIFIED SYSTEMS			
TYPE OF PENETRANT	F-RATING	HILTI	STI	3M	BIO-FIRE
METAL PIPES OR CONDUIT	1	WL 1054, WL 1164	W-L-1049	WL 1146	WL 1115
	2	WL 1054, WL 1164	W-L-1049	WL 1010, WL 1146	WL 1115
	4	WL 1110	W-L-1171	WL 1001	
NON-METALLIC PIPE OR CONDUIT	1	WL 2078, WL 2075, WL 2128	W-L-2100, W-L-2048, W-L-2237	WL 2088, WL 2002	WL 2133
	2	WL 2078, WL 2075, WL 2128	W-L-2100, W-L-2048, W-L-2237	WL 2088, WL 2002	WL 2133
	4	WL 2184, WL 2245	W-L-2293, W-L-2507	N/A*	
SINGLE OR BUNDLED CABLES	1	WL 3065	W-L-3210, W-L-3377	WL 3032, WL 3030	WL 3153
	2	WL 3065	W-L-3210, W-L-3377	WL 3032, WL 3030	WL 3153
	4	WL 3139	W-L-3211,	N/A*	

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CABLE TRAY			W-L-3377		
	1	WL 4011, WL 4019	W-L-4043, W-L-4079	WL 4004	WL 4032
	2	WL 4011, WL 4019	W-L-4043, W-L-4079	WL 4004	WL 4032
	4	WL 8014	W-L-4076	N/A*	
INSULATED PIPES	1	WL 5029, WL 5096	W-L-5014, W-L-5054, W-L-5091	WL 5040, WL 5001, WL 5032	WL 5062
	2	WL 5029, WL 5096	W-L-5014, W-L-5054, W-L-5091	WL 5040, WL 5001, WL 5032	WL 5062
	4	WL 5073	W-L-5158	N/A*	
NON-INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	WL 7040, WL 7042	W-L-7026, W-L-7149, W-L-7164	WL 7008	WL 7037
	2	WL 7040, WL 7042	W-L-7026, W-L-7149, W-L-7164	WL 7008, WL 7013, WL 7016	WL 7037
MIXED PENETRANTS	1	WL 8004, WL 8013	W-L-8050, W-L-8073	WL 8010	WL 8017
	2	WL 8004, WL 8013	W-L-8050, W-L-8073	WL 8010, WL 8002	WL 8017
	4	WL 8014	N/A*	N/A*	

* No UL-Classified system is available as of August 2003. Engineer Judgment Drawing Required.

NOTES:

1. Jobsite conditions of each through-penetration firestop system must meet all details of the UL-Classified System selected.
2. If jobsite conditions do not match any UL-classified systems in the schedules above, contact firestop manufacturer for alternative systems or Engineer Judgment Drawings.
3. Coordinate work with other trades to assure that penetration-opening sizes are appropriate for penetrant locations, and vice versa.
4. For 3-hour rated gypsum walls, contact the firestop manufacturer for a UL-classified system or engineer judgment drawing.
5. The Contractor shall verify that the schedule is current at the time of construction, and that each referenced system is suitable for the intended application.

END OF SECTION 078413

SECTION 220000

PLUMBING
(Filed Sub-Bid Required)

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SECTION 220000

PLUMBING
(Filed Sub-Bid Required)

PART 1 - GENERAL

1.1 FILING SUB-BIDS

- A. Sub-bids for Work under this Section shall be for the complete Work required hereunder and shall be filed in a sealed envelope with the Awarding Authority before the time and date and at the location indicated in the Instructions to Bidders and at that time will be publicly opened and read aloud.
- B. Procedure for filing Sub-Bids shall be as set forth in the Instructions to Bidders contained in this Project Manual and shall conform to all requirements of the Commonwealth of Massachusetts General Laws, Chapter 149, as amended to date.
- C. Every Sub-Bid submitted for Work under this Section shall be on a form furnished by the Awarding Authority as required by Section 44G of Chapter 149, as amended, which form is required to be completely filled in. A sample bid form for Subcontractors is contained in this Project Manual and the bid form to be used in filing a Sub-Bid is available at the office of the Architect.
- D. Every Sub-Bid filed with the Awarding Authority shall be accompanied by bid security in the form and amount stipulated in the Instructions to Bidders.

1.2 GENERAL PROVISIONS

- A. All the Contract Documents and General Provisions of the Contract including, but not limited to, General and Supplementary Conditions, and Division 1 Specification Sections apply to this Section.
- B. The work of this Section provides and contains general information which is inherently made a part of each Section and applies to all work performed under this Contract.
- C. The Drawings on which this Contract is based are listed in Section 00860. Consult all Drawings, note all conditions that may affect the Work and care for same in executing the Contract.
- D. Refer to Section 012300, Alternates, for alternates, which may affect the work of this Section.

1.3 DESCRIPTION OF WORK

- A. Provide all labor, materials, equipment, services and accessories necessary to furnish and install the work of this Section, complete and functional, as indicated in the Contract Documents and as specified herein.

- B. The work covered by this Section of the Specifications includes the furnishing of all labor and materials and in performing all operations in connection with the installation of the Plumbing Work.
- C. Without limiting the generality thereof, the work to be performed under this Section includes:
 - 1. Natural Gas System.
 - 2. Shop compressed Air System
 - 3. Furnish and install generator exhaust.
 - 4. Testing
 - 5. Drilling, Coring and Cutting & Patching of holes and openings where the largest dimension thereof does not exceed 16 inches for Plumbing Piping and Equipment.
 - 6. Demolition of existing Plumbing Equipment and Disconnecting, Capping, and otherwise making inactive, all existing Plumbing Services in the various areas where Demolition and Removal Work is required; and removing, relocating, and reinstalling existing Plumbing items to the extent specifically noted in the documents. Remove all piping hangers and equipment in accordance with the description in paragraph 1.15.
 - 7. Scaffolding, Rigging, and Staging required for all Plumbing Work. Comply with Division 1 requirements.
 - 8. Smoke and Firestopping Seals and sealing of all wall and floor penetrations as detailed on the drawings. Refer to Section 078400 which defines the firestopping materials and methods.
 - 9. When open-flame or spark producing tools such as blower torches, welding equipment, and the like are required in the process of executing the work, the General Contractor shall be notified not less than twenty four hours in advance of the time that the work is to begin and the location where work is to be performed. Provide fire protective covering and maintain constant non-working fire watch, paying all fees, where work is being performed and until it is completed. Fee for fire watch shall be included in the bid.

1.4 RELATED WORK

- A. The following Related Work will be performed under the designated Sections:
 - 1. Cutting and Patching beyond 1.3C.5 above: SECTION 010450 - CUTTING AND PATCHING
 - 2. Electric Power Wiring: SECTION 260000 - ELECTRICAL
 - 3. Finish Painting: SECTION 099000 - PAINTING

1.5 CODES, ORDINANCES, AND PERMITS

- A. Perform all work in accordance with the requirements of the City of Lowell Building Department, Massachusetts State Plumbing and Fuel Gas Codes, D.E.P., A.D.A., NFPA, The Architectural Barrier Code, and applicable State and Federal Laws. Give all requisite notices, file all requisite plans, and obtain all permits required to perform all Plumbing Work. Where the Contract Documents indicate more stringent requirements than the above Codes and Ordinances, the Contract Documents shall take precedence.
- B. Obtain all permits, inspections, and approvals, from the governing authorities and pay all fees and include cost in the bid.
- C. Owner will pay all related Gas Utility Company back charges.

1.6 DISCREPANCIES IN DOCUMENTS

- A. Where Drawings or Specifications conflict or are unclear, advise Designer in writing before Award of Contract. Otherwise, Designer's interpretation of Contract Documents shall be final, and no additional compensation shall be permitted due to discrepancies or unclarities thus resolved.
- B. Where Drawings or Specifications do not coincide with manufacturers' recommendations, or with applicable codes and standards, alert Designer in writing before installation. Otherwise, make changes in installed work as Designer requires within Contract Price.
- C. If the required material, installation, or work can be interpreted differently from drawing to drawing, or between drawings and specs, this contractor shall provide that material, installation, or work which is of the higher standard.
- D. It is the intent of these contract documents to have the contractor provide systems and components that are fully complete and operational and fully suitable for the intended use. There may be situations in the documents where insufficient information exists to precisely describe a certain component or subsystem, or the routing of a component. In cases such as this, where the contractor has failed to notify the Designer of the situation in accordance with the paragraph above, the contractor shall provide the specific component or subsystem with all parts necessary for the intended use, fully complete and operational, and installed in workmanlike manner either concealed or exposed per the design intent.
- E. In cases covered by the paragraph above, where the contractor believes he needs engineering guidance, he shall submit a sketch identifying his proposed solution and the Designer shall review, note if necessary, and approve the sketch.

1.7 MODIFICATIONS IN LAYOUT

- A. Plumbing and Electrical Drawings are diagrammatic. They indicate general arrangements of mechanical and electrical systems and other work. They do not show all offsets required for coordination nor do they show the exact routings and locations needed to coordinate with structure and other trades and to meet architectural requirements.
- B. In all spaces, prior to installation of visible material and equipment, including access panels, review Architectural Drawings for exact locations and where not definitely indicated, request information from Designer.
- C. Check Contract Drawings as well as Shop Drawings of all subcontractors to verify and coordinate spaces in which work of this Section will be installed.
- D. Maintain maximum headroom at all locations. All piping and associated components to be as tight to underside of structure as possible.
- E. Make reasonable modifications in layout and components needed to prevent conflict with work of other trades and to coordinate according to Paragraphs A, B, C, D above. Systems shall be run in a rectilinear fashion.
- F. Where conflicts or potential conflicts exist and engineering guidance is desired, submit sketch of proposed resolution to Designer for review and approval.

1.8 SHOP DRAWING AND MATERIAL SCHEDULES

- A. Refer to SECTION 013000 - SUBMITTALS for submittal of Shop Drawings. If apparatus or materials are substituted for those specified, and such substitution necessitates changes in or additional connections, piping, supports or construction, same shall be provided as the responsibility, and at the expense, of the Plumbing Subcontractor.
- B. Fabrication of any material or performing of any work prior to the final approval of the Submittals will be entirely at the risk of the Subcontractor. The Subcontractor is responsible for furnishing and installing materials called for in the Contract Documents, even though these materials may have been omitted from approved Submittals.
- C. Submit Shop Drawings for the following materials and equipment.
 - 1. Valves, Piping, couplings and Fittings
 - 2. Hangers, Anchors, Guides, and Supports
 - 3. Piping Identification System
 - 4. Generator exhaust

1.9 RECORD DRAWINGS

- A. General: Refer to DIVISION 01 - GENERAL REQUIREMENTS for general requirements for maintaining as-built drawings and submitting final reproducible record documents.
- B. The General Contractor will provide two sets of Drawings to the Plumbing Subcontractor, one set of which shall be maintained at the site and which shall, at all times, be accurate, clear, and complete, showing the actual locations of all equipment and piping as it is being installed. The Record Drawings shall be available to the Architect/Engineer's field representative at all times.
- C. Provide electronic AutoCAD drawings to indicate revisions to piping size and location both exterior and interior; including locations of valves and other equipment requiring periodic maintenance or repair; actual equipment locations, dimensioned from column lines; concealed equipment, dimensioned to column line; mains and branches of piping systems, with valves and control devices located and numbered, concealed unions located, and with items requiring maintenance located.
- D. Include in the Record Drawings any addenda, sketches, and supplementary Drawings issued during the course of construction.
- E. Non-availability of Record Drawings or inaccuracies therein will postpone the final inspection until they are available.
- F. All costs related to the foregoing requirements shall be paid by the Plumbing Subcontractor.

1.10 OPERATING INSTRUCTIONS AND MAINTENANCE MANUALS

- A. Provide operating instructions to the Owner's designated representative with respect to operation functions and maintenance procedures for all equipment and systems installed. At the completion of the project, turn over to the Architect four (4) complete manuals, in three-ring, loose-leaf binders, containing the following:
 - 1. Complete Shop Drawings of all equipment.
 - 2. Operation description for all systems.

3. Names, addresses, and telephone numbers of all suppliers of the system.
4. Preventative maintenance instructions for all systems.
5. Spare parts lists of all system components.
6. Provide USB Drive with electronic copies of Items 1-5 above.

- B. Provide USB Drive for O & M Manual submittal. O&M's shall be saved on BMS server and provide a Control page weblink to O&Ms.

1.11 GUARANTEE

- A. Refer to Division 1 of the Contract. Guarantee all work under this Section free from defects in workmanship and materials for a period of one (1) year from the date of final acceptance of the building, as set forth in the Contract. Replace any such defective work developing during this period, unless such defects are clearly the result of bad usage of equipment by others. Where such defective work results in damage to work of other Sections of the Specifications, restore such work to its original condition by mechanics skilled in the affected trade.

1.12 DRAWINGS

- A. All work shown on the Drawings is intended to be approximately correct to scale, but shall be taken in a sense as diagrammatic. Sizes of pipes and general method of running them are shown, but it is not intended to show every offset and fitting. To carry out the true intent and purpose of the plans, furnish all necessary parts to make complete working systems ready for use.
- B. The Plumbing Drawings and Specifications are intended to supplement each other so that any details shown on the Drawings and not mentioned in the Specifications, or vice-versa, shall be executed the same as if mentioned in the Specifications and shown on the Drawings.
- C. Refer to the Electrical Drawings, which indicate the construction in which this Work shall be installed. Locations shown on the plans shall be checked against the general and detailed Drawings of the construction proper. All measurements shall be taken at the Building.

1.13 PIPE MARKER IDENTIFICATION SYSTEM

- A. Mark all piping installed under this Section and at all Access Panels with a marking system in basic colors conforming to those specified in ANSI/ASME A-13.1. Markings shall indicate pipe content and direction of flow. Markers shall be applied at all valves and tee joints, and on straight runs of pipe at every 20 ft.-0 in. on center.
- B. Markers shall be vinyl snap-around pipe type system. Adhesive markings are not acceptable.
- C. Clearly mark gas system with 4 inch wide colored bands, with arrow for direction of flow, every twenty-five (25) feet on center on all piping installed whether it is concealed or exposed and also on both sides of floor and/or wall penetrations. Mark gas piping yellow. Within 6 in. of each band identify with letters "GAS." Color of letter shall match banding.

1.14 FUEL GAS SYSTEM

- A. Furnish and install a complete Natural Gas Supply System including pipe, fittings, valves, connections to all gas fired equipment requiring gas, and all accessories and incidentals as indicated or specified. Installation shall be made in accordance with the State Gas Code requirements. Piping shall be installed with an 8 in. long sediment leg at the base of all risers. All changes in direction shall be made with plugged tees for cleaning piping out.
- B. All horizontal Gas Piping shall be pitched not less than 1/4 in. in 15 ft. to prevent traps. Pitch piping to risers. Install an 8 in. long sediment leg at the base of all risers. All changes in direction shall be made with plugged tees for cleaning piping out. All horizontal branch outlet pipes shall be taken from the top or side of horizontal mains and not from the bottom. Install shutoff valves for each battery of equipment and other valves as necessary to isolate any part of each system.
- C. Where interior gas vented appliances are provided provide a battery powered, carbon monoxide detector adjacent to the appliance.
- D. Arrange with the Local Gas Company for the installation of the gas meters, services, and gas pressure regulators. Refer to DIVISION 01 - GENERAL REQUIREMENTS for information regarding Utility Company Charges.
- E. Plumbing Sub-Contractor shall furnish and install all gas vents for all knockdown regulators whether furnished by this Section, HVAC, or any other Section.
- F. Gas to the Emergency Generator shall be installed according to the following:
 - 1. A dedicated fuel line shall be installed for the Generator immediately downstream of the meter assembly.
 - 2. The fuel line for the Emergency Power Generator and the fuel line for the remaining appliances shall each have a separate shut off valve installed immediately downstream of the meter to enable each line to operate independently.
 - 3. The fuel line for the Emergency Power Generator shall be labeled at the shut off valve on each side of the wall it penetrates, floor, and every 10 ft. along its run with the following:

WARNING: Emergency Power Generator. Do not shut off without the approval of appropriate authorities.

1.15 DEMOLITION

- A. When and as directed by the General Contractor perform all demolition work.
- B. All hangers, valves, piping, and other miscellaneous equipment and materials in the existing building not specifically designated for reuse in the documents shall remain the property of the Owner.
- C. Remove as indicated existing Plumbing piping and equipment including all hangers and supports and disconnect all Plumbing connections to equipment to be removed under other Sections of the Specifications. Clean, recondition, and relocate where indicated all items to be reused.
 - 1. Carefully remove equipment and deliver in good condition to an on-site location designated by the Architect. The Owner will review all the fixtures and trim and select the items to be kept and the items to be disposed. The disposal of all items not wanted by Owner is specified by the Demolition Section.
 - 2. In cases where main piping is to remain, remove all existing piping to equipment being removed and cap said piping back to riser or main. All caps or plugs to be installed shall be of like material as pipe being capped or plugged.

3. All piping, valves, hangers, and fittings shall be removed from ceiling and walls as indicated and placed on the floor by this Section. The General Contractor shall remove from the floor and dispose.
4. Any disputes between this Subcontractor and other Contractors or Subcontractors relative to the responsibility for removal of equipment shall be referred to the Architect for decision. The Architect's decision shall be firm and binding and to whomever he designates responsibility for removal of equipment shall do so without any additional cost to the Owner.

1.16 PAINTING

- A. All interior exposed piping is to be painted and all painting, except as noted, will be done by the Painting Subcontractor. All uncovered piping and hangers shall be thoroughly cleaned of rust, oil, and other containments by the Plumbing Subcontractor and left ready to receive primer coat.
- B. Painting for pipe markings shall be done under this Section.
- C. Painting of exterior gas piping at gas meter shall be done under this Section.

1.17 HOISTING EQUIPMENT AND MACHINERY

- A. Unless otherwise specified, all hoisting and rigging equipment and machinery required for the proper and expeditious prosecution and progress of the Work of this Section shall be furnished, installed, operated and maintained in safe condition by each sub-contractor, as specified under Section 015000, TEMPORARY FACILITIES AND CONTROLS.

1.18 STAGING AND SCAFFOLDING

- A. Unless otherwise specified, each sub-contractor shall provide all lifts and man-lifts, and furnish, erect and maintain in safe condition, all staging and scaffolding as specified under Section 015000 Temporary Facilities and Controls, as needed for proper execution of the work of this Section. Staging and scaffolding shall be of adequate design, erected and removed by experienced stage builders having all accident prevention devices required by Federal, state and local laws.

1.19 BREAKDOWN

- A. Submit a breakdown of the contract price to aid the Architect in determining the value of the work installed as the job progresses.
- B. No requisition will be approved until the breakdown is delivered to the Architect.

1.20 VISIT TO SITE

- A. Prior to submitting a Bid, visit the site of work and become familiar with existing conditions. Any assumptions made are at this Subcontractor's expense.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All materials and equipment furnished under this SECTION shall be new, unused, first quality of a manufacturer of established reputation. Each valve, fitting, section of pipe, and piece of equipment supplied to project shall have cast or indelibly stamped thereon the manufacturer's name, pressure rating where applicable, type, and any other specific information provided by manufacturer. Materials shall conform to Massachusetts Code as a minimum.

2.2 PIPE AND FITTINGS

- A. Pipe and fittings shall conform to the latest A.S.A., A.S.T.M., C.A., and F.S. standards.
- B. All piping installed under this SECTION shall be in accordance with the following:

<u>Service</u>	<u>Material</u>
Gas piping above ground	ASTM A-53 Schedule 40 black steel pipe
Gas piping below ground	ASTM A-53 Schedule 40 black steel pipe with fusion bonded epoxy coating Scotchkote 6233 or equal.

- C. Fittings for gas piping 2-inch and smaller shall be threaded malleable iron gas pattern fittings for screwed pipe. All elevated pressure gas piping regardless of size and low pressure gas piping 2 ½ inch in size and larger shall be welded and shall utilize butt welded steel pipe fittings.

2.3 JOINTS

- A. Threaded pipe joints including plastics shall be made up with teflon tape.
- B. Joints on screwed gas piping shall be made up with thread compound on male threads only. Welded joints shall be made up by certified welders. All joints on piping 2-1/2 in. and larger, and on emergency generator exhaust regardless of size shall be welded. Joints for plastic gas piping shall be performed by the heat fusion method by Mass. Certified Technicians.

2.4 VALVES

- A. Furnish and install valves where indicated on the Drawings or where specified and located so that they may be operated, repaired, or replaced with a minimum effort and repacked under pressure.
- B. The following list of valves is intended only as a guide for type and quality. Valves shall be as manufactured by Apollo, Milwaukee, Nibco, Elkhart, Watts, Victaulic, or approved equal.

Gas service stops,	Apollo #70-102-07 through
--------------------	---------------------------

2 in. and smaller #70-108-07 with tee handle

Gas service stops,
2-1/2 in. and larger Rockwell #143 lubricated
plug valve

2.5 INSULATION

- A. Emergency Generator Exhaust System shall be insulated with three (3) layers of 2 in. thick calcium silicate block (6 in. total) wired in place and covered with ½ in. thick finishing cement troweled smooth and covered with an 8 oz. Canvas jacket.

2.6 PIPING ACCESSORIES

- A. Natural gas system pressure gauges shall be 4 inch diameter with a range of 0 to 30 inches of water as manufactured by Weiss Instruments, U.S. Gauge, Trerice or equal.

2.7 SUPPLEMENTARY STEEL, CHANNEL, AND SUPPORTS

- A. Furnish and install all supplementary steel, channels, and supports required for the proper installation, mounting, and support of all equipment.
- B. Supplementary Steel and Channels shall be firmly connected to building construction in a manner approved by the Architect.
- C. The type and size of the Supporting Channels and Supplementary Steel shall be determined by the Plumbing Subcontractor and shall be sufficient strength and size to allow only a minimum deflection in conformance with the manufacturer's requirements for loading.
- D. All Supplementary Steel and Channel shall be installed in a neat and workmanlike manner parallel to the walls, floor, and ceiling construction. All turns shall be made with 90 deg. fittings, as necessary to suit the construction and installation conditions.

2.8 HANGERS, ANCHORS, GUIDES, AND PIERS

- A. All piping shall be supported from the Building Structure by means of approved hangers and supports. Piping shall be supported to maintain required grading and pitching of lines, to prevent vibration, and to secure piping in place, and shall be so arranged as to provide for expansion and contraction.
- B. Hangers shall not be installed directly into the roof deck. Provide supplementary steel per paragraph 2.13 above as required to support piping from structure.
- C. The spacing for hangers for horizontal piping shall be in accordance with the following:
 - 1. Steel Pipe: 10 ft.-0 in. o.c. for 1-1/2 in. and over; 8 ft. - 0 in. for 1-1/4 in.; 6 ft. – 0 in. for 1 in. and smaller.
- D. Hanger rod diameter shall be as follows:

Pipe Size	Rod Diameter
-----------	--------------

1/2 in. thru 2 in.	3/8 in.
2-1/2 in. and 3 in.	1/2 in.
4 in. and 5 in.	5/8 in.
6 in.	3/4 in.
8 in. and over	7/8 in.

- E. Vertical lines shall be adequately supported at their bases by a suitable hanger placed in the horizontal line near the riser and at every 10 ft. interval.
- F. All Hangers shall be adjustable Clevis Hanger. Hanger rods shall have machine threads. Malleable iron brackets of approved type shall be used along the walls. All Hangers for copper tubing shall be copper plated except where pipe is insulated, in which case, Steel Clevis Hanger and pipe shield shall be used.
- G. Piping shall not be hung from the hangers of other trades.
- H. Hangers shall be manufactured by Grinnell, Carpenter and Paterson, Fee and Mason, or equal.
- I. Wire and strap hangers will not be permitted in this installation.

2.9 UNION AND NIPPLES

- A. All close and shoulder nipples shall be corresponding materials as the pipe and shall be extra heavy.

2.10 GENERATOR EXHAUST BREECHING

- A. The exhaust vents for emergency generators shall be double-wall type 316 stainless steel, factory-built type for use on emergency generators. The pressure rated chimney shall be provide with 4-inch ceramic insulation. Maximum temperature shall be 1,400°F continuous. All parts exposed to the weather shall be stainless steel.
- B. All supports, roof or wall penetrations, terminations, appliance connectors and drain fittings, required to install the vent system shall be included. Roof penetration pieces shall be UL listed and provided by the vent manufacturer.
- C. All inner vent connections shall be secured by means of profiled connector bands with gear clamp tighteners. Joints shall be sealed with waterproof sealant. Where exposed to weather, the outer closure band shall be sealed to prevent rainwater from entering the space between inner and outer walls.
- D. Vent shall terminate in accordance with installation instructions and local codes.
- E. Manufacturers: Subject to compliance with requirements, provide all steel, insulated, positive pressure double wall vents of one of the following:
 1. Metal-Fab, IPIC-4
 2. DuraVent
 3. Selkirk

4. or equal

2.11 CARBON MONOXIDE DETECTORS

- A. Where interior gas vented appliances are provided provide a battery powered, carbon monoxide detector adjacent to the appliance.
- B. Detector shall be installed per manufacturer's installation requirements.
- C. Detector shall be manufactured as follows or approved equal:
 - 1. Defender CA6100
 - 2. Kidde Model C3010
 - 3. First Alert CO910

2.12 WATERTIGHT FOUNDATION LINK SEAL

- A. Use a mechanical seal, consisting of rubber links shaped to continuously fill the annular space between the pipe and the wall opening.
- B. Link-Seal pressure plates shall be molded of glass reinforced nylon. Hardware shall be 316 Stainless Steel, Per ASTM F593-95 Tensile Strength = 85,000 psi, average. Coloration shall be throughout elastomer for positive field inspection.
- C. Each link shall have permanent identification of the size and manufacturer's name molded into the pressure plate and sealing element.
- D. The contractor will submit to verify the modular seals are domestically manufactured at a plant with a current ISO-9001:2000 registration.
- E. Modular mechanical seals shall be manufactured by EnPro Industries, Trumbull, Eaton, Pipeline Seal & Insulator, or approved equal.

2.13 FIRESTOP SYSTEMS

- A. General: Provide firestopping at all new fire-rated construction where penetrated by the Work of this Section.
- B. Refer to Section 078400 - Firestopping, for all product requirements for maintaining integrity of fire-rated construction at penetrations.

2.14 SCAFFOLDS AND STAGING

- A. General: Trade Contractors shall obtain required permits for, and provide scaffolds, staging, and other similar raised platforms, required to access their Work as specified in Section 01 50 00 - Temporary Facilities and Controls and herein.
 - 1. Scaffolding and staging required for use by this Trade Contractor pursuant to requirements of Section 01 50 00 - Temporary Facilities and Controls shall be furnished, erected, maintained in a safe condition, and dismantled when no longer required, by this Trade Contract requiring such scaffolding.

2. Each Trade Contractor is responsible to provide, maintain and remove at dismantling, all tarpaulins and similar protective measures necessary to cover scaffolding for inclement weather conditions other than those required to be provided, maintained and removed by the General Contractor pursuant to MGL (Refer to Section 01 50 00 - Temporary Facilities and Controls and as additionally required for dust control).
3. General Contractor is responsible to provide enclosures required for temporary heat; refer to Section 01 50 00 - Temporary Facilities and Controls.
 - a. Furnishing portable ladders and mobile platforms of all required heights, which may be necessary to perform the work of this trade, are the responsibility of this Trade Contractor.

2.15 HOISTING MACHINERY AND EQUIPMENT

- A. All hoisting equipment, rigging equipment, crane services and lift machinery required for the work by this Trade Contractor shall be furnished, installed, operated and maintained in safe conditions by this Trade Contractor, as referenced under Section 01 50 00 - Temporary Facilities and Controls.

PART 3 - EXECUTION

3.1 WORKMANSHIP AND INSTALLATION METHODS

- A. All work shall be installed in a first-class manner consistent with the best current practices. All materials shall be securely installed plumb and/or level, and all flush mounted equipment shall have front edge flush with finished wall surface.
- B. All piping above ceilings or exposed shall be grouped together, be parallel to each other, and be either parallel or perpendicular to the structure. Utilize gang hangers wherever feasible. Group all valves together where feasible.

3.2 WORK COORDINATION AND JOB OPERATIONS

- A. The equipment shall not be installed in congested and possible problem areas without first coordinating the installation of same.
- B. Particular attention shall be directed to the coordination of piping and other equipment installed in the ceiling areas.
- C. Furnish to the General Contractor, and all other Subcontractors, all information relative to the portion of the Plumbing installation that will affect them, sufficiently in advance so that they may plan their work and installation accordingly.
- D. In case of failure to give proper information as indicated above sufficiently in advance, pay for all back-charges for the modification, renovation, and relocation of any portion of the work already performed.
- E. Obtain from the other trades, all information relative to the Plumbing Work to be executed in conjunction with the installation of their respective equipment.

3.3 CUTTING AND CORE DRILLING

- A. Perform all cutting and core drilling operations that are outlined in Part 1 of this SECTION. Throughout the performance of the cutting and coring work, ensure that the structural integrity of the walls, floors, overhead structure, and other structural components, which are to remain, is maintained until permanent work is installed. Prior to any coring or cutting, verify all locations of same with the General Contractor. All cutting and coring is to be performed in accordance with approved Coordination Drawings
- B. Cut all masonry and concrete with an approved diamond blade concrete saw in a neat straight direction, perpendicular to the plane of the wall or floor.
- C. Use a core drilling process which produces clean, sharp edges and the minimum hole size which will accommodate the size of pipe sleeve specified. Submit procedures for cutting thru existing steel beams to Architect for review.
- D. The patching of holes shall be performed by Plumbing Sub-contractor utilizing methods outlined for the finish trade involved. Holes shall be patched to the satisfaction of the Architect.

3.4 CLEANING AND PROTECTION

- A. Protect all materials and equipment during shipment and so as to prevent damage. Assume full responsibility for protection of work until its completion and final acceptance.
- B. Keep the premises reasonably clean at all times and remove rubbish caused by the Plumbing Work as directed by the Architect.
- C. Upon completion of this work, clean all equipment installed herein and replace damaged parts. Failure to fulfill this obligation will result in back-charges for correction of the defective work.

3.5 SLEEVES, INSERTS, AND ESCUTCHEONS

- A. All piping passing through slabs, floors, walls, partitions, foundation walls and grade beams, shall be sleeved and all such sleeves shall be furnished and installed by the Plumbing Subcontractor as detailed on the Drawings and herein specified. Set sleeves in concrete floors and walls as soon as forms are set and before concrete is poured. Core drilling openings shall have a sleeve caulked and grouted in place.
- B. The space between sleeve and pipe in all cases shall be filled with a U.L./F.M. approved caulking compound. This includes pipes concealed in chases and/or partitions.
- C. Inserts where required shall be furnished and set by the Plumbing Subcontractor and where necessary may be drilled or power driven and shall be sized such that the insert will not exceed a depth of penetration of 1 in. into concrete.

3.6 TESTING

- A. Test all Work in the presence of the Architect and/or Engineer and as required by Local Codes.
- B. Test gas piping per State Gas Code.

- C. Any leaks in joints or evidence of defective pipe on fittings disclosed by test shall be immediately corrected by replacing defective parts with new joints or materials. No makeshift repair effected by caulking threaded pipe with lead wool, application or Wilky or patented compounds will be permitted.
- D. Provide testing report for all systems tested.

3.7 INSTALLATION OF FIRESTOP SYSTEMS

- A. General: Install firestop systems at all fire-rated construction where penetrated by the Work of this Section.
- B. Refer to Section 078400 - Firestopping, for all installation requirements for maintaining integrity of fire-rated construction at penetrations.

3.8 SYSTEM SHUTDOWNS

- A. Coordinate shutdowns of existing systems with the Owner and submit a written request at least ten working days in advance. Minimize system shut downs as much as possible. Submit a list of all affected areas, the proposed work to be performed, and the expected length of the shut-down including time for retesting.
- B. Provide temporary services to maintain active system during extended shut-downs as required for demolition and construction phasing.

END OF SECTION

SECTION 23 00 00

HVAC

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SECTION 23 00 00

HVAC

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the Contract and General conditions and all Sections within Division 01 – GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements that affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.
- E. The Bidder for the work shall list in the designated area of the GENERAL BID PRICING FORM, the name of each person, firm, or corporation, whom he proposes to use to perform the following classes of work or part thereof, at the bid price therefore: None

1.02 SECTION INCLUDES

- A. The work described herein shall be interpreted as work to be done by the HVAC contractor. Work to be performed by other trades will always be specifically referenced to that trade.
- B. Furnish all staging, rigging, temporary supports, labor and materials to perform all operations in connection with the installation of the HVAC work.
- C. Without limiting the generality thereof, the work to be performed under this section includes the following major sub systems:
 - 1. Ductwork and Accessories
 - 2. Standalone Temperature Control System
- D. Include the following work as needed to perform the work of this section.
 - 1. Temporary facilities, including but not limited to stairs and ladders, staging, scaffolding, chutes and hoisting.

1.03 RELATED SECTIONS

- A. The following work is included in other sections. Coordinate the work of this section as required per those sections.
- B. For power wiring of mechanical equipment refer to Electrical Drawings.
- C. Refer to Architectural drawings and specifications for further information.

1.04 CODES, ORDINANCES, AND PERMITS

- A. Perform all work in accordance with the requirements of Lowell Building Department, State Building Code and applicable State and Federal Laws. Give all requisite notices, file all requisite plans, and obtain all permits required to perform HVAC Work.
- B. Permits: Be responsible for filing documents, and securing of inspection and approvals. Pay all local connection and permit fees.

1.05 QUALITY ASSURANCE

- A. Codes and Standards:
 - 1. FM Compliance: Provide control devices and control sequences in accordance with requirements of Factory Mutual System (FM).
 - 2. IRI Compliance: Provided control devices and control sequences in accordance with requirements of Industrial Risk Insurance (IRI).
 - 3. UL and NEMA Compliance: Provide electrical components required as part of air handling units, which have been listed and labeled by UL and comply with NEMA standards.
 - 4. NEC Compliance: Comply with National Electrical Code (NFPA 70) as applicable to installation and electrical connections of ancillary electrical components of air handling units.
- B. Automatic Temperature Control Contractor Qualifications: Branch Factory Owned Authorized dealers specializing in manufacturing and installation of control system for not less than 5 years.
 - 1. Codes and Standards:
 - A. Electrical Standards: Provide electrical components of control systems which have been UL-listed and labeled, and comply with NEMA standards.
 - B. NFPA Compliance: Comply with NFPA 90A "Standard for the Installation of Air Conditioning and Ventilating Systems" where applicable to controls and control sequences.

1.06 HAZARDOUS MATERIALS

- A. The HVAC Contractor shall be responsible for removing and legally disposing of any and all hazardous waste associated with HVAC new and existing systems, including but not limited to:
 - 1. Un-used excess material such as adhesives used in ductwork installations.
 - 2. Items specifically noted on drawings.

1.07 DISCREPANCIES IN DOCUMENTS

- A. Where Drawings or Specifications conflict or are unclear, advise Architect in writing before Award of Contract. Otherwise, Architect's interpretation of Contract Documents shall be final, and no additional compensation shall be permitted.
- B. Where Drawings or Specifications do not coincide with manufacturers recommendations, or with applicable codes and standards, alert Architect in writing before installation.
- C. If the required material, installation, or work can be interpreted differently from drawing to drawing, or between drawings and specs, this contractor shall provide that material, installation, or work which is of the more stringent.

- D. It is the intent of these contract documents to have the contractor provide systems and components that are fully complete and operational and fully suitable for the intended use. There may be situations in the documents where insufficient information exists to precisely describe a certain component or subsystem, or the routing of a system. In cases such as this, where the contractor has failed to notify the Architect of the situation in accordance with Paragraph (A) above, the contractor shall provide the specific component or subsystem with all parts necessary for the intended use, fully complete and operational, and installed in workmanlike manner.

1.08 CONTRACT DRAWINGS

- A. All work shown on the drawings is intended to be approximately correct to scale, but shall be taken in a sense as diagrammatic. Sizes of ductwork and pipes and general method of running them are shown, but it is not intended to show every offset and fitting. To carry out the true intent and purpose of the plans, furnish all necessary parts to make complete working systems ready for use.
- B. The HVAC Drawings and Specifications are intended to supplement each other so that any details shown on the Drawings and not mentioned in the Specifications, or vice-versa, shall be executed the same as if mentioned in the Specifications and shown on the Drawings.
- C. Refer to the Architectural, Structural, Mechanical, Plumbing, Fire Protection and Electrical Drawings which indicate the construction in which this work shall be installed. Locations shown on the plans shall be checked against the general and detailed Drawings of the construction proper. All measurements must be taken at the building.

1.09 ACCESSIBILITY

- A. Install equipment and materials to provide required access for servicing and maintenance as well as code required clearances. Coordinate the final location of concealed equipment and devices requiring access with final location of required access panels and doors. Allow ample space for removal of all parts that require replacement or servicing.
- B. Extend all grease fittings to an accessible location.

1.10 ROUGH IN

- A. Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected.

1.11 PHASING

- A. The mechanical contractor shall construct the subject project in phases as directed by the Architect to suit the project progress schedule, as well as the completion date of the project.

1.12 DEMOLITION

- A. Where existing ductwork is called to be removed, it shall include all associated hangers, insulation, controls, dampers and all associated appurtenances.
- B. This contractor shall disconnect, lower to floor, and remove from the building and dispose of in a legal manner.

1.13 MECHANICAL INSTALLATIONS

- A. Coordinate mechanical equipment and materials installation with other building components before installing.
- B. Verify all dimensions by field measurements.

- C. Sequence, coordinate, and integrate installations of mechanical materials and equipment for efficient flow of the work.
- D. Where mounting heights are not detailed or dimensioned, install mechanical services and overhead equipment to provide the maximum headroom possible.
- E. Install mechanical equipment to facilitate maintenance and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.

1.14 SUBMITTALS

- A. General: Refer to DIVISION 1, General Requirements for submittal of product data, shop drawings and other materials for review by the Architect and their Consultants. The following paragraphs supplement the requirements of that section.
- B. Submittal of Shop Drawings, product data, and samples will be accepted only when submitted by the General Contractor. Data submitted by Contractors and material suppliers directly to the Architect/Engineer will not be processed.
- C. Submittal requirements specific to the Work of this Section include the following:
 - 1. Hangers and Attachments
 - 2. Metal Ductwork
 - 3. Ductwork Accessories
 - 4. Automatic Temperature Controls
- D. If a Shop Drawing is not accepted after two submissions, a third submission from the same manufacturer will not be considered.
- E. Check Shop Drawings and other submittals to assure compliance with contract documents before submittal to A/E.
- F. Review of Shop Drawings is final and no further changes shall be considered without written application. Shop Drawings review does not apply to quantities, nor relieve this Contractor of his responsibility for furnishing materials or performing his work in full compliance with these Contract Drawings and Specifications. Review of these shop drawings shall not be considered a guarantee of the measurements of this building or the conditions encountered.

1.15 SUBSTITUTIONS

- A. Refer to DIVISION 1, General Requirements for requirements in requesting substitutions. The following paragraphs supplement the requirements of that section.
- B. If materials or equipment are substituted for basis of design specified items that alter the systems shown or its physical characteristics, or which have different operating characteristics, clearly note the alterations or difference and call it to the attention of the Architect/Engineer. Any and all substitutions are required to meet the specification and drawing requirements. Contractor shall be responsible for coordinating dimensional fit of equipment that varies from basis of design equipment. Under no circumstances shall substitutions be made unless material or equipment has been successfully operated for at least three consecutive years.
- C. Any modifications to the design, as a result of approving a substitution from the basis of design equipment, shall be the responsibility of this contractor. Any additional cost to this contractor or any other contractor, directly or indirectly, as a result of such substitutions, shall be the responsibility of this contractor.

1.16 PRODUCT LISTING

- A. Prepare listing of major mechanical equipment and materials for the project.
- B. Provide all necessary information.
- C. Submit to the A/E through the General Contractor, within 20 days of signing contract, this listing indicating all equipment and manufacturers, as a part of the submittal requirement. If the product list is not submitted, it will be the responsibility of the contractor to submit one of the three named equal manufacturers.
- D. When two or more items of same material or equipment are required they shall be of the same manufacturer. Product manufacturer uniformity does not apply to raw materials, bulk materials, pipe, tube, fittings (except flanged and grooved types), sheet metal, wire, steel bar stock, welding rods, solder, fasteners, motors for dissimilar equipment units, and similar items used in work, except as otherwise indicated.
- E. Provide products, which are compatible within systems and other connected items.

1.17 NAMEPLATE DATA

- A. Provide permanent operational data nameplate on each item of power operated mechanical equipment, indicating manufacturer, product name, mode, number, serial number, capacity, operating, and power characteristics labels of tested compliances, and similar essential data. Locate nameplates in an accessible location.

1.18 DELIVERY, STORAGE AND HANDLING

- A. Refer to Section General Conditions for delivery, storage, and handling of equipment. The following paragraphs supplement the requirements of Section General Conditions.
- B. Deliver products to project properly identified with names, model numbers, types, grades, compliance labels, and similar information needed for distinct identifications; adequately packaged and protected to prevent damage during shipment, storage, and handling.
- C. Store equipment and materials at the site, unless off-site storage is authorized in writing. Protect stored equipment and materials from damage and seal open ended ducts and pipes to prevent dust and debris from entering them.
- D. Coordinate deliveries of mechanical materials and equipment to minimize construction site congestion. Limit each shipment of materials and equipment to the items and quantities needed for the smooth and efficient flow of installations.

1.19 RECORD DOCUMENTS

- A. General: Refer to DIVISION 1, General Requirements for general requirements for maintaining as-built drawings and submitting final reproducible record documents. The following paragraphs supplement the above.
- B. Provide Record Drawings for the Work of this Section and include the following: Provide electronic AutoCAD drawings and hard copy to indicate revisions to piping and ductwork, size and location both exterior and interior; including locations of coils, balancing and control, dampers, isolation and control valves, and other control devices, filters, boxes, and similar units requiring periodic maintenance or repair; actual equipment locations, concealed equipment, mains and branches of piping systems, with valves and control devices located and numbered, concealed unions located, and with items requiring maintenance located.

1.20 OPERATION AND MAINTENANCE DATA

- A. General: Refer to DIVISION 1, General Requirements for general requirements for submittal of operations and maintenance manuals, training of personnel and related closeout procedures. The following paragraphs supplement the requirements of that section.
- B. Closeout procedures specific to the Work of this Section include the following:
 - 1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of all replaceable parts.
 - 2. Manufacturer's printed operating procedures to include start-up, break-in, routine and normal operating instructions; regulation, control, stopping, shut-down, and emergency instructions; and user summer and winter operating instructions.
 - 3. Maintenance procedures for routine preventative maintenance and trouble-shooting; disassembly, repair, and reassembly; aligning and adjusting instructions.
 - 4. Servicing instructions and lubrication charts and schedules.

1.21 WARRANTIES

- A. The contractor shall provide a one year minimum warrantee on all product (unless otherwise stated in the product specification for a specific product) and labor for work under this section. Refer to general requirements for additional warranty requirements.

1.22 STAGING AND SCAFFOLDING

- A. Unless otherwise specified, each contractor shall provide all lifts and man-lifts, and furnish, erect and maintain in safe condition, all staging and scaffolding as needed for proper execution of the work of this Section. Staging and scaffolding shall be of adequate design, erected and removed by experienced stage builders having all accident prevention devices required by Federal, state and local laws.

PART 2 PRODUCTS

2.01 HANGERS & ATTACHMENTS

- A. Hanger-Rod Attachments:
 - 1. General: Except as otherwise indicated, provide factory-fabricated hanger-rod attachments complying with MSS SP-58, of one of the following MSS types listed, selected by Installer to suit horizontal-pipe hangers and building attachments, in accordance with MSS SP-69 and manufacturer's published product information. Use only one type by one manufacturer for each piping service. Select size of hanger-rod attachments to suit hanger rods. Provide copper-plated hanger-rod attachments for copper-piping systems.
 - A. Steel Turnbuckles: MSS Type 13.
 - B. Swivel Turnbuckles: MSS Type 15.
 - C. Malleable Iron Sockets: MSS Type 16.
 - D. Manufacturer: Subject to compliance with requirements, provide hangers and supports of one of the following:
 - E. Carpenter and Patterson, Inc.
 - F. Corner & Lada Co., Inc.
 - G. Elcen Metal Products Co.
 - H. Fee & Mason Mfg. Co.; Div. Figgie International
 - I. Tyco Grinnell

J. Or Equal.

B. Building Attachments:

1. General: Except as otherwise indicate, provide factory-fabricated building attachments complying with MSS SP-58, of one of the following MSS types listed, selected by Installer to suit building substrate conditions, in accordance with MSS SP-69 and manufacturer's published product information. Select size of building attachments to suit hanger rods. Provide copper-plated building attachments for copper-piping systems.
 - A. Concrete Inserts: MSS Type 18.
 - B. Top Beam C-Clamp: MSS Type 19.
 - C. Side Beam or Channel Clamps: MSS Type 20.
 - D. Center Beam Clamps: MSS Type 21.
 - E. Welded Beam Attachments: MSS Type 22.
 - F. C-Clamps: MSS Type 23.
 - G. Top Beam Clamps: MSS Type 25.
 - H. Side Beam Clamps: MSS Type 27.
 - I. Steel Beam Clamps W/Eye Nut: MSS Type 28.
 - J. Linked Steel Clamps W/Eye Nut: MSS Type 29.
 - K. Malleable Beam Clamps: MSS Type 30.
 - L. Steel Brackets: One of the following for indicated loading:
 - 1) Light Duty: MSS Type 31.
 - 2) Medium Duty: MSS Type 32.
 - 3) Heavy Duty: MSS Type 33.
 - M. Side Beam Brackets: MSS Type 34.
 - N. Plate Lugs: MSS Type 57.
 - O. Horizontal Travelers: MSS Type 58.
2. Manufacturer: Subject to compliance with requirements, provide hangers and supports of one of the following:
 - A. Carpenter and Patterson, Inc.
 - B. Corner & Lada Co., Inc.
 - C. Elcen Metal Products Co.
 - D. Fee & Mason Mfg. Co.; Div. Figgie International
 - E. Tyco Grinnell
 - F. Or Equal.

C. Miscellaneous Materials:

1. Metal Framing: Provide products complying with NEMA STD ML 1.
2. Steel Plates, Shapes, and Bars: Provide products complying with ASTM A 36.
3. Cement Grout: Portland cement (ASTM C 150, Type I or Type III) and clean uniformly graded, natural sand (ASTM C 404, Size No. 2). Mix at a ratio of 1.0 part cement to 3.0 parts sand, by volume, with minimum amount of water required for placement and hydration.
4. Heavy Duty Steel Trapezes: Fabricate from steel shapes selected for loads required; weld steel in accordance with AWS standards.
5. Pipe Guides: Provide factory-fabricated guides, of cast semi-steel or heavy fabricated steel, consisting of bolted two-section outer cylinder and base with two-section guiding spider bolted tight to pipe. Size guide and spiders to clear pipe and insulation (if any), and cylinder. Provide guides of length recommended by manufacturer to allow indicated travel.

2.02 METAL DUCTWORK

A. Ductwork Materials:

1. Exposed Ductwork Materials: Where ductwork is indicated to be exposed to view in occupied spaces, provide materials which are free from visual imperfections including piping, seam marks, roller marks, stains and discolorations, and other imperfections, including those which would impair painting.
2. Sheet Metal: Except as otherwise indicated, fabricate ductwork from galvanized sheet steel complying with ASTM A 527, lock forming quality, with G 90 zinc coating in accordance with ASTM A 525; and mill phosphatized for exposed locations.

B. Miscellaneous Ductwork Materials:

1. General: Provide miscellaneous materials and products of types and sizes indicated and, where not otherwise indicated, provide type and size required to comply with ductwork system requirements including proper connection of ductwork and equipment.
2. Fittings: Provide radius type fittings fabricated of multiple sections with maximum 15 degree change of direction per section. Unless specifically detailed otherwise, use 45 degree laterals and 45 degree elbows for branch takeoff connections. Where 90 degree branches are indicated, provide conical type tees.
3. Duct Sealant: Non-hardening, non-migrating mastic or liquid elastic sealant, type applicable for fabrication/installation details, as compounded and recommended by manufacturer specifically for sealing joints and seams in ductwork.
4. Ductwork Support Materials: Except as otherwise indicated, provide hot-dipped galvanized steel fasteners, anchors, rods, straps, trim and angles for support of ductwork.
5. Flexible Ducts: Corrugated aluminum complying with UL 181.
 - A. Where installed in unconditioned spaces other than return air plenums, provide 1" thick continuous flexible fiberglass sheath with vinyl vapor barrier jacket.

C. Fabrication:

1. Shop fabricated ductwork in 4, 8, 10 or 12-ft lengths, unless otherwise indicated or required to complete runs. Preassembled work in shop to greatest extent possible, so as to minimize field assembly of systems. Disassemble systems only to extent necessary for shipping and handling. Match-mark sections for reassembly and coordinated installation.
2. Shop fabricated ductwork of gages and reinforcement complying with SMACNA "HVAC Duct Construction Standards".
3. Fabricate duct fittings to match adjoining ducts, and to comply with duct requirements as applicable to fittings. Except as otherwise indicated, fabricate elbows with center-line radius equal to 1-1/2 times associated duct width; or squared metered elbows with double thickness turning vanes. Limit angular tapers to 30 degrees for contracting tapers and 20 degrees for expanding tapers.
4. Fabricate ductwork with accessories installed during fabrication to the greatest extent possible. Refer to section "Ductwork Accessories" for accessory requirements.

2.03 DUCTWORK ACCESSORIES

- A. Motorized Dampers: Provide automatic control dampers as indicated, with damper frames not less than formed 13-ga galvanized steel. Provide mounting holes for enclosed duct mounting. Provide damper blades not less than formed 16-ga galvanized steel, with maximum blade width of 8". Equip dampers with motors, with proper rating for each application.
- 1) Secure blades to ½" diameter zinc-plated axles using zinc-hardware. Seal off against spring stainless steel blade bearings. Provide blade bearings of nylon and provide thrust bearings at each end of every blade. Construct blade linkage hardware of zinc-plated steel and brass. Submit leakage and flow characteristics, plus size schedule for controlled dampers.
 - 2) Operating Temperature Range: From - 20 degrees to 200 degrees F (-29 degrees to 93 degrees C).
 - 3) Provide parallel or opposed blade design (as selected by manufacturer's sizing techniques) with inflatable seal blade edging, or replaceable rubber seals, rated for leakage at less than 10 CFM sq. ft. of damper area, at differential pressure of 4" w.g. when damper is being held by torque of 50 inch-pounds.
 - 4) Manufacturer: Subject to compliance with requirements, provide dampers of one of the following:
 - 5) Air Balance, Inc.
 - 6) Airguarde Corp.
 - 7) American Warming & Ventilating, Inc.
 - 8) Arrow Louver and Damper; Div. of Arrow United Industries, Inc.
 - 9) Louvers & Dampers, Inc.
 - 10) Penn Ventilator Co.
 - 11) Ruskin Mfg. Co.
 - 12) Or Equal.
- B. Damper Actuators: Provide direct or reverse acting proportional low voltage (24V) control. Units shall be provided with an integral helical spring to return motor shaft to normal position. Motor and gear train shall be oil-immersed. Select actuator to produce smooth unobstructed movement in a 30 to 60 second timing stroke.
- 1) Provide two-way damper actuators as required in the sequence of operation.
 - 2) Equip motors for outdoor locations and for outside air intakes with "O ring" gaskets designed to make motors completely weatherproof, and equip with internal heaters to permit normal operation at -40 degrees F (-40 degrees C).
 - 3) Furnish non-spring return motors for dampers larger than 25 sq. ft., sized for running torque rating of 150 inch-pounds, and breakaway torque rating of 300 inch-pounds. Size spring-return motors for running torque rating 150 inch-pounds, and breakaway torque rating of 150 inch-pounds.
- B. Duct Hardware:
1. General: Provide duct hardware, manufactured by one manufacturer for all items on project, for the following:
 - A. Test Holes: Provide in ductwork at fan inlet and outlet, and elsewhere as indicated, duct test holes, consisting of slot and cover, for instrument tests.

- B. Quadrant Locks: Provide for each damper, quadrant lock device on one end of shaft; and end bearing plate on other end for damper lengths over 12 in.. Provide extended quadrant locks and end extended bearing plates for externally insulated ductwork.
- 2. Manufacturer: Subject to compliance with requirements. Provide duct hardware of one of the following:
 - A. Ventfabrics, Inc.
 - B. Young Regulator Co.
 - C. Ductmate Industries, Inc.
 - D. Or Equal.
- C. Flexible Connectors:
 - 1. General: Provide flexible duct connections wherever ductwork connects to vibration isolated equipment. Construct flexible connections of neoprene-coated flameproof fabric crimped into duct flanges for attachment to duct and equipment. Make airtight joint. Provide adequate joint flexibility to allow for thermal, axial, transverse, and torsional movement, and also capable of absorbing vibration of connected equipment.
 - 2. Manufacturer: Subject to compliance with requirements, provide flexible connections of one of the following:
 - A. American/Elgen Co.; Energy Div.
 - B. Duro Dyne Corp.
 - C. Flexaust (The) Co.
 - D. Ventfabrics, Inc.
 - E. Or Equal.

2.04 FIRESTOP SYSTEMS

- A. General: Provide firestopping at all new and existing construction where penetrated by the Work of this Section.
- B. General
 - 1. All firestop products and systems shall be designed and installed so that the basic sealing system will allow the full restoration of the thermal, fire and smoke resistance properties of the barrier being penetrated. For applications where combustible penetrants are involved, i.e. insulated and plastic pipe, a suitable intumescent material must be used.
 - 2. This section applies to pipe, duct, cable, and wiring penetrations of fire rated, smoke rated, non-rated bearing and non-bearing walls and floors assemblies.

C. References

1. American Society For Testing and Materials Standards (ASTM):
 - A. ASTM E 814: Standard Test method For Fire Tests of Through-Penetration Firestops
 - B. ASTM E84: Standard Test Method For Surface Burning Characteristics of Building Materials
2. Underwriters Laboratories Inc.:
 - A. UL 1479 Fire Tests of Through-Penetration Firestops
 - B. UL 723 Surface Burning Characteristics of Building Materials
3. UL Fire Resistance Directory:
 - A. Through Penetration Firestop Device (XHJI)
 - B. Fire Resistive Ratings (BXUV)
 - C. Through Penetration Firestop Systems (XHEZ)
 - D. Fill, Void, or Cavity Material (XHHW)

D. Definitions

1. Firestopping: The use of a material or combination of materials in a fire-rated structure (wall or floor) where it has been breached, so as to restore the integrity of the fire rating on that wall or floor.
2. System: The use of a specific firestop material or combination of materials in conjunction with a specific wall or floor construction type and a specific penetrant(s), constitutes a "System".
3. Barrier: Any bearing or non-bearing wall or floor that has an hourly fire and smoke rating.
4. Through-Penetration: Any penetration of a fire-rated wall or floor that completely breaches the barrier.
5. Membrane-Penetration: Any penetration in a fire-rated wall that breaches only one side of the barrier.
6. Construction Gaps: Any gap, joint, or opening, whether static or dynamic, where the top of a wall may meet a floor; wall to wall applications, edge to edge floor configurations; floor to exterior wall; or any linear breach in a rated barrier. Where movement is required, the firestopping system must comply with UL2079 for dynamic joints.

E. Quality Assurance

1. Firestopping systems (materials and design):
 - A. Shall conform to both Flame (F) and Temperature (T) ratings as required by local building codes and as tested by nationally accepted test agencies per ASTM E814 or UL 1479 fire tests in a configuration that is representative of field conditions.
 - B. The F rating must be a minimum of one, 10 hour but not less than the fire resistance rating of the assembly being penetrated. T rating when required by code authority shall be based on measurement of the temperature rise on penetrating item(s). the fire test shall be conducted with a minimum positive pressure differential of 0.01 in. of water column.
 - C. For joints, must be tested to UL2079 with movement capabilities equal to those of the anticipated conditions.

2. Firestopping materials and systems must be capable of closing or filling through openings created by one) the burning or melting of combustible pipes, cable jacketing, or pipe insulation materials, or two) deflection of sheet metal due to thermal expansion (electrical and mechanical duct work).
3. Firestopping material shall be asbestos and lead free and shall not incorporate nor require the use of hazardous solvents.
4. Firestopping sealants must be flexible, allowing for normal pipe movement.
5. Firestopping materials shall not shrink upon drying as evidenced by cracking or pulling back from contact surfaces.
6. Firestopping materials shall be moisture resistant, and may not dissolve in water after curing.
7. All firestopping materials shall be manufactured by one manufacturer (to the maximum extent possible).
8. Installation of firestopping systems shall be performed by a contractor (or contractors) trained or approved by the firestop manufacturer.
9. Material used shall be in accordance with the manufacturer's written installation instructions.

F. Materials

1. Intumescent Firestop Sealants and Caulks:
 - A. STI SpecSeal S100 and S500 Sealant
 - B. 3M Fire Barrier Caulk CP25WB+
2. Latex Firestop Sealant:
 - A. STI SpecSeal LC150 Sealant
3. Silicone Firestop Sealants and Caulks:
 - A. STI SpecSeal Pensil 100 and 300
 - B. 3M Fire Barrier Silicone Sealants
4. Firestop Putty:
 - A. STI SpecSeal Firestop Putty Bars and Pads
 - B. 3M Fire Barrier Moldable Putty
5. Firestop Collars:
 - A. STI SpecSeal Firestop Collars
 - B. 3M Fire Barrier PPD's
6. Wrap Strips:
 - A. SpecSeal Wrap Strip
 - B. 3M Fire Barrier FS195 Wrap Strip
7. 2-Part Silicone Firestop Foam:
 - A. STI SpecSeal Pensil 200
 - B. 3M Fire Barrier 2001 Silicone Foam
8. Firestop Mortar:
 - A. STI SpecSeal Mortar

9. Composite Board:
 - A. 3M Barrier Sheet Material
 - 1) Accessories:
 - 2) Forming/Damming Materials: Mineral Fiberboard or other type as per manufacturer recommendation.

2.05 AUTOMATIC TEMPERATURE CONTROLS

- A. Basic Components and Systems:
 1. General: Provide control products in sizes and capacities indicated for completed installation. Except as otherwise indicated, provide manufacturer's standard materials and components as published in their product information, designed and constructed as recommended by manufacturer and as required for application indicated.
- B. The following incidental work shall be furnished by the designated contractor under the supervision of the control contractor.
 1. Electric Wiring: All electric wiring and wiring connections, either line voltage or low voltage, from the emergency electric panels to the individual control devices i.e. dampers required for the installation of the control system, as herein specified shall be provided by the control contractor unless specifically shown on the electrical drawings or called for in the electrical specifications.
 - A. The wiring installation shall be in accordance with National and Local Codes and with the Electrical portion of these specifications. All wiring shall be run concealed wherever possible. Exposed wiring in occupied areas shall be run in raceways. Raceways shall be Wiremold 200 series with all elbows, raceways, covers, mounting stops, box extensions and wiring for a complete and neat installation. All wiring located in mechanical spaces, boiler rooms, and fan rooms shall be installed in metal conduit
 - B. All wiring above ceilings, in boiler rooms, and all mechanical spaces shall follow routing of piping and where not possible shall be in conduit. All exposed wire shall be bundled and wire tied and shall be supported to adjacent piping. Draped and free floating wire will not be allowed.
 - C. All terminations of wire at control devices shall be looped and supported adequately.
 - D. All wiring shall comply with the requirements of the electrical section of the specification.
- C. Controls Systems Wiring
 1. All conduit raceways, wiring, accessories and wiring connections required for the installation of the Controls Systems shall be provided by the Controls Contractor except as shown on the Electrical Drawings. All wiring shall comply with the requirements of applicable portions of the Electrical Section 26 00 01 and all local and national electric codes and the requirements of the AHJ.
 2. All Controls Systems wiring materials and installation methods shall comply with the original equipment manufacturer recommendations and standards.
 3. The sizing type and provision of cable, conduit, cable trays and raceways shall be the design responsibility of the Controls Contractor.
 4. Class 2 Wiring
 - A. All Class 2 (24VAC or less) wiring shall be installed in conduit unless otherwise specified.

- B. Conduit is not required for Class 2 wiring in concealed accessible locations. Class 2 wiring not installed in conduit shall be supported every 5ft. from the building structure utilizing metal hangers designed for this application. Wiring shall be installed parallel to the building structural lines.
 - 5. Class 2 signal wiring and 24VAC power may be run in the same conduit. Power wiring 120VAC and greater shall not share the same conduit with Class 2 signal wiring.
 - 6. Perform circuit tests using qualified personnel only. Provide necessary instruments and equipment to demonstrate that:
 - A. All circuits are continuous and free from short circuits and grounds.
 - B. All circuits are free from unspecified grounds; that resistance to ground of all circuits is no less than 50 megaohms.
 - C. All circuits are free from induced voltages.
 - 7. Provide complete testing for all cables and wiring. Provide all equipment, tools, and personnel as necessary to conduct these tests.
 - 8. Provide for complete grounding of all signal and communication cables, panels and equipment so as to ensure integrity of Controls Systems operation. Ground cabling and conduit at panel terminations. Do not create ground loops.
- D. Controls Systems Raceways
- 1. All wiring shall be installed in conduit or raceway except as noted elsewhere in the Specification. Minimum conduit size 3/4 in.
 - 2. Where it is not possible to conceal raceways in finished locations, surface raceway (Wiremold) may be used as approved by the Architect.
 - 3. All conduits and raceways shall be installed level, plumb, at right angles to the building lines and shall follow the contours of the supporting surface.
 - 4. UL/ULC Listed Flexible Metal Conduit shall be used for vibration isolation and shall be limited to 3 ft. in length when terminating to vibrating equipment. Flexible Metal Conduit may be used within partition walls and for final connection to equipment.
- E. Penetrations
- 1. Firestopping for all penetrations used by dedicated Controls Systems conduits and raceways shall be by other trades.
 - 2. All openings in fire proofed or fire stopped components shall be closed by other trades using approved fire resistive sealant.
 - 3. All wiring passing through penetrations, including walls, shall be in sleeves, conduit or enclosed raceway.
 - 4. No penetrations through building structural elements, slabs, ceilings and walls shall be made before receipt of written approval from the Architect.

PART 3 EXECUTION

3.01 INSTALLATION OF HANGERS & ATTACHMENTS

- A. Examine areas and conditions under which supports and anchors are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer.

- B. Install building attachments at required locations within concrete or on structural steel for proper piping support. Space attachments within maximum piping span length indicated in MSS SP-69. Install additional concentrated loads, including valves, flanges, guides, strainers, expansion joints, and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten insert securely to forms. Where concrete with compressive strength less than 2500 psi is indicated, install reinforcing bars through the openings at the tops of inserts.
- C. Adjusting and Cleaning:
 - 1. Hanger Adjustment: Adjust hangers so as to distribute loads equally on attachments.
 - 2. Support Adjustment: Provide grout under supports so as to bring piping and equipment to proper level and elevations.
 - 3. Cleaning: Clean factory-finished surfaces. Repair any marred or scratched surfaces with manufacturer's touch-up paint.

3.02 INSTALLATION OF METAL DUCTWORK

- A. Installation of Metal Ductwork:
 - 1. General: Assemble and install ductwork in accordance with recognized industry practices which will achieve air-tight (five percent leakage for systems rated 3 in. and under; one percent for systems rated over 3 in.) and noiseless (no objectionable noise) systems, capable of performing each indicated service. Install each run with minimum number of joints. Align ductwork accurately with internal surface smooth. Support ducts rigidly with suitable ties, braces, hangers and anchors of type which will hold ducts true-to-shape and to prevent buckling. Support vertical ducts at every floor.
 - 2. Sealing: All ductwork joints and seams shall be sealed with flexible duct sealer to assure an airtight installation.
 - 3. Penetrations: Where ducts pass through interior partitions and exterior walls, and are exposed to view, conceal space between construction opening and duct or duct insulation with sheet metal flanges of same gage as duct. Overlap opening on 4 sides by at least 1-1/2 in. Fasten to duct and substrate.
 - A. Where ducts pass through fire-rated floors, walls, or partitions, provide firestopping between duct and substrate.
 - 4. Coordination: Coordinate duct installation with installation of accessories, dampers, coil frames, equipment, controls and other associated work of ductwork system.
 - 5. Installation: Install metal ductwork in accordance with "SMACNA HVAC Duct Construction Standards".
- B. Installation of Flexible Ducts:
 - 1. Maximum Length: For any duct run using flexible ductwork, do not exceed 4 ft.-0 in. extended length.
 - 2. Installation: Install in accordance with Section II of SMACNA's, "HVAC Duct Construction Standards, Metal and Flexible".
- C. Equipment Connections:
 - 1. General: Connect metal ductwork to equipment as indicated, provide flexible connection for each ductwork connection to equipment mounted on vibration isolators, and/or equipment containing rotating machinery.

D. Adjusting and Cleaning:

1. Clean ductwork internally, unit by unit as it is installed, of dust and debris. Clean external surfaces of foreign substances which might cause corrosive deterioration of metal or, where ductwork is to be painted, might interfere with painting or cause paint deterioration.

3.03 INSTALLATION OF DUCTWORK ACCESSORIES

- A. Install ductwork accessories in accordance with manufacturer's installation instructions, with applicable portions of details of construction as shown in SMACNA standards, and in accordance with recognized industry practices to ensure that products serve intended function.
- B. Install damper with adjusting rod in each supply branch. Install according to detail on drawings.
- C. Operate installed ductwork accessories to demonstrate compliance with requirements. Test for air leakage while system is operating. Repair or replace faulty accessories, as required to obtain proper operation and leakproof performance.
- D. Adjusting: Adjust ductwork accessories for proper settings, install fusible links in fire dampers and adjust for proper action.
- E. Cleaning: Clean factory-finished surfaces. Repair any marred or scratched surfaces with manufacturer's touch-up paint.

3.04 INSTALLATION OF FIRESTOP SYSTEMS

- A. General: Install firestop systems at all new and existing fire-rated construction where penetrated by the Work of this Section.

3.05 AUTOMATIC TEMPERATURE CONTROLS

A. Installation Of Automatic Temperature Controls:

1. Installation of Control Systems:
 - A. General: Install systems and materials in accordance with manufacturer's instructions, roughing-in drawings and details shown on drawings.
 - B. Control Wiring: Install control wiring, without splices between terminal points, color-coded. Install in neat workmanlike manner, securely fastened. Install in accordance with National Electrical Code.
 - 1) Install circuits over 25-volt with color-coded No. 12 wire in electric metallic tubing.
 - 2) Install circuits under 25-volt with color-code No. 18 wire with 0.031 in. high temperature 105 degrees F. (41 degrees C) plastic insulation on each conductor and plastic sheath over all.
 - 3) Install electronic circuits with color-coded No. 22 wire with 0.023 in. polyethylene insulation on each conductor with plastic-jacketed copper shield over all.
 - 4) Install low voltage circuits, located in concrete slabs, masonry walls, or in mechanical areas, in electrical conduit. Where exposed in occupied areas install all wiring in wiremold.
2. Adjusting and Cleaning:
 - A. Start-Up: Start-up, test, and adjust control systems. Demonstrate compliance with requirements. Replace damaged or malfunctioning controls and equipment.
 - B. Cleaning: Clean factory-finished surfaces. Repair any marred or scratched surfaces with manufacturer's touch-up paint.
 - C. Final Adjustment: After completion of installation, adjust control dampers.
3. Closeout Procedures:

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- A. Validation: The automatic temperature control contractor shall completely check out, calibrate and test all connected hardware to insure that the system performs in accordance with the approved specifications and sequence of operation submitted.

END OF SECTION

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END OF INDEX

SECTION 260010

ELECTRICAL

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements that affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.
- D. Electrical Contractor and General Contractor are one in the same.

1.2 DESCRIPTION OF WORK

- A. Work described herein shall be interpreted as work to be done by the Electrical Contractor. Work to be performed by other trades will be referenced to a particular contractor or subcontractor.
- B. Provide all labor, materials, tools, and equipment, including scaffolding, to complete the installation of the electrical system. Install, equip, adjust, and put into operation the respective portions of the installation specified, and so interconnect various items or sections of work in order to form a complete and operating whole. Systems may be referenced in singular or plural terms, also refer to drawings to confirm quantities. The work shall consist of, but shall not necessarily be limited to the following:
 - 1. New emergency standby generator system, automatic transfer switches, feeders, and subfeeders.
 - 2. New Panelboards, capturing existing circuits and reconnecting to new panelboards.
 - 3. All raceway systems, including boxes, couplings, and fittings.
 - 4. Connections for all building equipment, including mechanical equipment diesel fuel pumps, and the like.
 - 5. All testing of equipment installed.
 - 6. Systems Identification.
 - 7. Firestop systems in accordance with section 078400 – Firestopping.
 - 8. Hoisting Equipment and Machinery: Unless otherwise specified, all hoisting equipment and machinery required for the proper and expeditious prosecution and progress of the work shall be furnished, installed, operated and maintained in safe condition by the individual Non Trade and Trade Contractors and is so stated in each appropriately related Section of the Specifications. All costs for hoisting operating services shall be borne by the Non Trade and Trade Contractors unless specifically excepted in the Contract Documents.
 - a. A licensed equipment manufacturer's representative shall be present at all times, to witness the erection and dismantling of all hoisting equipment and machinery, whenever such equipment is being erected or dismantled. No such work will be performed without the presence of such representative.

- b. Hoisting equipment and machinery erection and dismantling shall be performed only by trained, certified, and experienced riggers qualified to perform such work.

- 9. Staging and Scaffolding: All staging, planking and scaffolding, exterior and interior, required for the proper execution of the work. Refer to Section 015000 for staging and scaffolding requirements.
- 10. Drilling, coring, and cutting of holes (where the largest dimension thereof does not exceed 12 inches) for electrical conduit systems, and equipment.
- 11. Systems Identification.
- 12. Fire stopping shall be performed by this contractor. Provide Seismic Restraints for all Electrical Systems conforming to the requirements of the State Building Code
- 13. Phasing and Demolition.
- 14. Any other item of work hereinafter specified or indicated on electrical drawings.

1.3 PROJECT CONDITIONS

- A. Temporary Support Facilities: Furnish and install all temporary lifts, hoists, staging, scaffolding, rigging, labor and materials, and temporary support to perform all operations in connection with the installation of this Work. Remove all temporary support facilities when no longer required.

1.4 DEFINITIONS

- A. Most terms used within the documents are industry standard. Certain words or phrases shall be understood to have specific meanings as follows:
 - 1. Provide: Furnish and install completely connected up and in operable condition.
 - 2. Furnish: Purchase and deliver to a specific location within the building or site.
 - 3. Install: With respect to equipment furnished by others, install means to receive, unpack, move into position, mount and connect, including removal of packaging materials.
 - 4. Conduit: Raceways of the metallic type which are not flexible. Specific types as specified.
 - 5. Connect: To wire up, including all branch circuitry, control and disconnection devices so item is complete and ready for operation.
 - 6. Subject to Mechanical Damage: Equipment and raceways installed exposed and less than eight feet above finished floor in mechanical rooms or other areas where heavy equipment may be in use or moved.

1.5 ITEMS TO BE FURNISHED ONLY

- A. Furnish the following items for installation under designated sections.
 - 1. None.

1.6 CONTRACT COST BREAKDOWN

- A. Submit a breakdown of contract price to aid Architect in determining value of work installed as job progresses. The submission shall be broken out by materials, rough-in and finish work.

1.7 INSPECTION OF SITE

- A. Electrical bidders will be permitted to inspect site. Failure to inspect existing conditions or to fully understand work which is required shall not excuse

Electrical Contractor from his obligations to supply and install work in accordance with

specifications and the drawings and under all site conditions as they exist.

1.8 CONTRACTOR'S REPRESENTATIVE

- A. Retain a competent representative on the project. Do not substitute representative without prior approval from Owner.

1.9 COOPERATION

- A. Work shall be carried on under usual construction conditions, in conjunction with other contractors work. Cooperate with other contractors, coordinate work and proceed in a manner as not to delay progress.
- B. Before proceeding, examine all construction drawings and consult other contractors to coordinate installation and avoid interference.
- C. In case of dispute, the Architect will render a decision in accordance with General and Supplementary General Conditions.

1.10 CODES, ORDINANCES, AND PERMITS

A. Codes and Ordinances:

- 1. All material and work provided shall be in accordance with all applicable codes including the following codes and standards as most recently amended.
- 2. Commonwealth of Massachusetts Building Code
- 3. Massachusetts Electric Code, 2023 Edition
- 4. State Department of Public Safety
- 5. NFPA 101 "Life Safety Code"
- 6. NFPA Standards
- 7. Standards of the Underwriters Laboratories (UL)
- 8. Occupational Safety and Health Act (OSHA)
- 9. Americans with Disabilities Act (ADA)
- 10. Energy Conservation Code
- 11. City of Lowell
- 12. Where contract documents indicate more stringent requirements than codes, the contract documents shall take precedence.

- B. Permits: Be responsible for filing documents and securing of inspection and approvals. Pay all permit fees. Refer to INSTRUCTIONS TO BIDDERS.

1.11 ELECTRICAL ROOMS OR SPACES

- A. Be responsible for ensuring that the dedicated space and clearances required in the NEC, Sections 110-26 are maintained for all electrical equipment.
- B. Call other contractors' attention to the requirements contained in the above-mentioned code sections, prior to the installation of equipment by other contractors, in order to ensure no violations.

1.12 SUBMITTALS

- A. Refer to Section 013000 – Submittal Procedures, for requirements.

1.13 GUARANTEE

- A. All parts of the work shall be guaranteed for a period of one year from the date of acceptance of the job by Owner. If during that period of general guaranty, any part of the work fails, becomes unsatisfactory, or does not function properly due to any fault in material or workmanship whether or not manufactured or job built, the Owner shall upon notice from owner promptly proceed to repair or replace such faulty material or workmanship without expense to owner, including cutting, patching, and painting, or other work involved, and including repair or restoration of any damaged sections of the premises resulting from such faults.
- B. In the event that a repetition of any one defect occurs indicating the probability of further failure and which can be traced to faulty design, material, or workmanship, then repair or replacement shall not continue to be made but the fault shall be remedied by a complete replacement of the entire defective unit.
- C. In addition to the general guaranty, obtain and transmit to owner any guaranties or warranties from manufacturers of specialties, but only as supplementary to the general guaranty which will not be invalidated by same.

1.14 ELECTRICAL CHARACTERISTICS

- A. In general, and unless specifically indicated otherwise, all building service, heating, ventilating, air conditioning, and plumbing equipment shall be of the following characteristics:
 - 1. Motors up to and including 1/3 HP shall be suitable for 120 volts, one phase operation.
 - 2. Motors larger than 1/3 HP shall be suitable for 208 volts, three-phase operation.
 - 3. Electric heating equipment 1.5 KW and less shall be suitable for 120 volt single-phase operation. Over 1.5 KW shall be 208 volt three phase.
- B. Power Factor: All equipment provided rated greater than 1,000 watts and lighting equipment greater than 15 watts with an inductive reactance load component shall have a power factor of not less than 90% under rated load conditions.

1.15 TEMPORARY ELECTRICAL SUPPORT FACILITIES

- A. Refer to Section 015000 – Temporary Facilities and Controls.
- B. Provide own field office and/or storage facilities which shall be located as directed by the Architect. Provide all tools, equipment, ladders, and temporary construction required for execution of the work.
- C. All scaffolding, ladders, and other temporary construction shall be rigidly built in accordance with all local and state requirements, and shall be removed upon completion.

1.16 INSPECTIONS AND TESTS

- A. Inspection: If inspection of materials installed shows defects, such defective work, materials, and/or equipment shall be replaced and inspection and tests repeated.
- B. Tests: Make reasonable tests and prove integrity of work and leave electrical installation in correct adjustment and ready to operate. All panels shall have phases balanced as near as practical. A consistent phase orientation shall be adhered to at all terminations.

1.17 RECORD DRAWINGS

- A. Refer to Section 017700 – CLOSEOUT PROCEDURES for requirements.

1.18 OPERATING INSTRUCTIONS AND MAINTENANCE MANUALS

- A. Refer to Division 01 – General Requirements.
- B. Operating Instructions: Furnish operating instructions to Owner's designated representative with respect to operations, functions and maintenance procedures for equipment and systems installed. Cost of such instruction up to a full three (3) days of Electrical Contractor's time shall be included in contract. Cost of providing a manufacturer's representative at site for instructional purposes shall also be included.
- C. Maintenance Manuals:
 - 1. At completion of the project, provide four copies of complete manuals containing the following:
 - a. Complete shop drawings of equipment.
 - b. Operation description of systems.
 - c. Names, addresses, and telephone numbers of suppliers of systems.
 - d. Vendors' P.O. numbers for equipment installed.
 - e. Preventive maintenance instruction for systems.
 - f. Spare parts list of system components.
 - 2. All information shall be in one binder.

1.19 RETURN AIR PLENUM

- A. All wiring above suspended ceilings shall be "UL Listed" plenum rated cable or wiring shall be installed in conduit.

1.20 STAGING AND SCAFFOLDING

- A. Staging and scaffolding shall be of engineered design adequate and suitable for the intended purpose and loading and in compliance with all applicable Federal, State and local laws and regulations, shall have all accident prevention devices and other features required by Federal, State and local laws and regulations, and shall be erected, maintained and removed by experienced scaffolding/staging builders.
- B. Unless otherwise specified, each sub-contractor shall provide all lifts and man-lifts, and furnish, erect and maintain in safe condition, all staging and scaffolding as specified under Section 015000 Temporary Facilities and Controls, as needed for proper execution of the work of this Section. Staging and scaffolding shall be of adequate design, erected and removed by experienced stage builders having all accident prevention devices required by Federal, state and local laws.

1.21 CUTTING AND PATCHING

- A. Penetrations through construction for the Work of this Section:
 - 1. Coring/Cutting: Perform all coring for required work up to and including 6 in. in diameter or equivalent in area of 6 in. square. Coring beyond 6 in. or cutting beyond the equivalent of 6 in. square will be performed by the Construction Manager.

2. Notify Masonry Sub-Contractor of exact locations and sizes for openings required in masonry, to be executed under Section 042000 – Unit Masonry, utilizing lintels furnished per Section 055000 – Metal Fabrications.
3. Cut openings in new and existing non-masonry construction where required for penetrations. All cutting shall conform to the requirements of Section 017329 cutting and Patching.

B. Patching at penetrations through construction for the work of this section:

1. Notify Masonry Sub-Contractor when plumbing work is complete at penetrations through masonry construction, and ready for patching under Section 042000 – Unit Masonry.
2. Notify appropriate Sub-Contractors when electrical work is complete at penetrations through non-masonry construction, and ready for patching under Sections in Division 09 - FINISHES.
3. Drilling, coring, and cutting of new and existing structures (through walls, floors, ceiling) where the largest dimension does not exceed 6 in. diameter for drilling/coring or the equivalent of an area equal to or less than 6 in. square shall be by the Electrical contractor.
4. Throughout the performance of the cutting and coring work, ensure that the structural integrity of the existing walls, floors, overhead structure, and other structural components, which are to remain, is maintained until permanent work is installed. Prior to any coring or cutting verify all locations of same with the Construction Manager. All cutting and coring is to be performed in accordance with approved coordination drawings. All cutting or coring of structural must receive approval of the Architect prior to proceeding.
5. No additional compensation will be authorized for cutting and patching work that is necessitated by ill-timed, defective, or non-conforming installations.
6. Patching of surfaces shall be by the trade responsible for the surface penetrated.
7. Refer to related architectural sections including Section 017329 for additional reference.

1.22 PHASING, DEMOLITION AND MAINTAINING EXISTING SERVICES

- A. During the execution of the work, required relocation, and rerouting of existing equipment and systems in the existing building areas where new work is to be installed or new connections are scheduled to be made, shall be performed by the Electrical Contractor, as required by job conditions and as determined by the Architect in the field, to facilitate the installation of the new system, while demolition, relocation work or new tie-ins will be performed. Outages required for construction purposes shall be scheduled for the shortest practical periods of time, in coordination with the Owner's designated representative, for specified, mutually agreeable periods of time, after each of which the interruption shall cease and the service shall be restored. This procedure shall be repeated to suit the Owner's working schedule, as many times as required until all work is complete. Any outages of service shall be approved by the Owner, prior to commencing the work. No outages or shutdowns of service shall occur without the written authorization of the Owner prior to commencing the work. Give notice of any scheduled shutdowns, a minimum of two weeks in advance. Owner shall make their best effort to meet this request without adversely affecting the electric service to the existing building.
- B. Electrical Trade contractor is responsible to disconnect and make safe all Electrical equipment/systems/ appurtenances scheduled for demolition in each phase which is the responsibility of the GC to coordinate. The demolition contractor will drop all suspended equipment / systems / piping / appurtenances to the floor, demolish and dispose from the site. Trade contractors are advised that the demolition drawings are not as-builts and the Architect does not warrant their accuracy for total quantities. All contractors are advised to take the opportunity to attend the pre-bid meeting and review the existing conditions. No change order will be approved for additional quantities of equipment/systems/piping/appurtenances required to be made safe.

- C. Prior to any deactivation and relocation or demolition work, consult the drawings and arrange a conference with the Architect and the Owner's representative in the field to inspect each of the items to be deactivated, removed or relocated. Care shall be taken to protect all equipment designated to be relocated and reused or to remain in operation and be integrated with the new systems.
- D. Where existing outlets are to be reused and are cut off by the remodeling, they shall be reconnected to existing circuits as required by field conditions. Where existing outlets are to be abandoned, they shall be removed and blank plates installed. Each bidder shall, before submitting his bid, visit the site and make a thorough examination of the conditions in the existing buildings in order to determine the extent of the work to be done. Prior to disconnecting and removing panelboards, field confirm that it does not service areas or circuits scheduled to remain.

- E. All deactivation, relocation and temporary tie-ins of electrical systems and equipment shall be provided by the Electrical Contractor. All demolition and removal of electrical systems and equipment designated to be demolished shall be by the Electrical Contractor and removed by the General Contractor. Stack all demolished electrical materials except hazardous materials (lighting ballasts, fluorescent lamps) nearby for removal by the Construction Manager. All hazardous electrical materials shall be legally disposed by the Hazmat Contractor. The Hazmat Contractor will remove lamps and ballasts from light fixtures.
- F. The Owner reserves the right to inspect the material scheduled for removal and salvage any items he deems usable as spare parts.
- G. Phasing
 - 1. The Electrical Contractor shall construct the subject in phases as directed by the Architect and GC to suit the project progress schedule, as well as the completion date of the project.
 - 2. For additional information related to phasing, review the General Conditions and Supplementary Conditions and the Architectural drawings.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Product specifications are written in such a manner so as to specify what materials may be used in a particular location or application and therefore do not indicate what is not acceptable or suitable for a particular location or application. As an example: non-metallic sheathed cable is not specified; therefore, it is not acceptable.
- B. For purpose of establishing a standard of quality and not for purpose of limiting competition, the basis of this Specification is upon specified models and types of equipment and materials, as manufactured by specified manufacturers.
- C. In all cases, standard cataloged materials and systems have been selected. Materials such as lighting fixtures specially manufactured for this particular project and not part of a manufacturers' standard product line will not be acceptable. In the case of systems, the system components shall be from a single source regularly engaged in supplying such systems. A proposed system made up of a collection of various manufacturers' products will be unacceptable.
- D. Where Specifications list manufacturers' names and/or "as approved" or "Equal approved by Architect", other manufacturers' equipment will be considered if equipment meets Specification requirements and has all features of the specified items as are considered essential by Architect.
- E. All material shall be new and shall be UL listed.

2.2 RACEWAYS AND FITTINGS

A. Raceways - General:

1. No raceway shall be used smaller than $\frac{3}{4}$ in. diameter and shall have no more than four 90 deg. bends in any one run, and where necessary, pull boxes shall be provided. Only rigid metal conduit or intermediate metal conduit is allowed for slab work. Cable systems, if allowed to be used by other sections of this specification, shall not be used exposed or in slabs, whether listed by "UL" for such use or not.
2. Rigid metal conduit conforming to, and installed in accordance with, Article 344 shall be heavy wall zinc coated steel conforming to American Standard Specification C80-1 and may be used for service work, exterior work, slab work, and below grade level slab, wet locations, and in mechanical rooms for drops down to equipment from elevations below eight feet and also where raceway may be subject to mechanical damage.
3. Intermediate metal conduit conforming to, and installed in accordance with, Article 342, may be used for all applications where rigid metal conduit is allowed by these specifications.
4. Electrical Metallic Tubing (EMT), conforming to, and installed in accordance with, Article 358 shall be zinc coated steel, conforming to industry standards, may be used in masonry block walls, stud partitions, above furred ceilings, where exposed but not subject to mechanical damage, and may be used for fire alarm work.
5. Surface metal raceways conforming to, and installed in accordance with, Article 386 may be used only where raceways cannot be run concealed, and then, if only specifically approved.
6. Flexible metal conduit shall be used for final connections to recessed lighting fixtures from above ceiling junction boxes and for final flexible connections to motors and other rotating or vibrating equipment. Liquid tight flexible metal conduit shall be used for the above connections which are located in moist locations. All flexible connections shall include an insulated grounding conductor.
7. Rigid non-metallic conduit may be used for underground electric and telephone services outside the foundation wall and also below slab and shall be polyvinyl chloride (PVC) schedule 40, 90 deg. C. Rigid metal conduits shall be used thru-foundation walls and thru-slab. Below slab conduits do not require concrete encasement.
8. PVC Schedule 40 may be used for below slab circuits within building confines. Below slab rigid non-metallic conduits do not require concrete encasement. Rigid non-metallic conduits may be used for below slab feeders and branch circuits, but shall not be used in slabs, nor for elbows which penetrate slabs. Raceways and fittings shall be produced by same manufacturer.
9. PVC schedule 40 may also be used for underground branch circuits outside the foundation wall.
10. PVC schedule EB conduit will be used as indicated on Electrical Site Plan, and where encased in concrete.
11. Acceptable manufacturers:
 - a. Pittsburgh Standard Conduit Company
 - b. Republic Steel and Tube
 - c. Youngstown Sheet and Tube Company
 - d. Carlon
 - e. Or equal
12. Fittings:
 - a. Provide insulated bushings on all raceways 1 inch diameter or larger.
 - b. Manufacturer's standard fittings shall be used for raceway supports.

- c. Expansion Fittings: Expansion fittings shall be used where structural and concrete expansion joints occur and shall include a ground strap. Bond separate buildings in accordance with code.
- d. Couplings for rigid metal and intermediate metal conduit shall be threaded type.
- e. Threadless fittings for EMT shall be watertight compression type or set-screw type (dry-locations). All fittings shall be concrete tight. No diecast fittings allowed except for raceways larger than 1 inch diameter.
- f. Cable supports in vertical raceways shall be of the split wedge type. Armored cable supports for vertical runs to be of wire mesh basket design.
- g. Wall entrance seals shall be equal to O.Z. Gedney type "WSK".
- h. Couplings, elbows and other fittings used with rigid nonmetallic conduit shall be of the solvent cemented type to secure a waterproof installation.
 - 1) Acceptable manufacturers:
 - a) O.Z.
 - b) Crouse Hinds
 - c) Appleton
 - d) EFCOR
 - e) Steel City
 - f) Or equal

B. Outlets, Pull and Junction Boxes:

- 1. Outlets:
 - a. Each outlet in wiring or raceway systems shall be provided with an outlet box to suit conditions encountered. Boxes installed in normally wet locations or surface mounted shall be of the cast-metal type having hubs. Concealed boxes shall be cadmium plated or zinc coated sheet metal type. Old work boxes with Madison clamps not allowed in new construction. Thru the wall boxes are not permitted.
 - b. Each box shall have sufficient volume to accommodate number of conductors in accordance with requirements of Code. Boxes shall not be less than 1-1/2 in. deep unless shallower boxes are required by structural conditions and are specifically approved by Architect. Ceiling and bracket outlet boxes shall not be less than 4 in. octagonal except that smaller boxes may be used where required by particular fixture to be installed. Flush or recessed fixtures shall be provided with separate junction boxes when required by fixture terminal temperature requirements. Switch and receptacle boxes shall be 4 in. square or of comparable volume.
 - c. Far side box supports shall be Caddy J-1A.
 - d. Acceptable manufacturers:
 - 1) Appleton
 - 2) Crouse Hinds
 - 3) Steel City
 - 4) RACO
 - 5) Or equal
- 2. Pull and Junction Boxes: Where indicated on plans, and where necessary to terminate, tap off, or redirect multiple raceway runs or to facilitate conductor installation, furnish, and install appropriately designed boxes. Boxes shall be fabricated from code gauge steel assembled with corrosion resistant machine screws. Box size shall be sized per Code. Pencil fiberglass handholes are allowed as a substitute for Quazite handholes with H20 wheel load covers.

3. Boxes in moist or wet areas shall be galvanized type. Boxes larger than 4-11/16 inches square shall have hinged covers. Boxes larger than 12 inches in one dimension will be allowed to have screw fastened covers, if a hinged cover would not be capable of being opened a full 90 degrees due to installation location.
 - a. Acceptable Manufacturers:
 - 1) Brasch
 - 2) Hoffman
 - 3) Keystone
 - 4) Lee Products Co.
 - 5) McKinstry Inc.
 - 6) Eldon Inc.
 - 7) Or equal

2.3 CONDUCTORS

- A. All conductors shall be a minimum size of #12 AWG except for control wiring and fire alarm wiring where #14 AWG may be used. For all exit sign circuits, normal/emergency and/or emergency only circuits, exterior lighting circuits, and also where distance from panelboard to first outlet exceeds 100' for 120 volts, #10 AWG shall be minimum size wire allowed. All feeder and branch circuit conductors shall be color coded as follows:
 1. 208Y/120V Phase A Black
 2. 208Y/120V Phase B Red
 3. 208Y/120V Phase C Blue
 4. Grounded Conductor
120/208 White
 5. Equipment Ground
120/208 Green
 6. Isolated Ground
120/208 Green with Orange Trace
- B. All conductors not installed in accordance with color scheme shall be replaced. All conductors larger than #6 AWG must be identified with colored tape.
- C. Comply with CMR 527, Massachusetts Electrical Code.
- D. Comply with Underwriter's Laboratories (UL) standards:
 1. UL 4: Armored Cable.
 2. UL 62: Flexible Cord and Fixture Wire.
 3. UL 83: Thermoplastic-Insulated Wires and Cables.
 4. UL 486A: Wire Connectors and Soldering Lugs for Use with Copper Conductors.
 5. UL 1569: Metal-Clad Cables.
- E. Comply with NEMA WC-5: Thermoplastic-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
- F. Connections throughout the entire job shall be made with solderless type devices.
 1. For #10 AWG and smaller: spring type.
 2. For #8 AWG and larger: circumferential compression type.

3. Acceptable manufacturers:
 - a. 3M "Scotchlock"
 - b. IDEAL "Wingnut"
 - c. BURNDY
 - d. MAC
 - e. Or equal
 4. Any splices made up in ground mounted pull boxes shall be resin cast waterproof type or waterproof pressure type, as manufactured by King Technology, St. Louis, MO.
- G. Conductors shall be copper, soft drawn, and annealed of 98 percent conductivity. Conductors larger than #10 AWG shall be stranded; #10 AWG and smaller shall be solid. Conductors shall be insulated for 600 volts and be of following types:
1. All conductors shall have heat/moisture resistant thermoplastic insulation type THHN/THWN (75 degrees C) except as follows:
 - a. In sizes #1 AWG and larger: Crosslinked polyethylene insulation type XHHW (75 degrees C – 90 degrees C) may be used.
 - b. Fire alarm system conductors shall be #14 AWG, type THHN, solid. Color coding of fire alarm conductors shall be in accordance with fire codes.
 - c. Fixture whips #16AWG type "SF".
- H. Stranded conductors for all wiring systems except fire alarm will be allowed if installed and terminated as specified under Execution Section.
- I. Mineral-Insulated Metal-Sheathed Fire-Resistive Cables (Type MI) - Cables shall consist of a factory assembly of one or more solid copper conductors insulated with highly-compressed magnesium oxide and enclosed in a seamless, liquid-and-gas-tight continuous copper sheath. Cables shall be rated for 600 volts and less. Cables shall comply with Article 332 of the National Electrical Code. Cables shall be classified by Underwriters Laboratories, Inc. as having a 2-hour fire resistive rating. Cable terminations shall be made with UL listed mineral-insulated cable fittings. Approved Manufacturer - Pyrotex USA, Inc. or approved equal.
- J. Type MC Cable may be used for concealed branch circuits in hollow spaces where allowed by code if installed and terminated as specified under Execution Section. Armor shall be galvanized steel and shall be UL listed for 2 hour fire wall penetration. Aluminum armor is not acceptable.
- K. Type MC Cable may also be used for fire alarm where concealed and allowed by Code. Armor shall be red.
- L. Acceptable manufacturers:
1. AFC Cable Systems
 2. American Wire & Cable
 3. Cerro
 4. Cornish
 5. Crescent
 6. General Cable
 7. Okonite
 8. Or equal

M. Installation of conductors and cables

1. Install all power and 120 volt control wire and cable in approved raceways. When low tension wiring is run exposed, install it in conduit. Plenum rated low tension cable may be used for installation above suspended ceilings where it is allowed by the Code and is allowed in the specification for the specific system.
 - a. Wire Size:
 - 1) Install minimum No. 12 AWG for power and lighting circuits.
 - 2) Install minimum No. 10 AWG for 120 volt 20 ampere branch circuits of 75 feet to 150 feet length, and minimum No. 8 AWG for the circuits of 150 feet to 250 feet unless otherwise shown on the drawings or required by the equipment shop drawings.
 - 3) Install minimum No. 10 AWG for 277 volt 20 ampere branch circuits of more than 150 feet unless otherwise shown on the drawings.
2. Metal clad cable type MC may be used for branch circuit wiring above suspended ceilings and for device wiring in the metal stud partitions. MC cable shall not be used for a termination at the panels (homeruns) and where they run exposed. Any wiring associated with Smoke control systems can not be installed in MC cable as it does not meet 780 CMR Section 909.12.1.
3. Bundle conductors #10 and smaller in branch circuit panelboards, signal cabinets, signal control boards in switchboards and motor control centers.
4. Homerun Circuits:
 - a. Follow homerun circuit numbers shown on the drawings to connect circuits to the panelboards. Where homerun circuit numbers are not shown on the drawings, divide similar types of connected loads among phase busses so that currents in each phase are within 10% of each other during normal usage.
 - b. Wire multi-wire branch circuit homerun with two or three single phase and one common neutral conductor to a panel in a such manner that each phase circuit is fed from the adjacent circuit breakers. Do not combine circuits so that any homerun has more than three circuits (total of five wires) installed in one conduit, unless the circuit conductors are de-rated in strict accordance with the referenced Electrical Code.
 - c. Branch circuit wiring in the classrooms, laboratories and offices shall be provided with a dedicated neutral conductor for each phase conductor.
5. Properly group feeders, branch circuit and auxiliary system wiring passing through pull boxes and/or being made up in panelboards; neatly bind each group of wires together with plastic cable ties, and trim loose ends of the ties.
6. Peel branch circuits and auxiliary system wiring out of the wiring gutters at the terminal cabinet and panels at 90 degrees to circuit breakers and terminal lugs before making connections.
7. Color code conductors No. 6 AWG and larger by applying colored plastic tape at ends and where connections and splices are made. Wrap tape around the conductor three complete turns.
8. Splices and Terminations:
 - a. Make splices and joints by means of UL-listed, solderless connectors rated 600 volt, of sizes and types required by manufacturer's recommendations, with temperature ratings equal to that of wire.
 - b. Attach copper wire to panelboards, switchboards, disconnect switches and other electrical equipment by means of bolt-on lugs with hex screws. Properly size lugs; do not cut strands from a conductor in order to fit conductor into a lug.
 - c. Connectors for cables 250 MCM and larger shall have two clamping elements and terminals for bus connections shall have two bolt holes.

9. Identification: Identify and color-code conductors and cables according to Division 26 Section "Identification for Electrical Systems." Label feeder and branch circuits in pull and junction boxes, handholes and at cable terminations in the panelboards, motor control centers, and switchboards. Use non-ferrous tags or labels stamped or printed to correspond with markings on the drawings or marked so that feeder or cable may be identified readily. If suspended tags are provided, attach with nylon line or cable lacing.
10. Connect branch circuits to the breakers in multi-phase panelboards required to balance loads.
11. Provide handle ties for multiwire branch circuits as required in the NEC
12. Low Tension Cables: Provide separation from power wiring and lighting fixtures as follows:
 - a. Lighting fixtures - at least 6 inches.
 - b. Power branch circuit wiring with MC type cable - at least 12 inches.
 - c. Power branch circuit wiring in metal conduit - at least 6 inches.
13. When low-tension cables are not in conduit or trays, support cables from the deck and/or beams, spacing supports no farther apart than 6 ft.-0 in. on center. Provide hangers, clips or other approved method of grouping the cables and keeping them away from other systems. Take care to ensure that ties, clips and other support devices do not compress the cable or damage cable insulation; use J-hooks whenever possible.
14. Cable Supports:
 - a. Provide cable supports for vertical feeders required by the referenced Electrical Code.
 - b. Support vertical feeders at each floor level.
 - c. Support and secure metal-clad cable Type MC at intervals not exceeding 6 feet and within 12 inches from every outlet box, junction box or cabinet.
 - d. Support metal clad cable Type MC with cable supports equal to Caddy WMX-6, MX-3, and clamps equal to Caddy 449. Where cables are supported by the structure and only need securing in place, then cable ties will be acceptable.
15. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
16. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
17. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
18. For wiring in high temperature areas or high temperature equipment (i.e. boiler rooms, water heaters/boosters), furnish conductors for 90°C dry and wet rating.

2.4 ACCESS PANELS

- A. Refer to section 083100 – ACCESS DOORS AND PANELS for requirements.
- B. Provide access panels for access to concealed junction boxes and to other concealed parts of system that require accessibility for operation and maintenance. In general, electrical work shall be laid out so access panels are not required.
- C. Access panels shall be located in a workmanlike manner in closets, storage rooms, and/or other non-public areas, positioned so that junction can be easily reached and size shall be sufficient for purpose (minimum size 12" x 12"). When access panels are required in corridors, lobbies, or other habitable areas, they shall be located as directed by the Architect.
- D. Access panels shall be prime painted and equipped with screwdriver operated cam locks.

- E. Acceptable manufacturers:
1. Inland Steel Products Company - Milcor
 2. Miami Carey
 3. Walsh-Hannon-Gladwin, Inc. - Way Locator

- F. Specific types:
1. Acoustical Tile Ceiling "Milcor Type AT"
 2. Plastered Surfaces "Milcor Type K"
 3. Masonry Construction "Milcor Type M"
 4. Drywall Construction "Milcor Type DW"

- G. Furnish access panel shop drawings.

2.5 SLEEVES, INSERTS, AND OPENINGS

- A. Sleeves: Provide sleeves of proper sizes for all openings required in concrete floors and walls. Sleeves passing through floors shall be set with top of sleeve 1" above finished floor. Core drilling will also be acceptable if in accordance with any structural standards. Any unsleeved openings shall be waterproofed.
- B. Inserts: Provide inserts or other anchoring devices in concrete and masonry construction as required to support raceways and equipment.
- C. Openings: Where an opening is required in concrete slabs to allow passage of a multitude of raceways, give adequate notice to General Contractor so he may box out opening in form work.
- D. Any openings through fire rated surfaces shall be closed off with fireproofing materials providing the same rating as the surface penetrated.
1. Acceptable Manufacturers:
 - a. Specified Technologies Inc.
 - b. Thomas & Betts
 - c. International Protective Coatings Corp.
 - d. 3M Fire Protection Products
 - e. Dow Corning
 - f. Or Equal

2.6 WIRING DEVICES

- A. Manufacturers:
1. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - a. Cooper Wiring Devices.
 - b. Hubbell.
 - c. Leviton.
 - d. Pass & Seymour.
 - e. Or equal

B. Straight Blade Receptacles:

1. Duplex Receptacles: Comply with NEMA WD 1, NEMA WD 6 configuration NEMA5-20R, UL 498 and FS W-C-596. Specification grade industrial series, straight-blade, 2 pole 3 wire grounding type, back and side wired, nylon face, rated for 120 volts, 20 amperes. Hubbell No.5362 or equal. Hubbell No.5362WR or equal for weather-resistant listed receptacles. Receptacles that are controlled by an automatic control device shall be marked per NEC with the international power symbol. Provide as indicated on the drawings with one controlled face and split circuit hot tab equal to Hubbell BR20C1 series.
2. Ground fault interrupter (GFI) receptacles: Duplex receptacles conforming to UL 943, specification grade heavy duty, feed-through type, rated for 120 volt, 20 amperes, NEMA 5-20R, GFI Class "A" with a sensitivity to leakage 5 milliamps, weather-resistant and tamper-resistant listed. Hubbell No. GF20LA or equal.
3. Transient-Voltage Surge-Suppressor (TVSS) Receptacles: Duplex type, NEMA 5-20R configuration, with integral transient-voltage surge protection in a minimum of 3 modes: line-to-ground, line-to-neutral, and neutral-to-ground; listed as complying with UL 1449. Hubbell HBL5362SA or equal.
4. Tamper-Resistant Convenience Receptacles, 125 V, 20 A: Specification grade, straight-blade, 2 pole 3 wire grounding type, back and side wired. Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498. Listed as tamper-resistant with "T" marking. Hubbell BR20TR or equal.
5. Isolated-Ground, Duplex Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498. Straight blade; equipment grounding contacts connected only to the green grounding screw terminal of the device, with inherent electrical isolation from mounting strap. Hubbell CR 5253IG or equal.
6. Duplex Receptacles with Integral USB jacks, 125 V, 20 A: Specification grade, straight-blade, 2 pole 3 wire grounding type, back and side wired. Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498. "USB" marking indicates USB receptacle duplex grounding type NEMA 5-20R equal to Hubbell MX20X2 or equal

C. All standard 15 and 20 ampere, 125 and 250 volt non-locking type receptacles located 5 ft. -6 in. or below within Auditorium, Gymnasium, Pre-schools and elementary school age classrooms, medical clinic areas, dental offices and any other areas that are listed in NEC 406.12 shall be tamper resistant type receptacles whether indicated or not by the "T" marking on the drawings.

D. Exterior Outlets with Lockable Covers:

1. Provide exterior outlets with lockable covers at all exterior outlet locations. Provide GFCI Circuit Breakers on all branch circuits. Provide in-use weatherproof locking covers with cord retention. Provide Taymac MX3200 for single gang vertical MX3300 for single gang horizontal and MX6200 for double duplex.
 - a. Equal manufacturers
 - 1) RACO
 - 2) Hubbell
 - 3) Or equal

E. Snap Switches:

1. Comply with NEMA WD 1 and UL 20.
2. Switches, heavy duty, side wired, 120/277V, 20A:
3. Products: Subject to compliance with requirements, provide one of the following:
 - a. Cooper; 2221 (single pole), 2222 (two pole), 2223 (three way).

- b. Hubbell; C1221 (single pole), C1222 (two pole), C1223 (three way).
 - c. Leviton; 1221-2 (single pole), 1222-2 (two pole), 1223-2 (three way).
 - d. Pass & Seymour; 20AC1 (single pole), 20AC2 (two pole), 20AC3 (three way).
- F. Securely fasten wiring devices in place, plumb, level, and true to finished lines and surfaces.
- G. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.
- H. Provide gaskets on all wiring device plates where devices are on walls separating conditioned and non-conditioned spaces and exterior walls.
- I. Composition material of wiring devices to be nylon with ivory finish. Outlets intended for computer use shall be grey finish, outlets on emergency shall be red finish.
- J. Wall Plates:
- 1. Single and combination types to match corresponding wiring devices.
 - a. Plate-Securing Screws: Metal with head color to match plate finish.
 - b. Material for Finished Spaces: White- finish Type 302 stainless steel.
 - c. Material for Receptacles installed on wood paneling: Color to be selected by architect. (receptacle color to match faceplate)
 - d. Material for Finished Spaces installed in concrete: Satin-finished Type 302 stainless steel.
 - e. Material for Unfinished Spaces: Galvanized steel.
 - f. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in "wet locations."
 - 2. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant, die-cast aluminum.
- K. Finishes:
- 1. Color: Wiring device catalog numbers as specified do not designate device color.
 - a. Wiring Devices Connected to Normal Power System: Grey for computer circuits white for convenience receptacles other devices as selected by Architect, unless otherwise indicated or required by referenced Electrical Code or device listing.
 - b. Wiring Devices Connected to Emergency Power System: Red.
 - c. Isolated-Ground Receptacles: Orange.
 - d. Color to be selected by architect for receptacles installed in wood paneling.
- 2.7 PANELBOARDS
- A. Panelboards shall be dead-front, door in door safety type equipped with single or multi-pole circuit breakers suitable for 120/208 volt or 277/480 volt, 3 phase, 4 wire operation.
- B. Buses shall be copper. Panelboards shall have a circuit directory card mounted in a frame with plastic cover on inside of door. Panelboards to have a copper ground bus with terminals for each circuit. Panelboards serving isolated ground receptacles shall have a separate ground bus for terminations of the isolated grounds. The isolated ground bus shall be mounted to the panel tub via non-conducting means with a separate grounding conductor run to the normal panel ground bus. Provide oversize lugs for any termination requiring same due to oversize conductors. Provide 200% neutral buses on all 120/208 volt panelboards.

- C. Cabinets shall be minimum of 20 inch wide and be made of code gauge steel. Surface type shall be ordered without knockouts.
- D. Trims shall be made of code gauge steel, surface or flush as indicated. Panelboards shall be keyed alike. Trims shall be provided with full length piano hinge on one side, and secured to tub with sufficient quantity of latches opposite the hinge side to allow trim to fit flush with tub and when released, allow full access to wiring gutters. Inner door shall allow access to circuit breakers only.
- E. Panelboards shall be of the following types with minimum circuit breaker frame sizes listed below. Refer to schedules for larger circuit breaker frame sizes due to fault current availability. Square D is the Basis of Design.
1. 120/208 volt, three phase, four wire. Symmetrical interrupting capacity 10,000 AIC.
Style

Westinghouse type PRL-1	BAB Breakers (bolt-on)
Square D type NQOD	QOB Breakers (bolt-on)
Siemens type CDP-7	BQ Breakers (bolt-on)

Or equal
 2. 277/480 volt, three phase, four wire. Symmetrical interrupting capacity 42,000 AIC (series rated).
Style

Westinghouse type PRL-2	GHB Breakers (bolt-on)
Square D type NEHB	EHB Breakers (bolt-on)
Siemens type CDP-7	BQCH Breakers (bolt-on)

Or equal
 3. Distribution Panels:
 - a. Where scheduled as circuit breaker type, symmetrical interrupting capacity 65,000 AIC (series rated).
 - b. Westinghouse type PRL-3 FD Breakers
 - c. Square D I-Line type FA Breakers
 - d. Siemens SPP FXD6 Breakers
 - e. Or equal
- F. Panelboards and distribution panels shall be of same manufacturer as switchboard. Refer to drawings where higher interrupting are required.
- G. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.
1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 150 A and larger.

2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
3. Electronic trip circuit breakers with rms sensing; field-replaceable rating plug or field-replaceable electronic trip; and the following field-adjustable settings:
 4. Instantaneous trip.
 5. Long- and short-time pickup levels.
 6. Long- and short-time time adjustments.
 7. Ground-fault pickup level, time delay, and I²t response.
8. GFCI Circuit Breakers: Single- and two-pole configurations with Class A ground-fault protection (5-mA trip).
9. Ground-Fault Equipment Protection (GFEP) Circuit Breakers: Class B ground-fault protection (30-mA trip).
10. Arc-Fault Circuit Interrupter (AFCI) Circuit Breakers: Comply with UL 1699; 120/240-V, single-pole configuration.

2.8 GROUNDING SYSTEM

- A. All equipment and systems shall be grounded. Refer especially to NEC Section 250 Requiring Connections to Building Steel, Foundation, Water Service, and Interior Piping. Provide transformer pad grounding in accordance with utility company standards.
- B. The grounded conductor shall be supplemented by an equipment grounding system.
- C. The equipment grounding system shall be installed so all conductive items in close proximity to electrical circuits operate continuously at ground potential and provide a low impedance path for ground fault currents.
- D. Grounding conductors shall be so installed as to permit shortest and most direct path to ground.
- E. Maximum measured resistance to ground of 5.0 ohms shall not be exceeded. Ground separately derived systems (dry type transformers) in accordance with Article 250-26 by grounding neutral to transformer ground lug and providing insulated grounding electrode conductor to nearest effectively grounded building steel or, if unavailable, to nearest available effectively grounded metal water pipe.
- F. Equipment grounding conductors and straps shall be sized in compliance with Code Table 250.
- G. Grounding conductors shall be insulated with green color. Grounding conductors for use on isolated ground receptacles shall be green with trace color to differentiate between normal ground conductors.
- H. Branch circuits shall consist of phase and grounded conductor installed in common metallic raceway. All circuits shall have a separate insulated grounding conductor installed. Any flexible cable system or non-metallic raceway system shall have an insulated grounding conductor. Any cable system for use on isolated ground circuits shall have both an isolated ground conductor as well as an equipment ground conductor, both of which shall be insulated.
- I. Each electrical expansion fitting shall be furnished with a bonding jumper. Provide grounding bushings and ground connections for all raceways terminating below equipment where there is no metal-to-metal continuity.
- J. Continuity between all metallic and non-metallic raceway systems and equipment shall be maintained.

- K. Outdoor lighting fixtures shall be grounded and bonded in common with building system via a separate grounding conductor.

2.9 WIREWAYS

A. Wireway:

1. This specification covers Nema type 1 wireway used to house and protect wiring. The wireway system shall consist of wireway and appropriate fittings to complete the installation per the electrical drawings.
2. Metal wireway (NEMA type 1) is to be utilized in dry interior locations only as covered in article 362 part a of the national electrical code, as adopted by the national fire protection association and as approved by the American National Standards Institute. The wiremold c" or "sp" series is listed by underwriters' laboratories under file no. E137690 guide zoxy.
3. The wireway system specified herein shall be the "c" or "sp" system as manufactured by the wiremold company. Systems of other manufacturers may be considered equal if, in the opinion, and the written approval of the engineer, they meet all the performance standards specified herein.
4. The wireway and all system components must be UL Listed in full compliance with their standard ul870, "electrical wireways, auxiliary gutters and associated fittings". It shall be manufactured from 16-gauge cold rolled steel, finished in ASA 61 gray powder coat paint. All sizes larger than 6" x 6" shall be manufactured from 14-gauge cold rolled steel, finished in ASA 61 gray powder coat paint. A factory installed divider shall be available to separate power and low voltage wiring housed in the same wireway sections.
5. A full compliment of fittings for the raceway shall be available including, but not limited to, 45° and 90° flat, vertical inside and outside elbows, tee and cross fittings, couplings for joining sections of wireway, reducers, hangers, end blanks, a field installed divider and all other components necessary to make the system workable. The fittings shall have an ASA 61 gray powder coat paint finish to match the wireway.
6. Prior to and during installation, refer to system layout drawing containing all elements of the system. Installer shall comply with detailed manufacturer's instruction sheets which accompany system components as well as complete system instruction sheets, whichever is applicable.
7. All wireway systems shall be mechanically continuous and connected to all electrical boxes and cabinets, in accordance with manufacturer's installation sheets.
8. All connections shall be checked to make sure they are correctly tightened and to insure that all wireway shall be electrically continuous and bonded in accordance with the national electric code for proper grounding.
9. All wireway systems shall be installed complete. Work shall include fastening all wireway and appropriate fittings to install a complete wireway system as indicated on the electrical and/or communication drawings and in the applicable specifications

2.10 SEALS

A. Water Tight Seals

1. Conduits entering from the exterior or below grade shall have water tight fittings on the outside and on the inside of the conduit.
 - a. Fittings on the outside of the conduit shall be O-Z Gedney type FSK or approved equal. Provide type WSK if penetration is within two feet of the high water table. Provide grounding attachment.
 - b. Fittings on the inside of the conduit shall be O-Z Gedney type CSBI or approved equal. Provide type CSBG if penetration is within two feet of the high water table. Provide a blank fitting to seal spare or empty conduits.

- c. O-Z Gedney type CSM fitting may be used when sealing within a sleeve or cored hole.
 2. Submit on seals to be used.
- B. Environmental Seals
1. Provide seals on raceways exposed to widely different temperatures, as in refrigerating or cold storage areas. Install seal to prevent circulation of air from warmer to colder sections through the raceway.
- C. Hazardous Area Seals
1. Provide explosion proof seals as required by the Electric Code.
- D. Smoke and Fire Stopping Seals
1. Provide a seal around raceways or cables penetrating full height walls (slab to slab), floors or ventilation or air handling ducts so that the spread of fire or products of combustion shall not be substantially increased.
 2. Penetrations through fire-resistant-rated walls, partitions, floors or ceilings shall be firestopped using approved methods and NRTL listed products to maintain the fire resistance rating.
 3. Fire stopping in sleeves or in areas that may require the addition or modification of installed cables or raceways shall be a soft, pliable, non-hardening fire stop putty. Putty shall be water resistant and intumescent. Provide for all sleeves and raceways.
 4. Firestopping in locations not likely to require frequent modification shall be NRTL listed putty, caulk or mortar to meet the required fire-resistant rating.
 5. Box penetrations into a fire rated wall or shaft shall have a fire stopping pad installed on the back of the box.
 6. Firestopping of cable trays or busways through walls shall be within a non-hardening putty or with seal bags.
 7. Firestopping materials shall be NRTL listed to UL 1479 (ASTM E814). Installation methods shall conform to a UL firestopping system. Submit specifications and installation drawings for the type of material to be used. Firestopping materials shall be as manufactured by 3M, International Protective Coatings Corp., RayChem or approved equal.

2.11 STANDBY ELECTRICAL SYSTEM

- A. Provide one 60KW, 75KVA at .8 PF standby power rated natural gas fueled generator set, mounted in perfect alignment on an all welded, fabricated steel sub base which shall allow for attachment of all necessary engine and generator accessories.
1. Acceptable Manufacturers:
 - a. Generac
 - b. Kohler
 - c. Caterpillar
 - d. Onan/Cummings
 - e. Or equal
- B. SPECIAL NOTE: Generator shall be warranted by manufacturer to develop full load performance while operating at 7.0 inches of available gas pressure at the inlet to the generator factory connection.

C. Engine

1. Water cooled with unit mounted radiator. Provide starter and all field wiring required by manufacturer
2. Dry type replaceable element air cleaners.
3. Full flow lube oil filters and bypass oil filter.
4. Twelve (12) volt starting motor, 12 volt, 3 ampere battery charging alternator.
5. Engine instrument panel to include ammeter, lube oil pressure gauge, lube oil temperature gauge, water temperature gauge, and hour meter.
6. Engine mounted safety control to provide alarm signals for engine shutdown in event of low oil pressure, high coolant temperature, overspeed, over crank, and pre alarms for high water temperature and low oil pressure.
7. Jacket water heater, 2000 watt, 120 or 208 volt, single phase or as recommended by generator manufacturer.

D. Generator: 60KW, 75KVA, 120/208 volt, 3 phase, 4 wire, 60 Hz, 1800 RPM revolving field type main generator with brushless exciter and permanent magnet.

Voltage regulation + 1% from no load to full load.

E. Cooling System: Unit mounted radiator with flange attached.

F. Starting System: 12 volt heavy duty lead acid storage battery, connected for 12 volt DC output.

1. Battery rack, cables, and connectors shall be provided.
2. Provide 10 amp battery charger fed from a 120 volt, single phase, 60 Hz service. Battery charger to include high and low battery voltage alarm relays for derangement panel. Battery charger shall meet NFPA 110 Standards.

G. Exhaust System: Furnish one Maxim M 51 3" critical silencer, 3" side inlet, and one 3" end outlet complete with two (2) 3" companion flanges.

1. Furnish one 3" x 18" flexible stainless steel exhaust connector, flanged on one end, threaded nipple on opposite end.

H. Vibration Isolators: Set of four (4) Korfund rubber type vibration isolators for installation between steel base and concrete foundation.

I. Generator Control Panel:

1. To completely control operation of engine generator set. Panel to have automatic start control, AC volt meter, AC ammeter, pointer type frequency meter, volt meter, ammeter and selector switch. Alarm signals to indicate pre low oil pressure, pre high coolant temperature, and alarm signals to shut down engine in event of a low oil pressure, high coolant temperature, engine overspeed, or overcrank. Lights on face of panel to indicate failure. Provide dry contacts for remote disarrangement signal & louvers. Locate remote annunciator in administration area.
2. Terminal strip shall be included with alarms and prewarning devices prewired for remote annunciator specified herein. Provide wiring between generator and remote annunciator panel. Generator control switch shall be mounted on control panel face. A flashing light for selector switch "OFF" shall be included.
3. Provide molded case line circuit breakers mounted on generator in oversized terminal box.

J. Automatic Transfer Switches:

1. Provide automatic transfer switches as shown on drawings for operation on 120/208 volts, 3 phase, 4 wire operation. Units to be housed in a NEMA 1 enclosure and shall be 4 pole as indicated on drawings.
2. The transfer switches shall be rated for 42,000 ARMS and fed from a current limiting breaker.
3. Entire switch shall be listed under UL 1008.
4. Acceptable Manufacturers:
 - a. Russ Electric
 - b. ASCO
 - c. Kohler

5. Unit shall be provided with standard accessories as follows.
 - a. Voltage and Frequency Sensing:
 - 1) Close differential voltage sensing on all phases of normal pickup adjustable 85 100%. Dropout 75 98%
 - 2) Voltage sensing of emergency source. Adjustable pickup 85 100%.
 - 3) Frequency sensing of emergency source. Adjustable pickup 90 100%.
 - b. Time Delays:
 - 1) Time delay to override momentary normal source outages. Adjustable 0.5 to 6 seconds.
 - 2) Retransfer to normal with 5 minute cooldown timer.
 - c. Engine Control:
 - 1) Contact to close when normal source fails.
 - 2) Contact to open when normal source fails.
 - 3) Test switch to simulate normal source failure.
 - d. Indicators: Pilot lights to indicate switch in normal position or emergency position.
 - e. Auxiliary Contacts: Two (2) to close on normal. Two (2) to close on emergency.

6. Required Accessories:
 - a. Plant exerciser.
 - b. In-phase monitor (Motor Load Transfer). (ATS-OS)
 - c. Manual transfer to normal source.
 - d. elevator control transfer module. A load control circuit consists of two (2) sets of single pole, double throw contacts that operate 3 seconds before transfer in either direction. Contacts rated 3 amperes, 208 volts AC or 10 amperes, 32 VDC, for signal to elevator of generator power available. Provide 2 #14AWG conductors in 3/4" conduit, interlock wiring to each elevator controller from each switch controlling elevator power.

K. Remote Annunciator Panel: A flush mounted panel shall include a visual signal that battery charger is functioning properly and both audible and visual signals. Annunciator shall meet NFPA 110 Standards.

1. Audible signal shall have a silencing switch. A lamp test button shall be provided.

L. Factory Testing: A certified factory test to be conducted at 1.0 power factor. Test for four (4) hours, one hour each at 25%, 50%, 75% and 100% load. Take standard readings and submit test reports for approval prior to shipment. Also, perform field test with load bank at same ratings for 2 hours, in addition to the 2 hour building load test specified below. Provide fuel required for testing.

- M. Miscellaneous: Necessary lube oil and anti freeze.
- N. Equipment Testing and Instruction Manual and Drawings:
1. Operating instructions and maintenance manuals shall contain the following information:
 - a. Operating Instructions
 - b. Replacement Parts
 - c. Wiring Diagram
 - d. Maintenance
 2. The entire emergency system shall be field test operated for two (2) hours. A normal power failure shall be simulated. The engine generator unit shall automatically start, come up to speed, and assume full emergency load. Entire building shall be in operation during test.
 3. Custodians of the equipment shall be present during test. At that time they shall be instructed in operation and maintenance.
 4. Upon completion of tests, written reports containing results shall be submitted. Test reports shall contain readings taken at 30 minute intervals along with all other pertinent test information.
 - a. Ambient Temperature
 - b. Oil Pressure
 - c. Battery Charge Rate
 - d. AC Volts
 - e. AC Amperes All Phases
 - f. Frequency
 - g. Kilowatts
 - h. Power Factor
- O. Coordination of Trades:
1. The following equipment shall be furnished by Electrical Contractor but shall be installed under other sections.
 - a. Anchor bolts to be installed by Construction Manager based on approved shop drawings.

PART 3 - EXECUTION

3.1 INSPECTION AND ACCEPTANCE

- A. Examine all surfaces and contiguous elements to receive work of this section and correct, as part of the Work of this Contract, any defects affecting installation. Commencement of work will be construed as complete acceptability of surfaces and contiguous elements.

3.2 WORK COORDINATION AND JOB OPERATIONS

- A. Equipment shall not be installed in congested and possible problem areas without first coordinating installation of same with other trades. Relocate electrical equipment installed in congested or problem areas should it interfere with the proper installation of equipment to be installed by other trades.

- B. Particular attention shall be directed to coordination of lighting fixtures and other electrically operated equipment requiring access which is to be installed in ceiling areas. Coordinate with other trades, the elevations of equipment in hung ceiling areas to insure adequate space for installation of recessed fixtures before said equipment is installed. Conflicts in mounting heights and clearances above hung ceilings for installation of recessed lighting fixtures or other electrically operated equipment requiring access shall be brought to the attention of Architect for a decision prior to equipment installation.
- C. Furnish to General Contractor and other subcontractors information relative to portions of electrical installation that will affect other trades sufficiently in advance so that they may plan their work and installation.
- D. Obtain from other trades information relative to electrical work which he, the Electrical Contractor, is to execute in conjunction with installation of other trades' equipment.
- E. Lighting fixtures in mechanical spaces or utility/ storage rooms shall only be installed after all mechanical equipment is in place.

3.3 PLANS AND SPECIFICATIONS

A. Plans:

- 1. Drawings showing layout of electrical systems indicate approximate location of raceways, outlets, and apparatus. Runs of feeders and branch circuits are schematic and are not intended to show exact routing. Final determination as to routing shall be governed by structural conditions and as indicated on the approved coordination drawings.

B. Specifications:

- 1. Specifications supplement drawings and provide specifics pertaining to methods and material to be used.

3.4 IDENTIFICATION

A. Equipment shall be marked for ease of identification as follows:

- 1. Provide screw-on nameplates on switchboards, panelboards, F.A. terminal cabinets, starters, and disconnect switches. Nameplates to be of black phenolic with white engraving. For starters and disconnect switches lettering shall be minimum of ¼ in. high. Nameplates on panelboards shall have the following information.
 - a. Line 1 - Panel designation in ½ in. high letters.
 - b. Line 2 - Utilization voltage in 3/8 in. high letters.
 - c. Line 3 - Distribution source "Fed from ¼ in. high letters.
- 2. Neatly typed directory cards listing circuit designations shall be fastened inside the cover of panelboards. Spare circuits shall be penciled.
- 3. Provide Signage on all rooms that contain Fire alarm control equipment within it. Where a Fire alarm control panel is located within a separate room provide permanent signage that reads " FIRE ALARM CONTROL PANEL INSIDE" with minimum 7 in. high by 10 in. width with 2-inch high block letters a 0.5 in. letter stroke - white letters on a contrasting red background. The sign shall be permanently attached, at normal eye level to the door leading to the fire alarm control panel(s).

4. Color coding schedules. If there is more than a single system voltage, different voltages shall have separate color codes, as previously specified. A copy of the color code schedule shall be affixed to each secondary switchboard and distribution panel and shall be of the phenolic nameplate type as previously specified. A typewritten color code schedule shall also be affixed, under plastic, inside each panelboard door.
5. Outlet boxes both concealed and exposed shall be identified as to panel origination and circuit number by means of fibre pen on the inside of coverplate.
6. Special system outlet boxes concealed above hung ceilings shall be identified as to system by spray painting during roughing. The following systems shall be identified.
 - a. Fire Alarm - red.
 - b. Normal/Emergency - yellow.
 - c. Security - blue.
 - d. Sound - green.
7. Wiring device plates on devices connected to normal-emergency circuits shall be red in color.
8. All conductors in boxes larger than standard outlet boxes, in all wireways, and trench headers, shall be grouped logically and be identified.
9. Grounding conductors and neutrals shall be labeled in panels, and wireways, as to circuits associated with.
10. Emergency system wiring shall comply with 700.10(A).
11. Power and raceway identification:
 - a. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway size.
 - b. Colors for Raceways Carrying Circuits at 600 V or Less:
 - c. Black letters on an orange field.
 - d. Legend: Indicate voltage and system or service type (Power, Lighting, Emergency, Control).
 - e. Colors for Raceways Carrying Circuits at More Than 600 V:
 - f. Black letters on an orange field.
 - g. Legend: "DANGER CONCEALED HIGH VOLTAGE WIRING" with 3-inch- high letters.
 - h. Self-Adhesive Vinyl Labels for Raceways Carrying Circuits at 600 V or Less: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
 - i. Tape and Stencil for Raceways Carrying Circuits More Than 600 V: 4-inch- wide black stripes on 10-inch centers diagonally over orange background that extends full length of raceway. Stop stripes at legends.
 - j. Metal Tags: Brass or aluminum, 2 by 2 by 0.05 inch, with stamped legend, punched for use with self-locking cable tie fastener.
 - k. Write-On Tags: Polyester tag, with corrosion-resistant grommet and cable tie for attachment to conductor or cable. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
12. Armored metal clad cable identification:
 - a. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
 - b. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; 2 inches wide; compounded for outdoor use.
13. Power and Control Cable identification:
 - a. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.

- b. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
 - c. Metal Tags: Brass or aluminum, 2 by 2 by 0.05 inch, with stamped legend, punched for use with self-locking cable tie fastener.
 - d. Write-On Tags: Polyester tag, with corrosion-resistant grommet and cable tie for attachment to conductor or cable. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
 - e. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
14. Conductor Identification materials:
- a. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide.
 - b. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
 - c. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
 - d. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
 - e. Write-On Tags: Polyester tag, with corrosion-resistant grommet and cable tie for attachment to conductor or cable. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
15. Underground warning tape:
- a. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical and communications utility lines but not less than 4 mils thick and 6 inches wide.
 - b. Printing on tape shall be permanent and shall not be damaged by direct-burial service.
 - c. Tape material and ink shall be chemically inert, and not subject to degrading when exposed to acids, alkalis, and other destructive substances commonly found in soils.
 - d. Color and Printing:
 - 1) Comply with ANSI Z535.1 through ANSI Z535.5.
 - 2) Inscriptions for Red-Colored Tapes: ELECTRIC LINE, HIGH VOLTAGE.
 - 3) Inscriptions for Orange-Colored Tapes: TELEPHONE CABLE, CATV CABLE, COMMUNICATIONS CABLE, OPTICAL FIBER CABLE.
16. Warning labels and signs:
- a. Self-Adhesive Warning Labels: Factory-printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.
 - b. Baked-Enamel Warning Signs:
 - c. Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application. Nominal size, 7 by 10 inches.
 - d. Metal-Backed, Butyrate Warning Signs:
 - e. Weather-resistant signs, non-fading, preprinted, cellulose-acetate butyrate signs with galvanized-steel backing; and with colors, legend, and size required for application. Nominal size 10 by 14 inches.
 - f. Safety signs shall warn of potential electrical hazard and shall include, but are not limited to, the following legends:

- g. Multiple power source warning.
 - h. Workspace clearance warning.
 - i. Potential electric arc flash hazard.
17. Equipment identification labels:
- a. Adhesive Film Label: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch.
 - b. Adhesive Film Label with Clear Protective Overlay: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch. Overlay shall provide a weatherproof and UV-resistant seal for label.
 - c. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on a dark-gray background. Minimum letter height shall be 3/8 inch.
18. Cable ties:
- a. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, Type 6/6 nylon.
 - b. Minimum Width: 3/16 inch.
 - c. Color: Black except where used for color-coding.
 - d. UV-Stabilized Cable Ties: Fungus inert, designed for continuous exposure to exterior sunlight, self-extinguishing, one piece, self-locking, Type 6/6 nylon.
 - e. Plenum-Rated Cable Ties: Self-extinguishing, UV stabilized, one piece, self-locking. UL 94 Flame Rated.
19. Verify identity of each item before installing identification products. Coordinate names, abbreviations, colors, and other designations used in electrical identification work with corresponding designations specified or indicated. Install numbers, lettering, and colors as approved in submittals and required by code.
20. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
21. Apply identification devices to surfaces that require finish after completing finish work.
22. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
23. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
24. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.
25. Aluminum Wraparound Marker Labels and Metal Tags: Secure tight to surface of conductor or cable at a location with high visibility and accessibility.
26. Cable Ties: For attaching tags. Use general-purpose type, except as listed below:
27. Outdoors: UV-stabilized nylon.
28. In Spaces Handling Environmental Air: Plenum rated.
29. Underground-Line Warning Tape: During backfilling of trenches install continuous underground-line warning tape directly above line at 6 to 8 inches below finished grade. Use multiple tapes where width of multiple lines installed in a common trench or concrete envelope exceeds 16 inches overall.
30. Renovation Projects: For alterations and additions to existing facilities, use existing identification system. Where systems have not been standardized, use the identifying and marking system specified in this standard.

31. Distribution Equipment: Identify major components of the distribution system (such as circuit breakers, switches, transformers, switchboards, panelboards, motor control centers) with nameplates. Nameplates on disconnect switches and control stations shall identify the equipment served.
32. Identification Schedule:
 - a. Accessible Raceways and Metal-Clad Cables, 600 V or Less, for service, feeder, and branch circuits more than 30A and 120V to ground: Identify with self-adhesive vinyl label applied at 10-foot maximum intervals.
 - b. Power-Circuit Conductor Identification, 600 V or Less: Identify conductors in the panels, pull and junction boxes, manholes, handholes.
 - 1) Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors for ungrounded service, feeder and branch-circuit conductors as specified in Division 26 Section "Low-Voltage Power Conductors".
 - a) Factory applied continuous color coding for conductors No.8 AWG and smaller.
 - b) Field-applied, color coding conductor tape: For conductors No.6 AWG and larger. Apply in half-lapped turns for a minimum distance of 6 inches from terminal points and in boxes where splices or taps are made.
 - 2) Lighting and Receptacle Outlet Boxes: Identify with the panel and circuit number.
 - c. Power-Circuit Conductor Identification, above 600 V: For conductors in the vaults, pull and junction boxes, manholes and handholes, use write-on tags.
 - d. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
 - e. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
 - f. Terminal Blocks: Attach numbered nameplates to terminal blocks which require identification numbers; use the designations shown on the wiring diagrams. Install nameplate at the top of vertically mounted terminal blocks and at the end of horizontally mounted terminal blocks. Indicate the individual terminal point designation shown on the wiring diagrams.
 - g. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
 - h. Workspace Indication: Install floor marking tape to show working clearances in the direction of access to live parts. Workspace shall be as required by NFPA 70 unless otherwise indicated. Do not install at flush-mounted panelboards and similar equipment in the finished spaces.
 - i. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Apply warning, caution, and instruction signs where required by the referenced Electrical code, or where reasonably required to assure safe operation and maintenance of electrical systems and of the items to which they connect. Install self-adhesive warning labels or baked-enamel warning signs with approved legend where instructions or explanations are needed for system or equipment operation. Install metal-backed, butyrate warning signs for outdoor items.
 - j. Emergency Operating Instruction Signs: Install instruction signs with white legend on a red background with minimum 3/8-inch high letters for emergency instructions at equipment used for power transfer, load shedding and other emergency operations.
 - k. Safety sign for the switchboards and panelboards: Provide a sign to warn qualified persons of potential electric arc flash hazard.

- l. All electrical distribution equipment and mechanical/plumbing/fire protection equipment fed from the electrical distribution system shall contain in addition to the identification requirements listed in this section shall be labelled where they are fed from. For example Distribution panel 4DP1A is fed from MSB-1A, its label shall be "4DP1A fed from MSB-1A" submit full labeling scheme for review and approval.
- m. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to the disconnect switches and protection equipment, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.
 - 1) Labeling Instructions:
 - a) Indoor Equipment: Self-adhesive, laminated acrylic or melamine label.
 - b) Outdoor Equipment: Engraved, laminated acrylic.
 - c) Unless provided with self-adhesive means of attachment, fasten labels with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.
 - 2) Panelboards: Typewritten directory of circuits in the location provided by panelboard manufacturer. Panelboard identification shall be engraved laminated acrylic. Panelboard directories shall identify the load name and location (i.e. AHU-1, Room #, FCU-1, Room #).

3.5 PROTECTION AND CLEANUP

A. Protection:

- 1. Materials and equipment shall be suitably stored and protected from weather.
- 2. During progress of work, pipe and equipment openings shall be temporarily closed so as to prevent obstruction and damage.
- 3. Be responsible for maintenance and protection of material and equipment until final acceptance.

B. Cleanup:

- 1. Keep job site free from accumulation of waste material and rubbish. Remove all rubbish, construction equipment, and surplus materials from site and leave premises in a clean condition.
- 2. At completion, equipment with factory finished surfaces shall be cleaned and damaged spots touched up with the same type paint applied at factory.
- 3. Particular attention is called to Section 110-12(c) of the NEC, which requires that internal parts of electrical equipment not be contaminated by construction operations.

3.6 PORTABLE OR DETACHABLE PARTS

- A. Retain possession of and be responsible for spare parts, portable and detachable parts, and other removable portions of installation including fuses, keys, locks, blocking clips, inserts, lamps, instructions, drawings, and other devices or materials that are relative to and necessary for proper operation and maintenance of the system until final acceptance, at which time such parts shall be installed or turned over to the Owner, as the case may be.

3.7 SAFETY PRECAUTIONS

- A. Provide proper guards, signage, and other necessary construction required for prevention of accidents and to insure safety of life and property. Remove any temporary safety precautions at completion.

3.8 MOUNTING HEIGHTS

- A. All electrical equipment shall be mounted at the following heights unless noted or detailed otherwise on drawings. Notes on architectural drawings shall supersede those noted below or detailed on the electrical drawings. If mounting height of an electrical component is questionable, obtain clarification from Architect before installation.
 - 1. Duplex convenience outlets, microphone outlets, and telephone outlets - 18 inches.
 - 2. Light switches, pushbutton stations, HOA switches, and all other toggle or control switches for the operation of heating, ventilating, and air conditioning, plumbing, and general service - 48 inches.
 - 3. Clock outlets - 84 inches.
 - 4. Fire alarm pull stations - 48 inches.
 - 5. Fire alarm audio visual signals - 80 inches or 6 inches below ceiling, whichever is lower.
 - 6. Panelboards for lighting, power, telephone, and other auxiliary systems - 78" to top.
 - 7. Equipment located in lobbies shall be located as detailed on architectural drawings or as directed by Architect.
 - 8. All receptacles, light switches, fire alarm signals, and clocks sharing a common location shall be symmetrically arranged.
 - 9. Exterior and interior wall brackets shall be as detailed on architectural drawings or as directed by Architect.
- B. Mounting heights given are from finished floor to centerline. In the case of a raised floor, surface of raised floor is the finished floor.

3.9 WORKMANSHIP AND INSTALLATION METHODS

- A. Work shall be installed in first-class manner consistent with best current trade practices. Equipment shall be securely installed plumb and/or level. Flush-mounted outlet boxes shall have front edge flush with finished wall surface. No electrical equipment shall be supported by work of other trades. Cable systems shall be supported and not draped over ducts and piping or laid on ceiling suspension members. Lighting fixtures shall be installed to agree with Architects reflected ceiling plans.
- B. Supports:
 - 1. Support work in accordance with best industry practice and by use of standard fittings.
 - 2. In general, walls and partitions will not be suitable for supporting weight of panelboards, dry type transformers and the like. Provide supporting frames or racks extending from floor slab to structure above.
 - 3. Provide supporting frames or racks for equipment, intended for vertical surface mounting in free standing position where no walls exist.
 - 4. Supporting frames or racks shall be of standard angle, standard channel or specialty support system steel members, rigidly bolted or welded together and adequately braced to form a substantial structure. Racks shall be of ample size to assure a workmanlike arrangement of equipment.
 - 5. Provide 3/4 in. thick painted plywood mounting surfaces in all electric and telephone areas and for all equipment on free standing racks. All plywood shall be fire retardant and painted both sides and edges with 2 coats of white paint.

6. No work for exposed installations in damp locations shall be mounted directly on any building surface. In such locations, flat bar members or spacers shall be used to create a minimum of ¼ in. air space between building surfaces and work.
7. Nothing (including outlet, pull and junction boxes and fittings) shall depend on electric raceways or cables for support. All outlet, pull, and junction boxes shall be independently supported.
8. Nothing shall rest on, or depend for support on, suspended ceiling or its mounting members.
9. Support surface or pendant mounted lighting fixtures:
 - a. From outlet box by means of an interposed metal strap, where weight is less than five pounds.
 - b. From outlet box by means of a hickey or other direct threaded connection, where weight is from five to fifty pounds.
 - c. Directly from structural slab, deck or framing member, where weight exceeds fifty pounds.
 - d. Pendant lighting fixtures shall be supported by threaded rods in non-public areas and by manufacturers standard tube hangers with swivel aligner and canopy in public areas. Provide non-standard pendant lengths where required to mount fixtures at elevations either called for on drawings or as shown in architectural elevations.
10. Support recessed lighting fixtures directly from structural slabs, decks or framing members, by means of jack chain or air craft cable, one at each end of fixture at opposite corners.
11. Where support members must of necessity penetrate air ducts, provide airtight sealing provisions which allow for a relative movement between the support members and the duct walls.
12. Provide channel sills or skids for leveling and support of all floor mounted electrical equipment.
13. Where permitted loading is exceeded by direct application of electrical equipment to a slab or deck, provide proper dunnage to distribute the weight in a safe manner.
14. Support metallic raceways by either running within steel frame or hung from the building frame. Anything hung from building frame shall be attached with metallic fasteners.

C. Fastenings:

1. Fasten electric work to building structure in accordance with the best industry practice.
2. Where weight applied to attachment points is 100 pounds or less, fasten to building elements of:
 - a. Wood -- with wood screws.
 - b. Concrete and solid masonry -- with bolts and expansion shields.
 - c. Hollow construction -- with toggle bolts.
 - d. Solid metal -- with machine screws in tapped holes or with welded studs.
3. Where weight applied to attachment points exceeds 100 pounds, fasten as follows:
 - a. At field poured concrete slabs, provide inserts with 18 in. minimum length slip-through steel rods, set transverse to reinforcing steel.
 - b. Where building is steel framed, utilize suitable auxiliary channel or angle iron bridging between structural steel elements to establish fastening points. Bridging members shall be suitably welded or clamped to building steel. Provide threaded rods or bolts to attach to bridging members.
4. Floor mounted equipment shall not be held in place solely by its own dead weight. Provide floor anchor fastenings. Floor mounted equipment over 72 inches in height shall also be braced to nearest wall or overhead structural elements.

5. For items which are shown as being mounted at locations where fastenings to the building construction element above is not possible, provide suitable auxiliary channel or angle iron bridging to building structural elements.
6. Fastenings for metallic raceways using the fastening as support shall be of the metallic type. Fastenings to hold raceways or cables in place may be via traps.

D. General Raceway Installation:

1. Install the various types of raceways in permitted locations as previously specified. All raceways shall be run concealed. Consult Architect for instruction for raceways which must be exposed in public spaces.
2. Raceways for normal emergency or emergency only wiring cannot contain other conductors.
3. Raceways shall be properly aligned, grouped, and supported in accordance with code. Exposed raceways shall be installed at right angles to or parallel with structural members. Concealed raceways may take most direct route between outlets.
4. Raceways run on trapeze hangers shall be secured to the trapeze.
5. Raceways shall be continuous and shall enter and be secured to all boxes in such a manner that each system shall be electrically continuous from service to all outlets. Provide grounding bushings and bonding jumpers where raceways attach to painted enclosures or terminate below equipment.
6. Where raceways enter boxes, cabinets, tap boxes, other than those having threaded hubs, a standard locknut shall be used on the outside and locknut and bushing on the inside.
7. Where raceways terminate below equipment and there is no direct metal to metal continuity, provide grounding bushings on raceways and interconnect with equipment grounding conductor.
8. All empty raceways shall be provided with a pull wire.
9. All raceway sleeves, stub-ups, or stub-outs, where not connected to a box or cabinet, shall be terminated with a bushing.
10. All raceway joints shall be made up tight and no running threads will be permitted.
11. Where raceways are cut, the inside edge shall be reamed smooth to prevent injury to conductors.
12. All vertical raceways passing through floor slabs shall be supported.
13. Raceways shall not be installed in concrete slabs above grade or below waterproofed slabs.
14. Electric raceways and/or sleeves passing through floors or walls shall be of such size and in such location as not to impair strength of construction. Where raceways alter structural strength or the installation is questionable, the structural engineer shall be contacted for approval.
15. Raceways shall not run directly above or below heat producing apparatus such as boilers, nor shall raceways run parallel within 6 inches of heated pipes. Raceways crossing heated pipes shall maintain at least a 1 inch space from them.
16. Raceways shall be installed in such a manner as to prevent collection of trapped condensates, and all runs shall be arranged to drain.
17. Raceways passing between refrigerated and non-refrigerated spaces and those penetrating enclosures with air movement shall be provided with seals.
18. Raceways feeding fire and jockey pumps shall be rigid metal conduit either run below slab or inside 2 hour rated enclosure. Final connections to motors shall be liquidtight flexible conduit.
19. Where two alternate wiring methods interconnect such as EMT to flexible metal conduit, an outlet box shall be provided.
20. All empty raceways entering building and all sleeves or core drilled openings through floors shall be sealed.

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21. Each exterior raceway or assembly in a ductbank shall be provided with continuous warning tape installed 12 inches above raceway or ductbank.
22. Underground rigid non-metallic raceways where allowed and run as a ductbank encased in concrete shall be installed with plastic spacers to ensure a separation of 3 inches between raceways. Top of ductbanks shall be 30 inches below grade, unless otherwise detailed.
23. Elbows and extensions of rigid non-metallic raceway systems which penetrate slabs shall be rigid or intermediate metal conduit.
24. Raceways used for transformer connections shall be flexible type and shall contain a grounding conductor.
25. Raceways entering building through foundation wall into a basement area shall be provided with wall entrance seals or with other acceptable waterproofing method.
26. Underground non-metallic raceways shall be fully surrounded by a selected backfill to prevent more than the desired deflection and, in power raceways is needed to provide room for heat dissipation and good compaction of backfill. Separation Between Direct-Buried, Non-encased Ducts: 3 inches minimum for like services, and 12 inches minimum between power and signal ducts, unless shown otherwise on the drawings. Raceways formation for non-encased ducts shall be built up layer by layer. After each layer is placed, the selected backfill shall be placed over it to the specified depth. This fill should be spread evenly and compacted to provide continuous support for the next tier of raceways. Any temporary spacers used should be removed from each layer of raceway as soon as backfill is completed in that layer. A maximum of 9 conduits shall be grouped in the same trench unless otherwise noted on the drawings.
27. Comply with NECA 1 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter.
28. Run conduit concealed in finished areas above suspended ceilings, in wall spaces. Exposed conduit runs in finished areas require Architect's approval. Properly group conduit runs. Install conduit parallel to walls, structure and ceilings, and support with proper hangers and clamps. Running conduits at the bottom of structural members in exposed conditions is not allowed. Check door swings before installing back boxes for switches and receptacles.
29. Where conduit passes through a building expansion joint, use weatherproof, telescopic type expansion fittings which permit at least 4 inches of movement.
30. Form bends in conduit by means of a conduit bending machine or by an approved hickey. To fasten conduit to outlet boxes, cabinets, use locknuts and insulated throat bushings of compatible material.
31. Cut conduit ends square, thread conduit, and ream to remove burrs and sharp edges. Field threads shall be of the same type and have the same effective length as factory cut threads. Turns, wherever required in exposed conduit runs, shall be made by the use of factory-made bends, or field-made bends that meet the requirements of this Section and Electric Code. In the event of a multiplicity of conduits making the same turn, a steel junction box with a removable steel cover may be used. Offsets and bends for changes in elevation of exposed conduit runs shall be made at walls or beams and not in open spaces between walls or beams. Rout conduits required to avoid interfere with the operation or maintenance of equipment.
32. Plug or cap conduit ends as soon as conduit is installed, to prevent entrance of moisture or other debris during construction. Do not pull wire into any conduit until the conduit system is complete.
33. Drawings, in relation to the routing of conduits, are diagrammatic. Except where additional conduits may be required to avoid derating of branch circuits, elsewhere within this Section, the number and size of conduits and wire shall be furnished and installed as indicated by the drawings. Coordinate routing of conduits in the field with the building structure. Run conduit in straight lines parallel and perpendicular to walls, beams, and columns and with right angle bends and threaded conduit fittings. Maintain 12 inches clearance between conduit and surface with temperatures exceeding 104 degrees F.

34. Conduits passing through floors, walls and beams shall be of such size, number, and in such locations so as not to impair the strength of the construction.
35. Rout raceways in ceiling spaces in an orderly and organized manner, and to eliminate or minimize the number of junction boxes required. Support and secure conduits by means of rods, clamps and other conduit support devices approved by the Architect. Do not use wire to support conduits.
36. Where rigid metal conduit is threaded in the field, use a standard conduit cutting die providing 3/4 inch taper per foot.
37. Conduit and EMT runs shall be mechanically and electrically continuous from service entrance to outlets. Secure conduit to cabinet, junction box, pull box or outlet box with locknut outside and bushing inside, or with liquid-tight, threaded, self-locking, cold-weld wedge adapter. Locknuts and bushings or self-locking adapters will not be required where conduits are screwed into tapped connections. Before installing conductions, protect vertical conduit runs that terminate in bottoms of wall boxes or cabinets from entrance of foreign material.
38. Size rigid steel conduit, EMT and flexible metallic conduit required by the referenced Electrical Code, except as otherwise specified or shown on the drawings. Check raceway sizes to determine that equipment grounding conductor fits in same raceway with phase and neutral conductors to meet Massachusetts Electrical Code percentage of fill requirements.
39. Where conduit is secured rigidly on opposite sides of building expansion joints, and where runs of exposed conduit are long and subject to stress, provide expansion fittings capable of safely deflecting and expanding to twice the distance of structural movement. Provide separate external copper bonding jumper secured with grounding straps on each end of fitting.
40. Install a pull or junction box every 100 feet of straight conduit run, and wherever there is an equivalent of four 90 degree elbows or a total of 360 degree bend. Install no more than the equivalent of three 90-degree bends in any conduit run except for communications conduits, for which fewer bends are allowed.
41. Install sealing fittings at following points, and elsewhere as shown:
 - a. Where conduits enter or leave hazardous areas equipped with explosion proof lighting fixtures, switches, receptacles, and other electrical devices.
 - b. Where conduits pass from warm to cold locations.
42. Pull cords: In each empty raceway, provide nylon fishing line having tensile strength not less than 200 lbs, or provide No. 14 AWG steel wire. Label each end of each line or wire with a securely attached tag which indicates the location of the other end.
43. Liquid-tight type flexible conduits installed in the air-handling plenum space shall be with a plenum-rated outer jacket.
44. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

E. General Outlet Box Installation:

1. Boxes shall be set flush with finish surface and provided with proper type extension rings or plaster covers. Thru the wall boxes are not permitted. Check device or fixture to be mounted to box to ensure box orientation is proper.
2. In addition to boxes shown, install additional boxes where needed to prevent damage to cables and wires during pulling-in operation.
3. Plug unused openings on all remove knockouts.
4. Where required for horizontal and vertical alignment of boxes in stud partitions, bar hangers spanning two studs shall be used. Device boxes for insertion type receptacles shall be provided with far side box supports where there are less than two entering nonflexible raceways, and where bar rangers are not provided.

5. Boxes flush mounted in fire rated partitions and on opposite sides of the partition shall be separated by a distance of 24 inches in accordance with UL listing for the box.
6. Locations of outlets indicated on drawings are approximate. For items exposed to view, refer to architectural drawings and coordinate locations with masonry joints, panel joints, ceiling grids, and structural members.
7. In case of conflict with standard mounting heights and device alignment, consult Architect prior to roughing.
8. Check all door swings on architectural drawings to ensure lighting switches are installed on strike side of door.
9. The right to make any reasonable change in location of outlets prior to roughing is reserved by Architect. "Reasonable change" shall be interpreted as movement within 10 feet of location shown.
10. Obtain dimensioned plan from Architect for floor outlets.
11. Outlet boxes for use where surface metal raceways are allowed shall be of a type specifically designed to be used with such surface metal raceway systems.

F. Conductor Installation:

1. No conductors shall be pulled into individual raceways until such raceway system is complete and free of debris. No harmful lubricants shall be used to ease pulling.
2. All conductors shall be wired so that grounded conductor is unbroken; switches in all cases being connected in ungrounded conductor.
3. Connections throughout the entire job shall be made with solderless type devices of approved design satisfactory to Inspector of Wires.
4. All taps and splices shall be insulated equal to that of conductor insulation.
5. All conductors of each feeder in pull boxes and wireways shall be grouped, tied together, supported, and identified.
6. All conductors in panelboards and other wiring enclosures shall be neatly formed and grouped.
7. All conductors of emergency only and/or normal/emergency shall be run in separate raceway systems to final outlet box.
8. Provide support for conductors in vertical raceways in accordance with Article 300-19.
9. Strip insulation from conductors with approved tools and only of sufficient length for proper termination. Cutting of conductor stranding is unacceptable.
10. Taps from paralleled conductors shall be of a type which tap each conductor, such as ILSCO "PTA" series.
11. Grounding conductors are to be identified as to associated power circuits.

G. Type MC Cable Installation:

1. Where cable is permitted under the products section, the installation of same shall be done in accordance with code and the following:
 - a. Cable shall be supported in accordance with code. Tie wire is not an acceptable means of support. Horizontally run cable supports such as Caddy WMX-6, and clamps on vertical runs such as Caddy CJ6 shall be used. Where cables are supported by the structure and only need securing in place, then ty-raps will also be acceptable. Ty-raps are not acceptable as a means of support. All fittings, hangers, and clamps for support and termination of cables shall be of types specifically designed for use with cable, i.e., romex connectors not acceptable.
 - b. Armor of cable shall be removed with rotary cutter device equal to roto-split by Seatek Co., not with hacksaw.
 - c. Use split "insuliner" sleeves at terminations.
 - d. Any cable system used in conjunction with isolated ground circuits shall have both an isolated ground conductor and an equipment ground conductor.

H. Stranded Conductor Installation:

1. If Contractor selects stranded conductors for #10 AWG and smaller, terminate such conductors as follows:
 - a. No stranded conductor may be terminated under a screwhead. Provide insulated terminal lugs for all screw connections equal to Thomas & Betts "STA-KON" type RC with forked tongue and turned up toes. Installation of lugs shall be done with compression tool such as T&B WT-145C which prevents opening of tool until full compression action is completed.
 - b. Backwired wiring devices shall be of clamp type; screw tightened. Force fit connections not allowed.
2. Stranded conductors will not be allowed for fire alarm work.

I. Accessibility:

1. Electrical equipment requiring service or manual operation shall be accessible.
2. Work switches for equipment within accessible hung ceiling spaces, such as fan powered terminal boxes, shall be located at terminal box, and so located so as to be accessible.

J. Vibration Elimination: All equipment connections to rotating equipment or equipment capable of vibration shall be made up by flexible raceways.

K. Wiring Device Gaskets: Provide wiring device gaskets at coverplates where device is mounted in wall separating conditioned and non-conditioned spaces.

3.10 FEEDER CIRCUITS

- A. Provide feeders as called for on the drawings.
- B. Feeders shall be defined as any circuit originating from the distribution panels.
- C. All feeder conductors shall be continuous from origin to panel or equipment termination without splicing.
- D. All feeders shall be conductors pulled into raceways. Cable systems are not allowed for feeders unless specifically indicated.

3.11 BRANCH CIRCUITS

- A. Provide all branch circuit wiring and outlets for a complete and operating system. The system shall consist of insulated conductors connected to the panelboards and run in raceways or as cable systems if permitted under products section, to the final outlet and shall include outlet boxes, supports, fittings, receptacles, plates, fuses, for a fully functional system.
- B. Provide dedicated neutrals for all lighting circuits and all circuits originating from panelboards fed from K-rated transformers.

- C. Physical arrangement of branch circuit wiring shall correspond to circuit numbering on drawings. Combining of circuits and raceways will be allowed up to a 3 phase, 4 wire circuit or 3 phase 6 wire (dedicated neutrals) in a single raceway. Any combination of homeruns such as this, however, shall be indicated on record drawings. When a common grounded conductor is used for more than one circuit, the arrangement shall be such that a receptacle, fixture, or other device may be removed or disconnected without disconnecting the grounded conductor for other circuits. Ground fault circuit breakers and isolated ground outlets shall be wired with separate neutrals and separate grounding conductors per circuit. A consistent phase orientation shall be adhered to throughout project at terminations.
- D. Circuits feeding three phase equipment shall not be combined into common raceways, unless specifically indicated.
- E. All wiring in panelboards and cabinets shall be neatly formed and grouped.

3.12 FIRESTOP SYSTEMS:

- A. General: Install firestop systems at all new and existing fire-rated construction where penetrated by the Work of this Section.
- B. Refer to Section 078400 - Firestopping, for all installation requirements for maintaining integrity of fire-rated construction at penetrations.

3.13 WATERPROOFING

- A. Waterproof all openings in slabs and walls.

3.14 CUTTING AND PATCHING

- A. Openings through new wall surfaces will be provided by General Conditions if Electrical contractor gives suitable notice as erection of surface proceeds. If suitable notice is not given, Electrical contractor shall then be responsible for cost of corrective work required.
- B. Patching will be provided by the trade responsible for the surface to be patched.

3.15 MECHANICAL SYSTEM COORDINATION

- A. The Mechanical System Subcontractor will be providing various items of mechanical services equipment and control apparatus. Electrical Contractor shall furnish disconnect switches and starters and connect up power wiring to this equipment.
- B. The Mechanical and Electrical Contractor shall closely coordinate their respective portions of work.
- C. If, due to local regulations, electric heating equipment furnished by the mechanical systems subcontractor is required to be installed by licensed electricians in order to allow connection by Electrical Contractor's licensed electricians, it will then be Mechanical Subcontractor's responsibility to engage and pay for services of such licensed electricians.

- D. Power wiring to be provided by Electrical Contractor is the line voltage power supply wiring. Control wiring is responsibility of Mechanical System Subcontractor unless specifically indicated on electrical drawings, or in this Division of the specifications. Temperature Control Subcontractor shall refer to electrical drawings for location of all magnetic starters.
- E. 120 volt control wiring source to the temperature control panel is the responsibility of Electrical Contractor.

3.16 DISTRIBUTION EQUIPMENT TESTING

- A. Main distribution panels, motor controls, feeder conductors, and emergency systems shall be tested in accordance with the following. In general, all tests shall be done in accordance with the 1995 Acceptance Testing Specifications of the International Electrical Testing Association.
- B. The Testing Subcontractor may be an independent contractor or a manufacturer of the equipment, which is to be tested.
- C. Test report forms, delineating tests to be made, and method of recording same shall be submitted prior to commencing work. Test reports when submitted shall include interpretation of results and recommendation for any corrective work required.
- D. Conductors: All secondary service conductors and all feeder conductors from switchboards and distribution panels shall be tested.
 - 1. Visual and mechanical inspection: Conductors to be inspected for physical damage and proper connection and sizing in accordance with single line diagram. Conductor connections shall be torque tested to manufacturer's recommended values.
 - 2. Electrical Tests: Perform insulation resistance test on each conductor with respect to ground and adjacent conductor.
 - 3. Perform continuity test to insure proper conductor connection.
- E. Emergency Systems:
 - 1. Engine Generator - Prior to the emergency generator test specified under the emergency generator specification, the testing contractor shall perform the following:
 - a. Visual and Mechanical Inspection:
 - 1) Inspect for physical damage.
 - 2) Compare nameplate rating and connection with specifications and single line diagram.
 - 3) Inspect for proper anchorage and grounding. Verify engine cooling and fuel system integrity.
 - b. Electrical and Mechanical Tests:
 - 1) Perform a dielectric absorption test on generator winding with respect to ground. Determine polarization index.
 - 2) Perform phase rotation test to determine compatibility with load requirements.
 - 3) Test protective relay devices in accordance with applicable sections of these specifications.
 - 4) Perform dc over potential test between winding and ground.
 - 2. Automatic Transfer Switches:
 - a. Visual and Mechanical Inspection:
 - 1) Inspect for physical damage.
 - 2) Verify that the short circuit withstand rating exceeds the available short circuit duty.

- 3) Compare equipment nameplate information and connections with single line diagram and report any discrepancies.
 - 4) Check switch to ensure positive interlock between normal and alternate sources. (Mechanical and Electrical).
 - 5) Check tightness of all control and power connections.
 - 6) Perform manual transfer operation.
 - 7) Ensure manual transfer warnings are attached and visible to operator.
- b. Electrical Tests:
- 1) Perform insulation resistance tests phase-to-phase and phase-to-ground with switch in both source positions.
 - 2) Measure contact resistance in normal and alternate source position. Set and calibrate in accordance with the project electrical engineer's specifications.
 - a) Voltage and frequency sensing relays.
 - b) All time delay relays.
 - c) Engine start and shutdown relay.
 - 3) Perform automatic transfer by tests.
 - a) Simulating loss of normal power.
 - b) Return to normal power.
 - c) Simulating loss of emergency power on return to normal.
 - d) Simulate all forms of single phase conditions.
 - 4) Monitor and verify correct operation and timing.
 - a) Normal voltage sensing relays.
 - b) Engine start sequence.
 - c) Time delay upon transfer.
 - d) Alternate voltage sensing relays.
 - e) Automatic transfer operation.
 - f) Interlocks and limit switch function.
 - g) Timing delay and retransfer upon normal power restoration.
 - h) Engine cooldown and shutdown feature.
- F. Grounding Grids or Electrodes: Measurement of resistance from ground grids or electrodes to earth to determine adequacy of grounding system in building and compliance with specifications and/or electrical code.
- G. Settings of Adjustable Devices: Using the result of the fault current and coordination study specified hereinafter, the Testing Contractor shall set all adjustable devices.
- 3.17 STORAGE AND INSTALLATION OF EQUIPMENT
- A. The Electrical Contractor shall store and install electrical equipment and wiring listed for dry locations only after the building is watertight.
- 3.18 WASTE MANAGEMENT
- A. Separate and recycle materials and material packaging in accordance with Waste Management Plan and to the maximum extent economically feasible and place in designated areas for recycling.
- B. Set aside and protect materials suitable for reuse and/or remanufacturing.
- C. Separate and fold up metal banding; flatten and place along with other metal scrap for recycling in designated area.

D. Coordinate with Section 017419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

3.19 TRAINING

A. All training shall be scheduled with the user. Refer to each specific system for amount of training required. Training session video recording shall be performed by a professional videographer. Submit six (6) USB thumb drives of recording.

END OF SECTION