

PROJECT MANUAL

# NANCE PLACE SECURITY UPGRADES

8 ACADEMY PLACE, SUITE S-200  
NASHVILLE, TENNESSEE 37210

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PREPARED FOR:  
OWNER



**METROPOLITAN DEVELOPMENT & HOUSING AGENCY**  
701 S. 6<sup>TH</sup> STREET  
NASHVILLE, TENNESSEE 37206

PREPARED BY:  
DESIGNER



1625 BROADWAY, 4<sup>TH</sup> FLOOR  
NASHVILLE, TENNESSEE 37203  
615-386-9690 FAX 615-386-0528

MNI Project No. 18560

CONSULTING ENGINEERS:  
**I.C. THOMASSON ASSOCIATES, INC**  
MECHANICAL / PLUMBING / ELECTRICAL ENGINEERING

**CONSTRUCTION DOCUMENTS**  
**March 9, 2020**

## PROJECT DIRECTORY AND DESIGNERS' SEALS

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### **PROJECT:**

NANCE PLACE SECURITY UPGRADES  
8 Academy Place, Suite S-200  
Nashville, Tennessee 37210  
**Contact:** Brent Grubb  
**Email:** [bgrubb@nashville-mdha.org](mailto:bgrubb@nashville-mdha.org)

### **OWNER**

METROPOLITAN DEVELOPMENT and HOUSING AGENCY  
712 South 6<sup>th</sup> Street  
Nashville, Tennessee 37206  
Phone: (615) 252-6706

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### **ARCHITECT**

MOODY•NOLAN, Inc  
1625 Broadway, 4<sup>th</sup> Floor  
Nashville, Tennessee 37203

Phone: (615) 386-9690  
Fax: (615) 386-0528

**Architect:** Brian Tibbs, AIA

**Contact:** Josh Thomas

**Email:** [jthomas@moodynolan.com](mailto:jthomas@moodynolan.com)



### **ELECTRICAL ENGINEER**

I.C. THOMASSON ASSOCIATES, INC  
2950 Kraft Drive, #500  
Nashville, Tennessee 37204  
Phone: (615) 346-3400

**Engineers of Record:** Erich Vierkant

**Email:** [evierkant@icthomasson.com](mailto:evierkant@icthomasson.com)

Phone: (615) 346-3452

Cell: (615) 513-8623



# PROJECT DIRECTORY AND DESIGNERS' SEALS

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*The minimal concrete work where indicated on the drawings will be provided by the Trade Sub-Contractor.*

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04 22 00	Concrete Unit Masonry
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*The miscellaneous metal components required for the work will be provided by the Trade Sub-Contractor.*

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*No Work proposed or sections required for this Contract*

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*No Work proposed or sections required for this Contract*

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*No Work proposed or sections required for this Contract*

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*No Work proposed or sections required for this Contract*

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*No Work proposed or sections required for this Contract*

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*No Work proposed or sections required for this Contract*

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*No Work proposed or sections required for this Contract*

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## **INVITATION FOR BIDS**

The Metropolitan Development and Housing Agency (MDHA) will receive bids for:

**Security upgrades to Nance Place Apartments. The work will include replacement and modifications to existing door locks with new electronic door locks & hardware. Installing new pedestrian exit signs to stairwells and exits in parking garage and other minor upgrades.**

Plans and Specifications are located on MDHA's Procurement Housing Agency Marketplace Site.

Access URL: [https://ha.internationaleproucement.com/requests.html?company\\_id=51162](https://ha.internationaleproucement.com/requests.html?company_id=51162)

Or through MDHA's website Access URL: <http://www.nashville-mdha.org/>, highlight "Construction"//Click on "Procurement"//Click on the Blue "here" link within the sentence "Click here to view Procurement Opportunities!"

Copies of Plans and Specifications may be purchased through ARC, 407 Lafayette Street, Suite 200, Nashville, TN 37203.

**Bids will be accepted via hand delivery and online thru Housing Agency Market Place. All Bids must be received before 10:00 a.m. (CST) on August 6, 2020. Hand deliver bids to MDHA Construction Department, located at 712 South 6th Street, Nashville, TN 37206.**

**Bids will be opened August 6, 2020 @ 10:00 a.m. (CST) "electronically only" via Webex.**

**A pre-bid conference will be held "electronically only" via Webex on July 16, 2020 @ 2:00 p.m. (CST).**

**To have access to the Webex info you may view by clicking on the URL link above, or copy & paste or type into your browser. If you need assistance with Housing Agency Market Place please call Lynn Lassiter @ 615-252-8477 or Yolanda Flakes @ 615-252-6734.**

## MODIFICATIONS TO HUD 5369 FORM

HUD form 5369 form (10/2002) is modified as follows:

Section 1 (b), - Bid Preparation and Submission, add the following

The below listed forms are required to be completed in their entirety and submitted in order as they are listed. Failure to submit these documents in specific order and their entirety could result in being considered non-responsive.

- i. Contractor/Subcontractor License Information Form
- ii. Bid Form
- iii. Bid Bond
- iv. Representations, Certifications, and other Statement of Bidders (HUD 5369-A)
- v. Form of Non- Collusive Affidavit (must be notarized)
- vi. AIA Document A305TM- 1986, Contractor's Qualification Statement (Must be notarized)
- vii. Form 2001-Diversity Business Enterprise Program Solicitation Certificate
- viii. Form 2002 - Diversity Business Enterprise Joint Venture Agreement
- ix. Form 2003- Diversity Business Enterprise Utilization Commitment Plan
- x. HUD Section 3 Certification and Compliance Agreement
- xi. Drug Free Affidavit

Section 1 (d), - Bid Preparation and Submission, and add the following subparagraphs:

- i. On hand delivered bids in sealed envelopes, the "Contractor/Subcontractor License Information Form" or same information shall be completed and placed on the outside of the envelope. When electronic bids are being accepted, the "Contractor/Subcontractor License Information Form" or same information shall be completed and be the first page in the bid package submittal. The Bidder shall show Name of Project, Solicitation Number (if applicable), Due Date and Time of Bid, Contractor's State License, applicable Subcontractor's State License number, expiration date(s), and that part of classification applying to the Bid. Subcontractor(s), if applicable, that shall be shown on the "Contractor/Subcontractor License Information Form" are those who will perform Plumbing, HVAC/ Mechanical, Electrical, Masonry (if masonry exceeds \$100,000 including material and labor), and Geothermal. For Geothermal, list the TDEC Geothermal license number, classification and expiration date. If the Bidder will be performing that work with the Bidders own forces, so state.
- ii. Noncompliance with these instructions will result in the bid envelope not being opened nor bid being considered.
- iii. Bids submitted via a 3rd party courier shall be assembled in the same manner as a hand delivered bid and then inserted into a mailing envelope clearly marked "Sealed Bid Enclosed" on the face thereof.
- iv. To submit Bids, follow Invitation to Bid. It is the Bidder's responsibility to ensure receipt of (his or her) Bid, before time set and at place identified for receipt of Bids



Section 2 (a), **Explanations and Interpretation to Prospective Bidders**, add the following:

**Questions must be received by July 23, 2020 @ 2:00 p.m.  
via “Housing Agency Marketplace” URL:  
[https://ha.internationaleprocurement.com/requests.html?company\\_id=51162](https://ha.internationaleprocurement.com/requests.html?company_id=51162)  
or Alan Lowe at [ALowe@moodynolan.com](mailto:ALowe@moodynolan.com)**

Section 3(b), **Amendments to Invitations for Bids**, Remove the paragraph and substitute the following:

Bidders shall acknowledge receipt of any amendment(s) and/or addenda to this solicitation by identifying the amendment(s) and/or the addenda number and date on the bid form. Bids which fail to acknowledge amendment(s) and/or addenda issued will result in the rejection of the bid if the amendment(s) and/or the addenda contained information which substantially changed the PHA’s/ IHA’s requirements.

Section 3(c), **Amendments to Invitations for Bids**, Remove the paragraph and substitute the following:

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

Section 5(g), **Late Submissions, Modifications, and Withdrawal of Bids**, Remove the paragraph and

Substitute the follow:

Bids may be withdrawn by written notice, in person or by electronic submission if Notice of Withdrawal is received before the exact time set for the opening of the bids.

Section 6, **Bid Opening**: Remove the paragraph and substitute the following:

All bids received by the date and time of receipt specified in the solicitation will be publicly opened and read in person or electronically on the date, time and place as specified in the solicitation. Bidders and other interested persons may be present with the exception when bids will be opened electronically only. When the solicitation indicates bids will be opened electronically only, the information to view will be provided in the solicitation or amendment(s)/addenda.

Section 7(b), **Service of Protest**, Add the following:

Brent Grubb, Acting Contracting Officer,  
712 South Sixth Street, Nashville, TN 37206.

Section 10(a), **Assurance of Completion**, Remove the paragraph and substitute the following:

The successful bidder shall provide a Payment and Performance Bond in the amount of 100% of the contract amount prior to the issuance of any Notice to Proceed.

Section 12, **Indian Preference Requirements**, -Delete this section in its entirety.

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

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

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# Instructions to Bidders for Contracts

## Public and Indian Housing Programs

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### 1. Bid Preparation and Submission

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

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

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

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

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

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

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

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

### 2. Explanations and Interpretations to Prospective Bidders

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

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

### 3. Amendments to Invitations for Bids

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

(b) Bidders shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date on the bid form, or (3) by letter, telegram, or facsimile, if those methods are authorized in the solicitation. The PHA/IHA must receive acknowledgement by the bidder at 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 no responsible and ineligible for award.

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## 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 —

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

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

## 8. Contract Award

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

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

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

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

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(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] —

[ ] (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

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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 [ ] 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.



## Contractor/Subcontractor License Information Form

**\*\* VERY IMPORTANT NOTICE \*\***

This form **SHALL** be completed and submitted with your Bid per the instructions below or your bid will be considered **NONRESPONSIVE**.

- 1) On hand delivered bids in sealed envelopes, this form or same information shall be completed and placed on the outside of the envelope. When electronic bids are being accepted, this form or same information shall be completed and be the first page in the bid package submittal. The Bidder shall show name of Project, Solicitation Number (if applicable), Due Date and Time of Bid, Contractor's State License, applicable Subcontractor's State License number, expiration date(s), and that part of classification applying to the Bid. Subcontractor(s), if applicable, that shall be shown on this form are those who will perform Plumbing, HVAC/Mechanical, Electrical, Masonry (if masonry exceeds \$100,000 including material and labor), and Geothermal. For Geothermal, list the TDEC Geothermal license number, classification and expiration date. If the Bidder will be performing that work with the Bidders own forces, so state.
- 2) Noncompliance with these instructions will result in the bid envelope not being opened nor bid being considered.
- 3) Bids submitted via a 3rd party courier shall be assembled in the same manner as a hand delivered bid and then inserted into a Mailing envelope Clearly marked "Sealed Bid Enclosed" on the face thereof.

<b>Name of Project:</b>	
<b>Solicitation #</b>	
<b>Due Date &amp; Time of Bid:</b>	
<b>Contractor Name:</b>	
License Number	
Expiration Date	
Classification	
<b>SUBCONTRACTORS:</b>	
<b>Plumbing Contractor:</b>	
License Number	
Expiration Date	
Classification	
<b>HVAC/Mechanical Contractor:</b>	
License Number	
Expiration Date	
Classification	
<b>Electrical Contractor:</b>	
License Number	
Expiration Date	
Classification	
<b>Masonry Contractor:</b>	
License Number	
Expiration Date	
Classification	
<b>Geothermal Contractor:</b>	
License Number	
Expiration Date	
Classification	

## MODIFICATIONS TO HUD 5369-A FORM

HUD 5369-A (11/92) is modified as follows:

Section 8, **Indian-Owned Economic Enterprise and Indian Organization Representation**, Remove this section in its entirety

Section 12, **Previous Participation Certificate**, - Remove this section in its entirety



**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.

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

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

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

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

### 2. Contingent Fee Representation and Agreement

(a) Definitions. As used in this provision:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

#### 4. Organizational Conflicts of Interest Certification

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

- (a) Result in an unfair competitive advantage to the bidder; or,  
(b) Impair the bidder's objectivity in performing the contract work.  
[ ] In the absence of any actual or apparent conflict, I hereby certify that to the best of my knowledge and belief, no actual or apparent conflict of interest exists with regard to my possible performance of this procurement.

#### 5. Bidder's Certification of Eligibility

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

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

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

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

#### 6. Minimum Bid Acceptance Period

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

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

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

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

(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)

**BID FORM**

PROPOSAL OF:

\_\_\_\_\_  
(Name of Bidder)

\_\_\_\_\_  
(Address of Bidder)

Organized and existing under the laws of the State of \_\_\_\_\_ and doing business as a \_\_\_\_\_ (insert "a corporation", "a partnership" or "an individual" or otherwise as applicable).

**TO THE: METROPOLITAN DEVELOPMENT AND HOUSING AGENCY  
712 SOUTH SIXTH STREET  
NASHVILLE, TENNESSEE 37206**

In compliance with your Advertisement for Bids, Bidder hereby proposes to furnish all necessary labor, machinery, tools, apparatus, materials, equipment, services and other necessary supplies, in strict accordance with the terms and conditions of plans, specifications and Contract Documents within the number of consecutive calendar days and at the prices set forth below for:

**Security upgrades to Nance Place Apartments. The work will include replacement and modifications to existing door locks with new electronic door locks & hardware. Installing new pedestrian exit signs to stairwells and exits in parking garage and other minor upgrades.**

By submitting this Bid, Bidder certifies that this Bid has been arrived at independently, without consultation, communication or agreement as to any matter relating to this Bid with any other Bidder or with any other competitor.

Bidder agrees, upon receipt of the Notice of Award accompanies by the Contract and Agreement (C&A) and all required attachments, to cause same to be properly executed and returned to the MDHA within fifteen (15) days thereafter. Bidder further agrees, upon receipt of the Notice to Proceed, to commence work on the project immediately thereafter and to complete the project within **120 working days** after receipt of said Notice to Proceed.

The Bidder agrees to furnish and construct all work as shown on the contract documents for a Base Bid of (show amount in both words and figures).

\_\_\_\_\_ & \_\_\_\_\_/100 Dollars,  
\$ \_\_\_\_\_.

1. In submitting this bid, it is understood that the right is reserved by the Metropolitan Development and Housing Agency to reject any and all bids. If written notice of the acceptance of this bid is mailed, telegraphed, or delivered to the undersigned within sixty (60) days after the opening therefore, or at any time thereafter before this bid is withdrawn, the undersign agrees to execute and deliver a contract in the prescribed form and furnish the required bond within ten (10) days after the contract is presented to him for signature.
  
2. The bidder represents that he (\_\_\_) has, (\_\_\_) has not, participated in a previous contract or subcontract subject to the equal opportunity clause prescribed by Executive Orders 10925, 1114 or 11246, or the Secretary of Labor that he (\_\_\_) has, (\_\_\_) has not, filed all required compliance reports, and that representations indicating submission of required compliance reports, signed by proposed subcontractor, will be obtained, prior to subcontract awards. (The above representations need not be submitted in connection with contracts or subcontracts which are exempt from the clause.)
  
3. The Bidder acknowledges that he (or she) has received the following Addenda. The modifications to the Bid Documents noted therein have been considered and all costs thereto are included in the Bid Sum.
  - A. Addendum Number \_\_\_\_\_ Dated \_\_\_\_\_
  - B. Addendum Number \_\_\_\_\_ Dated \_\_\_\_\_
  - C. Addendum Number \_\_\_\_\_ Dated \_\_\_\_\_

**NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.**

DATE: \_\_\_\_\_

\_\_\_\_\_  
(NAME OF BIDDER)

OFFICIAL ADDRESS & PHONE NUMBER:  
\_\_\_\_\_  
\_\_\_\_\_

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

# Contract and Subcontract Activity

U.S. Department of Housing and Urban Development

OMB Approval No.: 2577-0088 (exp.10/31/2000)

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 conduct or sponsor, and a person is not required to respond to, a collection information unless that collection displays a valid OMB control number.

Executive Orders 12432 and 11625 requires Federal agencies to promote Minority Business Enterprise (MBE) participation in their programs and prescribes additional arrangements for developing and coordinating a National Program for MBE. Pursuant to Executive Order 12432, the Department of Commerce requires an annual report on MBE achievements. The information provided on Public and Indian Housing Programs will be used to monitor and evaluate HA performance and to develop and submit the Annual Report to the President. Responses to the collection of information are voluntary. The information requested does not lend itself to confidentiality

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.	6. Date Submitted to Field Office

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

- |  |  |  |
|--|--|--|
| <b>CPD:</b><br>1 = New Construction<br>2 = Education/Training<br>3 = Other   | <b>7c: Type of Trade Codes:</b><br><b>Housing/Public Housing:</b><br>1 = New Construction<br>2 = Substantial Rehab.<br>3 = Repair<br>4 = Service<br>5 = Project Mangt.<br>6 = Professional<br>7 = Tenant Services<br>8 = Education/Training<br>9 = Arch./Engrg. Appraisal<br>0 = Other | <b>7d: Racial/Ethnic Codes:</b><br>1 = White Americans<br>2 = Black Americans<br>3 = Native Americans<br>4 = Hispanic Americans<br>5 = Asian/Pacific Americans<br>6 = Hasidic Jews |
| <b>5: Program Codes</b> (Complete for Housing and Public and Indian Housing programs only):<br>1 = All insured, including Section 8<br>2 = Flexible Subsidy<br>3 = Section 8 Noninsured, Non-HFDA<br>4 = Insured (Management)<br>5 = Section 202<br>6 = HUD-Held (Management)<br>7 = Public/Indian Housing |  |  |

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; Multi-family 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 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.



**Bid Bond**

CONTRACTOR:  
(Name, legal status and address)

<< >>< >  
<< >>

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

<< >>< >  
<< >>

OWNER:  
(Name, legal status and address)

<< >>< >  
<< >>

BOND AMOUNT: \$ << >>

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

<< >>  
<< >>  
<< >>

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

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

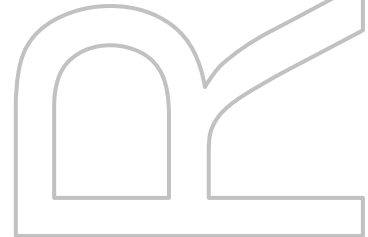
When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement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



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

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

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



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Signed and sealed this « » day of « », « »

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Witness)

« »  
(Contractor as Principal) (Seal)

« »  
(Title)

« »  
(Surety) (Seal)

« »  
(Title)



**FORM OF NON-COLLUSIVE AFFIDAVIT**

**AFFIDAVIT**

State of \_\_\_\_\_ )  
 ) ss:  
County of \_\_\_\_\_ )

\_\_\_\_\_, being first duly sworn, disposes  
and says:

That he is \_\_\_\_\_, (a partner or officer  
of the firm of, etc.) the party making the foregoing proposal or bid, that such proposal or  
bid is genuine and not collusive or sham; that said bidder has not colluded, conspired,  
connived or agreed directly or indirectly, sought by agreement or collusion, or  
communication or conference, with any person, to fix the bid price of affiant or of any  
other bidder, or to fix any overhead, profit or cost element of said bid price, or of that of  
any other bidder, or to secure any advantage against the Metropolitan Development and  
Housing Agency or any person interested in the proposed contract; and that all statements  
in said proposal or bid are true.

Signature of:

Bidder, if the bidder is an individual;

Partner, if the bidder is a partnership;

Officer, if the bidder is a corporation.

\_\_\_\_\_

Subscribed and sworn to before me

this \_\_\_\_\_

day of \_\_\_\_\_, 2020.

\_\_\_\_\_

My commission expires:

\_\_\_\_\_, 20\_\_

**CONTRACTOR DRUG-FREE WORKPLACE AFFIDAVIT**

**STATE OF TENNESSEE**

**COUNTY OF \_\_\_\_\_**

- 1. Now Comes Affiant, who being duly sworn, deposes and says:**
- 2. He/She is the principal officer for \_\_\_\_\_**  
\_\_\_\_\_
- 3. That the bidding entity has submitted a bid to \_\_\_\_\_**  
\_\_\_\_\_ **for the construction of \_\_\_\_\_**  
\_\_\_\_\_.
- 4. That the affiant certifies that the bidding entity has in effect, at the time of submission of its bid to perform the construction referred to above, a drug-free workplace program that complies with Tennessee Code Annotate 50-9-113.**
- 5. That this affidavit is made on personal knowledge.**

**Further affiant saith not.**

\_\_\_\_\_  
**AFFIANT**

**STATE OF \_\_\_\_\_**  
**COUNTY OF \_\_\_\_\_**

**Before me personally appeared \_\_\_\_\_, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained.**

**Witness my hand and seal at office this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.**

\_\_\_\_\_  
**Notary Public**

**My commission expires: \_\_\_\_\_, 20\_\_**

# DRAFT AIA<sup>®</sup> Document A305<sup>™</sup> - 1986

## Contractor's Qualification Statement

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO: <>

ADDRESS: <>

SUBMITTED BY: <>

NAME: <>

ADDRESS: <>

PRINCIPAL OFFICE: <>

[ <> ] Corporation

[ <> ] Partnership

[ <> ] Individual

[ <> ] Joint Venture

[ <> ] Other <>

NAME OF PROJECT: (if applicable) <>

TYPE OF WORK: (file separate form for each Classification of Work)

[ <> ] General Construction

[ <> ] HVAC

[ <> ] Electrical

[ <> ] Plumbing

[ <> ] Other: (Specify) <>

### § 1 ORGANIZATION

§ 1.1 How many years has your organization been in business as a Contractor? <>

§ 1.2 How many years has your organization been in business under its present business name? <>

§ 1.2.1 Under what other or former names has your organization operated?

<>

§ 1.3 If your organization is a corporation, answer the following:

§ 1.3.1 Date of incorporation: <>

§ 1.3.2 State of incorporation: <>

§ 1.3.3 President's name: <>

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

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

This form is approved and recommended by the American Institute of Architects (AIA) and The Associated General Contractors of America (AGC) for use in evaluating the qualifications of contractors. No endorsement of the submitting party or verification of the information is made by AIA or AGC.

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§ 1.3.4 Vice-president's name(s)

<< >>

§ 1.3.5 Secretary's name: << >>

§ 1.3.6 Treasurer's name: << >>

§ 1.4 If your organization is a partnership, answer the following:

§ 1.4.1 Date of organization: << >>

§ 1.4.2 Type of partnership (if applicable): << >>

§ 1.4.3 Name(s) of general partner(s)

<< >>

§ 1.5 If your organization is individually owned, answer the following:

§ 1.5.1 Date of organization: << >>

§ 1.5.2 Name of owner:

<< >>

§ 1.6 If the form of your organization is other than those listed above, describe it and name the principals:

<< >>

## § 2 LICENSING

§ 2.1 List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.

<< >>

§ 2.2 List jurisdictions in which your organization's partnership or trade name is filed.

<< >>

## § 3 EXPERIENCE

§ 3.1 List the categories of work that your organization normally performs with its own forces.

<< >>

§ 3.2 Claims and Suits. (If the answer to any of the questions below is yes, please attach details.)

§ 3.2.1 Has your organization ever failed to complete any work awarded to it?

<< >>

§ 3.2.2 Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

<< >>

§ 3.2.3 Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years?

<< >>

§ 3.3 Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.)

<< >>

§ 3.4 On a separate sheet, list major construction projects your organization has in progress, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.

<< >>

§ 3.4.1 State total worth of work in progress and under contract:

<< >>

§ 3.5 On a separate sheet, list the major projects your organization has completed in the past five years, giving the name of project, owner, architect, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

<< >>

§ 3.5.1 State average annual amount of construction work performed during the past five years:

<< >>

§ 3.6 On a separate sheet, list the construction experience and present commitments of the key individuals of your organization.

<< >>

## § 4 REFERENCES

§ 4.1 Trade References:

<< >>

§ 4.2 Bank References:

<< >>

§ 4.3 Surety:

§ 4.3.1 Name of bonding company:

<< >>

§ 4.3.2 Name and address of agent:

<< >>

## § 5 FINANCING

§ 5.1 Financial Statement.

§ 5.1.1 Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

Net Fixed Assets;

Other Assets;

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).

§ 5.1.2 Name and address of firm preparing attached financial statement, and date thereof:

<< >>

§ 5.1.3 Is the attached financial statement for the identical organization named on page one?

<< >>

§ 5.1.4 If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidiary).

<< >>

§ 5.2 Will the organization whose financial statement is attached act as guarantor of the contract for construction?

<< >>

§ 6 SIGNATURE

§ 6.1 Dated at this << >> day of << >> << >>

Name of Organization: << >>

By: << >>

Title: << >>

§ 6.2

<< >>

M << >> being duly sworn deposes and says that the information provided herein is true and sufficiently complete so as not to be misleading.

Subscribed and sworn before me this << >> day of << >> << >>

Notary Public: << >>

My Commission Expires: << >>



## Construction Contractor Performance Evaluation

Project Name	Contractor Name		
Funding Source	Contractor Address		
Project Location			
Description of Work	Contractor Representative		
	Original Contract Amount		
	Adjusted Contract Amount		
	Original Contract Completion Date		
	Adjusted Completion Date		
	Actual Completion Date		

Evaluation Prepared by:	Signature	Date
-------------------------	-----------	------

		3	2	1	N/A
	<b>3 – Above Average    2 – Average    1 – Below Average</b>				
1	Did the contractor communicate with the A&E or project representative per the contract documents? For Rehab projects, did the contractor communicate with the homeowner?				
2	Were the submittals complete and submitted in a timely manner? Were substitutions submitted in accordance with the specifications?				
3	Did the contractor complete the project in the specified contract time (including all approved time extensions)?				
4	Did the contractor adequately staff the project?				
5	Did the contractor provide an accurate, detailed construction schedule and continue to update the schedule as the project progressed?				
6	Did the contractor maintain a clean, orderly jobsite?				
7	Did the contractor promptly pay the subcontractors and/or suppliers?				
8	Was the contractor represented at progress meetings by a person with decision-making authority?				
9	Are the materials and workmanship in compliance with the contract documents?				
10	Did the contractor (and superintendent) have a complete working knowledge of the project?				
11	Did the contractor coordinate disruption of facility operations with the appropriate parties? For Rehab projects, did the contractor notify the homeowner of scheduled activities?				
12	Did the contractor properly manage the project? Cause any undue delays?				
13	Did the contractor work to actively resolve problems?				
14	Did the contractor coordinate work between the subcontractors?				
15	Was the supervision of the work in accordance with the contract documents?				
16	Was the punch list addressed and completed in a timely manner?				
17	Did the contractor comply with applicable Section 3, DBE, Davis Bacon and payroll requirements?				
18	Did the contractor submit accurate pay applications with all appropriate backup?				
19	Were drawings, specifications, submittals, RFI's, ASI's, etc. available on the jobsite?				
	<b>Did the Contractor accurately and completely provide the following?</b>				
20	Accurate and complete record documents (record drawings)?				
21	Certificate of Occupancy provided? Final acceptance from codes department?				
22	Complete O&M Manuals? Test and balance reports (if required)?				
23	Training provided in accordance with specifications?				
24	Attic stock provided per specifications?				
25	Contract Close-out Documents				
26	Would you recommend this contractor for future work? (All "below average" scores require written explanation.)				

## Construction Contractor Performance Evaluation

COMMENTS: All "Below Average" responses must be explained. Also include exceptional or significant deficient details. Use additional pages if necessary.

# Contractor Performance Evaluations

---

Construction Department Projects

Average or Above Average:

No action required

Below Average:

1 <sup>st</sup> Review	call in for meeting with appropriate construction department staff
2 <sup>nd</sup> Review	thirty day suspension from bidding
3 <sup>rd</sup> Review	ninety day suspension from bidding
4 <sup>th</sup> Review	one year suspension from bidding
	one year suspension with any future below average ratings

Counseling only applies to the first below average performance evaluation. All future below average evaluations begins at thirty day suspension level.

# Metropolitan Development and Housing Agency

712 SOUTH SIXTH STREET \* NASHVILLE, TENNESSEE \* TELEPHONE (615) 252-8421

MAILING ADDRESS: P.O. BOX 846 NASHVILLE, TENNESSEE 37202

TELEPHONE DEVICE FOR THE DEAF (615) 252-8599

## CONTRACT

**THIS AGREEMENT** made this \_\_\_\_\_ corporation doing business under the laws of the State of Tennessee, hereinafter called the "Contractor", and the **METROPOLITAN DEVELOPMENT AND HOUSING AGENCY**, Nashville, Tennessee, a public body and a body corporate and politic, created under the provisions of the Housing Authorities Law, of the State of Tennessee, hereinafter called the "Metropolitan Development and Housing Agency", or "MDHA".

**WITNESSETH**, that the Contractor and MDHA for the consideration stated herein mutually agree as follows:

**ARTICLE 1. STATEMENT OF WORK** The contractor shall furnish all supervision, labor, materials, equipment and services, including all related accessories and specialties for **Security Upgrades at Nance Place Apartments** all in strict accordance with the specifications as prepared by **Moody Nolan**, \_\_\_\_\_ which said specifications drawings and addenda, if any, are incorporated herein by reference and made a part thereof.

**ARTICLE 2. THE CONTRACT PRICE** The Metropolitan Development and Housing Agency shall pay the Contractor for the performance of the Contract, in current funds, subject to additions and deductions, the sum of \_\_\_\_\_.

**ARTICLE 3. JURISDICTION AND VENUE** In the event of a Contract dispute or litigation arising out of said Contract, it is understood and agreed that this Contract was executed and performed in Davidson County, and, as such, it is agreed by both parties that venue for said litigation, including an action of Declaratory Judgement, will be in Davidson County.

**ARTICLE 4. ATTORNEY'S FEES.** In the event of litigation arising out of said Contract, it is agreed that if \_\_\_\_\_ is held liable for damages, or is found to have breached the Contract, \_\_\_\_\_ will pay the MDHA's reasonable attorney's fees and expenses involved in the litigation.

**ARTICLE 5. LIQUIDATED DAMAGES.** The Contractor shall pay liquidated damages to the Owner at the rate of **Two Hundred Dollars (\$200.00) per day** for each day of un-excusable delay.

**ARTICLE 6. RETAINAGE.** The Contractor recognizes the requirements for **5%** retainage of payment (par. 108, General Conditions, a component part of the contract documents) and provisions of the statute T.C.A. 66-11-144, of the State of Tennessee, providing for retention being escrowed with interest.

**ARTICLE 7. CONTRACT DOCUMENTS.** The Contract shall consist of the following component parts:

This Instrument, together with the other documents enumerated in this Article 7, which said other documents are as fully a part of the Contract as if hereto attached or herein repeated, form the Contract. In the event that any provision of any component part of this Contract conflicts with any provision of any other component part, the provision of the component part first enumerated in this Article 7 shall govern, except as otherwise specifically stated. The various provisions in Addenda shall be construed in order of preference of the component part of the Contract which each modifies.

IN WITNESS THEREOF, the parties hereto have caused this instrument to be executed in three original counterparts as of the day and year first written above.

**METROPOLITAN DEVELOPMENT  
AND HOUSING AGENCY**  
701 South Sixth Street  
Nashville, Tennessee 37206

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

BY: \_\_\_\_\_

**Brent Grubb**  
TITLE: **Acting Contracting Officer**

DATE: \_\_\_\_\_

Performance Bond

CONTRACTOR:
(Name, legal status and address)

<< >> <>

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

<< >> <>

OWNER:
(Name, legal status and address)

<< >> <>

CONSTRUCTION CONTRACT

Date: <>
Amount: \$ <>

Description:
(Name and location)
<> <>

BOND

Date:
(Not earlier than Construction Contract Date)
<>

Amount: \$ <>
Modifications to this Bond: <> None <> See Section 16

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)
Signature:
Name and <>><>
Title:

SURETY

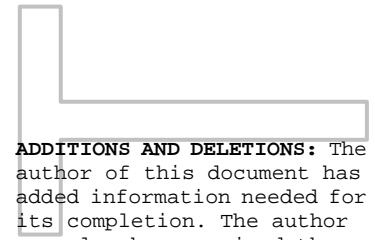
Company: (Corporate Seal)
Signature:
Name and <>><>
Title:

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

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:
<> <> <>

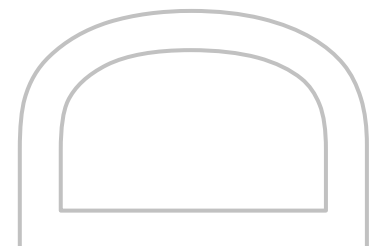
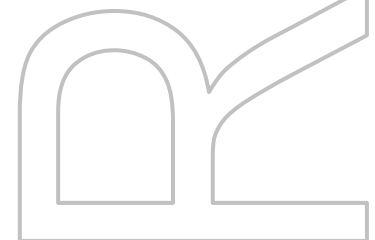
OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)
<> <> <> <> <> <>



ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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

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



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

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

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

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

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

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

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

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

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

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

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

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

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the

Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

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

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

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

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

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

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

#### § 14 Definitions

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

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

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

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

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

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



§ 16 Modifications to this bond are as follows:

<< >>

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

CONTRACTOR AS PRINCIPAL

SURETY

Company: (Corporate Seal)

Company: (Corporate Seal)

Signature:

Signature:

Name and Title: << >>

Name and Title: << >>

Address: << >>

Address: << >>

# DRAFT AIA<sup>®</sup> Document A312<sup>™</sup> - 2010

## Payment Bond

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

« »  
« »

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

« »  
« »

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

« »  
« »

### CONSTRUCTION CONTRACT

Date: « »

Amount: \$ « »

Description:  
(Name and location)

« »  
« »

### BOND

Date:  
(Not earlier than Construction Contract Date)

« »

Amount: \$ « »

Modifications to this Bond:  None  See Section 18

**CONTRACTOR AS PRINCIPAL**  
Company: (Corporate Seal)

**SURETY**  
Company: (Corporate Seal)

Signature:  
Name and Title: « »

Signature:  
Name and Title: « »

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

(FOR INFORMATION ONLY — Name, address and telephone)

**AGENT or BROKER:**

« »  
« »  
« »

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

« »  
« »  
« »  
« »  
« »  
« »

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

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

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



**ELECTRONIC COPYING** of any portion of this AIA<sup>®</sup> Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

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

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

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

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

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

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

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## § 16 Definitions

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

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

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

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

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

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

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

§ 18 Modifications to this bond are as follows:

<< >>

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

**CONTRACTOR AS PRINCIPAL**

Company:

*(Corporate Seal)*

**SURETY**

Company:

*(Corporate Seal)*

Signature:

Name and Title:

Address:

<< >><< >>

<< >>

Signature:

Name and Title:

Address:

<< >><< >>

<< >>

**CERTIFICATE AS TO CORPORATE PRINCIPAL**

\_\_\_\_\_ certify that I am the  
\_\_\_\_\_ of the corporation named as Principal in the  
within bond; that \_\_\_\_\_ who signed the said bond on  
behalf of the Principal, was then \_\_\_\_\_ of said corporation; that I  
know his signature is genuine; and that said bond was fully signed, sealed and attested for and in behalf of  
said Corporation by authority of its governing body.

\_\_\_\_\_

**SUPPLEMENTAL CONDITIONS TO HUD GENERAL CONDITIONS HUD-FORM 5370**

1. Form HUD-5370 (1/2014) is modified as follows:
2. The Metropolitan Development and Housing Agency contemplates the award of a firm fixed price contract resulting from this solicitation.
3. Section 2. Paragraph (c) - The intent of this requirement is to have a job superintendent constantly monitor the quality of work performed and make sure all work is accomplished in accordance with technical specifications . A job superintendent who performs labor and mechanic duties will not be satisfactory to the contracting officer.
- 4. Section 25. Contract Period. 120 consecutive calendar days.**
5. Section 27. Payments. Subparagraph (c) – Contractor to submit three original signed Schedule of Amounts for Contract Payments, Form HUD 51000 (7/97) within 10 calendar days from award date of contract.
6. Section 27. Payments. Subparagraph (d)- Insert ten (10) days.
7. Section 27. Payments. Subparagraph (f) is changed to read as follows:

Except as otherwise provided in State law, the PHA shall retain five (5%) percent of the amount of progress payments until completion and acceptance of all work under the contract.

The PHA shall release and pay all retainages for work completed pursuant to the terms of the contract to the prime contractor within ninety (90) days after completion of such work or within ninety (90) days after substantial completion of the project for work completed, whichever occurs first. Work completed shall be construed to mean the completion of the scope of work and all terms and conditions covered by the contract under which retainage is being held. The prime contractor shall pay all retainages due any subcontractor within ten (10) days after receipt of such retainages from the PHA. Any subcontractor receiving such retainage from the prime contractor shall pay to any sub-subcontractor or material supplier all retainages due such sub-subcontractor or material supplier within ten (10) days after receipt of such retainages.

8. Section 27. Payments. Subparagraph (j) insert- Contractor will submit with each pay application a notarized partial release of lien from all persons performing work and supplying materials to the Contractor for this project.
- 9. Section 33 (a) of the General Conditions, HUD Form 5370: \$200.00 per day for each unexcusable day.**
10. Section 36. Insurance. Subparagraph (a)(2) and (a)(3) insert \$1,000,000

11. Section 36 Insurance. Subparagraph (c). Contractor and all subcontractors shall list MDHA as certificate holder and name MDHA as additional insured.

12. Add to item No. 37 of HUD Form 5370:

- a. The Contractor will submit completed copies of HUD Form 2516 identifying all subcontractors and suppliers subcontracted in the amount of \$10,000 or more. HUD Form 2516 can be obtained from [www.hud.gov](http://www.hud.gov). Contractors will submit completed HUD Form 2516 to MDHA at the pre-construction meeting.

14. Section 38. Insert - The MDHA has established a goal of 20% Diversity Business Enterprise participation on this project. Bidders will utilize Forms 2001, 2002 and 2003 to indicate efforts to achieve this goal. DBE Form 2001 will be completed in its entirety indicating efforts to contact DBEs to determine interest in bidding. DBE Form 2002 will be completed if bidding as a Joint Venture. If not bidding as a Joint Venture, submit DBE Form 2002 with bid indicating "Not Applicable". DBE Form 2003 will be completed in its entirety and included with the bid indicating DBEs to be utilized as subcontractors or suppliers for this project. DBE Form 2003 will be completed in its entirety and Bidders will not be allowed to make changes to this document after the bid process. Bidders will be required to submit DBE Form 2004 at the pre-construction meeting for each DBE listed on DBE Form 2003. Efforts indicated on these forms will be part of the evaluation process to determine the most responsive and responsible bid. DBE Form 2005 will be submitted when a Change Order has been approved indicating the Change Order affected any or all DBEs subcontract amounts. DBE Form 2006 will be completed in its entirety and submitted with each pay application.

15. The Metropolitan Development and Housing Agency (MDHA) prohibits discrimination in all of its programs and activities on the basis of race, color or national origin. The Agency will comply with all statutes and regulations of Title VI of the Civil Rights Act of 1964. No person should be excluded from participation in or be denied the benefit of or be subjected to discrimination under any program or service provided by or affiliated with MDHA on the basis of non-merit reasons. To file a complaint of discrimination write or call:

Brent Grubb  
Acting Contracting Officer  
MDHA  
712 South Sixth Street  
Nashville, TN 37206  
P: (615) 252-8423  
F: (615) 252-6733

**END OF SUPPLEMENTAL 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. 3/31/2020)

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

This form includes those clauses required by OMB's common rule on grantee procurement, implemented at HUD in 2 CFR 200, and those requirements set forth in Section 3 of the Housing and Urban Development Act of 1968 and its amendment by the Housing and Community Development Act of 1992, implemented by HUD at 24 CFR Part 135. The form is required for construction contracts awarded by Public Housing Agencies (PHAs).

The form is used by Housing Authorities in solicitations to provide necessary contract clauses. If the form were not used, HAs would be unable to enforce their contracts.

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. 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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4.	Other Contracts	3	27.	Payments	9
<b>Construction Requirements</b>			28.	Contract Modifications	10
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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 Contract (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.
- (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.

## 2. Contractor's Responsibility for Work

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- (b) The Architect shall serve as the Contracting Officer's technical representative with respect to architectural, engineering, and design matters related to the work performed under the contract. The Architect may provide direction on contract performance. Such direction shall be within the scope of the contract and may not be of a nature which: (1) institutes additional work outside the scope of the contract; (2) constitutes a change as defined in the Changes clause herein; (3) causes an increase or decrease in the cost of the contract; (4) alters the Construction Progress Schedule; or (5) changes any of the other express terms or conditions of the contract.
- (c) The Architect's duties and responsibilities may include but shall not be limited to:
- (1) Making periodic visits to the work site, and on the basis of his/her on-site inspections, issuing written reports to the PHA which shall include all observed deficiencies. The Architect shall file a copy of the report with the Contractor's designated representative at the site;
  - (2) Making modifications in drawings and technical specifications and assisting the Contracting Officer in the preparation of change orders and other contract modifications for issuance by the Contracting Officer;
  - (3) Reviewing and making recommendations with respect to - (i) the Contractor's construction progress schedules; (ii) the Contractor's shop and detailed drawings; (iii) the machinery, mechanical and other equipment and materials or other articles proposed for use by the Contractor; and, (iv) the Contractor's price breakdown and progress payment estimates; and,
  - (4) Assisting in inspections, signing Certificates of Completion, and making recommendations with respect to acceptance of work completed under the contract.

#### 4. Other Contracts

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

### Construction Requirements

#### 5. Pre-construction Conference and Notice to Proceed

- (a) Within ten calendar days of contract execution, and prior to the commencement of work, the Contractor shall attend a preconstruction conference with representatives of the PHA, its Architect, and other interested parties convened by the PHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract. The PHA will provide the Contractor with the date, time, and place of the conference.
- (b) The contractor shall begin work upon receipt of a written Notice to Proceed from the Contracting Officer or designee. The Contractor shall not begin work prior to receiving such notice.

#### 6. Construction Progress Schedule

- (a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring labor, materials, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments or take other remedies under the contract until the Contractor submits the required schedule.
- (b) The Contractor shall enter the actual progress on the chart as required by the Contracting Officer, and immediately deliver three copies of the annotated schedule to the Contracting Officer. If the Contracting Officer determines, upon the basis of inspection conducted pursuant to the clause entitled Inspection and Acceptance of Construction, herein that the Contractor is not meeting the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the PHA. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.
- (c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the Contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the Default clause of this contract.

#### 7. Site Investigation and Conditions Affecting the Work

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

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

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

### 8. Differing Site Conditions

- (a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site(s), of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.
- (b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. Work shall not proceed at the affected site, except at the Contractor's risk, until the Contracting Officer has provided written instructions to the Contractor. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, the Contractor shall file a claim in writing to the PHA within ten days after receipt of such instructions and, in any event, before proceeding with the work. An equitable adjustment in the contract price, the delivery schedule, or both shall be made under this clause and the contract modified in writing accordingly.
- (c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.
- (d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

### 9. Specifications and Drawings for Construction

- (a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be

promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

- (b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", or "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 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

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

- (h) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the PHA and one set will be returned to the Contractor. As required by the Contracting Officer, the Contractor, upon completing the work under this contract, shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the work is completed and accepted.
- (i) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all shop drawings prepared by subcontractors are submitted to the Contracting Officer.

#### 10. As-Built Drawings

- (a) "As-built drawings," as used in this clause, means drawings submitted by the Contractor or subcontractor at any tier to show the construction of a particular structure or work as actually completed under the contract. "As-built drawings" shall be synonymous with "Record drawings."
- (b) As required by the Contracting Officer, the Contractor shall provide the Contracting Officer accurate information to be used in the preparation of permanent as-built drawings. For this purpose, the Contractor shall record on one set of contract drawings all changes from the installations originally indicated, and record final locations of underground lines by depth from finish grade and by accurate horizontal offset distances to permanent surface improvements such as buildings, curbs, or edges of walks.
- (c) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all as-built drawings prepared by subcontractors are submitted to the Contracting Officer.

#### 11. Material and Workmanship

- (a) All equipment, material, and articles furnished under this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the contract to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of, and as approved by the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.
- (b) Approval of equipment and materials.
  - (1) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the

machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

- (2) When required by the specifications or the Contracting Officer, the Contractor shall submit appropriately marked samples (and certificates related to them) for approval at the Contractor's expense, with all shipping charges prepaid. The Contractor shall label, or otherwise properly mark on the container, the material or product represented, its place of origin, the name of the producer, the Contractor's name, and the identification of the construction project for which the material or product is intended to be used.
- (3) Certificates shall be submitted in triplicate, describing each sample submitted for approval and certifying that the material, equipment or accessory complies with contract requirements. The certificates shall include the name and brand of the product, name of manufacturer, and the location where produced.
- (4) Approval of a sample shall not constitute a waiver of the PHA right to demand full compliance with contract requirements. Materials, equipment and accessories may be rejected for cause even though samples have been approved.
- (5) Wherever materials are required to comply with recognized standards or specifications, such specifications shall be accepted as establishing the technical qualities and testing methods, but shall not govern the number of tests required to be made nor modify other contract requirements. The Contracting Officer may require laboratory test reports on items submitted for approval or may approve materials on the basis of data submitted in certificates with samples. Check tests will be made on materials delivered for use only as frequently as the Contracting Officer determines necessary to insure compliance of materials with the specifications. The Contractor will assume all costs of retesting materials which fail to meet contract requirements and/or testing materials offered in substitution for those found deficient.
- (6) After approval, samples will be kept in the Project office until completion of work. They may be built into the work after a substantial quantity of the materials they represent has been built in and accepted.
- (c) Requirements concerning lead-based paint. The Contractor shall comply with the requirements concerning lead-based paint contained in the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846) as implemented by 24 CFR Part 35.

#### 12. Permits and Codes

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

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

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

### 13. Health, Safety, and Accident Prevention

- (a) In performing this contract, the Contractor shall:
- (1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his/her health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;
  - (2) Protect the lives, health, and safety of other persons;
  - (3) Prevent damage to property, materials, supplies, and equipment; and,
  - (4) Avoid work interruptions.
- (b) For these purposes, the Contractor shall:
- (1) Comply with regulations and standards issued by the Secretary of Labor at 29 CFR Part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat. 96), 40 U.S.C. 3701 et seq.; and
  - (2) Include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.
- (c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 CFR Part 1904.
- (d) The Contracting Officer shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.
- (e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as the PHA, the Secretary of Housing and Urban Development, or the Secretary of Labor shall direct as a means of enforcing such provisions.

### 14. Temporary Heating

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

### 15. Availability and Use of Utility Services

- (a) The PHA shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the PHA or, where the utility is produced by the PHA, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.
- (b) The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the PHA, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

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

- (a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed under this contract, and which do not unreasonably interfere with the work required under this contract.
- (b) The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during performance of this contract, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.
- (c) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. Prior to disturbing the ground at the construction site, the Contractor shall ensure that all underground utility lines are clearly marked.
- (d) The Contractor shall shore up, brace, underpin, secure, and protect as necessary all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be affected by the excavations or other operations connected with the construction of the project.
- (e) Any equipment temporarily removed as a result of work under this contract shall be protected, cleaned, and replaced in the same condition as at the time of award of this contract.

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

#### 17. Temporary Buildings and Transportation of Materials

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

#### 18. Clean Air and Water

The 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 Construction

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

- (f) The PHA may conduct routine inspections of the construction site on a daily basis.
- (g) The Contractor shall, without charge, replace or correct work found by the PHA not to conform to contract requirements, unless the PHA decides that it is in its interest to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.
- (h) If the Contractor does not promptly replace or correct rejected work, the PHA may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor, or (2) terminate for default the Contractor's right to proceed.
- (i) If any work requiring inspection is covered up without approval of the PHA, it must, if requested by the Contracting Officer, be uncovered at the expense of the Contractor. If at any time before final acceptance of the entire work, the PHA considers it necessary or advisable, to examine work already completed by removing or tearing it out, the Contractor, shall on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray all the expenses of the examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the Contracting Officer shall make an equitable adjustment to cover the cost of the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.
- (j) The Contractor shall notify the Contracting Officer, in writing, as to the date when in its opinion all or a designated portion of the work will be substantially completed and ready for inspection. If the Architect determines that the state of preparedness is as represented, the PHA will promptly arrange for the inspection. Unless otherwise specified in the contract, the PHA shall accept, as soon as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines and designates can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the PHA's right under any warranty or guarantee.

## 21. Use and Possession Prior to Completion

- (a) The PHA shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the PHA intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The PHA's possession or use shall not be deemed an acceptance of any work under the contract.
- (b) While the PHA has such possession or use, the Contractor shall be relieved of the responsibility for (1) the loss of or damage to the work resulting from the PHA's possession or use, notwithstanding the terms of the clause entitled Permits and Codes herein; (2) all maintenance costs on the areas occupied; and, (3) furnishing heat, light, power, and water used in the areas

occupied without proper remuneration therefore. If prior possession or use by the PHA delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

## 22. Warranty of Title

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

## 23. Warranty of Construction

- (a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (j) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This warranty shall continue for a period of \_\_\_\_\_ (one year unless otherwise indicated) from the date of final acceptance of the work. If the PHA takes possession of any part of the work before final acceptance, this warranty shall continue for a period of (one year unless otherwise indicated) from the date that the PHA takes possession.
- (b) The Contractor shall remedy, at the Contractor's expense, any failure to conform, or any defect. In addition, the Contractor shall remedy, at the Contractor's expense, any damage to PHA-owned or controlled real or personal property when the damage is the result of—
  - (1) The Contractor's failure to conform to contract requirements; or
  - (2) Any defects of equipment, material, workmanship or design furnished by the Contractor.
- (c) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for (one year unless otherwise indicated) from the date of repair or replacement.
- (d) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect or damage.
- (e) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the PHA shall have the right to replace, repair or otherwise remedy the failure, defect, or damage at the Contractor's expense.
- (f) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:
  - (1) Obtain all warranties that would be given in normal commercial practice;
  - (2) Require all warranties to be executed in writing, for the benefit of the PHA; and,
  - (3) Enforce all warranties for the benefit of the PHA.
- (g) In the event the Contractor's warranty under paragraph (a) of this clause has expired, the PHA may bring suit at its own expense to enforce a subcontractor's, manufacturer's or supplier's warranty.



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

**24. Prohibition Against Liens**

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

**Administrative Requirements**

**25. Contract Period**

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

**26. Order of Provisions**

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

**27. Payments**

- (a) The PHA shall pay the Contractor the price as provided in this contract.
- (b) The PHA shall make progress payments approximately every 30 days as the work proceeds, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer. The PHA may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses.
- (c) Before the first progress payment under this contract, the Contractor shall furnish, in such detail as requested by the Contracting Officer, a breakdown of the total contract price showing the amount included therein for each principal category of the work, which shall substantiate the payment amount requested in order to provide a

basis for determining progress payments. The breakdown shall be approved by the Contracting Officer and must be acceptable to HUD. If the contract covers more than one project, the Contractor shall furnish a separate breakdown for each. The values and quantities employed in making up this breakdown are for determining the amount of progress payments and shall not be construed as a basis for additions to or deductions from the contract price. The Contractor shall prorate its overhead and profit over the construction period of the contract.

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

\_\_\_\_\_  
Name:

\_\_\_\_\_  
Title:

\_\_\_\_\_  
Date:

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

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

- (h) All material and work covered by progress payments made shall, at the time of payment become the sole property of the PHA, but this shall not be construed as (1) relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or, (2) waiving the right of the PHA to require the fulfillment of all of the terms of the contract. In the event the work of the Contractor has been damaged by other contractors or persons other than employees of the PHA in the course of their employment, the Contractor shall restore such damaged work without cost to the PHA and to seek redress for its damage only from those who directly caused it.
- (i) The PHA shall make the final payment due the Contractor under this contract after (1) completion and final acceptance of all work; and (2) presentation of release of all claims against the PHA arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. Each such exception shall embrace no more than one claim, the basis and scope of which shall be clearly defined. The amounts for such excepted claims shall not be included in the request for final payment. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned.
- (j) Prior to making any payment, the Contracting Officer may require the Contractor to furnish receipts or other evidence of payment from all persons performing work and supplying material to the Contractor, if the Contracting Officer determines such evidence is necessary to substantiate claimed costs.
- (k) The PHA shall not; (1) determine or adjust any claims for payment or disputes arising there under between the Contractor and its subcontractors or material suppliers; or, (2) withhold any moneys for the protection of the subcontractors or material suppliers. The failure or refusal of the PHA to withhold moneys from the Contractor shall in no wise impair the obligations of any surety or sureties under any bonds furnished under this contract.

## 28. Contract Modifications

- (a) Only the Contracting Officer has authority to modify any term or condition of this contract. Any contract modification shall be authorized in writing.
- (b) The Contracting Officer may modify the contract unilaterally (1) pursuant to a specific authorization stated in a contract clause (e.g., Changes); or (2) for administrative matters which do not change the rights or

responsibilities of the parties (e.g., change in the PHA address). All other contract modifications shall be in the form of supplemental agreements signed by the Contractor and the Contracting Officer.

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

## 29. Changes

- (a) The Contracting Officer may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract including changes:
  - (1) In the specifications (including drawings and designs);
  - (2) In the method or manner of performance of the work;
  - (3) PHA-furnished facilities, equipment, materials, services, or site; or,
  - (4) Directing the acceleration in the performance of the work.
- (b) Any other written order or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating (1) the date, circumstances and source of the order and (2) that the Contractor regards the order as a change order.
- (c) Except as provided in this clause, no order, statement or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.
- (d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for a adjustment based on defective specifications, no proposal for any change under paragraph (b) above shall be allowed for any costs incurred more than 20 days (5 days for oral orders) before the Contractor gives written notice as required. In the case of defective specifications for which the PHA is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.
- (e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause, or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting a written statement describing the general nature and the amount of the proposal. If the facts justify it, the Contracting Officer may extend the period for submission. The proposal may be included in the notice required under paragraph (b) above. No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.
- (f) The Contractor's written proposal for equitable adjustment shall be submitted in the form of a lump sum proposal supported with an itemized breakdown of all increases and decreases in the contract in at least the following details:

- (1) Direct Costs. Materials (list individual items, the quantity and unit cost of each, and the aggregate cost); Transportation and delivery costs associated with materials; Labor breakdowns by hours or unit costs (identified with specific work to be performed); Construction equipment exclusively necessary for the change; Costs of preparation and/ or revision to shop drawings resulting from the change; Worker's Compensation and Public Liability Insurance; Employment taxes under FICA and FUTA; and, Bond Costs when size of change warrants revision.
- (2) Indirect Costs. Indirect costs may include overhead, general and administrative expenses, and fringe benefits not normally treated as direct costs.
- (3) Profit. The amount of profit shall be negotiated and may vary according to the nature, extent, and complexity of the work required by the change. The allowability of the direct and indirect costs shall be determined in accordance with the Contract Cost Principles and Procedures for Commercial Firms in Part 31 of the Federal Acquisition Regulation (48 CFR 1-31), as implemented by HUD Handbook 2210.18, in effect on the date of this contract. The Contractor shall not be allowed a profit on the profit received by any subcontractor. Equitable adjustments for deleted work shall include a credit for profit and may include a credit for indirect costs. On proposals covering both increases and decreases in the amount of the contract, the application of indirect costs and profit shall be on the net-change in direct costs for the Contractor or subcontractor performing the work.
- (g) The Contractor shall include in the proposal its request for time extension (if any), and shall include sufficient information and dates to demonstrate whether and to what extent the change will delay the completion of the contract in its entirety.
- (h) The Contracting Officer shall act on proposals within 30 days after their receipt, or notify the Contractor of the date when such action will be taken.
- (i) Failure to reach an agreement on any proposal shall be a dispute under the clause entitled Disputes herein. Nothing in this clause, however, shall excuse the Contractor from proceeding with the contract as changed.
- (j) Except in an emergency endangering life or property, no change shall be made by the Contractor without a prior order from the Contracting Officer.

### 30. Suspension of Work

- (a) The Contracting Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the PHA.
- (b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified (or within a reasonable time if not specified) in this contract an adjustment shall be made for any increase in the cost of performance of the contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have

been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or for which any equitable adjustment is provided for or excluded under any other provision of this contract.

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

### 31. Disputes

- (a) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the contract, unlike a claim relating to the contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
- (b) Except for disputes arising under the clauses entitled Labor Standards - Davis Bacon and Related Acts, herein, all disputes arising under or relating to this contract, including any claims for damages for the alleged breach thereof which are not disposed of by agreement, shall be resolved under this clause.
- (c) All claims by the Contractor shall be made in writing and submitted to the Contracting Officer for a written decision. A claim by the PHA against the Contractor shall be subject to a written decision by the Contracting Officer.
- (d) The Contracting Officer shall, within 60 (unless otherwise indicated) days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.
- (e) The Contracting Officer's decision shall be final unless the Contractor (1) appeals in writing to a higher level in the PHA in accordance with the PHA's policy and procedures, (2) refers the appeal to an independent mediator or arbitrator, or (3) files suit in a court of competent jurisdiction. Such appeal must be made within (30 unless otherwise indicated) days after receipt of the Contracting Officer's decision.
- (f) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

### 32. Default

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

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

- (b) The Contractor's right to proceed shall not be terminated or the Contractor charged with damages under this clause if—
- (1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (i) acts of God, or of the public enemy, (ii) acts of the PHA or other governmental entity in either its sovereign or contractual capacity, (iii) acts of another contractor in the performance of a contract with the PHA, (iv) fires, (v) floods, (vi) epidemics, (vii) quarantine restrictions, (viii) strikes, (ix) freight embargoes, (x) unusually severe weather, or (xi) delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and
  - (2) The Contractor, within days (10 days unless otherwise indicated) from the beginning of such delay (unless extended by the Contracting Officer) notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of the delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, time for completing the work shall be extended by written modification to the contract. The findings of the Contracting Officer shall be reduced to a written decision which shall be subject to the provisions of the Disputes clause of this contract.
- (c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been for convenience of the PHA.

### 33. Liquidated Damages

- (a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, as specified in the clause entitled Default of this contract, the Contractor shall pay to the PHA as liquidated damages, the sum of \$ \_\_\_\_\_ [Contracting Officer insert amount] for each day of delay. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed. To the extent that the Contractor's delay or nonperformance is excused under another clause in this contract, liquidated damages shall not be due the PHA. The Contractor remains liable for damages caused other than by delay.
- (b) If the PHA terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final

completion of the work together with any increased costs occasioned the PHA in completing the work.

- (c) If the PHA does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

### 34. Termination for Convenience

- (a) The Contracting Officer may terminate this contract in whole, or in part, whenever the Contracting Officer determines that such termination is in the best interest of the PHA. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which the performance of the work under the contract is terminated, and the date upon which such termination becomes effective.
- (b) If the performance of the work is terminated, either in whole or in part, the PHA shall be liable to the Contractor for reasonable and proper costs resulting from such termination upon the receipt by the PHA of a properly presented claim setting out in detail: (1) the total cost of the work performed to date of termination less the total amount of contract payments made to the Contractor; (2) the cost (including reasonable profit) of settling and paying claims under subcontracts and material orders for work performed and materials and supplies delivered to the site, payment for which has not been made by the PHA to the Contractor or by the Contractor to the subcontractor or supplier; (3) the cost of preserving and protecting the work already performed until the PHA or assignee takes possession thereof or assumes responsibility therefore; (4) the actual or estimated cost of legal and accounting services reasonably necessary to prepare and present the termination claim to the PHA; and (5) an amount constituting a reasonable profit on the value of the work performed by the Contractor.
- (c) The Contracting Officer will act on the Contractor's claim within days (60 days unless otherwise indicated) of receipt of the Contractor's claim.
- (d) Any disputes with regard to this clause are expressly made subject to the provisions of the Disputes clause of this contract.

### 35. Assignment of Contract

The Contractor shall not assign or transfer any interest in this contract; except that claims for monies due or to become due from the PHA under the contract may be assigned to a bank, trust company, or other financial institution. Such assignments of claims shall only be made with the written concurrence of the Contracting Officer. If the Contractor is a partnership, this contract shall inure to the benefit of the surviving or remaining member(s) of such partnership as approved by the Contracting Officer.

### 36. Insurance

- (a) Before commencing work, the Contractor and each subcontractor shall furnish the PHA with certificates of insurance showing the following insurance is in force and will insure all operations under the Contract:
- (1) Workers' Compensation, in accordance with state or Territorial Workers' Compensation laws.
  - (2) Commercial General Liability with a combined single limit for bodily injury and property damage of not less than \$ \_\_\_\_\_ [Contracting Officer insert amount]

per occurrence to protect the Contractor and each subcontractor against claims for bodily injury or death and damage to the property of others. This shall cover the use of all equipment, hoists, and vehicles on the site(s) not covered by Automobile Liability under (3) below. If the Contractor has a "claims made" policy, then the following additional requirements apply: the policy must provide a "retroactive date" which must be on or before the execution date of the Contract; and the extended reporting period may not be less than five years following the completion date of the Contract.

- (3) Automobile Liability on owned and non-owned motor vehicles used on the site(s) or in connection therewith for a combined single limit for bodily injury and property damage of not less than \$ \_\_\_\_\_ [Contracting Officer insert amount] per occurrence.
- (b) Before commencing work, the Contractor shall furnish the PHA with a certificate of insurance evidencing that Builder's Risk (fire and extended coverage) Insurance on all work in place and/or materials stored at the building site(s), including foundations and building equipment, is in force. The Builder's Risk Insurance shall be for the benefit of the Contractor and the PHA as their interests may appear and each shall be named in the policy or policies as an insured. The Contractor in installing equipment supplied by the PHA shall carry insurance on such equipment from the time the Contractor takes possession thereof until the Contract work is accepted by the PHA. The Builder's Risk Insurance need not be carried on excavations, piers, footings, or foundations until such time as work on the superstructure is started. It need not be carried on landscape work. Policies shall furnish coverage at all times for the full cash value of all completed construction, as well as materials in place and/or stored at the site(s), whether or not partial payment has been made by the PHA. The Contractor may terminate this insurance on buildings as of the date taken over for occupancy by the PHA. The Contractor is not required to carry Builder's Risk Insurance for modernization work which does not involve structural alterations or additions and where the PHA's existing fire and extended coverage policy can be endorsed to include such work.
- (c) All insurance shall be carried with companies which are financially responsible and admitted to do business in the State in which the project is located. If any such insurance is due to expire during the construction period, the Contractor (including subcontractors, as applicable) shall not permit the coverage to lapse and shall furnish evidence of coverage to the Contracting Officer. All certificates of insurance, as evidence of coverage, shall provide that no coverage may be canceled or non-renewed by the insurance company until at least 30 days prior written notice has been given to the Contracting Officer.

### 37. Subcontracts

- (a) Definitions. As used in this contract -
- (1) "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime contract or a subcontract.

(2) "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another subcontractor.

- (b) The Contractor shall not enter into any subcontract with any subcontractor who has been temporarily denied participation in a HUD program or who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or of the state in which the work under this contract is to be performed.
- (c) The Contractor shall be as fully responsible for the acts or omissions of its subcontractors, and of persons either directly or indirectly employed by them as for the acts or omissions of persons directly employed by the Contractor.
- (d) The Contractor shall insert appropriate clauses in all subcontracts to bind subcontractors to the terms and conditions of this contract insofar as they are applicable to the work of subcontractors.
- (e) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the PHA or between the subcontractor and HUD.

### 38. Subcontracting with Small and Minority Firms, Women's Business Enterprise, and Labor Surplus Area Firms

The Contractor shall take the following steps to ensure that, whenever possible, subcontracts are awarded to small business firms, minority firms, women's business enterprises, and labor surplus area firms:

- (a) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
- (b) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;
- (c) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;
- (d) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises; and
- (e) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies.

### 39. Equal Employment Opportunity

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

- (a) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap.
- (b) 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, national origin, or handicap. Such action shall include, but not be limited to, (1) employment, (2) upgrading, (3) 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 shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.
- (d) The Contractor shall, 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, national origin, or handicap.
- (e) 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, 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 shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.
- (g) The Contractor 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 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 determination that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, 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 under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended, the rules, regulations, and orders of the Secretary of Labor, or as otherwise provided by law.
- (i) The Contractor shall include the terms and conditions of this clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor. The Contractor shall take such action with respect to any subcontract or purchase order as the Secretary of Housing and Urban Development or the Secretary of Labor may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.
- (j) Compliance with the requirements of this clause shall be to the maximum extent consistent with, but not in derogation of, compliance with section 7(b) of the Indian Self-Determination and Education Assistance Act and the Indian Preference clause of this contract.

**40. Employment, Training, and Contracting Opportunities for Low-Income Persons, Section 3 of the Housing and Urban Development Act of 1968.**

- (a) The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- (b) The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.
- (c) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- (d) The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.
- (e) The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.
- (f) Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- (g) With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

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#### 41. Interest of Members of Congress

No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this contract or to any benefit that may arise therefrom.

#### 42. Interest of Members, Officers, or Employees and Former Members, Officers, or Employees

No member, officer, or employee of the PHA, no member of the governing body of the locality in which the project is situated, no member of the governing body of the locality in which the PHA was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this contract or the proceeds thereof.

#### 43. Limitations on Payments made to Influence Certain Federal Financial Transactions

- (a) The Contractor agrees to comply with Section 1352 of Title 31, United States Code which prohibits the use of Federal appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.
- (b) The Contractor further agrees to comply with the requirement of the Act to furnish a disclosure (OMB Standard Form LLL, Disclosure of Lobbying Activities) if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

#### 44. Royalties and Patents

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringement of any patent rights and shall save the PHA harmless from loss on account thereof; except that the PHA shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified and the Contractor has no reason to believe that the specified design, process, or product is an infringement. If, however, the Contractor has reason to believe that any design, process or product specified is an infringement of a patent, the Contractor shall promptly notify the Contracting Officer. Failure to give such notice shall make the Contractor responsible for resultant loss.

#### 45. Examination and Retention of Contractor's Records

- (a) The PHA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until 3 years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.
- (b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders not exceeding \$10,000.
- (c) The periods of access and examination in paragraphs (a) and (b) above for records relating to (1) appeals under the Disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the PHA, HUD, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

#### 46. Labor Standards - Davis-Bacon and Related Acts

If the total amount of this contract exceeds \$2,000, the Federal labor standards set forth in the clause below shall apply to the development or construction work to be performed under the contract.

- (a) Minimum Wages.
  - (1) All laborers and mechanics employed under this contract in the development or construction of the project(s) involved will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the regular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall

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be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- (2) (i) Any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met: (A) The work to be performed by the classification requested is not performed by a classification in the wage determination; and (B) The classification is utilized in the area by the construction industry; and (C) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employee Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.
- (iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.
- (iv) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (a)(2)(ii) or (iii) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in classification.
- (3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the

amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

- (b) Withholding of funds. HUD or its designee shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working in the construction or development of the project, all or part of the wages required by the contract, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due.
- (c) Payrolls and basic records.
- (1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working in the construction or development of the project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under 29 CFR 5.5(a)(1)(iv), that the wages of any laborer or mechanic include the amount of costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.



- (2) (i) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under subparagraph (c)(1) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The Contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1214-0149.)
- (ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
- (A) That the payroll for the payroll period contains the information required to be maintained under paragraph (c) (1) of this clause and that such information is correct and complete;
- (B) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3; and
- (C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirements for submission of the "Statement of Compliance" required by subparagraph (c)(2)(ii) of this clause.
- (iv) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.
- (3) The Contractor or subcontractor shall make the records required under subparagraph (c)(1) available for inspection, copying, or transcription by authorized representatives of HUD or its designee, the Contracting Officer, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to

make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

- (d) (1) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship and Training, Employer and Labor Services (OATELS), or with a State Apprenticeship Agency recognized by OATELS, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by OATELS or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event OATELS, or a State Apprenticeship Agency recognized by OATELS, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- (2) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under

the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (3) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.
- (e) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.
- (f) Contract termination; debarment. A breach of this contract clause may be grounds for termination of the contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR 5.12.
- (g) Compliance with Davis-Bacon and related Act requirements. All rulings and interpretations of the Davis-Bacon and related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.
- (h) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this clause shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the PHA, HUD, the U.S. Department of Labor, or the employees or their representatives.
- (i) Certification of eligibility.
  - (1) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

- (2) No part of this contract shall be subcontracted to any person or firm ineligible for award of a United States Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
  - (3) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.
- (j) Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.
    - (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.
    - (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions set forth in subparagraph (j)(1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic (including watchmen and guards) employed in violation of the provisions set forth in subparagraph (j)(1) of this clause, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by provisions set forth in subparagraph (j)(1) of this clause.
    - (3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions set forth in subparagraph (j)(2) of this clause.
  - (k) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts all the provisions contained in this clause, and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all these provisions.

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#### 47. Non-Federal Prevailing Wage Rates

- (a) Any prevailing wage rate (including basic hourly rate and any fringe benefits), determined under State or tribal law to be prevailing, with respect to any employee in any trade or position employed under the contract, is inapplicable to the contract and shall not be enforced against the Contractor or any subcontractor, with respect to employees engaged under the contract whenever such non-Federal prevailing wage rate exceeds:
  - (1) The applicable wage rate determined by the Secretary of Labor pursuant to the Davis-Bacon Act (40 U.S.C. 3141 et seq.) to be prevailing in the locality with respect to such trade;
- (b) An applicable apprentice wage rate based thereon specified in an apprenticeship program registered with the U.S. Department of Labor (DOL) or a DOL-recognized State Apprenticeship Agency; or
- (c) An applicable trainee wage rate based thereon specified in a DOL-certified trainee program.

#### 48. Procurement of Recovered Materials.

- (a) In accordance with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, the Contractor shall procure items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition. The Contractor shall procure items designated in the EPA guidelines that contain the highest percentage of recovered materials practicable unless the Contractor determines that such items: (1) are not reasonably available in a reasonable period of time; (2) fail to meet reasonable performance standards, which shall be determined on the basis of the guidelines of the National Institute of Standards and Technology, if applicable to the item; or (3) are only available at an unreasonable price.
- (b) Paragraph (a) of this clause shall apply to items purchased under this contract where: (1) the Contractor purchases in excess of \$10,000 of the item under this contract; or (2) during the preceding Federal fiscal year, the Contractor: (i) purchased any amount of the items for use under a contract that was funded with Federal appropriations and was with a Federal agency or a State agency or agency of a political subdivision of a State; and (ii) purchased a total of in excess of \$10,000 of the item both under and outside that contract.

**FAIR EMPLOYMENT PRACTICE STATEMENT AFFIDAVIT**

**STATE OF:** \_\_\_\_\_

**COUNTY OF:** \_\_\_\_\_

After being first duly sworn according to the law, the undersigned (Affiant) states that he/she is

\_\_\_\_\_ (TITLE) of \_\_\_\_\_

(Contractor) and that by its employment policy, standards, and practices, the Contractor does not subscribe to any personnel policy which permits discrimination or harassment against any qualified employee or job applicant in regard to hiring, promotion, demotion, employment, dismissal, or other terms and conditions of employment due to an employee's or applicant's protected class in violation of applicable federal law or the laws of the State of Tennessee.

Any further Affiant sayeth not.

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Type/ Print Name**

Sworn to and subscribed before me on this \_\_\_\_\_ day of \_\_\_\_\_.

\_\_\_\_\_  
**NOTARY PUBLIC**

My Commission Expires: \_\_\_\_\_

**Tennessee Contractor's License Law and  
Rules and Regulations**

**Title 62 is hereby incorporated by reference and copies may be obtained at MDHA.**

## 1. MDHA DIVERSITY BUSINESS ENTERPRISE PROGRAM

The Metropolitan Development and Housing Agency (MDHA) has established a Diversity Business Enterprise (DBE) Program to enhance the participation of minority, women and small business enterprise firms in the Agency's contracting and purchasing activities. The DBE Program is being implemented to increase utilization of minority, women and small businesses and to provide these businesses greater economic opportunity. MDHA's Construction Department is responsible for the Diversity Business Program Administration.

In support of this program, we require architectural/engineering firms, contractors and their subcontractors and other lower-tier subcontractors, vendors and suppliers, who do business with Metropolitan Development and Housing Agency to adopt similar policies. Businesses bidding or proposing on procurements are required to comply with the provisions of the DBE Program. MDHA prohibits discrimination against any person, business or organization in pursuit of its' procurement opportunities on the basis of race, color, sex, religion, disability or national origin. MDHA will conduct its contracting and purchasing programs so as to prevent any discrimination and to resolve all allegations of discrimination.

## 2. Diversity Business Enterprise Policy

It is the policy of MDHA to assist minority, women and small business enterprise firms in their aspirations of viability and growth, which support a more stable economic community. To this extent, we join with community agencies and organizations that support these businesses to create greater opportunities for these entrepreneurs in the attainment of mutually beneficial social and economic objectives. Minority, women and small business enterprise firms will be given the maximum practicable opportunity, consistent with efficient performance, to compete for and participate in contracts, subcontracts, purchase orders and other procurement activities.

3. **Definitions For Determining Minority, Women And Small-Owned Firms.** The guidelines for determining minority, women and small-owned firms are defined as follows:

**“MINORITY”** means a person who is a citizen or lawful permanent resident of the United States and who is:

- Black (a person having origins in any of the black racial groups of Africa);
- *f* Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
- *f* Asian American (a person having origins in any of the original peoples of the Far East. Southeast
- *f* Asia, the Indian subcontinent, or the Pacific Islands); or
- American Indian and Alaskan Native (a person having origins in any of the original peoples of North America).

**“MINORITY BUSINESS ENTERPRISE”** shall mean a minority business:

A continuing, independent, for profit business which performs a commercially useful function, and is at least 51 percent owned and controlled by one or more minority

individuals; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned and controlled by one or more minorities. Whose management and daily business operations are controlled by one or more of minority individuals. "Control" as used in the above clause, means exercising the power to make policy decision. "Operate," as used in the above clause, means being actively involved in the day-to-day management of the business.

**"WOMEN BUSINESS ENTERPRISE"** shall mean women business:

A continuing, independent, for profit business which performs a commercially useful function, and which is at least 51 percent owned and controlled by one or more women; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned and controlled by one or more women. Whose management and daily business operations are controlled by one or more of such individuals. "Control" as used in the above clause, means exercising the power to make policy decision. "Operate," as used in the above clause, means being actively involved in the day-to-day management of the business.

**SMALL BUSINESS ENTERPRISE AS DEFINED IN SECTION 4.44.010 OF THE METROPOLITAN CODE OF LAWS;**

A Small Business satisfies all of the following criteria:

- (a) A United States business which is independently owned and operated, and which is not dominant in its field of operation or an affiliate or subsidiary of a business dominant in it's field of operation.
- (b) Either has no more than the following number of employees or has no more than the following annual sales volume for the applicable industry; and

INDUSTRY	ANNUAL SALES VOLUME	MAXIMUM NUMBER OF EMPLOYEES*
Agriculture, Forestry, Fishing	\$500,000	9
Architectural/Design/Engineering	\$2,000,000	30
Construction	\$2,000,000	30
Educational	\$1,000,000	9
Finance, Insurance, Real Estate	\$1,000,000	9
Information Systems/Technology	\$2,000,000	30
Manufacturing	\$2,000,000	99
Marketing/Communications/Public Relations	\$2,000,000	30
Medical/Healthcare	\$2,000,000	30
Mining	\$1,000,000	49
Retail Trade	\$750,000	9
Service Industry	\$500,000	9
Transportation, Commerce and Utilities	\$1,000,000	9
Wholesale Trade	\$1,000,000	19

- (c) Meets the following additional criteria:
  1. Has demonstrated capability to perform independently a substantial portion of the contract they seek, or a substantial portion of the subcontract for which they are proposed by a bidder or offeror, as specified by the Purchasing Agent;
  2. Not share or jointly use office space, production, marketing and sales, business support systems, personnel, or equipment with any business not classified by Metro as a small business (i.e., a large business);
  3. Has existed as a legal business entity for a minimum of one year (twelve months of continuous business enterprise), performing independently and satisfactorily and achieving a minimum of \$35,000.00 sales income (collected sales dollars not simply booked sales);



4. Not to be owned, controlled, or directed by individuals or groups of individuals who own, control or direct a large business involved in the same category of work as the business for which small business status is sought;
5. If a supplier, be an authorized regular distributor with normal wholesale agreements for the Product or products to be supplied; and
6. If a construction contractor, be licensed as required by the state to perform the work for which it has submitted a bid or has been proposed by a prime as a subcontractor.

\*NOTE: Employee means a person (or persons) employed on a full-time (or full-time equivalent), a permanent basis. Full-time equivalent includes employees who work 30 hours per week or more. Full-time equivalent also includes the aggregate of employees who work less than 30 hours a week, where the work hours of such employees add up to at least 40 hour work week. The totality of the circumstances, including factors relevant for tax purposes, will determine whether persons are employees of a concern. Temporary employees, independent contractors or leased employees are not employees for these purposes. The owner(s) are excluded from this classification.

Minority, women and small-owned firms are required to provide proof of their eligibility in accordance with these guidelines.

#### **4. Utilization of Diversity Business Enterprise Firms**

In order to provide minority, women and small businesses equal opportunity to participate in MDHA's procurements, A/E's and contractors bidding or proposing on Agency procurements are required to solicit the services of minority, women and small business firms. A/E's, and contractors who are awarded contracts, or purchase orders, along with their subcontractors, and other lower-tier subcontractors must commit to utilize Diversity Business Enterprise firms as part of their contractual obligation.

##### **a. Diversity Business Enterprise Program Compliance Forms**

To be considered a responsive bidder or proposer, Diversity Business Enterprise forms 2001, 2002, and 2003 must be completed in its entirety and submitted with the bid/or proposal.

#### **5. MDHA Diversity Business Goal**

A goal of 20% Diversity Business Participation has been established for this project. Contractors will submit with their bid DBE Form 2001 indicating efforts to utilize DBE contractors, DBE Form 2002 if joint venturing with a DBE business and DBE Form 2003 showing commitment to meet established goal and indicating type of work and dollar amount for each DBE business.

#### **6. Program Questions/Information**

Questions regarding the DBE Program and requests for information should be directed to: Metropolitan Development and Housing Agency's Diversity Business Coordinator, Diane Baseheart, 712 South Sixth Street, Nashville, Tennessee 37206, (615) 252-8434 or [dbaseheart@nashville-mdha.org](mailto:dbaseheart@nashville-mdha.org).

#### **7. MDHA DBE Directory**

To assist Contractors in obtaining the DBE goal for this project, Contractors are encouraged to visit the MDHA Website at [www.nashville-mdha.org/diversity-business-enterprise-program/](http://www.nashville-mdha.org/diversity-business-enterprise-program/). Contractors can download the MDHA Vendor Database at this website to make contact with DBE firms. For more information regarding the MDHA DBE program, Contractors are invited to contact Diane Baseheart at (615) 252-8434 or by email [dbaseheart@nashville-mdha.org](mailto:dbaseheart@nashville-mdha.org).

**FORM 2001**

**METROPOLITAN DEVELOPMENT AND HOUSING AGENCY  
DIVERSITY BUSINESS ENTERPRISE EQUAL OPPORTUNITY SOLICITATION CERTIFICATION**

COMPANY NAME:	ADDRESS/TELEPHONE:
PROJECT NAME:	DATE FORM SUBMITTED:

**IMPORTANT - THIS FORM MUST BE COMPLETELY FILLED OUT AND SUBMITTED WITH BID OR PROPOSAL**

*Please list the name(s) of Minority (M) Women (W) and Small (S) Business Enterprise Firms contacted, and their responses to the above procurement package. If additional space is required, this form may be duplicated.*

Name/Address	Type of Business M/W/S	Type of Work/Service(s) Solicited	Indicate How Businesses Were Contacted (i.e. letter, phone, fax)	Response to Solicitation (i.e. interested, not interested, no response)	Company Representative	Telephone/Fax Number

It is hereby certified that the following Diversity Business Enterprise firms were contacted and offered an opportunity to bid or propose on the above procurement. We further certify that the above statements are a true account of Diversity Business Enterprise firm's response to our solicitation.

Company Representative (Name/Title/Signature)	Date
---	------

**FORM 2002**

**METROPOLITAN DEVELOPMENT AND HOUSING AGENCY  
DIVERSITY BUSINESS ENTERPRISE PROGRAM JOINT VENTURE AGREEMENT  
IMPORTANT - THIS DOCUMENT MUST BE SUBMITTED WITH BID OR PROPOSAL**

<b>COMPANY NAME:</b>	<b>COMPLETE ADDRESS/TELEPHONE:</b>
<b>PROJECT NAME:</b>	<b>DATE FORM SUBMITTED:</b>

*Please note: Completion of this form is only required when the Bidder/Proposer enters into a joint venture agreement with a Diversity Business Enterprise Firm.  
Please indicate N/A if the Bidder/Proposer is not a Joint Venture.*

**A. PRIMARY PARTY OF JOINT VENTURE:**

Company Name, Complete Address and Phone Number          Percentage of Joint Venture <input style="width: 50px;" type="text"/>	<table style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2"><b>Diversity Business Enterprise Status: (Check appropriate block)</b></td> </tr> <tr> <td style="width:60%;">Minority Owned</td> <td style="width:40%; text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>African American</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Native American</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Asian</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Hispanic American</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Hasidic Jewish American</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Woman Owned Business</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Small Owned Business</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<b>Diversity Business Enterprise Status: (Check appropriate block)</b>		Minority Owned	<input type="checkbox"/>	African American	<input type="checkbox"/>	Native American	<input type="checkbox"/>	Asian	<input type="checkbox"/>	Hispanic American	<input type="checkbox"/>	Hasidic Jewish American	<input type="checkbox"/>	Woman Owned Business	<input type="checkbox"/>	Small Owned Business	<input type="checkbox"/>
<b>Diversity Business Enterprise Status: (Check appropriate block)</b>																			
Minority Owned	<input type="checkbox"/>																		
African American	<input type="checkbox"/>																		
Native American	<input type="checkbox"/>																		
Asian	<input type="checkbox"/>																		
Hispanic American	<input type="checkbox"/>																		
Hasidic Jewish American	<input type="checkbox"/>																		
Woman Owned Business	<input type="checkbox"/>																		
Small Owned Business	<input type="checkbox"/>																		

**PRIMARY PARTY'S TOTAL CONTRIBUTIONS**

<b>Total Cash: \$</b>	<b>Bond Percentage:</b>	
<b>Equipment</b>	<b>Total Cost</b>	<b>Cost</b>

**B. SECONDARY PARTY OF JOINT VENTURE:**

Company Name, Complete Address and Phone Number          Percentage of Joint Venture <input style="width: 50px;" type="text"/>	<table style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2"><b>Diversity Business Enterprise Status: (Check appropriate block)</b></td> </tr> <tr> <td style="width:60%;">Minority Owned</td> <td style="width:40%; text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>African American</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Native American</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Asian</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Hispanic American</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Hasidic Jewish American</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Woman Owned Business</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Small Owned Business</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<b>Diversity Business Enterprise Status: (Check appropriate block)</b>		Minority Owned	<input type="checkbox"/>	African American	<input type="checkbox"/>	Native American	<input type="checkbox"/>	Asian	<input type="checkbox"/>	Hispanic American	<input type="checkbox"/>	Hasidic Jewish American	<input type="checkbox"/>	Woman Owned Business	<input type="checkbox"/>	Small Owned Business	<input type="checkbox"/>
<b>Diversity Business Enterprise Status: (Check appropriate block)</b>																			
Minority Owned	<input type="checkbox"/>																		
African American	<input type="checkbox"/>																		
Native American	<input type="checkbox"/>																		
Asian	<input type="checkbox"/>																		
Hispanic American	<input type="checkbox"/>																		
Hasidic Jewish American	<input type="checkbox"/>																		
Woman Owned Business	<input type="checkbox"/>																		
Small Owned Business	<input type="checkbox"/>																		

**SECONDARY PARTY'S TOTAL CONTRIBUTIONS**

<b>Total Cash: \$</b>	<b>Bond Percentage:</b>	
<b>Equipment</b>	<b>Total Cost</b>	<b>Cost</b>

**Please attach copy of Joint Venture Agreement and all pertinent information.**

**FORM 2003**

**METROPOLITAN DEVELOPMENT AND HOUSING AGENCY DIVERSITY BUSINESS  
ENTERPRISE (DBE) PROPOSED UTILIZATION PLAN IMPORTANT - THIS DOCUMENT  
MUST BE SUBMITTED WITH THE BID OR PROPOSAL**

<b>COMPANY NAME:</b>	<b>COMPLETE ADDRESS AND PHONE NUMBER:</b>
<b>PROJECT NAME:</b>	<b>DATE FORM SUBMITTED:</b>

The above named company proposes to use the services of the following listed DBE firms. This form may be duplicated if additional space is needed.

**Fill in below if above named company is a certified DBE company and will be self-performing on the project**

DBE NAME/ADDRESS/TELEPHONE	<i>(Please Indicate Status)</i>			Certifying Agency	Type of Work	DBE DOLLARS	DBE %
	MBE	WBE	SBE				
<b>MBE Dollars/Percentage:</b>	\$						%
<b>WBE Dollars/Percentage:</b>	\$						%
<b>SBE Dollars/Percentage:</b>	\$						%
<b>Total DBE Dollars/Percentage</b>							
<b>Signature/Title:</b>							

**FORM 2004**

**METROPOLITAN DEVELOPMENT AND HOUSING AGENCY  
STATEMENT OF INTENT TO UTILIZE DIVERSITY BUSINESS ENTERPRISE FIRMS**

**THIS FORM MUST BE COMPLETED AND SUBMITTED TO CONTRACT COMPLIANCE OFFICER PRIOR TO CONTRACT AWARD**

<b>COMPANY NAME:</b>	<b>COMPLETE ADDRESS/TELEPHONE:</b>
<b>PROJECT NAME:</b>	<b>DATE FORM SUBMITTED:</b>

\_\_\_\_\_ agrees to perform work on the above project as (check one):  
*( Name of DBE Subcontractor or Supplier)*

\_\_\_\_\_ will enter into a formal agreement for the work with \_\_\_\_\_  
*(Name of DBE Subcontractor or Supplier)* A/E or Contractor

conditioned upon the company executing a contract with the MDHA. \_\_\_\_\_ will submit to MDHA proof of  
A/E or Contractor

any purchase orders awarded and/or subcontract agreements entered into with the above named DBE Subcontractor/Supplier as  
 documentation of utilization of DBE firms.

ITEM NUMBER	DESCRIPTION OF WORK	SUBCONTRACT/ PURCHASE ORDER PRICE	% OF TOTAL CONTRACT PRICE	START DATE	COMPLETION DATE

**CONTRACTOR REPRESENTATIVE SIGNATURE, TITLE & DATE**

**DIVERSITY BUSINESS ENTERPRISE FIRM REPRESENTATIVE SIGNATURE, TITLE & DATE**

**FORM 2005**

**METROPOLITAN DEVELOPMENT AND HOUSING AGENCY  
CHANGES TO THE DIVERSITY BUSINESS ENTERPRISE UTILIZATION PLAN**

<b>COMPANY NAME:</b>	<b>COMPLETE ADDRESS/TELEPHONE:</b>
<b>PROJECT NAME:</b>	<b>DATE FORM SUBMITTED:</b>

SUBMIT THIS FORM WHEN A CHANGE ORDER WILL AFFECT DBE SUBCONTRACTS (ADDITIVE OR DEDUCTIVE)

DBE NAME ADDRESS & PHONE	TYPE OF WORK	DBE DOLLARS	DBE %	REASON FOR CHANGE

<b>MBE Dollars/Percentage:</b>	\$		%
<b>WBE Dollars/Percentage:</b>	\$		%
<b>SBE Dollars/Percentage:</b>	\$		%

**TOTAL DBE DOLLARS & PERCENTAGE:**

<b>Contractor Signature/Title:</b>
<b>Date:</b>





**HUD SECTION 3  
BIDDER CERTIFICATION AND COMPLIANCE AGREEMENT**

**The bidder represents and certifies as part of its bid/offer the following:**

**[ ] Is a Section 3 Business concern in accordance with HUD Act of 1968 (12 U.S.C.1701u) (Section 3) Part 135. A Section 3 Business concern means a business concern:**

1. That is 51% or more owned by Section 3 Residents(s); or
2. Whose permanent, full-time employees include persons, at least 30% of whom are currently Section 3 residents, or within the last three years of the date of first employment with the business concern were Section 3 residents; or
3. That provides evidence of a commitment to subcontract in excess of 25% of the dollar value of all subcontracts to be awarded to business concerns that meet the qualifications set forth in paragraphs 1 or 2 herein.

**[ ] Is Not a Section 3 Business concern but who has and will continue to seek compliance with Section 3 by certifying the following efforts to be undertaken:**

1. By contacting business assistance agencies, minority contractors associations and community organizations to inform them of the contracting opportunities and requesting their assistance in identifying Section 3 businesses which may solicit bids for a portion of the work.
2. By advertising contracting opportunities by posting notices, which provide general information about the work to be contracted and where to obtain additional information, in the common areas of the applicable developments(s) owned and managed by the Housing Authority.
3. By providing written notice to all known Section 3 business concern of contracting opportunities. This notice should be in sufficient time to allow the Section 3 business concerns to respond to bid invitations.
4. By following up with Section 3 business concerns that have expressed interest in the contracting opportunities.
5. By coordinating meetings at which Section 3 business concerns could be informed of specific elements of the work for which subcontract bids are being sought.
6. By conducting workshops on contracting procedures and specific contacting opportunities in a timely manner so that Section 3 concerns can take advantage of contracting opportunities.
7. By advising Section 3 business concerns as to where they may seek assistance to overcome barriers such as inability to obtain bonding, financing, insurance, etc.
8. Where appropriate, by breaking out contract work into economically feasible units to facilitate participation by Section 3 businesses.
9. By developing and utilizing a list of eligible Section 3 business concerns.
10. By actively supporting and undertaking joint ventures with Section 3 businesses.
11. By establishing training programs, which are consistent with the requirements of the Department of Labor, specifically for Section 3 residents in the building trades.
12. By advertising employment and training positions to dwelling units occupied by Category 1 and 2 residents.
13. By contacting resident councils and other resident organizations in the affected housing development to request assistance in notifying residents of the training and employment positions to be filled.
14. By arranging interviews and conducting interviews on the job site.
15. By undertaking such continued job training efforts as may be necessary to ensure the continued employment of Section 3 residents previously hire for employment opportunities.

Signature: \_\_\_\_\_ Title: \_\_\_\_\_

Sworn to and subscribed before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

## **SECTION 01 11 00**

### **SUMMARY OF WORK**

#### **PART 1 GENERAL**

##### 1.01 GENERAL PROJECT DESCRIPTION

- A. Project Description: This project consists of minor demolition and system upgrades to the building access & egress paths of travel for the Nance Place residences in Nashville, Tennessee.
- B. The Project is being constructed under a single phase contract.
- C. A geotechnical engineering subsurface investigation has not been performed for this project, since this is an existing facility with no site work included.

##### 1.02 DESCRIPTION OF WORK

- A. The following is intended as a brief general description of the highlights of the **Contract Work for this project that is itemized in the Contract Documents**:
  - 1. Assess the status of all existing site conditions and building materials prior to start of the work.
  - 2. Verify access and staging areas for all sites prior to mobilization.
  - 3. The scope of work is to provide minor demolition and repair to the existing structure in order to upgrade the security system for the access and egress pathways of the existing building as indicated on the drawings.

##### 1.03 PROJECT SCHEDULE

- A. Prepare a detailed construction procedure and schedule and submit it to the A / E for approval. Such procedure and schedule must be approved in writing by the A/E prior to the start of construction work.
- B. Completion of the work within the time frame allotted is critical to the project and the schedule will be strictly adhered to. Contractor shall be responsible for the expediting of the fabrication and delivery of materials and equipment and shall coordinate delivery of same with the approved construction schedule to allow for completion within the time period specified in the Form of Proposal.
  - 1. It is recognized that the work can be unavoidably affected or influenced by governing regulations, natural phenomena including weather conditions and other forces outside the Contract Documents. However, every effort must be made to keep the project on schedule due to the firm deadline established by the Owner for this particular phase of the work.

##### 1.04 MISCELLANEOUS PROVISIONS

- A. Performance Requirements for Completed Work: Provide the final and completed project complete and ready for use in every respect by the completion date specified herein.

1. Contract Documents indicate the intended occupancy and utilization of the building and its individual systems and facilities. Compliance with all applicable governing regulations, codes and standards is intended and required for the work and for the Owner's occupancy and utilization.
2. In addition to the requirement that every element of the work comply with applicable requirements of the Contract Documents, it is also required that the work as a whole comply with all applicable industry standards and governing codes and regulations.

**END OF SECTION**

## **SECTION 01 25 00**

### **SUBSTITUTION PROCEDURES**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. This Section applies to substitute products and procedures requested by the Contractor after the Contract has been awarded. No Substitutions are allowed to be included with the Bid. Section also includes administrative and procedural requirements for substitutions permitted after the bidding phase.
- B. Requirements of this Section are in addition to the requirements of Instructions to Bidders, General Conditions and Supplementary Conditions.
- C. Requirements of this Section are part of the requirements specified in Section 01 25 01 - Substitution Request Form. Substitutions will NOT be considered unless Section 01 25 01 (from this Project Manual) is used and the requirements of both sections are fully complied with. Other types of forms are NOT acceptable.
- D. Substitutions will NOT be considered when requested directly by subcontractor or supplier. Owner and Architect will determine the acceptability of all substitutions.

##### **1.02 RELATED SECTIONS**

- A. Related Sections
  - 1. Product Requirements (for submitting comparable product submittals for products by listed manufacturers): Section 01 60 00.
  - 2. Divisions 02 through 49 Sections for specific requirements and limitations for substitutions.

##### **1.03 DEFINITIONS**

- A. Substitutions: Changes in products, materials, equipment and methods of construction from requirements of Contract Documents and proposed by the GC
  - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
  - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

##### **1.04 SUBMITTALS**

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Substitutions After the Bidding Phase: After the Contract has been executed, the Owner will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in

this paragraph. Where materials, equipment, apparatus, or other products are specified by manufacturer, brand name, type or catalog number, such designation shall establish standards of quality and style desired. Any reasonable request for substitution will be considered, if in the opinion of the Architect, such materials are equal to the material specified and entirely satisfactory for use in the project. The Owner and Architect shall judge the acceptability of substitution.

- a. By making requests for substitutions based on paragraph 1 above, the Contractor:
    - 1) Represents that he has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;
    - 2) Represents that he will provide the same warranty for the substitution that the Contractor would for that specified;
    - 3) Certifies that the cost data presented is complete and includes all related costs under this Contract but excludes the Architect's re-design costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and
    - 4) Will coordinate the installation of the accepted substitute, making such changes as may be required for the work to be complete in all respects, without any additional time being added to the contract schedule.
  - b. The Architect will reply in writing to the Contractor stating whether the Owner, after due investigation, has reasonable objection to any such proposal. If adequate data on any proposed manufacturer or installer is not available, the Architect may state that action will be deferred until the Contractor provides further data. Failure of the Owner to reply will constitute notice of non-acceptance. Written acceptance of substitution will not constitute a waiver of any of the requirements of the Contract Documents, and all products furnished by the listed manufacturer must comply with such requirements.
  - c. Timing: Architect will consider requests for substitution if received within 60 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Architect. If necessary, Architect will request additional information or documentation for evaluation within 7 days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
  - d. Substitution Request Form: Use Section 01 25 01.
  - e. Form of Acceptance: Change Order.
2. Contractor's Substitution Documentation: Show compliance with requirements for substitutions and the following, as applicable:
- a. Statement indicating why specified material or product cannot be provided
  - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
  - c. Detailed comparison of significant qualities of Work specified with the proposed substitution. Significant qualities may include

- attributes such as performance, weight, size, durability, visual effect and specific features and requirements indicated
- d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
- e. Samples, where applicable or requested.
- f. List of similar installations for completed projects with project, Owners and Architects names and addresses.
- g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated
- h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
- i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
- j. Cost information, including a proposal of change, if any, in the Contract Sum.
- k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
- l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

#### 1.05 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

#### 1.06 PROCEDURES

- A. Coordination: Modify or adjust affected work as necessary to integrate work of the approved substitutions.

### **PART 2 PRODUCTS**

#### 2.01 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
  - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
    - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    - b. Substitution request is fully documented and properly submitted.
    - c. Requested substitution will not adversely affect Contractor's

- construction schedule.
  - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
  - e. Requested substitution compatible with other portions of the Work
  - f. Requested substitution has been coordinated with other portions of the Work.
  - g. Requested substitution provides specified warranty.
  - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Architect.
- 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
    - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
    - b. Requested substitution does not require extensive revisions to the Contract Documents.
    - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    - d. Substitution request is fully documented and properly submitted.
    - e. Requested substitution will not adversely affect Contractor's construction schedule.
    - f. Requested substitution has received necessary approvals of authorities having jurisdiction.
    - g. Requested substitution compatible with other portions of the Work.
    - h. Requested substitution has been coordinated with other portions of the Work.
    - i. Requested substitution provides specified warranty.
    - j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

**PART 3      EXECUTION**  
**(Not Used)**

**END OF SECTION**

**SECTION 01 25 01**  
**SUBSTITUTION REQUEST FORM**

GENERAL: This form is part of the substitution requirements specified in Section 01 25 00. Provide comparable information as required to enable evaluation of the proposed substitution to the specified performance and materials. It is not the duty of the Architect/Engineer to research claims of equivalency. **Burden of proof is solely the responsibility of the proposer.**

PROJECT TITLE & NO. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TO:MOODY NOLAN INC.  
1625 Broadway, 4<sup>th</sup> Floor  
Nashville, Tennessee 37203  
Telephone (615) 386-9690 FAX (615) 386-0528  
Contact and Email: Josh Thomas [jthomas@moodynolan.com](mailto:jthomas@moodynolan.com)

ATTN: \_\_\_\_\_

SPECIFIED ITEM \_\_\_\_\_  
Section \_\_\_\_\_ Paragraph \_\_\_\_\_

PROPOSED SUBSTITUTE \_\_\_\_\_

Attach complete description, catalog, spec data, and laboratory tests if applicable

1. What effect will substitution have on dimensions, gauges, weights, etc. indicated in Contract Documents?  
\_\_\_\_\_  
\_\_\_\_\_
2. What effect will substitution have on wiring, piping, ductwork, etc. indicated in Contract Documents?  
\_\_\_\_\_  
\_\_\_\_\_
3. What effect will substitution have on other trades? \_\_\_\_\_  
\_\_\_\_\_
4. What effect will substitution have on construction schedule? \_\_\_\_\_  
\_\_\_\_\_



5. What are the differences in quality and performance between proposed substitute and specified product? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
6. Manufacturer's guarantees of the specified products and proposed products are:  
 Same: \_\_\_\_\_ Different (Explain) \_\_\_\_\_  
 \_\_\_\_\_
7. List (on separate sheet), if applicable, the availability of maintenance services and replacement materials for proposed substitute.
8. List (on separate sheet) names, addresses and phone numbers of fabricators and suppliers for proposed substitutes.
9. There [are \_\_\_] [are no \_\_\_] license fees and royalties pending on the proposed substitute. (Explain)  
 \_\_\_\_\_  
 \_\_\_\_\_
10. The undersigned certifies that this substitution meets all requirements of the Contract Documents except as specifically noted herein.

SUBMITTED TO BIDDER BY: (Supplier/Fabricator)

Firm \_\_\_\_\_  
 Address \_\_\_\_\_  
 Name and Title of Person Signing \_\_\_\_\_  
 Signature \_\_\_\_\_  
 Telephone No. \_\_\_\_\_ Date \_\_\_\_\_

SUBMITTED TO ARCHITECT BY: (Bidder)

Firm \_\_\_\_\_  
 Address \_\_\_\_\_  
 Name and Title of Person Signing \_\_\_\_\_  
 Signature \_\_\_\_\_  
 Telephone No. \_\_\_\_\_ Date \_\_\_\_\_  
 FAX No. \_\_\_\_\_ Email \_\_\_\_\_

11. ARCHITECT / ENGINEER'S REVIEW COMMENTS:

Tentatively Accepted  
(pending issuance of  
Addendum)

Rejected due to  
incomplete form.

Not Accepted

Received Too Late

Signature \_\_\_\_\_

Date \_\_\_\_\_

Remarks \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**END OF SECTION**

## **SECTION 01 29 00**

### **PAYMENT PROCEDURES**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements governing the Contractors' Application for Payment.
- B. Coordinate the Schedule of Values and Applications for Payment with the Construction Schedule, List of Subcontracts and Submittal Schedule.

##### **1.02 RELATED SECTIONS**

- A. Construction Schedules: Section 01 32 16.

##### **1.03 SCHEDULE OF VALUES**

- A. Coordinate preparation of Schedule of Values for its part of the work with preparation of Construction Schedule.
  - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
    - a. Contractor's construction schedule
    - b. Application for payment form, including continuation sheets.
    - c. List of subcontractors.
    - d. Schedule of allowances.
    - e. Schedule of Alternates.
    - f. List of products.
    - g. List of principal suppliers and fabricators.
    - h. Schedule of submittals.
  - 2. Submit Schedule of Values to Architect at the earliest possible date, but no later than 2 days before the date scheduled for pre-construction meeting.
- B. Form and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each specification section.
  - 1. Identification: Include the following project identification on the Schedule of Values:
    - a. Project name and location.
    - b. Name of Architect.
    - c. Project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  - 2. Arrange the Schedule of Values in a tabular form with separate columns to indicate the following for each item listed:
    - a. Related specification section.
    - b. Description of work.
    - c. Name of subcontractor.
    - d. Name of supplier or fabricator.

- e. Name of supplier.
  - f. Change Orders (numbers) that have affected value.
  - g. Dollar value.
  - h. Percentage of contract sum to the nearest one-hundredth percent, adjusted to total 100 percent.
3. Provide a breakdown of the contract sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual Table of Contents. Break principal subcontract amounts down into several line items.
  4. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.
  5. Provide a separate line item in the Schedule of Values for each part of the work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.
    - a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.
  6. Provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value for that part of the work.
  7. Margins of Cost: Show line items for indirect costs, and margins of actual costs, only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Application for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
    - a. At the Contractor's option, temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown as separate line items in the Schedule of Values or distributed as general overhead expense.
  8. Schedule Updating: Update and resubmit the Schedule of Values when Change Orders or Construction Change Directives result in a change in the Contract Sum.

#### 1.04 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner.
  1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment applications is the last day of each month. The period covered by each application for payment starts on the day following the end of the preceding period.
- C. Payment Application Forms: AIA G702 and G703.
- D. Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Owner. Incomplete applications will be returned without action.
  1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.

2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- E. Transmittal: Submit signed and notarized original copy of each Application for Payment to the Architect by a method ensuring receipt within 24 hours. One copy shall be complete, including waivers of liens and similar attachments, when required.
1. Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Architect.
- F. Waivers of Mechanics Lien: With each Application for Payment submit waivers of mechanics liens from every entity who is lawfully entitled to file a mechanics lien arising out of the contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
  2. When an application shows completion of an item, submit final or full waivers.
  3. The Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. Waiver Delays: Submit each Application for Payment with the Contractor's waiver of mechanics lien for the period of construction covered by the application.
    - a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of Work covered by the application who could lawfully be entitled to a lien.
  5. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to the Owner.
- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:
1. List of subcontractors.
  2. List of principal suppliers and fabricators.
  3. Schedule of Values.
  4. Contractor's Construction Schedule (preliminary if not final).
  5. Schedule of major products.
  6. List of Contractor's staff assignments.
  7. Copies of building permits.
  8. Copies of authorizations and licenses from governing authorities for performance of the work.
  9. Initial progress report.
  10. Report of pre-construction meeting.
  11. Certificates of Insurance and insurance policies.
- H. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment; this application shall reflect any Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Administrative actions and submittals that shall proceed or coincide with this application include:

1. Occupancy permits and similar approvals.
  2. Warranties (guaranties) and maintenance agreements.
  3. Test/adjust/balance records.
  4. Maintenance instructions.
  5. Start-up performance reports.
  6. Change-over information related to Owner's occupancy, use, operation and maintenance.
  7. Final cleaning.
  8. Application for reduction of retainage, and consent of surety.
  9. Advice on shifting insurance coverage.
  10. List of incomplete work, recognized as exceptions to Architect's Certificate of Substantial Completion.
- J. Final Payment Application: Administrative actions and submittals which must proceed or coincide with submittal of the final payment Application for Payment include the following, as applicable:
1. Completion of project close-out requirements.
  2. Completion of items specified for completion after Substantial Completion.
  3. Ensure that unsettled claims will be settled.
  4. Ensure that work not complete and accepted will be completed without undue delay.
  5. Transmittal of required Project construction records to Owner.
  6. Proof that fees and similar obligations have been paid.
  7. Removal of temporary facilities and services.
  8. Removal of surplus materials, rubbish and similar elements.
  9. Change of door locks to Owner's access.

**END OF SECTION**

## **SECTION 01 31 00**

### **PROJECT MANAGEMENT AND COORDINATION**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General coordination procedures; Coordination Drawings.
  - 2. Administrative and supervisory personnel.
  - 3. Requests for Interpretation (RFIs).
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.

##### **1.02 RELATED SECTIONS**

- A. ***MDHA Standard Terms and Conditions.***

##### **1.03 DEFINITIONS**

- A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

##### **1.04 INFORMATIONAL SUBMITTALS**

- A. Key Personnel Names: Within 15 (calendar) days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
  - 1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

##### **1.05 GENERAL COORDINATION PROCEDURES**

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components with other contractors for maximum accessibility for required maintenance, service and repair.
  - 3. Make adequate provisions for items scheduled for later installation.
  - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for



required maintenance, service, and repair of all components, including mechanical and electrical.

- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.#
  
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
  - 1 Preparation of Contractor's Construction Schedule.
  - 2 Preparation of the Schedule of Values.
  - 3 Installation and removal of temporary facilities and controls.
  - 4 Delivery and processing of submittals.
  - 5 Progress meetings.
  - 6 Preinstallation conferences.
  - 7 Project closeout activities.
  - 8 Startup and adjustment of systems.
  - 9 Project closeout activities.
  
- D. Conservation: Coordinate construction activities to ensure operations are carried out with consideration given to conservation of energy, water and materials.
  - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property

#### 1.06 COORDINATION DRAWINGS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
  - 1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
    - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
    - b. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
    - c. Indicate required installation sequences and for anticipated replacement of components during the life of the installation.
    - d. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
    - e. Indicate required installation sequences.
    - f. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
    - g. Complete sufficient demolition to confirm dimensions and

- clearances before submitting drawings.
- h. Preparation of coordination drawings of the Work specified in divisions 21 through 28 shall include the following procedure:
    - 1) Shop drawings shall be prepared indicating sizes and clearance requirements
    - 2) A reproducible of these drawings shall be given to the sub-contractors responsible for Division 21 through Division 28 work, and they shall each review the drawing for conflicts with their work.
    - 3) Contractor shall hold coordination meetings at which coordination conflicts will be resolved. Contractor to document agreed to coordination resolution.
    - 4) Installation of work may not proceed without resolution of coordination conflicts by the Contractor. Work not installed in accordance with the agreed to coordination documents is subject to replacement if conflicts remain, with related costs borne by the Contractor.
  2. Sheet Size (inches): At least 8-1/2 by 11, but no larger than 30 by 42.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Plans: Supplement plan drawings with section drawings where required to adequately represent the Work.
  2. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
  3. Embedded Items: Indicate locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, similar items.
  4. Electrical Work: Show the following:
    - a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger and racks of smaller conduit are required.
    - b. Sign lighting fixtures, emergency battery pack and other locations.
    - c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
    - d. Location of pull boxes & junction boxes, dimensioned from column center lines.
  5. Review: Consultant will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Consultant determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Consultant will so inform Contractor, who shall make changes as directed and resubmit.
- C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
1. File Preparation Format: Same digital data software program, version, and operating system as original Drawings or program and system as approved by Architect.
  2. File Submittal Format: Submit or post coordination drawing files using Portable Data File (PDF) format.
  3. BIM File Incorporation: Develop and incorporate coordination drawing files into Building Information Model established for Project.
    - a. Perform three-dimensional component conflict analysis as part of preparation of coordination drawings. Resolve component conflicts prior to submittal. Indicate where conflict resolution requires modification of design requirements by Architect.

4. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.
  - a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
  - b. Execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.

1.07 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work. Include special personnel required for coordination of operations with other contractors.

1.08 REQUESTS FOR INTERPRETATION (RFIs)

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.
  1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
  2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
  1. Project name.
  2. Date.
  3. Name of Contractor.
  4. Name of Architect.
  5. RFI number, numbered sequentially.
  6. Specification Section number & title and related paragraphs.
  7. Drawing number and detail references, as appropriate.
  8. Field dimensions and conditions, as appropriate.
  9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or Sum, Contractor shall state impact in the RFI.
  10. Contractor's signature.
  11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
    - a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.
- C. Hard-Copy RFIs: Identify each page of attachments with the RFI number and sequential page number.
- D. Software-Generated RFIs: Software-generated form with substantially the same content as indicated above. Attachments shall be electronic files in Adobe Acrobat PDF format.
- E. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow 15 days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for approval of Contractor's means and methods.
    - d. Requests for coordination information already indicated in the Contract Documents.
    - e. Requests for adjustments in the Contract Time or Contract Sum.
    - f. Requests for interpretation of Architect's actions on submittals.
    - g. Incomplete RFIs or RFIs with numerous errors.
  2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
  3. Architect's action on RFIs that may result in a change to the Contract Time or Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within 7 days if Contractor disagrees with response.
- G. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:
- 1 Project name.
  - 2 Name and address of Contractor.
  - 3 Name and address of Architect.
  - 4 RFI number including RFIs that were dropped and not submitted.
  - 5 RFI description.
  - 6 Date the RFI was submitted.
  - 7 Date Architect's response was received.
  - 8 Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
  - 9 Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

#### 1.09 PREINSTALLATION CONFERENCE

- A. Conduct a preinstallation conference onsite before each construction activity that requires coordination with other trades; were required in specification sections.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
  2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    - a. Contract Documents.
    - b. Options.
    - c. Related RFIs.
    - d. Related Change Orders.
    - e. Purchases.
    - f. Deliveries.

- g. Submittals.
  - h. Review of mockups.
  - i. Possible conflicts.
  - j. Compatibility problems.
  - k. Time schedules.
  - l. Weather limitations.
  - m. Manufacturer's written recommendations.
  - n. Warranty requirements.
  - o. Compatibility of materials.
  - p. Acceptability of substrates.
  - q. Temporary facilities and controls.
  - r. Space and access limitations.
  - s. Regulations of authorities having jurisdiction.
  - t. Testing and inspecting requirements.
  - u. Installation procedures.
  - v. Coordination with other work.
  - w. Required performance results.
  - x. Protection of adjacent work.
  - y. Protection of construction and personnel.
3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
  4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
  5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.#

#### 1.10 CONSTRUCTION PROGRESS CONFERENCE

- A. Conduct construction progress conferences at intervals required by MDHA. Unless otherwise directed by the Owner, the attendees, agenda and general requirements shall be the same as the preconstruction conference as itemized previously. Requirements and scheduling of these construction conferences should be discussed at the preconstruction meeting.

**PART 2 - PRODUCTS**  
*Not Used*

**PART 3 – EXECUTION**  
*Not Used*

**END OF SECTION**

## **SECTION 01 32 16**

### **CONSTRUCTION SCHEDULES**

#### **PART 1 GENERAL**

##### **1.01 GENERAL REQUIREMENTS**

- A. These requirements generally describe the form of the construction schedule, a basic description of the schedule contents and the submittal procedures. This Section is a supplement to Paragraph 3.10 and other paragraphs of the General Conditions. Refer to General Conditions for additional requirements regarding the Contractor's necessity to maintain the approved construction schedule and the project completion.
- B. Authorization to proceed with the work will not be given until the construction schedule has been approved by the Owner and Architect

##### **1.02 FORM OF SCHEDULES**

- A. Prepare schedules in the form of a horizontal bar chart.
  - 1. Provide separate horizontal bar for each trade or operation.
  - 2. Horizontal Time Scale: Identify the first work day of each week.
  - 3. Scale and Spacing: To allow space for notations and future revisions.
- B. Format of Listings: Conform to Schedule of Values, AIA Document G703 and schedule of payments.
- C. Identification of Listings: By major specification section numbers.

##### **1.03 CONTENT OF SCHEDULES**

- A. Construction Schedule
  - 1. Show the complete sequence of construction by activity.
  - 2. Show the dates for the beginning and completion of each major element of construction. Specifically list:
    - a. Site preparation / Demolition work.
    - b. Building work / painting
    - c. Equipment installations.
    - d. Finishing.
    - e. Critical testing.
    - f. Punch list.
    - g. Close-out.
  - 3. Show projected percentage of completion for each item, as of the first day of each month.
- B. Provide subschedules to define critical portions of prime schedules. Provide schedule items for long lead items, submittal reviews, fabrications, delivery, installations.

##### **1.04 PROGRESS REVISIONS**

- A. Indicate progress of each activity to date of submission.
- B. Show changes occurring since previous submission of schedule:
  - 1. Major changes in scope.
  - 2. Activities modified since previous submission.
  - 3. Revised projections of progress and completion.
  - 4. Other identifiable changes.
- C. Provide a narrative report as needed to define:
  - 1. Problem areas, anticipated delays, and the schedule.
  - 2. Corrective action recommended, and its effect.

#### 1.05 SUBMITTALS

- A. Submit initial schedules within 15 days after award of Contract.
  - 1. Architect will review schedules and return review copy within 10 days after receipt.
  - 2. If required, resubmit within 7 days after return of review copy.
- B. Submit revised progress schedules with each application for payment.
- C. Submit the number of opaque reproductions which the Contractor requires, plus 3 copies which will be retained by the Architect.
  - 1. Submit an electronic copy of schedule, using software indicated, in .pdf format. Include type of schedule (Initial or Updated) and date on label.

#### 1.06 DISTRIBUTION

- A. Distribute copies of the reviewed schedules to:
  - 1. Job site file.
  - 2. Subcontractors.
  - 3. Owner
  - 4. Architect
  - 5. Other concerned parties.

**END OF SECTION**

## **SECTION 01 33 23**

### **SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

##### **1.02 DEFINITIONS**

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information not requiring Architect's responsive action. Submittals may be rejected for not complying with requirements.

##### **1.03 GENERAL REQUIREMENTS**

- A. Requirements of this Section are in addition to those of the General Conditions.
- B. This Section includes procedures for processing:
  - 1. Shop drawings.
  - 2. Product data.
  - 3. Samples.
  - 4. Certificates of compliance.
  - 5. Reports.
  - 6. Schedules.
  - 7. Design data.
  - 8. Other submittals listed.
- C. Submittals as approved do not constitute a change order.
- D. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  - 2. Coordinate transmittal of different submittal types for related parts of the Work so processing will not be delayed because of need to review concurrently for coordination. A/E reserves the right to withhold action on concurrent coordination submittals until related submittals are received.
- E. Submittals Schedule: See Section 01 32 16, for list of submittals and time requirements for scheduled performance of related construction activities.
  - 1. Submittals received prior to receipt of the initial Submittals Schedule will be rejected.
  - 2. Submittals received prior to the time they are indicated on the Submittal Schedule to be submitted will be rejected.
- F. Make all submittals far enough in advance of scheduled dates for installation to



provide sufficient time for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.

1. Delays caused by the tardiness of the Contractor in preparing and forwarding submittals will not be an acceptable basis for an extension of the Contract completion date or for consideration of alternate products which do not meet the specified requirements of this Project Manual.
  2. Initial Review: Allow 7 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  3. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  4. Resubmittal Review: Allow 7 days for review of each resubmittal.
  5. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is necessary, allow 10 days for initial review of each submittal.
  6. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to consultants, allow 10 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
- G. Identification: Place a permanent label or title block on each submittal for ID.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
  2. Provide a space on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
  3. Include the following information on label for processing and recording action taken:
    - a. Project name.
    - b. Date.
    - c. Name and address of Architect.
    - d. Name and address of Contractor.
    - e. Name and address of subcontractor.
    - f. Name and address of supplier.
    - g. Name of manufacturer.
    - h. Submittal number or unique identifier, including revision identifier.
      - 1) Submittal number shall use Specification Section number.
    - i. Number and title of appropriate Specification Section.
    - j. Drawing number and detail references, as appropriate.
    - k. Location(s) where product is to be installed, as appropriate.
    - l. Other necessary identification.
- H. Notify Architect in writing at time of submittal of deviations from the requirements of the Contract Documents. In addition, highlight, encircle, or otherwise specifically identify deviations.
- I. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, received from sources other than Contractor.
1. Transmittal Form: Provide locations on form for the following information:
    - a. Project name.
    - b. Date.
    - c. Destination (To:).
    - d. Source (From:).
    - e. Names of subcontractor, manufacturer, and supplier.

- f. Category and type of submittal.
  - g. Submittal purpose and description.
  - h. Specification Section number and title.
  - i. Drawing number and detail references, as appropriate.
  - j. Submittal and transmittal distribution record.
  - k. Remarks.
  - l. Signature of transmitter.
2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same label information as related submittal.
- J. Resubmittals: When Architect requires that a submittal be resubmitted, comply with requirements of this section; Identify changes made since previous submittal.
- K. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- L. Electronic Files: At Contractor's written request, copies of Architect's electronic files will be provided to Contractor for Contractor's use in connection with Project, subject to the following conditions:
- 1. Execute Electronic File Transfer Agreement provided by Architect to obtain files
  - 2. The electronic files are provided for the Contractor's convenience and their use will be at the Contractors risk.
    - a. There are no assurances that the information in the electronic files is current. All dimensions must be field-verified.

#### 1.04 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Section.
- B. Product Data
- 1. Submit only pages which are pertinent.
    - a. Mark each copy of standard printed data to identify pertinent products, referenced to Specification Section and Article number.
    - b. Show reference standards, performance characteristics, and capacities; wiring and piping diagrams and controls; component parts; finishes; dimensions; and required clearances.
  - 2. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the work. Delete information not applicable.
  - 3. Stamp and sign each set of manufacturer's product data before submitting to Architect to certify compliance with Contract Documents.
  - 4. Number of Copies Required: Submit **4** paper copies of Product Data to Architect unless otherwise indicated. When submitting for Concurrent Consultant Review, submit two copies to Consultant and **2** copies to the Architect. Architect will return one copy. Mark up and retain returned copy as a Project Record Document.
    - a. Reproduction and cost of reproduction of processed Product Data for distribution to concerned parties is Contractor's responsibility.

- C. Shop Drawings
1. Reproduction of any portion of the Contract Documents for use as submittals for Shop Drawings is not acceptable.
  2. Submit Shop Drawings in a clear and thorough manner.
    - a. Title each drawing with Project name.
    - b. Identify each element of drawings by reference to sheet number and detail, schedule, or room number of Contract Documents.
  3. Identify the following:
    - a. Requirements of the individual section of Project Manual.
    - b. Field measurements.
    - c. Field construction criteria.
    - d. Relation to adjacent or critical features of the Work or products.
    - e. Conformance of submittal with Contract Document requirements.
  4. Each sheet of Shop Drawings shall be stamped **as reviewed and approved** and signed by Contractor before submitting to Architect. Certify compliance with requirements of Contract Documents.
  5. Review by the Architect shall not relieve Contractor from his responsibility in preparing and submitting proper Shop Drawings in accordance with his current obligations.
  6. All submissions which, in the opinion of the Architect are incomplete, contain errors or have not been checked or only superficially checked, will be returned unchecked by the Architect for resubmission.
  7. Fabrication of products or start of work before required Shop Drawings are approved by A/E and returned to Contractor shall be at Contractor's risk.
  8. Number of Copies Required: Submit **3** paper copies of each submittal. When submitting for Concurrent Consultant Review, submit two copies to Consultant and **2** copies to Architect. Architect will return one copy. Mark up and retain one returned copy as a Project Record Drawing.
    - a. Reproduction / cost of reproduction of processed shop drawings for distribution to concerned parties is Contractor's responsibility.
    - b. This procedure is to be followed for each submission of a drawing or group of drawings until they are finally approved by the Architect.
- D. Office Samples: Submit Samples for review of kind, color, pattern and texture to check these characteristics with other elements and to compare characteristics between submittal and actual component as delivered and installed
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Attach label on unexposed side of Samples that includes the following:
    - a. Generic description of Sample.
    - b. Product name and name of manufacturer.
    - c. Sample source.
    - d. Number and title of appropriate Specification Section.
  3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

4. Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
  - a. Number of Samples Required: Submit two sets of Samples. Architect will retain one Sample set; the other will be returned.
    - 1) Submit a single Sample where workmanship, assembly details, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
    - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least two sets of paired units that show approximate limits of variations.
- E. Mock-Up Samples: Where samples are specified in the individual sections for use in constructing mock-ups, comply with requirements for "Office Samples", and process transmittal forms for mock-ups to provide a record of activity.
- F. Submittals Schedule: See Section 01 32 16, Construction Schedules.
- G. Schedule of Values and Application for Payment: Outlined in the Agreement.

#### 1.05 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
  1. Number of Copies: Submit **4** copies of each submittal, unless otherwise indicated. Architect will return copy.
  2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
  3. Test and Inspection Reports: None required due to project scope.
- B. Coordination Drawings: See Section 01 31 00, Coordination Drawings.
- C. Contractor's Construction Schedule: See Section 01 32 16, Progress Schedules and Reports.
- D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

- F. **Installer Certificates:** Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- G. **Manufacturer Certificates:** Prepare written statements on manufacturer's letterhead certifying that MFR complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required
- H. **Product Certificates:** Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- I. **Material Certificates:** Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- J. **Material Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- K. **Product Test Reports:** Prepare written reports indicating current product produced by MFR complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by MFR & witnessed by qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- L. **Research/Evaluation Reports:** Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
  - 1. Name of evaluation organization.
  - 2. Date of evaluation.
  - 3. Time period when report is in effect.
  - 4. Product and manufacturers' names.
  - 5. Description of product.
  - 6. Test procedures and results.
  - 7. Limitations of use.
- M. **Preconstruction Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- N. **Compatibility Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- O. **Field Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- P. **Maintenance Data:** Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment; as required for the project close-out, Operating and Maintenance Data.

- Q. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name / version of software, if any, used for calculations. Include page numbers.
- R. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating product or equipment. Include name of product and name, address and telephone number of MFR. Include the following, as applicable:
1. Preparation of substrates.
  2. Required substrate tolerances.
  3. Sequence of installation or erection.
  4. Required installation tolerances.
  5. Required adjustments.
  6. Recommendations for cleaning and protection.
- S. MFR's Field Reports: Prepare written information documenting factory authorized service representative's tests & inspections. Include the following, as applicable:
1. Name, address, and telephone number of factory-authorized service representative making report.
  2. Statement on condition of substrates and acceptability for installation of product.
  3. Statement that products at Project site comply with requirements.
  4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  6. Statement whether conditions, products, and installation will affect warranty.
  7. Other required items indicated in individual Specification Sections.
- T. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- U. Material Safety Data Sheets (MSDSs): Submit information directly to Owner; do not submit to Architect, except as required in "Action Submittals" Article.

#### 1.06 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit two copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional. When submitting for Concurrent Consultant Review, submit two copies to Consultant and one copy to Architect.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

**PART 2      PRODUCTS                      Not Applicable**

**PART 3      EXECUTION**

**3.01              CONTRACTOR'S REVIEW**

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

**3.02              ARCHITECT'S ACTION**

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Reference the General Conditions for Architect's review responsibilities. Approval of a specific item does not indicate approval of an assembly of which the item is a component. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
  1. **REVIEWED WITH NO CORRECTIONS**
  2. **REVIEWED WITH CORRECTIONS NOTED**
  4. **REVISE AND RESUBMIT**
  5. **NOT REVIEWED.**
- C. Informational Submittals: Architect will review each submittal and will not return it or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

**END OF SECTION**

## **SECTION 01 35 13**

### **SPECIAL PROJECT PROCEDURES**

#### **PART 1 GENERAL**

##### 1.01 SUMMARY

- A. The adjacent buildings, roads and parking areas will remain occupied and fully functional during construction. No interruption of services for all buildings will be permitted. Consult and carefully schedule with the Owner to achieve this aim.
- B. The access and use of the project site during the Contract time will be administered and controlled by the General Contractor.

##### 1.02 PROCEDURES WITHIN SITE AREA ON BUILDING SITE

- A. Performance of Work
  - 1. The adjacent properties will be occupied throughout the entire course of construction. As such, contractors and their personnel are restricted to the areas of and access to the building site only.
  - 2. Access must be maintained to public streets and all adjacent areas that border the site in a safe and sanitary manner.
- B. Conduct: Contractor and workmen are to be quiet and non-offensive. Radios are prohibited. **No interaction with the public will be allowed.**
- C. Dress Code
  - 1. Required Apparel: Shirt, long pants, sturdy work boots appropriate for work activities; all suitably clean.
  - 2. Not Permitted: Offensive graphics or messages on clothing, short pants, tank tops, sandals, open toed shoes, bare torso, bare feet.
- D. Areas under construction shall be separated from occupied areas by suitable barriers. See Section 01 50 00 for additional requirements. In no instances may public streets be blocked or the clear lane width reduced unless approval has been granted by all Authorities Having Jurisdiction and permits have been issued at least 30 calendar days prior to the need of the occurrence.
- E. No utilities or services may be interrupted without full consent of and prior scheduling with the Utility Companies and the adjacent properties affected.

##### 1.03 UTILITY SHUT-DOWN

- A. Advance notice required: Contractor to request, a minimum **30** days in advance, the Owner's permission to shut down electric power, gases or systems to their properties. Request to be in writing and indicate the area(s) affected, time and date shut-down requested to commence, and anticipated duration of shut-down. Approved time and date may not be as requested, will be at times least disruptive to Owners, and may be during non-normal working hours.



1. Disclaimer: No additional payments will be allowed due to Contractor's difficulties due to being held to the above restrictions.

1.04 NOISE AND SAFETY

- A. Construction noise and methods to comply with local authorities having jurisdiction and Metro Nashville Code requirements.
- B. Construction Working Hours: All Work shall occur between **the hours of 7am and 5pm; unless otherwise dictated in the Contract.** Construction noise limited to Normal Working Hours.

1.05 EXISTING FACILITIES

- A. The primary construction zone is as indicated on the drawings unless revised prior to the execution of the Contract.
- B. The General Contractor is responsible for security.

1.06 NO SMOKING POLICY

- A. Smoking is prohibited on site, including electronic cigarettes.

1.07 SITE AND BUILDING ACCESS

- A. Existing driveways and entrances which serve the premises must be maintained. They must be available to the Owner and public at all times. Do not use these areas for parking or storage of materials.
  1. Do not unreasonably encumber the site with materials or equipment. Confine stock piling of materials and location of storage trailers to the areas indicated on the drawings or as directed by the Architect.
  2. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on the site.

**END OF SECTION**

## **SECTION 01 40 00**

### **QUALITY REQUIREMENTS**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-control services required by Architect, Owner, Construction Manager or authorities having jurisdiction are not limited by provisions of this Section.

##### **1.02 RELATED SECTIONS**

- A. Cutting and Patching (for repair and restoration of construction disturbed by testing and inspecting activities): Section 01 73 29.
- B. Specific test and inspection requirements: Divisions 02 through 49 Sections.

##### **1.03 DEFINITIONS**

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Architect or Construction Manager.
- C. Mockups: Full-size, physical example assemblies to illustrate finishes and materials. Mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects and, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Mockups establish the standard by which the Work will be judged.
  - 1. Mockups of the exterior envelope erected separately from building on the site, consisting of multiple products, assemblies and subassemblies.
- D. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

- E. Product Testing: Tests and inspections that are performed by an **NRTL**, an **NVLAP**, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards. [see 1.07.G this section]
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or entity engaged by GC as employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application and similar operations.
  - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.
- J. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

#### 1.04 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

#### 1.05 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

#### 1.06 SUBMITTALS

- A. Shop Drawings: For integrated exterior mockups, provide plans, sections, and

elevations, indicating materials and size of mockup construction.

1. Indicate manufacturer and model number of individual components.
  2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.
- C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- D. Reports: Prepare and submit certified written reports that include the following:
1. Date of issue.
  2. Project title and number.
  3. Name, address, and telephone number of testing agency.
  4. Dates and locations of samples and tests or inspections.
  5. Names of individuals making tests and inspections.
  6. Description of the Work and test and inspection method.
  7. Identification of product and Specification Section.
  8. Complete test or inspection data.
  9. Test and inspection results and an interpretation of test results.
  10. Ambient conditions at time of sample taking and testing and inspecting.
  11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  12. Name and signature of laboratory inspector.
  13. Recommendations on retesting and re-inspection.
- E. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

## 1.07 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this

Project, whose work has resulted in construction with a record of successful in-service performance.

- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that is similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated. Requirement for specialists shall not supersede building codes and regulations governing the Work.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
  - 1. **NRTL**: nationally recognized testing laboratory per to 29 CFR 1910.7.
  - 2. **NVLAP**: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
  - 1. Contractor responsibilities include the following:
    - a. Provide test specimens representative of proposed products and construction.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
    - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
    - e. Build mockups at testing facility using personnel, products and methods of construction indicated for the completed Work.
    - f. When testing is complete, remove test specimens, assemblies, and mockups; do not reuse products on Project.
  - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- J. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or as directed by owner. Location to be on the downtown site where decided by the Owner.
  2. Notify Owner and Architect seven days in advance of dates and times when mockups will be constructed.
  3. Demonstrate the proposed range of aesthetic effects and workmanship.
  4. Obtain Owner's approval of mockups before starting work, fabrication, or construction. Allow 7 days for initial review and re-review of each mockup
  5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work. Cover mock-ups to protect them from deterioration and weathering.
  6. Demolish and remove mockups as directed, unless otherwise indicated.
- K. Integrated Exterior Mockups: Construct integrated exterior mockup as indicated on Drawings or in areas specified. Coordinate installation of exterior envelope materials and products for which mockups are required in individual specification sections, along with supporting materials.
- L. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Specification Sections in Divisions 02 through 49.

#### 1.08 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged.
  2. Payment for these services will be made by the Owner.
  3. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor; Contract Sum adjusted by Change Order.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
  2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
  3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
  4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.

- D. **Manufacturer's Technical Services:** Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- E. **Retesting/Re-inspecting:** Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.
- F. **Testing Agency Responsibilities:** Cooperate with Owner, Construction Manager, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
  - 1. Notify Owner, Architect, Construction Manager and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  - 2. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  - 3. Testing agency will submit a certified written report of each test, inspection, and similar quality-control service to Owner, Architect, Engineer and Construction Manager with copy to Contractor and to authorities having jurisdiction.
  - 4. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
  - 5. Do not perform any duties of Contractor.
- G. **Associated Services:** Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
  - 1. Access to the Work.
  - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
  - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  - 4. Facilities for storage and field-curing of test samples.
  - 5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  - 6. Security and protection for samples and for testing and inspecting equipment at Project site.
- H. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting. Schedule times for tests, inspections, obtaining samples, and similar activities.

#### 1.09 SPECIAL TESTS AND INSPECTIONS

- A. **Special Tests and Inspections:** Owner will engage a qualified testing agency to conduct special tests and inspections required by IBC as the responsibility of the Owner, and as follows:
- B. **Special Tests and Inspections:** Conducted by a qualified special inspector as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
  - 1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of

- those procedures to perform the Work.
2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
  3. Submitting a certified written report of each test, inspection, and similar quality control service to Architect with copy to Contractor and to authorities having jurisdiction.
  4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
  5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
  6. Retesting and reinspecting corrected work.

**PART 2      *PRODUCTS (Not Used)***

**PART 3      *EXECUTION***

3.01      TEST AND INSPECTION LOG

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

3.02      REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  1. Comply with requirements of Section 01 73 29, Cutting and Patching.
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.



**END OF SECTION**

## **SECTION 01 50 00**

### **TEMPORARY FACILITIES AND CONTROLS**

#### **PART 1 GENERAL**

##### **1.01 PROJECT CONDITIONS**

- A. This Section is not intended to limit types and amounts of temporary construction facilities and controls required. Omission from this Section will not be accepted as an application that such temporary activity is not required for successful completion of the work and compliance with requirements of the Contract Documents.
- B. Provide and maintain each temporary construction facility and control when required for proper performance of the work. Terminate and remove when no longer needed or when permanent facilities are authorized and available for use. Provide maintenance personnel to perform this work in accordance with the requirements. Maintenance time will include normal working hours for all trades and start up and shut down overtime as required.
- C. Obtain and pay for all required applications, fees, permits and inspections required for temporary construction facilities and controls.
- D. Install, operate, maintain and protect temporary construction facilities and controls in a manner and at locations which are safe, non-hazardous, sanitary and adequately protect project work, workmen and the public.

##### **1.02 COST OF CONSUMED UTILITIES**

- A. Water Service Use Charges: Water consumed during construction is to be metered and paid for by the [Owner](#).
- B. Electric Power Service Use Charge: Cost of electric power consumed during construction is to be metered and paid for by the [Owner](#).
- C. Sewer Service Use Charges: The cost of providing portable toilets will be paid by the General Contractor. Where existing building toilet facilities are used, there will be no charge for sewer usage by all entities authorized to be at or to perform work at the project site.
- D. Propane for Temporary Heat: Prior to, and after, the structure being permanently enclosed: Paid for by the contractor requiring the temporary heat.

##### **1.03 REQUIREMENTS OF REGULATORY AGENCIES**

- A. Provide and maintain all temporary facilities in compliance with governing rules, regulations, codes, ordinances and laws of agencies and utility companies having jurisdiction over work involved in project.
- B. Be responsible for all temporary work provided and obtain any necessary permits and inspections for such work.

- C. Contractors shall confine equipment, storage of materials, and operation of workmen to the limits indicated or directed and shall abide by law, ordinances, conditions stated in permits and directions of the Architect.
- D. Do not interfere with normal use of roads in vicinity of project site except as indicated or as absolutely necessary to execute required work, and then only after proper arrangements have been made with authorities having jurisdiction, including traffic control as applicable.

#### 1.04 SPECIAL PRECAUTIONS AND REQUIREMENTS

- A. Do not interfere with normal use of occupied areas in existing buildings, existing driveway access to existing building and existing building utility services, except as absolutely necessary to execute required work involving such facilities, and then only after proper arrangements have been made through the Owner with persons in charge of existing facilities. Do not block required exits from existing buildings.

#### 1.05 TEMPORARY FIELD OFFICES, TRAILERS & TELEPHONE (as required by Owner)

- A. Provide and maintain clean weather tight offices at the site for own use and the use of the A/E and authorized agents when needed to be present on site while the work is in progress. Provide field office heated, lighted and provide with telephone service. All expenses in connection with the field office, including the installation cost and use cost of heat, air conditioning, light, water and janitor service.
- B. Copies of permits, approved shop drawings, plans and specifications marked up-to-date with all revisions and all addenda shall be kept at said offices areas ready for use at all times.
- C. All expenses in connection with Contractor's field offices, including the installation cost and use of telephones, shall be borne by the Contractor.
- D. Maintain field office areas until final acceptance and then remove, unless the Owner orders or approves earlier removal.
- E. Pay all costs, including utility installation costs to the field office.
- F. Provide and maintain additional storage trailers on the project as required. Locate where directed by the Owner.
- G. Contractor may be required to relocate their offices, as directed by the Owner, during construction as work progresses.

#### 1.06 TEMPORARY SANITARY FACILITIES

- A. Provide temporary portable toilets, acceptable to public health authorities, as required to service the project. Maintain in a clean, sanitary condition. Locate as directed by Architect.

#### 1.07 TEMPORARY WATER SERVICE

- A. General: Water is available from water main indicated on site drawings.

- B. Arrange for, provide and pay for temporary water connections to water main, installation of metered extension and suitable fixtures at termination of lines.
- C. Provide sufficient branch lines of adequate size to serve the needs of all trades. Locate water supplies at convenient locations, as directed by Architect.
- D. Provide insulated housings for temporary service lines to protect against freezing.

1.08 TEMPORARY HEAT AND VENTILATION

- A. Prior to permanent enclosure of the structure, provide temporary heat as necessary to complete the work.
  - 1. Provide weather protection as required to carry on work during inclement weather and to protect work and materials from damage by weather.
  - 2. Protection of work includes covering, temporary enclosures, heating materials, work under construction and for suitable working conditions.
  - 3. Furnish temporary heat by Owner approved types of units or equipment which is safe, will not affect surrounding areas of Contract Work and is properly supervised while in use.
- B. "Permanently enclosed" shall mean that permanent walls and roofs are in place and weather tight, windows are in place and glazed and all entrance enclosures are either permanently in place or provided with suitable temporary enclosures.
  - 1. Polyethylene sheet is not considered a suitable temporary enclosure. One-half inch thick plywood tightly fit, sealed and supported and maintained can be considered a temporary enclosure.
- C. After the structure is permanently enclosed, provide, operate and maintain until substantial completion, approved temporary heating and ventilating units to maintain that portion of the structure at suitable temperature and humidity conditions to complete the work.
  - 1. Arrange temporary units to bring in sufficient outdoor air to ventilate the structure and to prevent build-up of harmful dusts and fumes and to remove excess moisture. During warm weather, provide an adequate supply of fresh air, when necessary, to properly ventilate moisture, dust, fumes from paints, cements or adhesives in tightly-enclosed areas where natural ventilation will not be sufficient.
  - 2. Provide temporary heating and ventilating as follows:
    - a. During normal working hours, minimum 50° F.
    - b. During placing, setting and curing of concrete, minimum 50° F.
    - c. For 10 days prior to placing interior finish materials and throughout interior finishing, painting, etc., and until final acceptance of work and occupancy by Owner, minimum 70° F.
    - d. Supply heat and ventilation in a manner which avoids rapid drying of material but permits material and building to dry so remaining moisture will not affect finish material.
    - e. Operate temporary systems each day, including Saturdays, Sundays and holidays. Include necessary labor and approved operating personnel.
    - f. Supply all fuel required for temporary heating and ventilating, including all material, labor and supervision to connect same.

- D. When permanent systems are used for temporary construction use, Contractor shall assume full responsibility for maintaining such equipment during and after use. Included in maintenance are the following:
  - 1. Proper operation and maintenance of the mechanical equipment until acceptance of the project by Owner.
  - 2. Maintenance of temporary filters in all equipment to prevent accumulation of dust and dirt in coils, housings and ductwork.
  - 3. Prior to final inspection; replacement of temporary filters with new filters, thorough cleaning of coils and other equipment, putting entire system into first class condition, cleaning traps and devices, adjustment and removal of any and all materials and equipment not functioning properly.
  - 4. Owner and Architect must be given access to and opportunity to inspect equipment and maintenance procedures at all times. Owner involvement will not relieve the Contractor from the responsibilities specified herein.
- E. Use of permanent heating or cooling and ventilating equipment for temporary construction use shall not affect warranty. Warranty shall take effect at time of project acceptance by Owner.
- F. Cost of Temporary Heat: Cost of all fuel consumed in conjunction with temporary heat or permanent system used for temporary heat shall be paid by the Contractor.
  - 1. Electric resistance type heating units are not permitted.
- G. During periods of extremely low temperatures when water pipes could possibly freeze or when such conditions are forecast, temporary heating must be monitored 24-hours a day, 7 days a week.

1.09 TEMPORARY LIGHT AND POWER

- A. Provide necessary temporary electrical service and temporary wiring and outlets as required to meet project needs for temporary lighting and power at the start of the project, as work progresses and until acceptance by the Owner, excluding power to individual contractor's trailers.
- B. Extend temporary service from public utility service. Provide meter and extend service with disconnect to central location on site and to electric panel board location near Contractors' office trailer area. Provide system sized as required to service project construction needs. Construct temporary pole line as required.
- C. Remove temporary service, light and power system when permanent services and systems are available for use. No temporary system component shall form a part of the permanent systems.
- D. Electrical work for construction purposes shall conform to Federal, State and local safety requirements, and requirements of the National Electrical Code. Obtain and pay for required applications, permits and inspections pertaining to this work.
- E. Provide all lamps required to service the project. Replace lamps and fuses throughout the life of the project.
- F. Pay all costs for installation, maintenance, supervision and removal of temporary light and power systems.

- G. Make connections for temporary heat. Check temporary heat requirements.
- H. Temporary Lighting
  - 1. Provide as required to service the project.
  - 2. As interior partitions are erected, revise the temporary lighting arrangements so that not less than one lamp is provided in each space over 70 square feet in area. Lights shall also be installed, as directed by Architect, in smaller areas where required to provide adequate light for work being carried out in the space.
- I. Both 240 volt and 120 volt power receptacles are required on the project.

#### 1.10 CONSTRUCTION AIDS

- A. Hoists/Cranes: Erect/maintain adequate hoisting facilities as required for the work
- B. Shoring and Bracing: Provide all shoring and bracing required for safety and proper execution of their work. Remove these items when the work is completed.

#### 1.11 WEATHER PROTECTION

- A. Protect work and existing or adjacent property against weather, to maintain work, materials, apparatus and fixtures free from injury or damage during the entire construction period. Work likely to be damaged shall be covered or protected at the end of each day's work. Work damaged by not providing protection required, shall be removed and replaced with new work at the Contractor's expense.
- B. Remove all snow and ice as may be required for proper protection and execution of the work and protection and safety of the public.
- C. Provide winter weather closures and temporary doors at all unclosed openings.

#### 1.12 WATCHMAN SERVICE

- A. If Contractor considers watchman services necessary for protection of his/her own interest, such services may be employed at his/her own complete expense.

#### 1.13 SAFETY

- A. Safety requirements shall be in accordance with the General Conditions.
- B. Provide and maintain guard lights at all barricades, railings, obstructions in the roadways or sidewalks and at all trenches or pits adjacent to walks or roadways.
- C. Strict attention and full adherence must be given the Williams-Steiger Occupational Safety and Health Act of 1970, U.S. Department of Labor.

#### 1.14 SECURITY CONDITIONS

- A. Security of building must be maintained during "non-standard" working hours (premium time). This includes, but is not necessarily limited to, verifying all entrance doors and windows are secured.

- B. Contractor will be responsible for all infractions of rules and regulations by workers.
- C. Loitering or wandering through the corridors and into rooms not connected with the project or into other buildings on site will not be permitted.
- D. Erect a 6 foot high fence with gates to enclose construction site.
  1. Material: Heavy chain link mesh with steel posts.
  2. Location: As indicated on Drawings.
  3. Provide metal gates, of same fabric as metal fence, where indicated.
  4. Maintain fence and gates in working order at all times.
  5. Except during working hours, keep gates locked at all times.

#### 1.15 DUST CONTROL

- A. Control dust originating within project limits using water or a dust palliative acceptable to the Architect and the Authority-Having-Jurisdiction. When conditions create blowing dust and dirt that is considered higher than normally encountered, Contractor shall cooperate with A/E in determining methods to help minimize blowing; which at a minimum, may involve more frequent applications of dust palliative. Calcium chloride may not be used.

#### 1.16 TEMPORARY SIGNS

- A. Temporary Project Sign.
  1. Provide project sign approximately 4 feet by 8 feet.
  2. Painting by professional sign painter, with text, design, layout and colors as directed by Architect.
  3. Materials: 3/4" APA-AB-EXT. Plywood for sign face with pine or fir trim. Provide 4 x 4 treated wood posts of sufficient length and quantity to securely brace and support sign against wind pressure.
  4. Locate sign as directed by Architect. Maintain until completion of project, then remove. Erect sign a minimum of 8 feet from public right of way.
- B. Temporary Directional Signs: Provide as required to adequately direct traffic and personnel on site.

#### 1.17 STREETS AND TRAFFIC

- A. Cleaning and Repair
  1. Contractors shall remove mud and spillage from public walks, streets and sewers **daily** without delay. Failure to clean areas promptly will result in areas being cleaned by the Owner at the responsible Contractor's expense.
  2. Damage to roads, facilities or site, resulting from hauling, storage of materials, or other activities in connection with the work shall be repaired or replaced at no expense to the Owner by the Contractor causing the damage. Repairs or replacements will be to the satisfaction of the A/E.
- B. Traffic
  1. Notify local law enforcement agency at least two weeks in advance of any anticipated work affecting traffic flow.
    - a. To assure maintenance of flow and to safeguard all parties involved in planning to maintain flow, a field inspection should be made

jointly by the Architect and Contractor personnel before performing any work which would interrupt normal traffic patterns.

- b. Re-routing of traffic shall be planned, as to route and direction, in cooperation with the local law enforcement agency.

1.18 PARKING

- A. Employees of Contractors and subcontractors must park vehicles in areas assigned to them. Parking on streets or in restricted areas is prohibited.

1.19 CONSTRUCTION LAYOUT AND FIELD ENGINEERING

- A. Employ a registered surveyor, [registered in the State of Tennessee] to lay out the **project work area** on the site and to locate and fix all site items such as site improvements and utilities and furnish a certified plat of this work. Be responsible for accuracy of all lines, elevations and measurements of the work. Exercise proper precaution to verify dimensions shown on Drawings before layout of the work.
- B. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- C. General: Surveyor, registered in the State of Tennessee to lay out the **project work area** on the site and to locate and fix all site items such as site improvements and utilities and furnish a certified plat of this work. Work includes:
  - 1. Establish benchmarks and control points to set lines and levels at each story of construction and as needed to locate each element of Project.
  - 2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
  - 3. Inform installers of lines and levels to which they must comply.
  - 4. Check the location, level and plumb, of every major element as the Work progresses.
  - 5. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
  - 6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- D. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- E. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- F. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by A/E
- G. Field Engineering



1. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
  - a. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
  - b. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
2. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
  - a. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
  - b. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
  - c. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
3. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.
4. Final Property Survey: Surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
  - a. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
  - b. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

**END OF SECTION**

**SECTION 01 60 00**  
**PRODUCT REQUIREMENTS**

**PART 1 GENERAL**

1.01 SUMMARY

- A. Requirements of this Section apply to the Work of all other Sections.
- B. Section Includes:
  - 1. Transportation and Handling.
  - 2. Storage and Protection.
  - 3. Standards.
  - 4. Manufacturers and Types.
  - 5. Fabrications.
  - 6. Shop Priming.
  - 7. Prohibited Materials and Methods.

1.02 RELATED SECTIONS

- A. Quality Control: Section 01 40 00.
- B. Cutting and Patching: Section 01 73 29.
- C. Shop Drawings, Product Data and Samples: Section 01 33 23.
- D. Execution Requirements: Section 01 73 00.

1.03 STANDARDS

- A. Standards, codes and regulations published by Manufacturer's Associations, governmental agencies and other regulatory authorities form a part of these Specifications as minimum requirements. Such references include the latest issue and all amendments up to 30 days prior to the Bid Date.
- B. "Governing Authority" means all federal, state and local laws and regulations.
- C. Where differences occur between the Contract Documents and such standards, the most restrictive requirement shall apply.
- D. Supply all materials and perform all work in accordance with the Manufacturer's Specifications and installation procedures, and in conformance with published trade / manufacturer's association standards, unless specifically noted otherwise.

1.04 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accordance with construction schedules and installation, coordinate to avoid conflict with work and conditions at the site.
  - 1. Transport products by methods to avoid product damage.
  - 2. Deliver products in undamaged condition, in manufacturer's original, **unopened** containers or packaging, with identifying labels intact and legible.

3. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and accepted submittals, and that products are properly protected and undamaged.
- B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.

#### 1.05 STORAGE AND PROTECTION

- A. Due to limited available area on site, all construction materials will be stored off site at the Contractor's facility and delivered to the site at the time of installation. Contractor to provide delivery tickets with each pay application.
- B. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- C. Store products in accordance with MFR's instructions with seals and labels intact and legible.
  1. Store products subject to damage by the elements in weathertight enclosures.
  2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
  3. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
- D. Exterior Storage
  1. Store fabricated products above the ground, on blocking or skids, to prevent soiling or staining. Cover products which are subject to deterioration with impervious coverings. Provide adequate ventilation to avoid condensation.
  2. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign materials.
  3. Store foam plastic away from exposure to sunlight, except to extent necessary for period of installation and concealment.
- E. Arrange storage in a manner to provide access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage.
- F. Protection After Installation: Provide coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove when no longer needed.

### **PART 2 PRODUCTS**

#### 2.01 GENERAL PRODUCT REQUIREMENTS

- A. Products include materials, equipment and systems.
- B. Products incorporated into the work:
  1. Comply with specifications / reference standards as minimum requirements

2. Undamaged.
3. Manufactured and fabricated products:
  - a. Design, fabricate and assemble in accordance with the best engineering and shop practices.
  - b. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.
  - c. 2 or more items of the same kind shall be identical, by the same MFR
  - d. Products shall be suitable for service conditions.
  - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are approved in writing by A/E.
4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.
5. New and unused at time of installation, except as otherwise indicated.
6. If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
7. Provide products complete with accessories, trim, finish, fasteners, other items needed for a complete installation and indicated use and effect.

## 2.02 MANUFACTURER AND PRODUCT SELECTION PROCEDURES

- A. Specified Product: Where specifications name a single manufacturer and product or refer to a single manufacturer and product indicated on the drawings, provide the named product. Comparable products or substitutions for Contractor's convenience will not be considered.
- B. Specified Manufacturer: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
- C. Multiple Specified Products: Where more than one manufacturer and specific product is listed, provide one of the products named. No substitutions will be permitted after signing the contract. Comparable products or substitutions for Contractor's convenience will not be considered
- D. Multiple Manufacturers: Where specifications include a list of manufacturers names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
- E. Basis of Design: Where specifications name a Basis of Design or refer to a Basis of Design product indicated on the drawings, the design is based on the product listed. Subject to compliance with requirements, provide the specified product or a product manufactured by one of the other manufacturers listed.
  1. The characteristics of the Basis-of-Design Product establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.
  2. Equipment or materials from these manufacturers will be acceptable

contingent upon their meeting the design, appearance and functional standards established by the specified items. If equipment or a material of an acceptable manufacturer requires changes; electrically, mechanically, structurally, from what is indicated on the drawings, it shall be the responsibility of the Contractor requiring such change, to pay all costs involved with no additional costs to the Owner.

3. Submit evaluations as follows:
  - a. Submit proposed comparable products for evaluation by the Architect at least two weeks prior to awarding contract to the manufacturer of a comparable product.
  - b. Obtain samples of Basis-of-Design product.
  - c. Select comparable products that comply with the characteristics specified. Submit evidence demonstrating compliance.
  - d. Submit samples of comparable products displayed side-by-side with samples of Basis-of-Design products. Architect will determine whether the proposed comparable product is acceptable. Architect is not obligated to prove non-equivalence of proposed comparable products.

F. Where a performance is specified and no manufacturer is listed, submit through the Shop Drawing procedure the name of the manufacturer, the product proposed, and detailed information showing its characteristics. Such proposal shall meet or exceed the specification, line item by line item, or be rejected.

G. Equivalent components (articles, devices, materials, forms of construction, fixtures, etc.) may be submitted to the A/E for approval prior to bidding regardless of listed manufacturers.

H. Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

## 2.03 FABRICATION

A. Fabricate all items in the shop insofar as practicable. Where items cannot be completely shop fabricated and assembled for shipment, assemble and fit in shop, disassemble and ship. Identify parts for field assembly.

B. Fabricate items to be straight, square, in proper alignment, and with hairline joints where joints are necessary and permitted. Pre-plan field joints to be as inconspicuous as possible; coordinate locations with Architect.

## 2.04 SHOP PRIMING

A. Shop prime or seal surfaces of products to receive paint materials in accordance with the requirements of Section 09 91 00. Apply a primer or sealer compatible with the specified paint materials.

B. If a primer is found incompatible with the specified finish paint system, provide a barrier coat or remove the primer and reprime, at no additional cost to the Owner.

## 2.05 PROHIBITED MATERIALS AND METHODS

- A. The following items are expressly prohibited:
1. Attachment Related Items
    - a. Powder Fasteners: Powder fasteners are defined as anchors which are driven into place by any device which produces an impact force by use of a powder charge, compressed air, gas or any other propellant. Powder fasteners prohibited for the following conditions:
      - 1) Attachment of structural members.
      - 2) Where public may be endangered by misuse.
    - b. Plug anchorage by use of wood, lead or plastic.
    - c. Perforated steel strap iron for pipe or other support or anchorage.
  2. Methods Related Items
    - a. The use of ink marking pens on surfaces of any kind of materials receiving paint or other finish in exposed location.
  3. Materials Related Items
    - a. Asbestos or asbestos containing materials.
  4. Masonry Related Items
    - a. Chicken wire type masonry reinforcing.
    - b. Cinder block.
    - c. Muriatic acid.

### **PART 3 EXECUTION**

Not Applicable

**END OF SECTION**

**SECTION 01 73 00**  
**EXECUTION REQUIREMENTS**

**PART 1      GENERAL**

1.01      SUMMARY

- A.      Requirements of this Section apply to the Work of all other Sections.
- B.      Section Includes:
  - 1.      Examination of Substrate.
  - 2.      Preparation.
  - 3.      Installation.
  - 4.      Workmanship.
  - 5.      Protection.
  - 6.      Prohibited Methods.

1.02      RELATED SECTIONS

- A.      Quality Control: Section 01 40 00.
- B.      Cutting and Patching: Section 01 73 29.
- C.      Shop Drawings, Product Data and Samples: Section 01 33 23.
- D.      Product Requirements: Section 01 60 00.

1.03      STANDARDS

- A.      Standards, codes and regulations published by Manufacturer's Associations, governmental agencies and other regulatory authorities form a part of these Specifications as minimum requirements. Such references include the latest issue and all amendments up to 30 days prior to the Bid Date.
- B.      "Governing Authority" means all federal, state and local laws and regulations.
- C.      Where differences occur between the Contract Documents and such standards, the most restrictive requirement shall apply.
- D.      Supply all materials and perform all work in accordance with the Manufacturer's Specifications and installation procedures, and in conformance with published trade and MFR's association standards, unless specifically noted otherwise herein.

1.04      NON-CONFORMING WORK

- A.      Faulty work or work not in conformance with the Contract Documents will not be permitted by the Architect.
  - 1.      It is the responsibility of the Contractor to propose a remedy by means of detailed drawings and written documentation and submit such documentation to the Architect for comments.



2. All costs for the removal and reconstruction of such work, as well as additional services of the Architect, shall be paid for by the Contractor.

**PART 2 PRODUCTS - NOT APPLICABLE**

**PART 3 EXECUTION**

3.01 EXAMINATION OF SUBSTRATE

- A. Examine the substrates or structure to which a product is to be applied or installed. Do not proceed until unsatisfactory conditions have been corrected. Starting the work indicates acceptance of conditions and the installer assumes full responsibility for results.
- B. Check the substrate or structure for proper tolerances and clearances. Tolerances are listed under individual specification Sections.
- C. Report evidence of hazardous materials at areas of work.

3.02 PREPARATION

- A. Substrate: Where the products are applied to a substrate, prepare substrate as recommended by the product manufacturer. That generally includes the following:
  1. Bringing substrate to a uniform surface by smoothing uneven surfaces and filling holes, cracks and depressions with recommended filler or compatible type material.
  2. Remove substances such as dust, oils and other foreign matter, not compatible with the product.
  3. Surfaces shall be dry, unless moisture content or wetting requirement is specified or recommended.
- B. Inserts and Anchorages
  1. Anchorages where not detailed are the responsibility of the installer to design a suitable connection, structurally sound, and aesthetically acceptable to the Architect. Furnish calculations, drawings and product data when requested by the Architect. Such information may or may not be returned as indicated in Section 01 33 23.
  2. It is the responsibility of the installer to furnish built-in fastening devices for his/her product to the proper trade for installation as the work proceeds.
  3. In the event such devices are not furnished in time to be built-in, it is the installer's responsibility to provide other methods for attaching their product. Submit drawings and other required data to the Architect.
- C. Templates: Provide templates, diagrams and other coordinating documents to the proper Contractor, manufacturer or supplier of related items affecting the Work.
- D. Dimensions
  1. If the exact location of an item is not indicated by dimension on the Drawings or noted in the Specifications, the Architect reserves the right to determine such location in the field prior to roughing-in.

2. If the exact dimensions of a product are not indicated, the Architect reserves the right to determine dimensions prior to the ordering or fabrication of a product.
3. Dimensional changes shall not be a basis for changes in the Contract Sum.
4. Where miscellaneous devices of any nature are not specifically located by the Contract Documents, request such location or obtain approval of the location prior to installation. If approval has not been obtained, the A/E may direct the relocation of such devices at the expense of the installer.

### 3.03 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  1. Make vertical work plumb and make horizontal work level.
  2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  3. Conceal conduits and wiring in finished areas, unless otherwise indicated.
    - a. Furnish advance information on locations and sizes of frames, boxes, sleeves and openings needed for the Work to installers.
  4. Install work to allow for installation of future work identified on drawings.
  5. Maintain minimum headroom clearance of 8 feet in spaces without a suspended ceiling.
- B. Install products in accordance with manufacturer's recommendations or the requirements of trade associations, listed standards, Shop Drawings and Contract Documents.
- C. If a conflict exists between these references, the most strict requirements govern. If printed instructions are not available, consult with the manufacturer or the manufacturer's field representative, where applicable.
- D. Install work that will not interfere with the proper installation of the Work of other trades.
- E. Install work in a manner to facilitate operating, servicing and repairing.
- F. 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.
- G. 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 Architect for final decision.

### 3.04 SPACE PREFERENCE

- A. Carefully check and coordinate the location and level of all Work to avoid conflicts between all contractors. Where conflicts occur, the following preferences shall generally govern:
  1. Recessed / concealed items and electrical conduits from branch circuits.

- B. Where headroom or space conditions resulting from application of these preferences appear inadequate, notify the Architect prior to installing the Work.

### 3.05 WORKMANSHIP

- A. Install products straight, plumb, level and in line. Securely attach items to the substrate, using recommended adhesives, mechanical fasteners or other devices. Where holes are provided for attachment, do not field drill or cut new holes without the approval of the Architect.
- B. Where applicable, match finished work to the approved samples or mock-ups.
- C. Conceal fasteners wherever possible, unless exposed fasteners are permitted or specified.
- D. Weld in accordance with AWS standards; comply with AWS for qualifications of operators and for workmanship.
- 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 Architect for final decision.
- F. Recheck measurements and dimensions, before starting each installation.

### 3.06 PROTECTION

- A. Protect finished surfaces of product being installed and surrounding products from damage during installation. Provide protective devices as required and as recommended by the manufacturer. Cover work subject to damage at the end of each day's work.
- B. Coat concealed surfaces of metal products with a bituminous or other approved coating to prevent contact between dissimilar metals or other material which can cause deterioration.
- C. Correct damage by repairing or replacing as directed by the Architect. Repairing will be permitted only where the repair is undetectable and does not cause structural damage or interfere with proper functioning of the part.
- D. Protect finish of installed products until Substantial Completion of the Project by use of wrappings, covers or other approved protective devices. Remove such protection immediately prior to final cleaning.
- E. Limiting Exposures: Coordinate and 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. Maintain exposures within the manufacturers recommended limits. Where applicable, such exposures include, but are not limited to, the following:
  - 1. Excessive static or dynamic loading
  - 2. Excessive internal or external pressure
  - 3. Excessive high or low temperatures
  - 4. Thermal shock
  - 5. Excessively high or low humidity

6. Air contamination or pollution
7. Water or ice
8. Solvents
9. Chemicals
10. Light
11. Radiation
12. Puncture
13. Abrasion
14. Heavy traffic
15. Soiling, staining and corrosion
16. Bacteria
17. Rodent and insect infestation
18. Combustion
19. Electrical current
20. High speed operation
21. Improper lubrication
22. Unusual wear or other misuse
23. Contact between incompatible materials
24. Destructive testing
25. Misalignment
26. Excessive weathering
27. Unprotected storage
28. Improper shipping
29. Theft
30. Vandalism

- F. Take precautions to protect existing concrete and asphalt pavement from damage due to vehicle loads, parking, and storage.
  1. Schedule loading to minimize pavement material consolidation during hot weather. Distribute wheel loads to the greatest extent possible.

### 3.07 OPERATION AND MAINTENANCE

- A. Contractor shall maintain all systems and equipment operated during construction. The contractor responsible for the installation of the system shall operate and maintain it. Make all repairs and perform all maintenance to assure Work is turned-over to Owner in first class condition.
- B. Maintenance work includes Adjustments as required

**END OF SECTION**

**SECTION 01 73 29**  
**CUTTING AND PATCHING**

**PART 1 GENERAL**

1.01 DESCRIPTION

- A. Execute cutting, fitting or patching of Work, required to:
1. Make several parts fit properly.
  2. Uncover Work to provide for installation of ill-timed Work.
  3. Remove and replace defective Work.
  4. Remove and replace Work not conforming to requirements of Contract Documents.
  5. Remove samples of installed Work as specified for testing.
  6. Install specified Work in existing construction.
- B. In addition to contract requirements, upon written instructions of Architect:
1. Uncover Work to provide for Architect's observation of covered Work.
  2. Remove samples of installed materials for testing.
  3. Remove Work to provide for alteration of existing Work.
- C. Do not endanger any Work by cutting or altering Work or any part of it.

1.02 SUBMITTALS

- A. Prior to cutting which affects structural safety of Project, submit written notice to Architect, requesting consent to proceed with cutting, including:
1. Identification of Project.
  2. Description of Affected Work.
  3. Necessity for cutting.
  4. Affect on other Work, on structural integrity of Project.
  5. Description of proposed Work. Designate:
    - a. Scope of cutting and patching.
    - b. Contractor and trades to execute work.
    - c. Products proposed to be used.
    - d. Extent of refinishing.
  6. Alternative to cutting and patching.
  7. Designation of party responsible for cost of cutting and patching.
- B. Should conditions of Work, or schedule indicate change of materials or methods, submit written recommendation to Architect, including:
1. Conditions indicating change.
  2. Recommendations for alternative materials or methods.
  3. Submittals as required for Substitutions.
- C. Submit written notice to Architect, designating time Work will be uncovered, to provide observation.

**PART 2 PRODUCTS**

2.01 MATERIALS

- A. Patching of materials and surfaces shall be in accordance with the requirements of the Contract Documents. Where not otherwise defined, patching shall match adjacent surfaces and proper materials shall be provided accordingly.

**PART 3 EXECUTION**

3.01 INSPECTION

- A. Inspect existing conditions of Work, including elements subject to movement or damage during cutting and patching.
- B. After uncovering Work, inspect conditions affecting installation of new products.

3.02 PREPARATION PRIOR TO CUTTING

- A. Provide shoring, bracing and support as required to maintain structural integrity of Project.
- B. Provide protection for other portions of the Project, including all Contractors' personnel.

3.03 PERFORMANCE

- A. Execute fitting and adjustment of products to provide finished installation to comply with specified tolerances, finishes.
- B. Execute cutting and demolition by method which will prevent damage to other Work and will provide surface to receive installation of repairs and new Work.
  - 1. No cutting shall be performed which will, in any way, reduce structural strength. Should such cutting be necessary, consult Architect and do not proceed with such operation unless written approval is given.
  - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
- C. Restore Work which has been cut or removed; install new products to provide completed Work in accord with requirements of Contract Documents.
- D. Patching of materials and surfaces shall be in accordance with the requirements of the Contract Documents. Where not otherwise defined, patching shall match existing or adjacent surfaces and proper materials shall be provided accordingly.
  - 1. Wherever existing conditions are cut, the exposed surfaces must be neatly finished by patching, painting, etc., as required to blend patched areas into adjacent existing surfaces. Patched areas shall not be visible when viewing entire wall surface.
    - a. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and

replace with new materials, if necessary, to achieve uniform color and appearance.

2. Where painting or finishing of patched surfaces is required, finish the entire plane of surface in which patched area occurs.
3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

#### 3.04 SLEEVES AND OPENINGS

- A. Where pipes, conduits, or other materials pass through surfaces, provide suitable sleeves in these elements or provide openings where sleeves are not practical.
- B. Where pipes, conduit, etc., pass through, behind, or above existing construction, provide all cutting, patching, and refinishing for doing this work as specified herein.
- C. Lintels: Provide steel or precast concrete lintels to span openings in masonry walls sized in accordance with schedule shown or as detailed on structural drawings. In general, lintels are not required for openings less than the width of masonry unit in which wall is being constructed. Penetrations under beams or other concentrated loads require approval of Architect.
- D. Where pipes, conduit, or other materials or assemblies intersect fire rated assemblies, provide fire safing and/or fire caulk to maintain the existing fire rating.

#### 3.05 CLEANING

- A. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.





## **SECTION 01 74 00**

### **CLEANING**

#### **PART 1 GENERAL**

##### 1.01 GENERAL REQUIREMENTS

- A. These requirements supplement paragraph 3.15, General Conditions. Refer to General Conditions for additional requirements.
- B. Execute cleaning, during progress of the work and at completion of the work, as required by Contract Documents.

##### 1.02 RELATED SECTIONS

- A. Cutting and Patching: Section 01 73 29.
- B. Cleaning for Specific Products or Work: Specification section for the work.

##### 1.03 CLEANING AND DISPOSAL REQUIREMENTS

- A. Standards: Maintain project in accord with these safety and insurance standards:
  - 1. Applicable Federal and State Requirements.
  - 2. National Fire Protection Association.
- B. Hazards Control: All trades shall comply with the following requirements:
  - 1. Store volatile wastes in covered metal containers and remove from premises daily.
  - 2. Prevent accumulation of wastes which create hazardous conditions.
  - 3. Provide adequate ventilation during use of volatile or noxious substances.
- C. 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 project site.
  - 2. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary sewers.
  - 3. Do not dispose of waste into streams or waterways.
  - 4. Wet down dry materials and rubbish to prevent dust.
- D. Clean streets, highways, and private properties of all mud, earth, rubbish, rocks, refuse or other debris of any kind resulting from such work or related transportation to and from the work site.

#### **PART 2 PRODUCTS**

##### 2.01 MATERIALS

- A. Select and use cleaning materials and equipment with care to avoid scratching, marring, defacing, staining or discoloring surfaces cleaned.

- B. Use only cleaning materials recommended by manufacturer of surfaces to be cleaned and by the cleaning material manufacturer.

### **PART 3 EXECUTION**

#### **3.01 PROGRESS CLEANING**

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
- B. Provide, maintain and empty 55 gallon metal and dumpster type containers for collection of waste materials, debris and rubbish. Locate containers as directed by Architect. Provide containers with adequate capacity to accommodate anticipated needs. If containers do not have adequate capacity, increase intervals of waste removal or capacity of containers until adequate capacity is provided.
- C. At reasonable intervals during progress of Work, but in no case less than once a week, dispose of waste materials, debris and rubbish.
- D. Site: Maintain Project site free of waste materials and debris.
- E. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- F. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- G. Direct Special Attention To:
  - 1. Provide non-staining layout lines / other markings on masonry and concrete. Use chalk lines wherever possible and remove when no longer needed.
  - 2. Remove all stains from all surfaces.
  - 3. Shop marks shall not appear on exposed surfaces of any item.
  - 4. Remove concrete, mortar and paint spatters.
  - 5. Clean both brick and concrete unit masonry.
  - 6. Protect aluminum frames during construction and thoroughly clean upon completion of the installation.
- H. Clean surfaces before start of finish painting and continue cleaning on an as-needed basis until painting is finished.
- I. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.
- J. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

#### **3.02 FINAL CLEANING**

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations. Leave Project clean and ready for occupancy.
- B. Employ experienced workmen, or professional cleaners for final cleaning.
- C. At the completion of the work, remove all surplus material, false work, temporary structures, including foundations thereof, and debris of every nature resulting from their operations and put the site in a neat and orderly condition.
- D. Clean exposed hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Restore surfaces to their original condition
- E. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from sight-exposed exterior surfaces.
- F. Remove temporary protection and labels not required to remain
- G. Clean surfaces of equipment and remove debris, rubbish, dirt, etc. from open concealed spaces.
- H. Repair, patch and touch-up marred surfaces to specified finish, to match adjacent surfaces.
- I. In preparation for substantial completion, conduct final inspection of sight-exposed exterior surfaces and of concealed spaces.
- J. Remove waste, foreign matter, and debris from areaways, and drainage systems.
- K. Site/Exterior Items: Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
  - 1. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
  - 2. Rake grounds that are neither planted nor paved to a smooth, even textured surface.
  - 3. Remove tools, construction equipment, machinery, and surplus material from Project site.
  - 4. Clean exposed hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces.
- L. Maintain cleaning until Final Completion.
- M. Prior to Final Completion, or Owner occupancy, Contractor shall conduct an inspection of sight exposed exterior surfaces, and all work areas, to verify that the entire work is clean.

**END OF SECTION**

**SECTION 01 77 00**  
**PROJECT CLOSEOUT**

**PART 1 GENERAL**

1.01 GENERAL REQUIREMENTS

- A. Comply with requirements stated in Conditions of the Contract and in Specifications for administrative procedures in closing out the work.
- B. Related Requirements
  - 1. Fiscal Provisions, Legal Submittals and Additional Administrative Requirements: Conditions of the Contract.
  - 2. Operating and Maintenance Data: The respective specification sections.
  - 3. Warranties and Bonds: The respective specification sections.
  - 4. Close-out Submittals Required of Each Contractor: The respective specification sections.

1.02 SUBSTANTIAL COMPLETION

- A. When Contractor considers the work to be substantially complete, he shall submit to the Architect:
  - 1. A written notice that the Work, or designated portion thereof, is substantially complete.
  - 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, the Architect will make an inspection to determine the status of completion.
- C. Should the Architect determine that the work is not substantially complete:
  - 1. Architect will promptly notify the Contractor in writing, giving the reasons therefore.
  - 2. Contractor shall remedy the deficiencies in the work and send a second written notice of substantial completion to the Architect.
  - 3. Architect will re-inspect the work.
- D. When the Architect concurs that the work is substantially complete, he will:
  - 1. Prepare a Certificate of Substantial Completion on AIA Form G 704, accompanied by Contractor's list of items to be completed or corrected as verified and amended by the Architect.
  - 2. Submit the Certificates to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

1.03 FINAL INSPECTION/COMPLETION

- A. When a Contractor considers the work is complete, he shall submit written certification that:
  - 1. Contract Documents have been reviewed.
  - 2. Work has been inspected for compliance with Contract Documents.
  - 3. Work has been completed in accordance with Contract Documents.

4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
  5. Work is completed and ready for final inspection.
- B. Submit certified copy of Owner and Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Owner and Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
- C. Architect will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- D. Should Architect consider that the work is incomplete or defective:
1. Architect will promptly notify the Contractor, in writing, listing the incomplete or defective work.
  2. Contractor shall take immediate steps to remedy the stated deficiencies and send a 2nd written certification to Architect that the work is complete
  3. Architect will reinspect the work.
- E. When the Architect finds that the work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.

#### 1.04 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit 2 copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding *inwards*.
  2. Organize items applying to each space by major element.
  3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.
    - d. Name of Contractor.
    - e. Page number.
  4. Submit list of incomplete items in the following format:
    - a. PDF electronic file.

#### 1.05 CLOSE-OUT SUBMITTALS

- A. Evidence of compliance with requirements of governing authorities:
1. Certificates of Inspection
    - a. Plumbing
    - b. Fire Protection
    - c. HVAC
    - d. Electrical
- B. Project Record Documents: To requirements of Section 01 78 39.
- C. Warranties and Bonds: To requirements of respective Specification Sections.
1. Submittal Time: Submit written warranties on request of Architect for

designated portions of the Work where commencement of warranties other than date of **substantial completion** is indicated.

2. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
  3. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
    - a. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
    - b. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
    - c. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name and name of Contractor
  4. Provide additional copies of each warranty to include in operation and maintenance manuals.
- D. Evidence of Payment and Release of Liens: To requirements of General and Special Conditions.
- E. Certificate of Insurance for Products and Completed Operations.
- F. Unless a greater number of hard copies are indicated, provide two (2) copies and an electronic (pdf) file of all submittals.
- G. Submit all Quality Assurance/Quality Control reports. See Section 01 40 00.
- H. Submit copies of all RFIs, ASIs, addenda and bulletins. Include all attachments.
- I. Maintenance Materials (Attic Stock): Submit a complete list of required maintenance materials.
- J. Final Project Schedule: Indicate completion dates of all items.
- 1.05 FINAL ADJUSTMENT OF ACCOUNTS
- A. Submit a final statement of accounting to Architect.
  - B. Statement shall reflect all adjustments to the Contract Sum:
    1. The original Contract Sum.
    2. Additions and Deductions Resulting From:
      - a. Previous Change Orders
      - b. Allowances
      - c. Unit Price
      - d. Deductions for uncorrected work
      - e. Other adjustments
    3. Total Contract sum, as adjusted.
    4. Previous payments
    5. Sum remaining due



- C. Architect will prepare a final Change Order reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

1.06 FINAL APPLICATION FOR PAYMENT

- A. Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

**END OF SECTION**

## **SECTION 01 78 23**

### **OPERATION AND MAINTENANCE DATA**

#### **PART 1 GENERAL**

##### **1.01 GENERAL REQUIREMENTS**

- A. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under contract.
- B. Instruct Owner's designated personnel in the maintenance of products and in the operation of equipment and systems.
- C. Related Requirements: Owner requested and other related MPE upgrades listing operating and maintenance data requested for specific products.

##### **1.02 QUALITY ASSURANCE**

- A. Preparation of data shall be performed by personnel:
  - 1. Trained and experienced in maintenance and operation of product.
  - 2. Skilled to extent required to communicate essential written data and prepare required drawings.

##### **1.03 FORM OF SUBMITTALS**

- A. Prepare data in the form of an instructional manual for use by Owner's personnel.
- B. Format for Manuals
  - 1. Size: 8-1/2 inch by 11 inch white paper for typed pages.
  - 2. Text: Manufacturer's printed data or typewritten.
  - 3. Drawings: Provide reinforced punched binder tab, bind in with text. Fold larger drawings to the size of the text pages.
  - 4. Product Literature: Provide for each separate product or each piece of operating equipment. Include typed description of product and major component parts of equipment.
  - 5. Cover: Identify each volume with type or printed title, "OPERATING AND MAINTENANCE INSTRUCTIONS", title of project, and general subject matter covered in the manual.
- C. Binders: Three commercial quality three-ring binders with durable plastic covers. When multiple binders are used, correlate data into consistent groupings. Also, provide two compact disks of the contents of the binders.

##### **1.04 CONTENT OF MANUAL**

- A. Title Page: Identify title of project, address, date of submittal, name, address and telephone number of Contractor and Architect.
- B. Table of Contents: Typewritten list of each product or system required.

- C. Product Data
  - 1. Include only those sheets which are pertinent to the specific product.
  - 2. Annotate each sheet to:
    - a. Clearly identify the specific product or part installed.
    - b. Clearly identify the data applicable to the installation.
    - c. Delete references to inapplicable information.
  
- D. Drawings
  - 1. Supplement product data with drawings as necessary to clearly illustrate:
    - a. Relations of component parts of equipment and systems.
    - b. Control and flow diagrams.
  - 2. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
  - 3. Do not use Project Record Documents as maintenance drawings.
  
- E. Written text, as required to supplement product data for the particular installation:
  - 1. Organize in a consistent format under separate headings for different procedures.
  - 2. Provide a logical sequence of instructions for each procedure.
  
- F. Copy of each warranty, bond, and service contract issued.
  
- G. Provide information sheet for Owner's personnel giving:
  - 1. Proper procedures in the event of failure.
  - 2. Instances which might affect the validity of warranties or bonds.

1.05 MANUAL FOR MATERIALS AND FINISHES

- A. Submit three copies of complete manual in final form.
  
- B. Content for architectural products, applied materials, and finishes:
  - 1. Manufacturer's data, giving full information on products.
  - 2. Catalog number, size, composition.
  - 3. Color and texture designations.
  - 4. Information required for reordering specially manufactured products.
  - 5. Instructions for care and maintenance.
  - 6. Manufacturer's recommendation for types of cleaning agents and methods.
  - 7. Cautions against cleaning agents and methods detrimental to the product.
  - 8. Recommended schedule for cleaning and maintenance.
  - 9. Manuals containing manufacturer's recommended cleaning practices.
  
- C. Content for moisture protection and weather exposed products:
  - 1. Manufacturer's data, giving full information on products.
  - 2. Details of installation.
  
- D. Instructions for inspection, maintenance and repair.
  
- E. Additional requirements for maintenance data as indicated in specification sections
  
- F. Provide complete information for products of applicable sections of the Project Manual including, but not limited to, Metal fabrications and joint sealants.

1.06 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Submit three copies of complete manual in final form.
- B. Content for each unit of equipment and system, as appropriate:
  - 1. Description of unit and component parts.
  - 2. Function, normal operating characteristics, and limiting conditions.
  - 3. Complete nomenclature and commercial number of all replaceable parts.
- C. Maintenance Procedures
  - 1. Routine operations.
  - 2. Guide to "troubleshooting."
  - 3. Disassembly, repair, and reassembly.
  - 4. Alignment, adjusting, and checking.
- D. Manufacturer's printed operating and maintenance instructions.
- E. Original manufacturer's parts list, illustrations, assembly drawings, and diagrams, required for maintenance.
  - 1. Predicted life of parts subject to wear.
  - 2. Items recommended to be stocked as spare parts.
- F. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
- G. Other data as required under pertinent sections of Specifications.
- H. Content for each electrical and electronic system, as appropriate:
- I. Prepare and include additional data when the need for such data becomes apparent during the instruction of Owner's personnel.
- J. Content for each electric or electronic system.

1.07 SUBMITTAL SCHEDULE

- A. Submit one copy of completed data in final form before final inspection and acceptance.
- B. Submit specified number of copies of approved data in final form after final inspection and acceptance.

1.08 INSTRUCTION OF OWNER'S PERSONNEL

- A. Before final inspection or acceptance, fully instruct Owner's designated operating and maintenance personnel in the operation, adjustment and maintenance of all products, equipment and systems.
- B. Operating and maintenance manual shall constitute the basis of instruction. Review contents of manual with personnel in full detail to explain all aspects of operation and maintenance.

**END OF SECTION**

## **SECTION 01 78 39**

### **PROJECT RECORD DOCUMENTS**

#### **PART 1 GENERAL**

##### **1.01 GENERAL**

- A. Refer to General Conditions for additional requirements.
- B. Each Prime Contractor: Maintain at the site one record copy of:
  - 1. Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Order and other modifications to the Contract.
  - 5. Architect's field orders or written instructions.
  - 6. Approved shop drawings, product data and samples.
  - 7. Field test records.
  - 8. Approved permit sets.
- C. Related Requirements
  - 1. Conditions of the Contract.
  - 2. Section 01 33 23: Shop Drawings, Product Data and Samples.
  - 3. Operation & Maintenance Manuals: The respective specification sections

##### **1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES**

- A. Store documents and samples in Contractor's field office apart from documents used for construction.
  - 1. Provide files and racks for storage of documents.
  - 2. Provide locked cabinet or secured storage space for storage of samples.
- B. File documents and samples in accordance with the table of contents of the Project Manual.
- C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- D. Make documents and samples available at all times for inspection by the Architect.

##### **1.03 MARKING DEVICES**

- A. Provide colored marking pens for recording information in the color code designated by Architect.

##### **1.04 RECORDING**

- A. Label each document "PROJECT RECORD" in neat printed letters.
- B. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.

- C. Drawings: Legibly mark to record actual construction.
  - 1. Depths of various elements of foundation in relation to finish datum.
  - 2. Horizontal & vertical locations of underground utilities & appurtenances, referenced to permanent surface improvements.
  - 3. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
  - 4. Field changes of dimension and detail.
  - 5. Changes made by Field Order or by Change Order.
  - 6. Details not on original contract drawings.
  
- D. Specifications and Addenda: Legibly mark each Section to record:
  - 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
  - 2. Changes made by Field Order or by Change Order.

1.05 SUBMITTAL

- A. At Contract close-out, deliver Record Documents to Architect for submission to the Owner.
  
- B. Accompany submittal with transmittal letter in duplicate, containing:
  - 1. Date.
  - 2. Project title and number.
  - 3. Contractor's name and address.
  - 4. Title and number of each Record Document.
  - 5. Signature of Contractor or his authorized representative.

**END OF SECTION**

## **SECTION 04 22 00**

### **CONCRETE UNIT MASONRY**

#### **PART 1 GENERAL**

##### **1.01 WORK INCLUDED**

- A. Provide the following:
  - 1. Concrete masonry units: Standard
  - 2. Provide masonry fill concrete & reinforcing steel as indicated on drawings
  - 3. Wall reinforcing and accessories.
  - 4. Built-in collars, sleeves, inserts, anchors, ties, sockets, bolts, blocking, miscellaneous metal work, etc., in contact with, supported on or enclosed by masonry. When these items are furnished by others, they shall include information for setting.
  - 5. Mortar and grout.

##### **1.02 DEFINITIONS**

- A. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

##### **1.03 SUBMITTALS**

- A. Product Data: For each different masonry unit, accessory and other manufactured products specified.
- B. Material Certificates: Signed by manufacturers certifying that each of the following items complies with requirements:
  - 1. Each type of masonry unit required.
    - a. Include test data, measurements, and calculations establishing net-area compressive strength of masonry units.
  - 2. Each combination of masonry unit type and mortar type. Include statement of net-area compressive strength of masonry units, mortar type, and net-area compressive strength of masonry determined according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.
  - 3. Each material and grade indicated for reinforcing bars.
  - 4. Each type and size of joint reinforcement.
- C. Cold-Weather Procedures: Detailed description of methods, materials and equipment to be used to comply with cold-weather requirements.

##### **1.04 QUALITY ASSURANCE**

- A. Supervisor: A supervisory journeyman mason shall be appointed for the project and shall be present at all times masonry work is being performed and:
  - 1. have minimum of 5 years experience on masonry projects of this type, size
  - 2. be thoroughly familiar with the design requirements, types of materials being installed, referenced standards and other requirements.
- B. Use only skilled journeyman masons for cutting and placing of masonry; no allowance shall be made for lack of skill on the part of the workmen.



- C. Consult other trades and make provisions that shall permit the installation of their work in a manner to avoid cutting and patching. Build-in work under other sections, as necessary, and as the work progresses.
- D. Unit Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602, "Specifications for Masonry Structures". Maintain one copy of the standard in project field office at all times during construction. Contractor's supervisory personnel shall be thoroughly familiar with the material as it applies to this Project.
- E. Concrete Unit Masonry Construction: Comply with the National Concrete Masonry Association (NCMA) "TEK Bulletins", and other requirements specified.
  1. NCMA TEK Bulletin 3-2 "Grouting for Concrete Masonry Walls".
  2. NCMA TEK Bulletin 3-3A "Reinforced Concrete Masonry".
  3. NCMA TEK Bulletin 8-2 "Removal of Stains from Concrete Masonry Walls".
  4. NCMA TEK Bulletin 10-1A "Crack Control in Concrete Masonry Walls".
  5. NCMA TEK Bulletin 10-2B "Control Joints for Concrete Masonry Walls".
  6. NCMA TEK Bulletin 14-2 "Reinforced Concrete Masonry".

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Store cement and lime materials and masonry units off the ground, under cover and protected from weather damage. If units become wet, do not install until they are dry. Do not use cementitious materials that have become damp.
- B. Stockpile and store aggregates to prevent contamination from foreign materials, in locations where grading and other required characteristics can be maintained.
- C. Use care in handling units to avoid chipping and breakage.
- D. Locate storage areas where they will not be disturbed or damaged by construction operations. Protect finished floor areas from damage.

#### 1.06 COLD WEATHER CONSTRUCTION

- A. Comply with recommended practices for cold weather construction of the International Masonry Industry All-Weather Council and requirements contained in ACI 530.1/ASCE 6/TMS 602.
- B. Do not build on frozen or snow covered work. Remove and replace masonry work damaged by frost or freezing.
- C. Requirements During Construction: Provide the following minimum requirements for the air temperatures listed:
  1. Above 40° F: Normal masonry procedures.
  2. 40° F to 32° F: Heat mixing water to produce mortar temperatures between 40° F and 120° F. Produce consecutive batches of mortar with the same temperatures falling within this range. Do not heat mortar to greater than 120° F.
  3. Below 32° F to 25° F: Heat sufficient mortar ingredients to produce mortar temperatures between 40° F and 120° F. Produce consecutive batches of mortar with the same temperatures falling within this range. Maintain mortar temperatures after mixing above 40° F. Do not heat mortar to greater than 120° F.
  4. Below 25° F to 20° F: Heat sufficient mortar ingredients to produce mortar temperatures between 40° F and 120° F. Produce consecutive batches of mortar with the same temperatures falling within this range. Maintain mortar temperatures

after mixing above 40° F. Do not heat mortar to greater than 120° F. Maintain masonry above freezing using auxiliary heat. Provide enclosure when wind is in excess of 15 mph.

5. Below 20° F: Heat sufficient mortar ingredients to produce mortar temperatures between 40° F and 120° F. Produce consecutive batches of mortar with the same temperatures falling within this range. Maintain mortar temperatures after mixing above 40° F. Do not heat mortar to greater than 120° F. Maintain masonry above freezing using enclosure and auxiliary heat.

- D. Protection Requirements for Completed Masonry (and masonry not being worked on): Provide the following minimum requirements for mean daily air temperatures listed:
1. Above 40° F: Normal masonry procedures.
  2. 40° F to 32° F: Protect from rain or snow for 24 hours with weather-resistive membrane.
  3. Below 32° F to 20° F: Completely cover with weather-resistive membrane and maintain above freezing for 24 hours.
  4. Below 20° F: Provide weather-resistant enclosure and auxiliary heat to maintain above freezing for 24 hours.

## 1.07 HOT WEATHER CONSTRUCTION

- A. Protect masonry construction from direct exposure to wind and sun when erected in an ambient air temperature of 90° F., or greater in shade with relative humidity less than 50%. Provide artificial shade and wind breaks and use cooled materials as required. Provide artificial shade, wind breaks, use cooled materials and other procedures outlined in BIA Tech Notes #1.

## 1.08 PROJECT CONDITIONS

- A. Do not apply uniform loads for at least 12 hours and concentrated loads for at least 3 days after building masonry walls or columns.
1. Brace unsupported and newly laid masonry walls. Maintain bracing in place until building structure provides permanent bracing.
- B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar and soil that become in contact with such masonry.
1. Protect base of walls from rain-splashed mud and from mortar splatter by coverings spread on ground and over wall surface.
  2. Protect sills, ledges and projections from mortar droppings.
  3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
  4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt on completed masonry.

## **PART 2 PRODUCTS**

### 2.01 CONCRETE MASONRY UNITS

- A. General:
1. Curing: Cure for at least 7 days and units must be at least 28 days old when used in the work.
  2. Color: Natural color.

- B. Hollow Load Bearing, Concrete Masonry Units
1. Type: Hollow, load bearing, standard modular size and shapes, thoroughly cured and dried.
  2. References: ASTM C90.
  3. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 1900 psi.
  4. Weight Classification: Normal weight, unless otherwise indicated.
  5. Linear Shrinkage: Not to exceed 0.065 percent, ASTM C426.
  6. Aggregate: ASTM C33 normal weight aggregates. Cinder aggregates not permitted.

## 2.02 MORTAR

- A. Materials
1. Portland Cement: ASTM C150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated or selected.
  2. Masonry Cement: ASTM C91.
  3. Hydrated Lime: ASTM C207, Type S.
  4. Aggregate: ASTM C144, clean masonry sand, not over 10% to pass No. 100 sieve for general use.
  5. Water: Clean, fresh and free of deleterious amounts of acids, alkalis and foreign organic matter.
- B. Proprietary Mortar Cement: Conform to ASTM C91, containing hydrated lime.
1. Certification: Submit certified laboratory data substantiating conformance with structural requirements for mortars as specified; and that no adverse chemical reaction will occur with the specified masonry accessories and reinforcing. Certification must be received and approved by Architect prior to mortar use.
  2. Suitable products are acceptable from the following manufacturers:
    - a. CEMEX (Richcolor)
    - b. LEHIGH PORTLAND CEMENT COMPANY
    - c. ESSROC MATERIALS, INC. (Brixment)
    - d. QUIKRETE
- C. Mixes - Unit Masonry
1. Provide water repellent admixture in all mortar used for exterior masonry work. Add to mix in accordance with manufacturer's recommendations.
  2. Type S Mortar
    - a. Proportions: ASTM C270 proportions by volume. Minimum average compressive strength at 28 days of 1,800 psi.
    - b. Color: Natural color.

## 2.03 GROUT

- A. Masonry Grout - Mix
1. Fine Grout for Reinforced Masonry: Mix with mechanical mixer with sufficient water to the desired consistency in accordance with ASTM C476 Proportion Specifications.
    - a. Portland Cement: 1 part
    - b. Hydrated Lime: 0 to 1/10 part
    - c. Fine Aggregate: 2-1/4 to 3 times the sum of the volumes of the

- cementitious materials
2. Coarse Grout for Reinforced Masonry: Mix with mechanical mixer with sufficient water to the desired consistency in accordance with ASTM C476 Proportion Specifications.
    - a. Portland Cement: 1 part
    - b. Hydrated Lime: 0 to 1/10 part
    - c. Fine Aggregate: 2-1/4 to 3 times the sum of the volumes of the cementitious materials.
    - d. Coarse Aggregate: 1 to 2 times the sum of the volumes of the cementitious materials.
  3. Hand Mixing: Not acceptable.

## 2.04 REINFORCING

- A. Manufacturers: DUR-O-WALL; HECKMANN BUILDING PRODUCTS; HOHMANN & BARNARD; MASONRY REINFORCING CORPORATION OF AMERICA (WIREBOND). Where products are specified referencing a particular manufacturer, equal products from the MFRs listed are acceptable providing the product meets the requirements indicated. Where a manufacturer is listed below for a specific product, it is to establish a level of quality. Similar products of equal quality from the above listed manufacturers are acceptable.
- B. Horizontal Joint Reinforcement
  1. General
    - a. Type: Ladder type, standard weight, galvanized.
    - b. Width: Approximately 2 in. less than nominal wall thickness.
    - c. Spacing: Continuous along horizontal joint, spaced 16 inches on center vertically, unless otherwise indicated.
  2. Longitudinal Wire
    - a. Single Wythe Walls: 2 wires.
- C. Wire Mesh: Wire Mesh: 1/4" mesh of galvanized steel wire (min. 16 gage) or galvanized metal lath, cut into strips 1-1/2" narrower than wall width where used. For use at intersection of masonry walls and as a grout stop.
- D. Reinforcing Steel - Bond Beam and Wall Reinforcement: Uncoated steel reinforcing bars; ASTM A615/A; ASTM A616, including Supplement 1; or ASTM A617/A, Grade 60.

## **PART 3 EXECUTION**

### 3.01 INSPECTION

- A. Examine the substrates, structure, and installation conditions. Do not proceed with unit masonry work until unsatisfactory conditions are corrected.

### 3.02 PREPARATION

- A. Concrete Masonry Units: Lay masonry units dry. Do not wet masonry units.
- B. Establish lines, levels, and coursing.

- C. Coordination: Identify items that are to be built-in to masonry wall as specified in other section of these specifications. Verify that these items are available prior to commencing masonry work in these areas. Coordinate sizes of required openings.

### 3.03 INSTALLATION - GENERAL

- A. Build walls to the full thickness shown. Build single wythe walls to the actual thickness of the masonry units, using units of nominal thickness shown or specified
- B. Cut masonry units using motor-driven masonry saws to provide clean, sharp, unchipped edges. Cut units as required to provide pattern shown and to fit adjoining work neatly. Use full-size units without cutting wherever possible. Provide 100% solid units where webs would be exposed.
- C. Construction Tolerance: Comply with tolerances in ACI 530.1/ASCE 6/TMS 602 and the following:
  - 1. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than  $\frac{1}{4}$ " in 20 feet, nor  $\frac{1}{2}$ " maximum.
  - 2. For vertical alignment of exposed head joints, do not vary from plumb by more than  $\frac{1}{4}$ " in 10 feet, nor  $\frac{1}{2}$ " maximum.
  - 3. For conspicuous horizontal lines, such as exposed lintels, sills, parapets, and reveals, do not vary from level by more than  $\frac{1}{4}$ " in 20 feet, nor  $\frac{1}{2}$ " maximum.
  - 4. For exposed bed joints, do not vary from thickness indicated by more than plus or minus  $\frac{1}{8}$ ", with a maximum thickness limited to  $\frac{1}{2}$ ". Do not vary from bed-joint thickness of adjacent courses by more than  $\frac{1}{8}$ ".
  - 5. For exposed head joints, do not vary from thickness by more than plus or minus  $\frac{1}{8}$ ". Do not vary from adjacent bed-joint and head-joint thicknesses by more than  $\frac{1}{8}$ ".
- D. Openings: Form all chases and openings required for piping and other trades. After work is completed, close openings with masonry and seal around penetration

### 3.04 ERECTION - CONCRETE MASONRY

- A. Masonry
  - 1. Layout walls in advance for accurate spacing of surface bond patterns, with uniform joint widths, and to properly locate returns and offsets. Avoid the use of less than half-size units at corners, jambs and other locations.
  - 2. Lay up walls plumb and true to comply with specified tolerance. Provide courses level, accurately spaced and coordinated with other work.
  - 3. Pattern Bond: Lay exposed masonry in running bond with vertical joint in each course centered on units in courses above and below. Bond and interlock each course of each wythe at corners. Do not use units with less than 4" of horizontal face dimensions at corners.
  - 4. Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells. Bed webs in mortar in starting course on footings and slabs. Maintain  $\frac{3}{8}$ " joint widths, except for minor variations required to maintain bond alignment.
  - 5. Joints
    - a. Exposed: Cut flush and finish (tool) with hardened metal tool to form

- a concave compressed joint. Same methods and types of tools to be used by all masons working on project.
  - b. Concealed: Cut flush and trowel point.
  
- B. Horizontal Wall Reinforcement: Provide continuous masonry joint reinforcement as indicated. Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.
  - 1. Space reinforcement not more than 16 inches o.c.
  - 2. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings.
    - a. Reinforcement above is in addition to continuous reinforcement.
  - 3. Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.
  - 4. Provide continuity at corners and wall intersections by using prefabricated "L" and "T" sections. Cut and bend reinforcing units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures, and other special conditions.
  - 5. Provide additional reinforcement continuous in first joint above openings and in first joint below openings not extending to floor. Extend additional reinforcement a minimum of 4'-0" beyond opening.
  
- C. Block Cores: Reinforce as indicated and fill with grout.
  - 1. General: Clean reinforcement of loose rust, mill scale, earth, ice or other materials which will reduce bond to mortar or grout. Do not use reinforcement bars with kinks or bends not shown on drawings or final shop drawings, or bars with reduced cross-section due to excessive rusting or other causes.
  - 2. Position reinforcement accurately at the spacing indicated. Place horizontal reinforcement as the masonry work progresses.
    - a. Use "Fine Grout" per ASTM C 476 for filling spaces less than 4" in one or both horizontal directions.
    - b. Use "Coarse Grout" per ASTM C 476 for filling spaces 4" to 10" in both horizontal directions.
    - c. Use 3000 psi concrete for filling spaces 10" or larger in both horizontal directions.

### 3.05 MORTAR

- A. General
  - 1. Batch Size: Controlled so that all material used within two (2) hours.
  - 2. Mortar on Board
    - a. Keep well tempered with water so long as its cementing material has not started to set.
    - b. Do not retemper if initial set of cementing material has been reached, or if mortar has stiffened greatly.
  - 3. Anti-freeze Admixture: Not permitted.
  
- B. Mixing
  - 1. Machine mix dry in a batch mixer with care taken in adding water to mix to avoid overwetting.
  - 2. Do not retamper in mixer at any time.

3. Continue mixing for a minimum of five (5) minutes after all materials are in mixer.

C. Recharging: Completely empty and clean mixer before recharging.

### 3.06 PROTECTION

A. Brace all walls while in green condition.

B. Protection of Masonry: During construction, cover tops of walls with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
2. Where one wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches down face next to unconstructed wythe and hold cover in place.

### 3.07 FIELD QUALITY CONTROL

A. Owner will engage a qualified independent testing agency to perform source quality-control testing indicated below:

1. Retesting of materials failing to meet specified requirements shall be done at Contractor's expense.

B. Testing Frequency: Tests and Evaluations listed in this Article will be performed during construction for each 5000 sq. ft. of wall area or portion thereof.

C. Mortar properties will be tested per ASTM C780.

D. Grout will be sampled and tested for compressive strength per ASTM C1019.

### 3.08 REPAIR, POINTING AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged. Provide new units to match adjoining units and install in fresh mortar pointed to eliminate evidence of replacement.

B. During the tooling of joints, enlarge all voids or holes, and completely fill with mortar. Point up all joints at corners to provide a neat, uniform appearance.

C. Cleaning – Concrete Masonry: During construction of exposed CMU, minimize mortar and grout smears on exposed surfaces. Dry brush CMU surfaces at the end of each days work and after final pointing. Remove mortar stains and dirt from exposed surfaces.

1. Cleaning Solutions: Where cleaning solutions are required, they shall be provided at no additional cost to the Owner. Cleaning solutions must be approved by Architect and spot tested prior to use.

D. Area Cleaning: Clean floors of all mortar droppings, including floor surfaces of accessible chases.

### 3.09 MASONRY WASTE DISPOSAL

- A. Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Disposal as Fill Material: When approved by Geotechnical Engineer, dispose of clean masonry waste, including broken masonry units, waste mortar, and excess or soil-contaminated sand, by crushing and mixing with fill material as fill is placed.
  - 1. Crush masonry waste to less than 4 inches in each dimension.
  - 2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Section 31 30 00, Earthwork. All fill material must be approved by Geotechnical Engineer.
  - 3. Do not dispose of masonry waste as fill within 18 inches of finished grade.
- C. Excess Masonry Waste: Remove excess, clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.



**END OF SECTION**

## **SECTION 07 84 00**

### **FIRESTOPPING**

#### **PART 1 GENERAL**

##### **1.01 WORK INCLUDED**

- A. Provide firestop systems consisting of a material, or combination of materials installed to retain the integrity of fire-rated construction by maintaining an effective barrier against the spread of flame, smoke, and/or hot gases through penetrations, blank openings, construction joints, or at perimeter fire containment in or adjacent to fire-rated barriers in accordance with the requirements of the Building Code for this project.
  
- B. Firestop systems to be used in locations including, but not limited to the following
  1. Penetrations through fire resistance rated floor and roof construction including both empty openings and openings containing cables, pipes, ducts, conduits, and other penetrating items.
  2. Penetrations through fire resistance rated walls and partitions including both empty openings and openings containing cables, pipes, ducts, conduits, and other penetrating items.
  3. Penetrations through smoke barriers and construction enclosing compartmentalized areas involving both empty openings and openings containing penetrating items.
  4. Sealant joints in fire resistance rated construction.
    - a. Gaps between the top of walls and ceilings, floor or roof assemblies. Includes filling metal deck flutes where applicable.
    - b. Openings around structural members which penetrate floors or walls
    - c. Control joints.
    - d. Floor joints not requiring expansion joints.
  5. Walls enclosing plenum spaces, rated and unrated.
    - a. Gaps between the top of walls and ceilings or roof assemblies.
    - b. Openings around items which penetrate walls.
  6. Other locations indicated.

##### **1.02 RELATED SECTIONS**

- A. Coordinate Work of this Section with work of other similar or equivalent Specification Sections as required to properly execute the work, including:
  1. Masonry: Section 04 22 00.
  2. Gypsum Wallboard Partitions: Section 09 21 16.
  3. Electrical: Refer to electrical drawings

##### **1.03 DEFINITIONS**

- A. Firestopping: Material or combination of materials (assembly) to retain integrity of fire rated construction by maintaining an effective barrier against the spread of flame, smoke, and gases.

- B. Through-penetration: Any penetration of a fire-rated wall or floor that completely breaches the barrier.
- C. Through-Penetration Firestop Systems: Material or combination of materials which are field constructed of fill, void, or cavity materials and forming materials, designed to resist fire spread when installed as a complete firestop system.
- D. Through-Penetration Firestop Devices: Factory built products designed to resist fire spread. Complete when delivered to site; ready for installation.
- E. 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).
- F. Barrier: Any bearing or non-bearing wall or floor that has an hourly fire and smoke rating.
- G. Membrane-penetration: Any penetration in a fire-rated wall that breaches only one side of the barrier.
- H. Fire Resistive Joint: Any gap, joint, or opening, whether static or dynamic, between two fire rated barriers including where the top of a wall meets a floor; wall edge to wall edge applications; floor edge to floor edge configurations; floor edge to wall.
- I. Perimeter Barrier: Any gap, joint, or opening, whether static or dynamic, between a fire rated floor assembly and a non-rated exterior wall assembly.

#### 1.04 REFERENCES

- A. American Society for Testing and Materials (ASTM)
  - 1. E84: Test Method for Surface Burning Characteristics of Building Materials.
  - 2. E119: Fire Tests of Building Construction Materials.
  - 3. E814: Fire Tests of Through Penetration Fire Stops.
  - 4. E2174: Standard Practice for On-Site Inspection of Installed Fire Stops
- B. National Fire Protection Association (NFPA)
  - 1. 70: National Electrical Code (NEC)
  - 2. 101: Code for Safety to Life from Fire in Buildings and Structures (Life Safety Code).
- C. Underwriters' Laboratories (UL)
  - 1. UL1479: Fire Tests of Through Penetration Fire Stops.
  - 2. UL2079: Tests for Fire Resistance of Building Joint Systems
- D. Firestop Design Classification References
  - 1. Warnock Hersey Listing Manual
  - 2. UL Fire Resistance Directory - Vol. 1
- E. Factory Mutual (FM) Research
  - 1. FM Approval Standard of Firestop Contractors – Class 4991

#### 1.05 SYSTEM PERFORMANCE REQUIREMENTS

- A. System Design and Product Selection: Contractor responsible for selection of products and tested designs that fulfill the firestopping requirements of this section.
- B. General: Provide firestopping systems that are produced and installed to resist the spread of fire, according to requirements indicated, and the passage of smoke and other gasses.
- C. F-Rated Through Penetration Firestop Systems: Provide through penetration firestop systems with F ratings indicated as determined per ASTM E814, UL 1479 but not less than that equaling or exceeding the fire resistance rating of the constructions penetrated.
- D. T-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with T ratings, in addition to F ratings, as determined per ASTM E814, where indicated and where systems protect penetrating items exposed to contact with adjacent materials in occupiable floor areas. T-rated assemblies are required where specified by codes or where the following conditions exist:
  - 1. Where firestop systems protect penetrations located outside of wall cavities.
  - 2. Where firestop systems protect penetrations located outside fire resistive shaft enclosures.
  - 3. Where firestop systems protect penetrations located in construction containing doors required to have a temperature rise rating.
  - 4. Where firestop systems protect penetrating items larger than a 4 inch diameter nominal pipe or 16 square inch in overall cross sectional area.
- E. L – Rated Through-Penetration Firestop Systems: Provide firestop systems with L ratings, in addition to F and T ratings, as determined per UL 1479, where indicated by Code.
- F. Fire Resistive Joint Sealants: Provide joint sealants with fire resistance ratings indicated, as determined per ASTM E119, UL 1479 and UL 2079 but not less than that equaling or exceeding the fire resistance rating of the construction in which the joint occurs.
- G. For firestopping exposed to traffic, moisture, and physical damage, provide products that do not deteriorate when exposed to these conditions and will meet load requirements.
  - 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 required removal of insulation.
- H. For through-penetration firestop systems exposed to view, provide products with flame spread of less than 25 and smoke developed ratings of less than 450, as determined per ASTM E 84.
- I. Where there is no specific third party tested and classified firestop system

available for an installed condition, obtain from the firestopping material manufacturer an Engineering Judgment (EJ) to be submitted to the Approving Authority and Authority Having Jurisdiction for approval prior to installation. The EJ shall follow International Firestop Council (IFC) guidelines.

- J. Mold Resistance: Provide penetration firestopping with mold and mildew resistance rating of one (1) or less as tested per ASTM G21.

#### 1.06 SUBMITTALS

- A. Product Data: Manufacturer's specifications and technical data for each material including the composition and limitations, documentation of UL or other nationally recognized independent testing laboratories firestop systems to be used, and manufacturer's installation instructions.
  - 1. Manufacturer's engineering judgement identification number and drawing details when no tested system is available.
- B. Shop drawings detailing materials, installation methods, and relationships to adjoining construction for each through-penetration firestop system, and each kind of penetrating item. Include firestop design designation of qualified testing and inspecting agency evidencing 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 configuration for construction and penetrating items.
  - 2. Where project conditions require modification of qualified testing and inspecting agency's illustration to suit a particular through-penetration firestop condition, submit illustration approved by firestopping manufacturer with modifications marked.
- C. Product certificates signed by manufacturers of firestopping products certifying that their products and installation comply with specified requirements. Certification shall be signed by the Installer.
- D. Certification is required from manufacturer that Installer has been trained in the handling and installation of their products.
- E. Firestopping installer shall provide a letter of certification stating that all firestopping systems have been installed in accordance with the Contract Documents.

#### 1.07 QUALITY ASSURANCE

- A. Meet requirements of ASTM E814 or UL 1479 tested assemblies that provide a fire rating equal to that of construction being penetrated and other ASTM Standards as applicable for the installation.
  - 1. ASTM E84 Test Method for Surface Burning Characteristics of Building Materials
  - 2. ASTM E119 "Test Methods for Fire Tests of Building Construction and Materials."
- B. Requirements of Regulatory Agencies: Comply with the applicable requirements for fire separations and penetrations of the following:
  - 1. IBC: Chapter 6, Table 601 & 602 for the time rated construction requirements
  - 2. NFPA 70 and NFPA 101.

- C. Installer: Specialist in the installation of type(s) of firestopping required; trained and approved by the firestop manufacturer.
  - 1. Shown to have successfully completed not less than 5 firestop projects similar in type and size to that of this Project.
- D. Provide firestopping products containing no detectable asbestos as determined by the method specified in 40 CFR Part 763, Subpart F, Appendix A, Section 1, "Polarized Light Microscopy".
- E. Do not use any product containing solvents that require hazardous waste disposal or which after curing dissolve in water.
- F. Coordinating Work: Coordinate construction of openings and penetrating items to ensure that designated through-penetration firestop systems are installed per specified requirements.
- G. Single Source Responsibility: Obtain firestop systems for each kind of penetration and construction condition indicated from a single primary firestop systems manufacturer.
  - 1. Materials of different manufacture than allowed by the tested and listed system shall not be intermixed in the same firestop system or opening.
  - 2. Tested & listed firestop systems are to be used before an Engineering Judgment (EJ) or Equivalent Fire Resistance Rated Assembly (EFRRRA) is installed

#### 1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver firestopping undamaged products to project site in original, unopened containers or packages with intact and legible manufacturers' labels identifying product and MFR; date of manufacturer; lot number; shelf life, if applicable; qualified testing and inspecting agency's classification marking applicable to Project; curing time; and mixing instructions for multi-component materials.
  - 1. Comply with recommended procedures, precautions, or remedies described in material safety data sheets as applicable.
- B. Store and handle firestopping materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.
- C. Do not use damaged or expired materials.

#### 1.09 PROJECT CONDITIONS

- A. Environmental Conditions: Do not install firestopping when ambient or substrate temperatures are outside limits permitted by firestopping manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.
- B. Ventilation: Ventilate firestopping per firestopping manufacturers' instructions by natural means or, where this is inadequate, forced air circulation.

#### 1.10 SEQUENCING AND SCHEDULING

- A. Coordinate this Work as required with work of other trades. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate through-penetration firestop systems.

- B. Do not cover up those firestopping installations that will become concealed behind other construction until Owner's inspection agency and authorities having jurisdiction, if required, have examined each installation.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Provide products from one or more of the following manufacturers according to the suitability of the product for the intended purpose.
  - 1. W.R. GRACE (Flamesafe System)
  - 2. FYRESLEEVE INDUSTRIES
  - 3. TREMCO
  - 4. HILTI, INC.
  - 5. SPECIFIED TECHNOLOGIES (STI).
  - 6. 3M FIRE PROTECTION PRODUCTS.
  - 7. THE RECTORSEAL CORPORATION (Metacaulk and Bio Fireshield).
  - 8. NELSON FIRESTOP PRODUCTS.

### **2.02 MATERIALS - GENERAL**

- A. As selected by Contractor; see SYSTEM PERFORMANCE REQUIREMENTS in Part 1.
- B. Compatibility: Provide firestopping composed of components that are compatible with each other, the substrates forming openings, and the items, if any, penetrating the firestopping under conditions of service and application, as demonstrated by firestopping MFR based on testing and field experience.
  - 1. All materials shall comply with ASTM E814 or E 119 (UL 1429), and shall be manufactured of nontoxic, non-hazardous, asbestos free materials, and unaffected by water or moisture when cured.
  - 2. Primers: Conform to manufacturer's recommendations for primers required for various substrates and conditions.
  - 3. Backup Materials: Backup materials, supports, and anchoring devices shall be provided as required by UL testing.
  - 4. Provide all firestopping sealant materials within the VOC limits.
- C. Accessories: Provide components for each firestopping system that are needed to install fill materials and to comply with "System Performance Requirements" in Part 1. Use only components specified by the firestopping MFR and approved by the qualified testing and inspecting agency for the designated fire resistance rated systems. Accessories include but are not limited to the following items:
  - 1. Permanent forming/damming/backing materials must be noncombustible and may include the following:
    - a. Semi-refractory fiber (mineral wool) insulation.
    - b. Sealants used in combination with other forming/damming materials to prevent leakage of fill materials in liquid state.
    - c. Joint fillers for joint sealants.
  - 2. Temporary forming materials.
  - 3. Substrate primers.
  - 4. Collars.
  - 5. Steel sleeves.

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 firestopping. Do not proceed with installation until unsatisfactory conditions have been corrected.
  - 1. Verify penetrations are properly sized and in suitable condition for application of materials.

3.02 PREPARATION

- A. Surface Cleaning: Clean out openings and joints immediately prior to installing firestopping to comply with recommendations of firestopping manufacturer and the following requirements:
  - 1. Remove all foreign materials from surfaces of opening and joint substrates and from penetrating items that could interfere with adhesion of firestopping.
  - 2. Clean opening and joint substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with firestopping. 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 systems seal with substances.

3.03 INSTALLING THROUGH-PENETRATION FIRESTOPS

- A. General: Comply with the "System Performance Requirements" in Part 1 and the through-penetration firestop manufacturer's installation instructions and drawings pertaining to products and applications indicated.



- B. Install forming/damming materials and other accessories of types required to support fill materials during their application and in the position needed to produce the cross sectional shapes and depths required to achieve fire ratings of designated through-penetration firestop systems. After installing fill materials, remove combustible forming materials and other accessories not indicated as permanent components of firestop systems.
- C. Install fill materials for through-penetration firestop systems by proven techniques to produce the following results:
  - 1. Completely fill voids and cavities formed by openings, forming materials, accessories, and penetrating items.
  - 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 INSTALLING FIRE RESISTIVE JOINT SEALANTS

- A. General: Comply with the "System Performance Requirements" in Part 1 with ASTM C1193, and with the sealant manufacturer's installation instructions and drawings -pertaining to products and applications indicated.
- B. Install joint fillers to provide support of sealants during application and at position required to produce the cross sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability and develop fire resistance rating required.
- C. Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross sectional shapes and depths relative to joint width that optimum sealant movement capability. Install sealants at the same time joint fillers are installed.
- D. Tool nonsag sealants immediately after sealant application and prior to the time skinning or curing begins. Form smooth, uniform beads of configuration indicated or required to produce fire resistance rating, as well as to eliminate air pockets, and to ensure contact and adhesion of sealants with sides of joint. Remove excess sealant from surfaces adjacent to joint.  
Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

#### 3.05 INSTALLING PERIMETER FIRE BARRIER SYSTEMS

- A. General: Comply with "System Performance Requirements" article in Part 1 and with the firestop manufacturer's installation and drawings pertaining to products and applications indicated.
- B. Install metal framing, curtain wall insulation, mechanical attachments, safing materials and firestop materials as applicable within the system design.

#### 3.06 FIELD QUALITY CONTROL

- A. Examine sealed penetration areas to ensure proper installation before concealing or enclosing areas.
- B. Keep areas of work accessible until inspection by applicable code authorities.
- C. Special Inspections Penetration Firestops. When required per IBC 1705, inspections of penetration firestop systems shall be conducted by an approved inspection agency in accordance with ASTM E 2174.
  - 1. Fire-resistant joint systems. Inspection of fire-resistant joint systems shall be conducted by an approved inspection agency in accordance with ASTM E 2393.
- D. Perform under this section patching and repairing of firestopping caused by cutting or penetrating of existing firestop systems already installed by other trades.
- E. Manufacturer's Field Services: During installation, contractor shall have manufacturer's representative provide periodic training and visual observations with written documentation of the results.
- F. Do not proceed to enclose firestopping with other construction until inspection agency has verified that the firestop installation complies with the requirements.
- G. Where deficiencies are found, repair or replace the firestopping so that it complies with requirements of tested and listed system design.

### 3.07 IDENTIFICATION

- A. Identify through-penetration firestop systems with pressure-sensitive, self-adhesive, preprinted vinyl labels. Attach labels permanently to surfaces of penetrated construction on both sides of each firestop system installation where labels will be visible to anyone seeking to remove penetrating items or firestop systems. Include the following information on labels:
  - 1. The words "Warning - Through-Penetration Firestop System - Do Not Disturb. Notify Building Management of Any Damage".
  - 2. Contractor's name, address, and phone number.
  - 3. Through-penetration firestop system designation of applicable testing and inspecting agency.
  - 4. Date of installation.
  - 5. Through-penetration firestop system manufacturer's name.

### 3.08 CLEANING

- A. Clean off excess fill materials and sealants adjacent to openings and joints as work progresses by methods and with cleaning materials approved by manufacturers of firestopping products and of products in which opening and joints occur.
- B. Provide final protection and maintain conditions during and after installation that ensure through-penetration firestop systems are without damage or deterioration at time of Contract Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated through-penetration firestop systems immediately and install new materials to produce through-penetration firestop system complying with specified requirements.

**END OF SECTION**

## **SECTION 07 92 00**

### **JOINT SEALANTS**

#### **PART 1 GENERAL**

##### **1.01 SCOPE**

- A. General: Prepare joints and apply sealant at all locations which normally require sealing to prevent infiltration of air, water, insects & reduce transmission of sound
- B. Apply sealants to exterior and interior non-static joints. Do not seal normal drainage points or weep holes. Include the following:
  - 1. masonry control and expansion joints
  - 2. threshold bedding
  - 3. joints between different wall materials
  - 4. termination joints between wall materials and adjacent materials
  - 5. perimeter seal of metal door frames where they abut masonry
  - 6. other applications indicated
- C. Sealing of joints in concrete construction, including sidewalk joints, concrete paving joints and floor joints, tile floor expansion joints and other floor joints as indicated.
- D. Sealing of all exterior and interior locations where materials or equipment do not fit together or against the adjoining surface with a hairline joint.
- E. Caulking of interior static joints. Include the following:
  - 1. intersection of exposed structure or ceiling construction with masonry walls
  - 2. perimeter seal of metal door frames where they abut drywall.
  - 3. other applications indicated
- F. Joints, perimeter, and penetrations in fire-rated assemblies. Use firestopping specified in Section 07 84 00.
- G. Joints, perimeter and penetrations in sound-rated assemblies. See Section 09 21 16

##### **1.02 RELATED SECTIONS**

- A. Firestopping Sealants: Section 07 84 00.

##### **1.03 GENERAL PERFORMANCE**

- A. Except as otherwise indicated, joint sealant is required to establish and maintain airtight and waterproof continuous seals on a permanent basis, within recognized limitations of wear and aging as indicated for each application.
- B. Failures of installed sealant to comply with this requirement will be recognized as failures of both materials and workmanship.

##### **1.04 SUBMITTALS**

- A. Submit manufacturer's product data and installation instructions.
  - 1. Certification, in the form of manufacturer's standard data sheet or by letter, stating that each type of compound and sealant to be furnished complies with these specifications.
  - 2. Statement that each product to be furnished is recommended for the application shown and is compatible with all materials to which applied.
  - 3. Instructions for handling, storage, mixing, priming, installation, curing and protection for each type of sealant.
- B. Submit manufacturer's color chart for color selections.
- C. Submit cured sealant samples in colors required for the work. Architect's approval will be for color only. Compliance with other requirements is the Contractor's responsibility.

1.05 STORAGE AND HANDLING

- A. Prevent inclusion of foreign matter or the damage of materials by water or breakage. Procure and store in original containers until ready for use.
- B. Materials showing evidence of damage shall be rejected.

1.06 WARRANTY

- A. **Installer's Warranty:** Contractor and joint sealant applicator shall jointly warranty joint sealant work for two (2) years from date of final acceptance. Warranty shall include replacing joints which fail to perform as airtight; or fail in adhesion, cohesion, abrasion resistance, weather resistance, extrusion resistance, migration and stain resistance, general durability or any other form of apparent deterioration (excluding inherent qualities and limitations clearly specified in the manufacturer's submitted product data).
- B. **Manufacturer's Warranty:** Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section for ten (10) years from date of final acceptance
- C. Warranties specified in this article exclude deterioration or failure of joint sealants from the following:
  - 1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
  - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
  - 3. Mechanical damage caused by individuals, tools, or other outside agents.
- D. Comply with these specifications for repair or replacement of work.

**PART 2 PRODUCTS**

2.01 MATERIALS

- A. Definition: The term "sealant" will be understood to be an elastomeric type. The term "caulk" will be understood to be a synthetic resin base of highest quality acrylic latex compound.
- B. General:
1. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
  2. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
  3. Colors: As selected by Architect from manufacturer's full range; selected colors to match adjacent materials.
  4. Where exposed to foot traffic, select materials of sufficient strength and hardness to withstand stiletto heel traffic without damage or deterioration of sealant system.
- C. Manufacturers: BOSTIK; DOW CORNING CORP; EUCLID CHEMICAL; TREMCO MFR COMPANY; GENERAL ELECTRIC COMPANY / MOMENTIVE; SIKA CHEMICAL CO.; MAMECO INTERNATIONAL; BASF BUILDING SYSTEMS; VULCHEM.
1. Manufacturer's listed under the following applications are for basis of design. Equal products by above listed manufacturers are acceptable.
- D. Exterior Vertical and Overhead Joints: Single-component neutral curing silicone sealant meeting ASTM C920, Type S, Grade NS, Class 50.
1. DOW 791
  2. GE SCS9000 Silpruf NB
  3. TREMCO Spectrum 3
  4. PECORA 895 NST
- OR**
- D1. Exterior Vertical and Overhead Joints: Single or multi-component elastomeric polyurethane sealant meeting ASTM C920, Type M or S, Grade NS, Class 50.
1. PECORA Dynatrol II
  2. TREMCO Dymeric 240
  3. BOSTIK Chem-Calk 500
  4. PACIFIC POLYMERS INTERNATIONAL Elastothane230 LM Type II
  5. POLYMERIC SYSTEMS INC. PSI-901
- E. Horizontal Wearing Expansion Joints; Interior and Exterior
1. Type: Two-part polyurethane based elastomeric sealant, complying with ASTM C920, Class 25, Type M, Grade P. Self-leveling or gun grade type as recommended by manufacturer for application shown.
  2. Location: joints in exterior concrete pavements, sidewalks, interior floors
    - a. BOSTIK Chem-Calk 555-SL
    - b. EUCLID Eucolastic II
    - c. SONNEBORN Sonolastic SL 2
    - d. TREMCO THC 900/901
- F. Interior Vertical and Overhead Joints: Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT. Do not use where painted.
1. DOW 799
  2. GE SCS2000 SilPruf

3. TREMCO Spectrum 2
4. PECORA 895 NST

OR

- F1. Interior Vertical and Overhead Joints: Single or multi-component polyurethane gun-grade, non-sag sealant complying with ASTM C920, Type S or M, Class 25, Use NT, M, A, Grade NS.
1. EUCLID Eucolastic I or II
  2. BASF Sonolastic NP 1 or NP 2
  3. BOSTIK Chem-Calk 900
  4. TREMCO Dymonic
- G. Caulk Joints – Interior, Static - Paintable: High quality acrylic latex compound, non-staining non-bleeding complying with ASTM C834 Type OP with a maximum volume shrinkage of 30%, as supplied by one of the above listed manufacturers.

## 2.02 ACCESSORIES

- A. Joint Primer/Sealer: Non-staining type, recommended by sealant manufacturer; compatible with joint forming material.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming material.
- C. Bond Breaker Tape: Pressure sensitive polyethylene or plastic tape, recommended by sealant manufacturer, to suit applications where bond to substrate should be avoided for proper joint sealant performance.
- D. Joint Backing: Compressible rod stock conforming to ASTM C1330, Type B; material as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance
- E. Solvents: Cleaning agent recommended by sealant MFR in writing to Architect.

## **PART 3 EXECUTION**

### 3.01 INSPECTION

- A. Examine substrates and installation conditions. Do not proceed with joint sealant work until unsatisfactory conditions have been corrected.
- B. Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.

### 3.02 PREPARATION

- A. Clean, seal and prime surfaces in accordance with manufacturer's recommendations. Confine primer/sealant to areas of sealant bond.
- B. Remove dust, dirt, loose coatings, moisture and other substances which could interfere with sealant bond.

- C. Remove lacquers and protective films from metal surfaces.

### 3.03 INSTALLATION

- A. Apply joint sealant as late as possible in construction, preceding painting and following cleaning operations. Do not apply sealant during inclement weather conditions or when temperature is above or below MFR's limitations for installation.
- B. Install joint sealant materials and accessories in strict accordance with manufacturer's installation instructions.
- C. Set joint filler units at depth or position in joint as indicated to coordinate with other work. Do not leave voids or gaps between ends of joint filler units.
- D. Install sealant backer rod, except where recommended to be omitted by sealant manufacturer for application indicated. Use rod diameter that will cause compression when installed.
- E. Install bond breaker tape and where required by manufacturer's recommendations to ensure that sealants will perform as intended.
- F. Apply joint sealants in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of joint bond surfaces on both sides. Fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. At horizontal joints between a horizontal surface and vertical surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt. Hand tool and finish all joints.
- G. Install joint sealants within recommended temperature ranges and to depths indicated or when not indicated, as recommended by sealant manufacturer. For normal moving vertical and horizontal joints, fill joints to a depth equal to 50% of joint width, but not more than 1/2" deep nor less than 1/4" deep, measured at the center section of bead.
- H. Confine materials to joint areas with masking tapes or other acceptable methods. Remove excess sealant materials promptly as work progresses and clean adjoining surfaces.

### 3.04 CLEANING

- A. Upon completion, remove and dispose of masking materials; remove all excess sealing materials; clean adjacent materials of all soil and stain resulting from sealing operations.
  - 1. Replace damaged material and material which cannot be properly cleaned.



**END OF SECTION**

## **SECTION 08 11 13**

### **HOLLOW METAL DOORS AND FRAMES**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. Section includes:
  - 1. Standard steel doors and frames.
  - 2. Fire rated steel doors and frames.

##### **1.02 RELATED SECTIONS**

- A. Door Hardware: Section 08 71 00.

##### **1.03 QUALITY ASSURANCE**

- A. Provide metal doors and frames fabricated by one manufacturer to ensure uniformity in appearance and construction.
- B. Reference Standards: Wherever the following abbreviations are used herein, they shall refer to the corresponding standard.
  - 1. ANSI: American National Standards Institute.
  - 2. ASTM: American Society for Testing and Materials.
  - 3. SDI: Steel Door Institute.
  - 4. DHI: Door and Hardware Institute.
- C. Fire rated doors and frames: Provide units that comply with NFPA 80, are identical to door and frame assemblies tested for fire-test-response characteristics per ASTM E152, and are labeled and tested by Factory Mutual (FM), Underwriters Laboratories (UL), or other National Recognized testing agency. Units shall bear testing agency labels.
  - 1. Provide UL labels permanently fastened on each door and frame which is within the size limitations established by NFPA and UL for labeling.
  - 2. Provide anchors for UL labeled frames required by the authority having jurisdiction.

##### **1.04 SUBMITTALS**

- A. Submit manufacturer's product data and installation instructions for each type of standard metal door and frame required.
- B. Submit shop drawings. Identify doors and frames in accordance with drawing door schedule. Indicate:
  - 1. Elevations of each door design.
  - 2. Hardware locations, installation methods and hardware reinforcements.
  - 3. Dimensions and shapes of materials, anchorage and fastening methods.
  - 4. Door frame types, profile of molding and details.
  - 5. Wall opening construction and connection to other work.

- C. Certificates documenting:
  - 1. Fire testing: Fire-rated units have been successfully tested in accordance with Paragraph 1.03C.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver metal doors and frames cartoned or crated for protection during transit and job delivery. Provide sealed wrapping for factory.
- B. Store doors and frames inside the building in a dry, well-ventilated area. Protect from damage, wetting & deterioration in accordance with MFR's recommendations

### **PART 2 PRODUCTS**

#### 2.01 ACCEPTABLE MANUFACTURERS

- A. Manufacturer: STEELCRAFT MFG. CO; CECO CORP.; PIONEER INDUSTRIES; REPUBLIC BUILDERS PRODUCTS CORP.; CURRIES; BLACK MOUNTAIN DOOR.

#### 2.02 MATERIALS AND COMPONENTS

- A. Materials
  - 1. Metallic-Coated Steel: Commercial quality, hot dipped, A-60 galvanized steel in accordance with ASTM A653, "Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanized) by the Hot-Dip Process".
  - 2. Cold-Rolled Steel: Commercial Steel in accordance with ASTM A1008, "Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High Strength Low-Alloy and High Strength with Improved Formability"; Type B; suitable for exposed applications.
  - 3. Hot-Rolled Steel Sheet: Commercial Steel in accordance with ASTM A1011, "Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High Strength Low-Alloy with Improved Formability, and Ultra-High Strength"; Type B; free of scale, pitting, or surface defects; pickled and oiled.
- B. Comply with SDI 100 material and fabrication recommendations and as specified.
- C. Standard Metal Doors
  - 1. Provide flush seamless type doors with seamless faces and edges, 1-3/4" thick, internally reinforced. Top and bottom closed flush.
    - a. Provide glass lites where indicated.
  - 2. Exterior Doors: Provide doors complying with requirements of ANSI 250.8 for Level 3 (extra heavy duty) and Model 2 (seamless design) and ANSI A250.4 for physical endurance Level A.
    - a. Fabricated from metallic-coated (galvanized) steel face sheets, mill phosphatized
    - b. Core: Minimum 1-1/2 lb. density polyurethane or polyisocyanurate; thermal-resistance value (R-value) of not less than 2.1 deg F x h x sq. ft./Btu when tested according to ASTM C 1363.
    - c. Tops and bottoms closed with flush galvanized steel caps.
  - 3. Interior Doors: Provide doors complying with requirements of ANSI 250.8

for Level 3 (extra heavy duty) and Model 2 (seamless design) and ANSI A250.4 for physical endurance Level A

- a. Fabricated from cold rolled steel; stretcher-leveled standard flatness.
  - b. Kraft resin impregnated honeycomb or polystyrene slab core bonded to door face sheets with thermal adhesive.
4. Hardware Reinforcements: Meet or exceed ANSI/SDI A250.6 requirements.
  5. Edge Profile: 1/8" bevel in 2" core on hinge and lock edges.

D. Standard Metal Frames

1. Interior Frames: Fabricated from either commercial grade cold-rolled steel conforming to ASTM A1008 or commercial grade hot-rolled and pickled steel conforming to ASTM A1011, minimum 0.053" thick. Set-up and welded type, all miters clean cut, reinforced, fully seam welded with exposed welds ground smooth.
2. Exterior Frames: Fabricated from commercial grade metallic –coated (galvanized) steel conforming to ASTM A653, minimum 0.053" thick, and shall have an A-60 zinc coating (0.30 ounces per square foot per side). Set-up and welded type, all miters clean cut, reinforced, fully seam welded with exposed welds ground smooth.
  - a. Back prime frames with asphaltic emulsion.
3. Profile: Double rabbet, jamb face and depth as indicated.
4. Hardware Reinforcements: Meet SDI 107 requirements.
5. Transoms and Sidelites: Provide for loose glazing stops to be secured with countersunk screws.
  - a. Provide 3/4" stops for sidelites and transoms where the individual glass areas for fire rated openings exceeds the allowable area for 5/8" stops.

E. Fire Doors and Frames

1. Comply with Fire-Rated Door Requirements specified herein before (Paragraph 1.03C.
2. Agency: Underwriter's Laboratories.
3. Classification: As indicated.
4. Conform to requirements of Standard Metal Door and Frames specified.

2.03 FABRICATION

- A. Reinforce and prepare doors and frames to receive hardware. Fit for hardware at the factory to template. Do all necessary cutting, drilling and tapping. Comply with applicable requirements of ANSI A115 series specifications for door and frame preparation for hardware.
- B. Provide surfaces smooth and free from defects, warp or buckle with arrises straight and sharp.
- C. Reinforce doors and frames to receive surface applied hardware. Drilling and tapping for surface applied finish hardware may be done at project site.
- D. Locate finish hardware as shown on drawings or, if not shown, in accordance with DHI "Recommended Locations for Builder's Hardware."

- E. Door and Frame Fabrication
  - 1. Provide cutouts for mortised hardware, accurately located and made to fit hardware.
  - 2. Punch frames for door silencers, three on strike side for single doors. Factory install plastic caps. Stick-on silencers are not acceptable.
  - 3. Exterior & Interior Frames: Provide minimum 3 anchors of suitable design for each jamb. Provide galvanized anchors for units built into exterior walls.
  - 4. Floor Anchors: Provide floor clip on bottom of each jamb. Provide angle spreaders at bottom of each set-up frame.
  
- F. Shop Painting
  - 1. Clean, bonderize or chemically treat and paint exposed surfaces of steel door and frame units, including galvanized surfaces.
  - 2. Clean steel surfaces of mill scale, rust oil, grease, dirt and other foreign materials before application of paint. Sand free of imperfections.
  - 3. Apply one baked-on shop coat of rust-inhibitive prime paint in accordance with ASNI A224.1. Provide a smooth, uniformly finished surface ready to receive finish paint.

**PART 3 EXECUTION**

3.01 INSPECTION

- A. Examine substrates, rough openings, installation conditions. Do not proceed with metal door and frame work until unsatisfactory conditions have been corrected.
  
- B. Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.

3.02 INSTALLATION

- A. Install metal doors and frames in accordance with manufacturer's instructions and recommendations.
  
- B. Placing Frames
  - 1. General
    - a. Comply with ANSI/SDI A250.11 (SDI 105) "Recommended Erection Instructions for Steel Frames."
    - b. Erect frames in proper position to receive partition work before construction of enclosing walls. Set frames accurately in position, plumbed, aligned with heads level and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders.
    - c. Grout frames as indicated on the drawings. Coordinate grout placement with adjoining materials and door hardware.
  - 2. At Masonry Construction: Locate wall anchors at 16" on center. Building-in of anchors & grouting of frames is specified in Section 04 22 00.
  - 3. Fire-Rated Frames: In accordance with NFPA standard No. 80 and SDI 118.
  - 4. Metal Stud Partitions: Install at least 3 wall anchors per jamb at hinge and strike levels. Attach wall anchors to studs with tapping screws.

- C. Door Installation
  - 1. Install doors plumb and in true alignment in prepared openings. Fit metal doors accurately in frames, within clearances specified in ANSI/SDI A250.8 (SDI100).
  - 2. Install fire-rated doors with clearances as specified in NFPA Standard No. 80 and SDI 118.
  
- D. Immediately after erection, sand smooth rusted or damaged areas of door and frame coat and apply touch-up prime coat of compatible air-drying primer.

3.03 FIELD QUALITY CONTROL

- A. Final Adjustment: Provide final adjustment as follows:
  - 1. Door Contact with Silencers: Doors shall strike a minimum of two (2) silencers without binding lock or latch bolts in strike plate.
  - 2. Head, Strike and Hinge Jamb Clearance: 1/8".
  - 3. Meeting Edge Clearance, Pairs of Doors: +1/16"
  - 4. Bolts and Screws: Leave tight and firmly seated.

**END OF SECTION**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section includes items known commercially as finish or door hardware that are required for swing, sliding, and folding doors, except special types of unique hardware specified in the same sections as the doors and door frames on which they are installed.

- B. This Section includes the following:

1. Hinges
2. Continuous hinges
3. Pivots
4. Spring hinges
5. Key control system
6. Lock cylinders and keys
7. Lock and latch sets
8. [Wireless Electronic Locks](#)
9. [Electric Strikes](#)
10. Bolts
11. Exit devices
12. Push/Pull units
13. Closers
14. Overhead holders
15. Miscellaneous door control devices
16. Door trim units
17. Protection plates
18. Weatherstripping for exterior doors
19. Sound stripping for interior doors
20. Automatic drop seals (door bottoms)
21. Astragals or meeting seals on pairs of doors
22. Thresholds

- C. Related Sections: The following Sections contain requirements that relate to this Section:

1. Section 01 2000: Price and Payment Procedures
2. Section 08 1113: Hollow Metal Doors and Frames
3. Section 08 1400: Wood Doors
4. Section 08 3323: Coiling Doors
5. Section 08 4113: Aluminum-Framed Entrances and Storefronts
6. Division 26: Electrical

- D. Products furnished but not installed under this Section to include:

1. Cylinders for locks on entrance doors.
2. Final replacement cores and keys to be installed by Owner.



### 1.03 REFERENCES

- A. Standards of the following as referenced:
  - 1. American National Standards Institute (ANSI)
  - 2. Door and Hardware Institute (DHI)
  - 3. Factory Mutual (FM)
  - 4. National Fire Protection Association (NFPA)
  - 5. Underwriters' Laboratories, Inc. (UL)
    - a. UL 10C - Fire Tests Door Assemblies
  - 6. Warnock Hersey
  
- B. Regulatory standards of the following as referenced:
  - 1. Department of Justice, Office of the Attorney General, *Americans with Disabilities Act*, Public Law 101-336 (ADA).
  - 2. CABO/ANSI A117.1: *Providing Accessibility and Usability for Physically Handicapped People*, 1992 edition.

### 1.04 SYSTEM DESCRIPTION

- A. Refer to applicable "Headings" for system description for electric and electro-pneumatic hardware products.

### 1.05 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification sections.
  
- B. Product data including manufacturers' technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements. For items other than those scheduled in the "Headings" of Section 3, provide catalog information for the specified items and for those submitted.
  
- C. Final hardware schedule coordinated with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
  - 1. Final Hardware Schedule Content: Based on hardware indicated, organize schedule into vertical format "hardware sets" indicating complete designations of every item required for each door or opening. Use specification Heading numbers with any variations suffixed a, b, etc. Include the following information:
    - a. Type, style, function, size, and finish of each hardware item.
    - b. Name and manufacturer of each item.
    - c. Fastenings and other pertinent information.
    - d. Location of each hardware set cross-referenced to indications on Drawings both on floor plans and in door and frame schedule.
    - e. Explanation of all abbreviations, symbols, and codes contained in schedule.
    - f. Mounting locations for hardware.
    - g. Door and frame sizes and materials.
    - h. Keying information.
    - i. Cross-reference numbers used within schedule deviating from those specified.

- 1) Column 1: State specified item and manufacturer.
  - 2) Column 2: State prior approved substituted item and its manufacturer.
2. Furnish complete wiring diagrams, riser diagrams, elevation drawings and operational descriptions of electrical components and systems, listed by opening in the hardware submittals. Elevation drawings shall identify locations of the system components with respect to their placement in the door opening. Operational descriptions shall fully detail how each electrical component will function within the opening, including all conditions of ingress and egress. Provide a copy with each hardware schedule submitted for approval. Supply a copy with delivery of hardware to the jobsite and another copy to the Owner at the time of project completion.
  3. Submittal Sequence: Submit final schedule at earliest possible date particularly where acceptance of hardware schedule must precede fabrication of other work that is critical in the Project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by door hardware, and other information essential to the coordinated review of schedule.
  4. Keying Schedule: Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.
- D. Provide samples if requested of each type of exposed hardware unit in finish indicated and tagged with full description for coordination with schedule. Submit samples prior to submission of final hardware schedule.
1. Samples will be returned to the supplier. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated in the Work, within limitations of keying coordination requirements.
- E. Templates for doors, frames, and other work specified to be factory prepared for the installation of door hardware. Check shop drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- F. Contract closeout submittals:
1. Operation and maintenance data: Complete information for installed door hardware.
  2. Warranty: Completed and executed warranty forms.

#### 1.06 QUALITY ASSURANCE

- A. Single Source Responsibility: Obtain each type of hardware (latch and locksets, hinges, closers, etc.) from a single manufacturer.
- B. Supplier Qualifications: A recognized architectural door hardware supplier, with warehousing facilities in the Project's vicinity, that has a record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that employs an experienced Architectural Hardware Consultant (AHC) who is available for consultation to Owner, Architect, and Contractor, at reasonable times during the course of the Work.
- C. Coordination Meetings:
1. Contractor to set up and attend the following:
    - a. Lock distributor to meet with the Owner to finalize lock functions and

- keying requirements and to obtain final instructions in writing.
    - b. Lock distributor and lock, closer and exit device manufacturer to meet with the installer prior to beginning of installation of door hardware. Instruct installer on proper installation of specified products.
  - 2. General Contractor to set up and attend the following:
    - a. Meet with the Owner, General Contractor, Supplier, electrical and security contractors to coordinate all electrical hardware items. Supplier to provide riser diagrams, elevation drawings, wiring diagrams and operational descriptions as required by the General and sub-contractors.
- D. Fire-Rated Openings: Provide door hardware for fire-rated openings that complies with NFPA Standard No. 80 requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and tested by UL or Warnock Hersey for given type/size opening and degree of label. Provide proper latching hardware, door closers, approved-bearing hinges and seals whether listed in the Hardware Schedule or not. All hardware to comply with State and local codes and UL 10C.
  - 1. Where emergency exit devices are required on fire-rated doors, (with supplementary marking on doors' UL labels indicating "Fire Door to be equipped with Fire Exit Hardware") provide UL label on exit devices indicating "Fire Exit Hardware".
- E. All hardware is to comply with Federal and State Handicap laws. Provide tactile warning at the back of all outside levers to electrical, mechanical, machine rooms and doors that lead to hazardous areas.

#### 1.07 PRODUCT HANDLING

- A. Tag each item or package separately with identification related to final hardware schedule and include basic installation instructions with each item or package.
- B. Packaging of door hardware is responsibility of supplier. As material is received by hardware supplier from various manufacturers, sort and repackage in containers clearly marked with appropriate hardware set number to match set numbers of approved hardware schedule. Two or more identical sets may be packed in same container.
- C. Inventory door hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.
- D. Deliver individually packaged door hardware items promptly to place of installation (shop or Project site).
- E. Provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items that are not immediately replaceable so that completion of the Work will not be delayed by hardware losses both before and after installation.

#### 1.08 WARRANTY

- A. Special warranties:
  - 1. Door Closers: Ten year period
  - 2. Exit Devices: Three year period
  - 3. Automatic Door Operators: Two year period
  - 4. Locks and Cylinders: Three year period

1.09 MAINTENANCE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions that are packed in hardware items for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.01 MANUFACTURED UNITS

(\*Denotes manufacturer referenced in the Hardware Headings)

A. Hinges:

1. Acceptable manufacturers:
  - a. Ives\*
  - b. Bommer
  - c. PBB
2. Characteristics:
  - a. Templates: Provide only template-produced units.
  - b. Screws: Provide Phillips flat-head screws complying with the following requirements:
    - 1) For metal doors and frames install machine screws into drilled and tapped holes.
    - 2) For wood doors and frames install threaded-to-the-head wood screws.
    - 3) For fire-rated wood doors install #12 x 1-1/4 inch, threaded-to-the-head steel wood screws.
    - 4) Finish screw heads to match surface of hinges or pivots.
  - c. Hinge pins: Except as otherwise indicated, provide hinge pins as follows:
    - 1) Out-Swing Exterior Doors: Non-removable pins.
    - 2) Out-Swing Corridor Doors with Locks: Non-removable pins.
    - 3) Interior Doors: Non-rising pins.
    - 4) Tips: Flat button and matching plug. Finished to match leafs.
  - d. Size: Size hinges in accordance with specified manufacturer's published recommendations.
  - e. Quantity: Furnish one pair of hinges for all doors up to 5'-0" high. Furnish one hinge for each additional 2-1/2 feet or fraction thereof.

B. Continuous Hinges:

1. Acceptable manufacturers:
  - a. Ives\*
  - b. Select Products
  - c. Markar
2. Characteristics:
  - a. Continuous gear hinges to be manufactured of extruded 6063-T6 aluminum alloy with anodized finish, or factory painted finish as scheduled.
  - b. All hinges are to be manufactured to template. Uncut hinges to be non-handed and to be a pinless assembly of three interlocking extrusions applied to the full height of the door and frame without mortising.

- c. Vertical door loads to be carried on chemically lubricated polyacetal thrust bearings. The door and frame leaves to be continually geared together for the entire hinge length and secured with a full cover channel. Hinge to operate to a full 180°.
  - d. Hinges to be milled, anodized and assembled in matching pairs. Fasteners supplied to be steel self drilling, self tapping 12-24 x 3/4" screws.
  - e. Provide UL listed continuous hinges at fire doors. Continuous hinges at fire doors (suffix -FR) to meet the required ratings without the use of auxiliary fused pins or studs.
- C. Pivot Sets:
- 1. Acceptable manufacturers:
    - a. Rixson
    - b. Ives\*
  - 2. Characteristics:
    - a. Pivots to be high strength forged bronze with top pivot housing with spring activated bronze retracting pin. Pivots to have tilt-on bearing and bearing pin.
    - b. Offset and intermediate pivots to be handed at the factory. Centerline of pivots to be 3/4" from face of door, 3/4" from edge of door.
- D. Cylinders:
- 1. Acceptable manufacturers:
    - a. Schlage\* MDHA Keyway - No Substitution
  - 2. Characteristics:
    - a. Multiple-Building System: All cylinders on a given property to be keyed alike
    - b. Furnish final keys to MDHA Property Manager.
    - c. Metals: Construct lock cylinder parts from brass or bronze, stainless steel, or nickel silver.
    - d. Comply with Owner's instructions for keying and, except as otherwise indicated, provide 50 change keys for each property.
      - 1) Permanently inscribe each key with number that identifies cylinder manufacturer's key symbol, and notation, "DO NOT DUPLICATE."
    - e. Key Material: Provide keys of nickel silver only.
- E. Locksets, Latchsets, Deadbolts:
- 1. Acceptable manufacturers:
    - a. Schlage\* - No Substitute
  - 2. Extra Heavy Duty Electronic Cylindrical Locks: as scheduled, fastened with through-bolts.
    - a. Chassis: Cylindrical design, corrosion-resistant plated cold-rolled steel.
    - b. Locking Spindle: Stainless steel, interlocking design.
    - c. Latch Retractors: Forged steel. Balance of inner parts: Corrosion-resistant plated steel, or stainless steel.
    - d. Lever Trim: Accessible design, independent operation, spring-cage supported, minimum 2" clearance from lever mid-point to door face.
    - e. Vandalguard function outside lever is disengaged when in the locked

- mode.
  - f. Rosettes: Minimum 3-7/16" diameter for coverage of ANSI/DHI A115.18, 1994 door preparation, through-bolt lugs on both spring cages to fully engage this pattern.
  - g. Springs: Full compression type.
  - h. Electric operation: Manufacturer-installed continuous duty solenoid.
  - i. Strikes: 16 gage curved steel, bronze or brass with 1" deep box construction, lips of sufficient length to clear trim and protect clothing.
  - j. Lock Series and Design: Schlage NDE series, SPA design.
  - k. Certifications:
    - 1) ANSI A156.2, 1994, Series 4000, Grade 1. Tested to exceed 3,000,000 cycles.
    - 2) UL listed for A label single doors up to 4 ft x 8 ft.
3. Standard Duty Cylindrical Locks and Latches: as scheduled, fastened with through-bolts and threaded chassis hubs.
- a. Chassis: Cylindrical design, corrosion-resistant plated cold-rolled steel.
  - b. Locking Spindle: Stainless steel, interlocking design.
  - c. Latch Retractors: Forged steel. Balance of inner parts: Corrosion-resistant plated steel or stainless steel.
  - d. Lever Trim: Accessible design, independent operation, spring-cage supported, minimum 2" clearance from lever mid-point to face of door.
  - e. Rosettes: Minimum 3-7/16" diameter for coverage of ANSI/DHI A115.18, 1994 door preparation, through-bolt lugs on both spring cages to fully engage this pattern.
  - f. Springs: Full compression type.
  - g. Strikes: 16 gage curved steel, bronze or brass with 1" deep box construction, lips of sufficient length to clear trim and protect clothing.
  - h. Lock Series and Design: Schlage AL series, NEP design at common areas; F Series LAT design at Unit entries; Grade 3 J series, SOL design inside units.
  - i. Certifications:
    - 1) ANSI A156.2, 1994, Series 4000, Grade 2
    - 2) UL listed for A label single doors up to 4 ft x 8 ft.
4. Deadbolts: Provide BE467 Deadbolts at all unit entries and unit mechanical closets. Provide other deadbolts as scheduled.
- F. Exit Devices:
- 1. Acceptable manufacturers:
    - a. Von Duprin\*
  - 2. Characteristics:
    - a. Exit devices to be "UL" listed for life safety. All exit devices for fire rated openings to have "UL" labels for "Fire Exit Hardware."
    - b. All exit devices mounted on labeled wood doors to be mounted on the door per the door manufacturer's requirements.
    - c. All trim to be thru-bolted to the lock stile case. Lever design to match locksets.
    - d. All exit devices to be made of brass, bronze, stainless steel, or aluminum material, powder coated, anodized, or plated to the standard architectural finishes to match the balance of the door hardware.
    - e. Provide glass bead conversion kits to shim exit devices on doors with

- raised glass beads.
  - f. All exit devices to be one manufacturer. No deviation will be considered.
  - g. All series exit devices to incorporate a fluid damper, which decelerates the touchpad on its return stroke and eliminates noise associated with exit device operation. All exit devices to be non-handed. Touchpad to extend a minimum of 1/2 of the door width and to extend to the height of the cross rail housing for a “no pinch” operation. Plastic touchpads are not acceptable. All latch bolts to be the deadlocking type. Latch bolts to have a self-lubricating coating to reduce wear. Plated or plastic coated latch bolts are not acceptable. Plastic linkage and “dogging” components are not acceptable.
  - h. Lever trim to be solid case material with a break-away feature to limit damage to the unit from vandalism.
  - i. Surface vertical rod devices to be UL labeled for fire door applications without the use of bottom rod assemblies. Where bottom rods are required for security applications, the devices to be UL labeled for fire doors applications with rod and latch guards by the device manufacturer.
  - j. Exit devices to include impact resistant, flush mounted end cap design to avoid damage due to carts and other heavy objects passing through an opening. End cap to be of heavy-duty metal alloy construction and provide horizontal adjustment to provide alignment with device cover plate. When exit device end cap is installed, no raised edges will protrude.
  - k. Acceptable Manufacturer: LCN 4050 Series at exterior; LCN 1450 series at interior common areas; 1250 Series at ADA Unit entries.
  - l. Acceptable Substitution: Norton 7500 Series at exterior, 8301 Series at interior; Falcon SC71 Series at exterior, SC81 Series at interior, SC61 Series at ADA unit entries.
- G. Electric Strikes:
- 1. Acceptable manufacturers:
    - a. Von Duprin\*
  - 2. Characteristics:
    - a. Heavy duty, stainless steel construction.
    - b. Adjustable strike box to compensate for any misalignment of door or frame.
    - c. Two-piece plug connectors for ease of installation and for removal during strike servicing.
- H. Closers and Door Control Devices:
- 1. Acceptable manufacturers:
    - a. LCN Closers\*
    - b. Norton
    - c. Falcon
  - 2. Characteristics:
    - a. Door closers to have fully hydraulic, full rack and pinion action with a high strength cast aluminum cylinder.
    - b. All closers to utilize a stable fluid withstanding temperature range of 120°F to -30°F without seasonal adjustment of closer speed to properly close the door. Closers for fire-rated doors to be provided with temperature stabilizing fluid that complies with standards UBC 7-2 (1997) and UL 10C.

- c. Spring power to be continuously adjustable over the full range of closer sizes and allow for reduced opening force for the physically handicapped. Spring power adjustment (LCN Fast™ Power Adjust) allows for quick and accurate power adjustment and visually shows closer power size settings by way of dial adjustment gauge located on closer spring tube. Hydraulic regulation to be by tamper-proof, non-critical valves. Closers to have separate adjustment for latch speed, general speed and back check.
  - d. All closers to have solid forged steel main arms (and forearms for parallel arm closers) and where specified to have a cast-in solid stop on the closer shoe (“CUSH”). All parallel arm mounted closers to have “EDA” type arms or, where door travel on out-swing doors must be limited, use “CUSH” or “SCUSH” type closers. Auxiliary stops are not required when “CUSH” type closers are used. Provide drop plates where top rail of door is not sufficient for closer mounting. Provide “cush shoe supports” and blade stop spacers where dictated by frame details.
  - e. Overhead concealed closers to have spring power adjustable for 50% increase in closing power and fully mortised door tracks.
  - f. Access-Free Manual Closers: Where manual closers are indicated for doors required to be accessible to the physically handicapped provide adjustable units complying with ADA and ANSI A-117.1 provisions for door opening force.
  - g. Closers to be installed to allow door swing as shown on plans. Doors swinging into exit corridors to provide for corridor clear width as required by code. Where possible, mount closers inside rooms.
  - h. Powder coating finish to be certified to exceed 100 hours salt spray testing by ETL, an independent testing laboratory used by BHMA for ANSI certification.
  - i. Combination Door Closers and Holders: Provide units designed to hold door in open position under normal usage and to release and automatically close door under fire conditions. Incorporate an integral electromagnetic holder mechanism designed for use with UL listed fire detectors, provided with normally closed switching contacts.
  - j. Acceptable Manufacturer: LCN 4050 Series at exterior; LCN 1450 series at interior common areas; 1250 Series at ADA Unit entries.
  - k. Acceptable Substitution: Norton 7500 Series at exterior, 8301 Series at interior; Falcon SC71 Series at exterior, SC81 Series at interior, SC61 Series at ADA unit entries.
- I. Power Operators:
- 1. Acceptable manufacturers:
    - a. LCN\* 9500 Series
    - b. Stanley Magic Swing
  - 2. Where low kinetic energy, as defined by ANSI Standard A156.19, power operators are indicated for doors required to be accessible to the disabled, provide electrically powered [2610, 4610, 4620, 4810, 4820, 4840 Series] operators complying with the 1990 ADA for opening force and time to close standards.
  - 3. Full closing force to be provided when the power or assist cycle ends.
  - 4. All electrically powered operators to include the following features or functions:
    - a. When an obstruction or resistance to the opening swing is encountered, the operator will pause at that point, then attempt to continue opening the door. If the obstruction or resistance remains, the operator will again



- pause the door.
    - b. Easily accessible main power and maintain hold open switches will be provided on the operator.
    - c. An electronically controlled clutch to provide adjustable opening force.
    - d. A microprocessor to control all motor and clutch functions.
    - e. An on-board power supply capable of delivering both 12V and 24V outputs up to a maximum of 1.0 ampere combined load.
    - f. All input and output power wiring to be protected by slow blow fuses. These fuses to be easily replaceable without special tools or component replacement.
  - 5. Actuators to have a stainless steel touch plate that measures 4-1/2" in diameter and features a blue filled handicap symbol. The actuator to be weather resistant and provide normally open momentary contacts. The actuator is designed to mount in a standard single gang box (2" wide, 4" high, and 2" deep).
  - 6. Automatic Operators: Electro Mechanical
    - a. ADA Operators with a closing force of 8 lbs. to include a manual "Off/Auto/Hold-Open" switch and to incorporate a fail safe feature. In the "Off" mode and in the event of a power failure, the door to operate manually without damage to operator components.
    - b. Operators to provide adjustments by microprocessor for opening speed, backcheck speed, hold open (from 5 to 30 seconds), closing speed, opening force, soft start and safety stop, and reverse in opening and closing cycle.
    - c. Operators to be UL and NEC compliant, include soft-start motor control and to meet the following standards: ADA Law Section 4.13.12 / ANSI A156.19, Section 2.1 / ANSI A117.1, Section 4.13.13 / UL325 / UL Listed for Fire Rated Door Operators with Automatic Closers, File (GUJY).
    - d. Operators to be furnished with all relays, time delay modules, controls actuators, wiring diagrams, etc. as required to ensure complete and properly functioning installation. Installation to be by a factory trained installer.
    - e. Acceptable Manufacturers:
      - 1) LCN\*
      - 2) Stanley
  - 7. With reference to door closers, refer to "additional security" in Article E-20 of the General Conditions and extend the guarantee period to ten (10) years from the date of the Final Certificate of the Architect. Power door operators will provide a two (2) year warranty.
  - 8. Installation of the automatic door operators to be performed by a factory trained and factory certified installer skilled in the installation of automatic door operators and equipment. All low voltage switch hookups are the responsibility of the operator installer, as well as temporary wiring hookup to plug into wall outlet for test of system. Final hookup of 115VAC power will be handled by and coordinated with the General Contractor's electrical contractor.
  - 9. The Contractor to furnish a certificate executed by a representative of the manufacturer of the automatic operators certifying that all operators have been installed in accordance with the manufacturer's instructions, have been inspected and adjusted, and are operating as designed.
- J. Overhead Door Holders:
- 1. Acceptable manufacturers:

- a. Glynn Johnson\*
- b. Rixson Firemark
- 2. Characteristics:
  - a. Provide (heavy duty and/or medium duty and/or light duty) door holders (concealed and/or surface mounted) of brass, bronze or stainless steel.
  - b. Concealed holders to be installed with the jamb bracket mortised flush with the bottom of the jamb. The arm and channel to be mortised into the door.
  - c. Surface holders to be installed with the jamb bracket mounted on the stop.
- K. Floor Stops and Wall Bumpers:
  - 1. Acceptable manufacturers:
    - a. Trimco
    - b. Ives\*
    - c. Rockwood Manufacturing
  - 2. Characteristics: Refer to Hardware Headings.
- L. Door Bolts/Coordinators:
  - 1. Acceptable manufacturers:
    - a. Trimco
    - b. Ives\*
    - c. Rockwood Manufacturing
  - 2. Characteristics:
    - a. Flush bolts to be forged brass 6-3/4" x 1", with 1/2" diameter bolts. Plunger to be supplied with milled surface one side that fits into a matching guide.
    - b. Automatic flush bolts to be UL listed as top and bottom bolts on a pair of classified fire doors. Bolt construction to be of rugged steel and brass components.
    - c. Self-latching flush bolts to be UL listed as top and bottom bolts on a pair of classified fire doors. Bolt construction to be of rugged steel and brass components.
    - d. Automatic flush bolts and self-latching flush bolts to be UL listed for fire door application without bottom bolts (LBB).
    - e. Furnish dust proof bottom strikes.
    - f. Coordinator to be soffit mounted non-handed fully automatic UL listed coordinating device for sequential closing of paired doors with or without astragals.
    - g. Provide filler piece to close the header. Provide brackets as required for mounting of soffit applied hardware.
- M. Push Plates:
  - 1. Acceptable manufacturers:
    - a. Trimco
    - b. Ives\*
    - c. Rockwood Manufacturing
  - 2. Characteristics:
    - a. Exposed Fasteners: Provide manufacturers standard exposed fasteners.

- b. Material to be wrought/extruded/forged, brass/ bronze /aluminum/stainless steel, per the Hardware Headings.
  - c. Provide plates sized as shown in Hardware Headings.
- N. Door Pulls & Pull Plates:
- 1. Acceptable manufacturers:
    - a. Trimco
    - b. Ives\*
    - c. Rockwood Manufacturing
  - 2. Characteristics:
    - a. Provide concealed thru-bolted trim on back to back mounted pulls, but not for single units.
    - b. Material to be extruded forged/ cast, brass/ bronze/ aluminum/ stainless steel.
    - c. Provide units sized as shown in Hardware Headings.
- O. Push Pull Sets:
- 1. Acceptable manufacturers:
    - a. Trimco
    - b. Ives\*
    - c. Rockwood Manufacturing
  - 2. Characteristics:
    - a. Provide mounting systems as shown in hardware sets.
    - b. Material to be (description - i.e. solid rod, tubular, cast etc.). Brass/bronze aluminum/stainless steel.
    - c. Provide Push/Pull sets sized as shown in Hardware Headings.
- P. Protective Plates:
- 1. Acceptable manufacturers:
    - a. Trimco
    - b. Ives\*
    - c. Rockwood Manufacturing
  - 2. Characteristics:
    - a. Provide manufacturers standard exposed fasteners for door trim units consisting of either machine screws or self-tapping screws.
    - b. Materials:
      - 1) Metal Plates: Stainless Steel, .050 inch (U.S. 18 gage).
      - 2) Metal Plates: Brass/Bronze, .062 inch (U.S. 16 gage).
    - c. Fabricate protection plates not more than 2 inches less than door width on push side and not more than 1 inch less than door width on pull side.
    - d. Heights:
      - 1) Kick plates to be 10 inches in height.
      - 2) Mop plates to be 4 inches in height.
      - 3) Armor plates to be 36 inches in height. Armor plates on fire doors to comply with NFPA 80.
- Q. Thresholds:
- 1. Acceptable manufacturers:
    - a. National Guard Products, Inc.

- b. Reese Industries
    - c. Zero Weatherstripping Co., Inc.\*
  - 2. Types: Indicated in Hardware Headings.
- R. Door Seals/Gasketing:
  - 1. Acceptable manufacturers:
    - a. National Guard Products, Inc.\*
    - b. Reese Industries
    - c. Zero Weatherstripping Co., Inc.
  - 2. Types: Indicated in Hardware Headings.
- S. Silencers:
  - 1. Acceptable manufacturers:
    - a. Hager
    - b. Ives\*
    - c. Rockwood Manufacturing
  - 2. Three for each single door; two for each pair of doors.
- T. Security Equipment:
  - 1. Acceptable manufacturers:
    - a. Schlage Electronics
  - 2. Characteristics:
    - a. Provide items as found in Hardware Headings.
  - 3. Coordinate security equipment with electrical.

## 2.2 MATERIALS AND FABRICATION

- A. Manufacturer's Name Plate: Do not use manufacturers' products that have manufacturer's name or trade name displayed in a visible location (omit removable nameplates) except in conjunction with required fire-rated labels and as otherwise acceptable to Architect.
  - 1. Manufacturer's identification will be permitted on rim of lock cylinders only.
- B. Base Metals: Produce hardware units of basic metal and forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units by applicable ANSI/BHMA A156 series standards for each type of hardware item and with ANSI/BHMA A156.18 for finish designations indicated. Do not furnish "optional" materials or forming methods for those indicated, except as otherwise specified.
- C. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
  - 1. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.
  - 2. Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.
  - 3. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent no standard units of type specified are available with

concealed fasteners.

4. Use thru-bolts for installation of all exit devices, closers, and overhead stops. Coordinate with wood doors and metal doors and frames where thru-bolts are used, as a means of reinforcing the work, provide sleeves for each thru-bolt.

## 2.3 HARDWARE FINISHES

- A. Match items to the manufacturer's standard color and texture finish for the latch and lock sets (or push-pull units if no latch or lock sets).
- B. Provide finishes that match those established by ANSI or, if none established, match the Architect's sample.
- C. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
- D. Provide protective lacquer coating on all exposed hardware finishes of brass, bronze, and aluminum, except as otherwise indicated. The suffix "-NL" is used with standard finish designations to indicate "no lacquer."
- E. The designations used to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.
  1. Hinges (Exterior): 630 (US32D) Satin Stainless Steel
  2. Hinges (Interior): 652 (US26D) Satin Chrome Plated Steel
  3. Continuous Hinges: 628 (US28) Clear Anodized Aluminum
  4. Flush Bolts: 626 (US26D) Satin Chrome Plated Brass/Bronze
  5. Locks: 626 (US26D) Satin Chrome Plated Brass/Bronze
  6. Exit Devices: 628 (US28) chassis, 626 (US26D) covers, and 630 (US32D) touchpads
  7. Door Closers: 689 Powder Coat Aluminum
  8. Push Plates: 630 (US32D) Satin Stainless Steel
  9. Pull Plates: 630 (US32D) Satin Stainless Steel
  10. Protective Plates: 630 (US32D) Satin Stainless Steel
  11. Door Stops: 626 (US26D) Satin Chrome Plated Brass/Bronze
  12. Overhead Holders: 630 Satin Stainless Steel.
  13. Thresholds/Weatherstripping: 627/628 (US27/US28) Aluminum

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Mount hardware units at heights indicated in following applicable publications, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by Architect.
  1. "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.
  2. "Recommended Locations for Builders Hardware for Custom Steel Doors and Frames" by the Door and Hardware Institute.
  3. NWWDA Industry Standard I.S.1.7, "Hardware Locations for Wood Flush Doors."

- B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation or application of surface protection with finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrates involved.
- C. Set units level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- D. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
- E. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant complying with requirements specified in Division 7 Section "Joint Sealers".
- F. Weatherstripping and Seals: Comply with manufacturer's instructions and recommendations to the extent installation requirements are not otherwise indicated.

### 3.2 ADJUSTING, CLEANING, AND DEMONSTRATING

- A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made.
  - 1. Where door hardware is installed more than one month prior to acceptance or occupancy of a space or area, return to the installation during the week prior to acceptance or occupancy and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to function properly with final operation of heating and ventilating equipment.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Door Hardware Supplier's Field Service:
  - 1. Inspect door hardware items for correct installation and adjustment after complete installation of door hardware.
  - 2. Instruct Owner's personnel in the proper adjustment and maintenance of door hardware and hardware finishes.
  - 3. File written report of this inspection to Architect.
- D. Door Hardware Manufacturer's Field Service:
  - 1. Prior to project completion, representatives of the lock, exit device and overhead closer manufacturers to inspect and certify that all units are installed in accordance with the manufacturer's instructions, and are regulated properly and functioning correctly.
  - 2. A written report of the inspection results and recommendations to be provided to the Architect and to include the appropriate certificates.

### 3.3 HARDWARE SCHEDULE

HARDWARE GROUP NO.: 01 (11)

For use on Door #(s):

102

Provide each SGL door(s) with the following:

DIVISION 08 – DOORS AND WINDOWS  
 NANCE PLACE SECURITY UPGRADES  
 NASHVILLE, DAVIDSON COUNTY, TENNESSEE

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	630	IVE
1	EA	PANIC HARDWARE	CD-98-L-NL-17-SNB	626	VON
1	EA	MORTISE CYLINDER	20-001 EV C 36-083	626	SCH
1	EA	RIM CYLINDER	20-021	626	SCH
1	EA	ELECTRIC STRIKE	6300 FSE 12/24 VAC/VDC	630	VON
1	EA	SURFACE CLOSER	4050 CUSH TBSRT	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	CORNER GUARD	AS REQUIRED	315	
1	SET	SEALS	184QA	CL	NGP
1	EA	DOOR SWEEP	8197AA	AA	ZER
1	EA	THRESHOLD	8655A	A	ZER
1	EA	MULTITECH READER	MT15 12 VDC BY SEC. CONT.	BLK	SCE
1	EA	DOOR CONTACT	679-05HM 12-30 VDC	BLK	SCE
1	EA	POWER SUPPLY	BY SEC. CONT.	LGR	SCE

PRESENTATION OF VALID CREDENTIAL RELEASES ELECTRIC STRIKE. ELECTRIC STRIKE RE-LOCKS AFTER PRESET INTERVAL. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO.: 02 (11)

For use on Door #(s):

101

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	630	IVE
1	EA	FIRE EXIT HARDWARE	98-L-F-17-SNB	626	VON
1	EA	RIM CYLINDER	20-021	626	SCH
1	EA	ELECTRIC STRIKE	6300 FSE 12/24 VAC/VDC	630	VON
1	EA	SURFACE CLOSER	4050 RW/PA TBSRT	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	CORNER GUARD	AS REQUIRED	315	
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	SET	SEALS	184QA	CL	NGP
1	EA	DOOR SWEEP	381A	A	ZER
1	EA	THRESHOLD	8655A	A	ZER
1	EA	MULTITECH READER	MT15 12 VDC BY SEC. CONT.	BLK	SCE
1	EA	DOOR CONTACT	679-05HM 12-30 VDC	BLK	SCE
1	EA	POWER SUPPLY	BY SEC. CONT.	LGR	SCE

PRESENTATION OF VALID CREDENTIAL RELEASES ELECTRIC STRIKE. ELECTRIC STRIKE RE-LOCKS AFTER PRESET INTERVAL. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO.: 03 (07)

For use on Door #(s):

201

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	WIRELESS ELECTRONIC LOCK NDE80P6D SPA BATTERY OPERATED		626	SCE
1	EA	BALANCE OF HARDWARE	EXISTING TO REMAIN		

PRESENTATION OF VALID CREDENTIAL UNLOCKS OUTSIDE LEVER. LEVER RE-LOCKS AFTER PRESET INTERVAL. RX SWITCH IN LOCK SHUNTS DPS. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO.: 03A

For use on Door #(s):

202

DIVISION 08 – DOORS AND WINDOWS  
 NANCE PLACE SECURITY UPGRADES  
 NASHVILLE, DAVIDSON COUNTY, TENNESSEE

Provide each SGL door(s) with the following:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA PIVOT SET	7227F SET	630	IVE
1	EA INTERMEDIATE PIVOT	7227F INT	630	IVE
1	EA WIRELESS ELECTRONIC LOCK NDE80P6D SPA BATTERY OPERATED		626	SCE
1	EA SURFACE CLOSER	4050 CUSH TBSRT	689	LCN
1	EA RAIN DRIP	142AA	AA	ZER
1	SET SEALS	184QA	CL	NGP
1	EA DOOR SWEEP	8197AA	AA	ZER
1	EA THRESHOLD	8655A	A	ZER

PRESENTATION OF VALID CREDENTIAL UNLOCKS OUTSIDE LEVER. LEVER RE-LOCKS AFTER PRESET INTERVAL. RX SWITCH IN LOCK SHUNTS DPS. FREE EGRESS AT ALL TIMES

GROUP NO.: 04 (09)

For use on Door #(s):

S101B	S102	S103	S104	S201	S202
S204	S301	S302	S303	S304	S401
S402	S403	S404	S503	S504	

Provide each SGL door(s) with the following:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA WIRELESS ELECTRONIC LOCK NDE80P6D SPA BATTERY OPERATED		626	SCE
	EA BALANCE OF HARDWARE	EXISTING TO REMAIN		

PRESENTATION OF VALID CREDENTIAL UNLOCKS OUTSIDE LEVER. LEVER RE-LOCKS AFTER PRESET INTERVAL. RX SWITCH IN LOCK SHUNTS DPS. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO.: 04A (09)

For use on Door #(s):

G201	G303
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Provide each SGL door(s) with the following:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA WIRELESS ELECTRONIC LOCK NDE80P6D SPA BATTERY OPERATED		626	SCE
1	EA SURFACE CLOSER	1450 RW/PA	693	LCN
1	EA KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA CORNER GUARD	AS REQUIRED	315	
1	EA WALL STOP	WS406/407CCV	630	IVE
3	EA SILENCER	SR64	GRY	IVE

PRESENTATION OF VALID CREDENTIAL UNLOCKS OUTSIDE LEVER. LEVER RE-LOCKS AFTER PRESET INTERVAL. RX SWITCH IN LOCK SHUNTS DPS. FREE EGRESS AT ALL TIMES.

HARDWARE GROUP NO.: 05

For use on Door #(s):

G203
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Provide each SGL door(s) with the following:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA ALL HARDWARE	BY GATE MANUFACTURER		

HARDWARE GROUP NO.: 06

For use on Door #(s):

G206
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Provide each SGL door(s) with the following:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA PADLOCK L/CYL-SFIC	KS41F1200	625	SCH
1	EA BALANCE OF HARDWARE	BY GATE MANUFACTURER		



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 NASHVILLE, DAVIDSON COUNTY, TENNESSEE

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HARDWARE GROUP NO.: 07

For use on Door #(s):

G205

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	GATE MAG LOCK	M490G 12/24 VDC	628	SCE
1	EA	MULTITECH READER	MT15 12 VDC BY SEC. CONT.	BLK	SCE
1	EA	POWER SUPPLY	BY SEC. CONT.	LGR	SCE
1	EA	BALANCE OF HARDWARE	EXISTING TO REMAIN		

MISCELLANEOUS ITEMS

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CREDENTIAL	9651T	BLK	SCE
1	EA	CREDENTIAL	9651 (CT8 X 4285)	BLK	SCE
1	EA	KEY CABINET	ARISTOCRAT 250		TEL
1	EA	TRAINING	ONE DAY ON-SITE		

END OF SECTION

**SECTION 09 21 16**  
**GYP SUM BOARD SYSTEMS**

**PART 1      GENERAL**

1.01      SCOPE

- A. Provide gypsum board systems consisting of wall board and framing as indicated and specified. Work includes:
  - 1. Gypsum board and light gage framing wall systems.
  - 2. Fire-rated gypsum board construction as required for access and patching.
  - 3. Edge trim, corner beads, control joints, accent reveals, fasteners, joint treatment materials and other accessories required for complete installation
  - 4. Includes taping, spackling and finishing of joints at preformed areas

1.02      RELATED SECTIONS

- A. Acoustical Insulation: To match existing where removal and replacement is repaired by the scope of work.
- B. Sealant: Section 07 92 00.
- C. Firestopping: Section 07 84 00.
- D. Wood Blocking: Fire retardant treated to replace any wood demolished for the scope of work. Provided by Trade Subcontractor

1.03      QUALITY ASSURANCE

- A. Gypsum Board Systems: Comply with ASTM C840 "Application and Finishing of Gypsum Board", and as specified.
- B. Metal Framing System: Comply with ASTM C754 "Installation of Steel Framing Members to Receive Screw Attached Gypsum", and as specified.
- C. Reference Standards: Wherever the following abbreviations are used herein they shall refer to the corresponding standard:
  - 1. ASTM: American Society for Testing and Materials.
  - 2. GA: Gypsum Association.
- D. Fire-Rated Construction: Comply with fire resistance ratings indicated on drawings and as required by governing authorities & codes. Provide materials, accessories and application procedures that have been listed by Underwriters Laboratories or tested in accordance with ASTM E119 for the type of construction shown
  - 1. Electrical Boxes: Comply with IBC Section 712.3.2 for outlet box separation
- E. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated, according to ASTM E90 & classified according to ASTM E413 by an independent testing agency

- F. Guarantee: Submit written guarantee stating that cracks, delaminations or other imperfections in the drywall work which may develop within a period of 2 years from date of acceptance will be repaired at no cost to the Owner.

#### 1.04 SUBMITTALS

- A. Submit manufacturer's product data and installation instructions for each gypsum board system component.
- B. Submit manufacturer's certification that fire-rated assemblies proposed meet project requirements, including evidence of approved test reports acceptable to governing building code enforcing authorities, that assemblies when installed with proposed materials, will meet or exceed fire ratings required.
- C. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Steel Framing Industry Association (SFIA) or be a part of a similar organization that provides verifiable code compliance program.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in manufacturer's original, unopened labeled containers.
- B. Store, protect and handle materials in accordance with MFR's recommendations to prevent damage, soiling and deterioration. Protect cold-formed metal framing from corrosion, deformation and other damage during delivery, storage and handling per requirements of AISI's "Code of Standard Practice".
- C. Protect adjoining surfaces against damage and soiling.

#### 1.06 JOB CONDITIONS

- A. Coordinate installation sequencing with work of other trades.
  - 1. Verify completion of other work, including that of other trades, which will be concealed by gypsum drywall construction before installation of wallboard.

#### 1.07 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

### **PART 2 PRODUCTS**

#### 2.01 MANUFACTURERS

- A. Gypsum Board: U.S. GYPSUM CO.; CERTAINTEED CORP.; GEORGIA-PACIFIC CORP.; NATIONAL GYPSUM COMPANY; CONTINENTAL BUILDING PRODUCTS.
- B. Studs, Framing and Furring: CLARK DIETRICH BUILDING SYSTEMS; MARINO/WARE; STATE BUILDING PRODUCTS.
- C. Others as listed for specific products.

- A. Type: Screw type "C" shape, roll formed sheet steel members conforming to requirements of ASTM C645.
1. Material: ASTM A653 steel with minimum yield strength of 33 ksi.
  2. Finish: Hot-dip galvanized coating, complying with ASTM A653 G40. Finish: Hot-dip galvanized coating, complying with ASTM A653 G40 (Z120), Coating with equivalent corrosion resistance of ASTM A 653/A 653M, G40 (Z120) coating; roll-formed from steel meeting mechanical and chemical requirements of ASTM A 1003 with a zinc-based coating. Galvannealed products are not acceptable.
    - a. Coatings shall demonstrate equivalent corrosion resistance with an evaluation report acceptable to the authorities having jurisdiction.
  3. Gage and Width – 3-5/8" to 6" Studs
    - a. 20 gage x 3-5/8"
      - 1) Over 14'-6" up to and including 16'-5" high
      - 2) At wall mounted cabinet locations
      - 3) At walls receiving ceramic tile
    - b. 20 gage x 4": Over 16'-5" up to and including 17'-6" high
    - c. 20 gage x 6": Over 17'-6" up to and including 24'-0".
    - d. 16 gage at door jambs, heavy equipment locations, and interior partitions receiving masonry veneer.
    - e. Provide other gages or widths as indicated on drawings.
  4. Gage and Width – 1-5/8" to 2-1/2" Studs
    - a. 20 gage x 1-5/8": Maximum height 9'-8"
    - b. 20 gage x 2-1/2": Maximum height 12'-10"
  5. Flange Width: Nominal 1-1/4".
- B. Runners and Tracks: Designed and sized to receive studs. Thickness to match studs except deflection tracks. All thicknesses are minimum bare metal.
1. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; 0.0296" thickness and in width to accommodate depth of studs. Provide one of the following:
    - a. #53 FlexTrack, 0.0359" typical, by SUPERIOR METAL TRIM PRODUCTS
    - b. 0.0296" top track with 2" minimum legs and 0.0329" Spazzer 9200 Stud Spacer Bar by CLARK DIETRICH BUILDING SYSTEMS
    - c. Slip Track (Slp Trk) by BRADY CONSTRUCTION INOVATIONS
    - d. The System by METAL-LITE
    - e. The Three Legged Dog by FLEX-ABILITY CONCEPTS.
    - f. A double slip track, 0.0296", can be used in lieu of the proprietary deflection tracks specified above. Legs of tracks to be minimum 2"
  2. Firestop Tracks: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; 0.0359" thickness and in width to accommodate depth of studs. Use only firestop top track seal product that has been UL 2079 tested for specific fire-rated construction conditions conforming to construction assembly type, space requirements and fire-rating required for each application. Provide one of the following:
    - a. Fire Trak System by FIRE TRAK CORPORATION.

- b. BlazeFrame DSL or MaxTrak by CLARKDIETRICH BUILDING SYSTEMS
  - c. The system by METAL-LITE INC.
  - d. CFS-TTS "Firestop Top Track Seal" by HILTI, INC.
- C. "EQ" (Equivalent Gauge Thickness) Steel Studs and Runners: Members that can show certified third party testing with gypsum board in accordance with ICC ES AC86 (Approved August 2015) need not meet the minimum thickness limitation or minimum section properties set forth in ASTM C 645. The submission of an evaluation report is acceptable to show conformance to this requirement.
- D. Backing Plates (Blocking): Steel sheet for blocking; width to fit framing spacing; height to be 6" unless otherwise indicated.
- 1. Base Metal Thickness: Minimum 0.0296".

## 2.03 CEILING/SOFFIT SUSPENSION SYSTEM

- A. Optional Framing: At contractor's option, proprietary furring system may be used in lieu of black iron system for dry interior conditions.
- 1. Description: Direct hung system consisting of interlocking main beams and cross-furring members and hanger wires, designed and manufactured specifically for suspending gypsum board ceiling.
    - a. ASTM C645.
    - b. Electrogalvanized, cold-rolled steel, 0.020" thick.
    - c. Double web members; 1-1/2" high with 1-3/8" capped face.
  - 2. Manufacturer: 640 System by CHICAGO METALLIC CORP.; Drywall Suspension System by USG, WORTHINGTON STEEL COMPANY, Watercheck CONTINENTAL BUILDING PRODUCTS, Furring Systems/Drywall by ARMSTRONG.
  - 3. Reference: ASTM C635, heavy duty.

## 2.04 METAL FURRING

- A. Material
- 1. Steel Sheet Components: Comply with ASTM C645 requirements for metal, unless otherwise indicated.
  - 2. Protective Coating: Coating with equivalent corrosion resistance of ASTM A653, G40, hot-dip galvanized, unless otherwise indicated.
- B. Rigid Furring Channels: Hat-shaped; minimum 0.022 inch uncoated metal thickness; 7/8" deep, unless otherwise indicated.
- C. Resilient Furring Channels: Minimum 0.0188" uncoated metal thickness; 1/2" deep; asymmetrical or hat-shaped members designed to reduce sound transmission.
- D. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches, wall attachment flange of 7/8" deep, minimum uncoated metal thickness of 0.018", and depth required to fit insulation thickness indicated.

## 2.05 INTERIOR GYPSUM BOARD

- A. General: Comply with ASTM C1396.
- B. Fire Rated Gypsum Wallboard: Type "C" or "X" (special fire retardant) to meet fire ratings for construction shown. Tapered edges. Thickness 5/8" unless otherwise indicated. Use at all locations indicated as meeting a specific fire resistance rating.
  - 1. Provide 5/8", Type X board at all locations not indicated to receive a specific type board.
- C. Moisture and Mold Resistant Gypsum Wallboard
  - 1. ASTM C1396 (Section 5), Type X.
  - 2. Edges: Tapered.
  - 3. Thickness: 5/8 inch, unless otherwise indicated.
  - 4. Acceptable products: Mold Tough and Mold Tough Firecode (Type X) by USG; XP and XP Fire-Shield by NATIONAL; ToughRock and ToughRock Type X by GEORGIA-PACIFIC; Mold Defense and Mold Defense Type X by CONTINENTAL BUILDING PRODUCTS or equal by other gypsum board manufacturers listed in 2.01A.
  - 5. Water Absorption: ASTM C473, the average water absorption for panels is not greater than 5 percent by weight after two-hour immersion.
  - 6. Resistance to Mold Growth: ASTM D3273, "Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber," the panel score was 10.

## 2.06 ACCESSORIES

- A. Fasteners: Drywall screws and metal framing screws per MFR's instructions and recommendations for type & size, based on construction and conditions involved.
  - 1. Steel Drill Screws: ASTM C1002.
  - 2. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick specified in Section 05 40 00.
- B. Trim: ASTM C1047.
  - 1. Manufacturers
    - a. Metal: BEADEX MANUFACTURING; CLARK DIETRICH BUILDING SYSTEMS; listed gypsum board manufacturers
    - b. Vinyl: VINYL TECH; VINYL CORP.; TRIM TEX
  - 2. Corner Beads - Outside, Square Corners: 1-1/4 inch x 1-1/4 inch heavy gauge galvanized steel or vinyl, perforated.
  - 3. Corner Beads - Outside, Non-square Corners: BEADEX B-1 Splay Flexible Corner or equal. Concealed metal; two galvanized continuous strips laminated with paper trim; for application without mechanical fasteners.
  - 4. Exposed Edges (Casing Beads): L-bead or LC-bead; exposed long flange receives joint compound. Size to suit wallboard. J-shaped bead that does not receive joint compound is not permitted.
  - 5. Expansion (Control) Joints: Tape protected 1/4" wide x nominal 7/16" deep control slot.
- C. Interior Joint Treatment Materials: ASTM C475.
  - 1. Joint Tape. Width to adequately cover joint.
    - a. Interior Gypsum Board: Paper.
    - b. Exterior Gypsum Soffit Board: Paper.
    - c. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.

2. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
    - a. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
    - b. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound. Use setting-type compound for installing paper-faced metal trim accessories.
    - c. Fill Coat: For second coat, use setting-type, sandable topping compound.
    - d. Finish Coat: For third coat, use setting-type, sandable topping compound.
    - e. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.
  3. Joint Compound for Tile Backing Panels:
    - a. Water-Resistant Gypsum Backing Board: Use setting-type taping compound and setting-type, sandable topping compound.
    - b. Cementitious Backer Units: Section 09 30 00.
- D. Additional Item: All additional accessories to complete work including nails and anchors to secure frames to walls and floors.
- E. Electrical / Acoustical Box Pads: Moldable Polybutene pads, minimum 1/8 inch thick. 3M Putty Pads, 3M FIRE PROTECTION PRODUCTS or equal

**PART 3 EXECUTION**

3.01 PREPARATION

- A. Provide adequate lighting and ventilation during installation and joint finishing treatment.

3.02 INSPECTION

- A. Examine substrates and installation conditions. Do not proceed with gypsum wallboard work until unsatisfactory conditions have been corrected.
  1. Protrusions of framing, twisted framing members, or unaligned members must be repaired before installation of wallboard is started.
- B. Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.

3.03 FRAMING INSTALLATION

- A. Comply with the requirements of ASTM C754 "Installation of Steel Framing Members to Receive Screw Attached Gypsum", and as specified.
- B. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except

where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
  2. Rated Stud Deflection Assembly: Install in accordance with manufacturer's instructions to provide required fire ratings. Ensure that anchoring devices, back-up material, clip supports and other materials are as used in referenced fire tests.
  3. Securely attach runner to floor with expansion anchors or other approved means.
- C. Install all framing plumb and square with spacing as indicated.
- D. Provide supplementary framing, blocking, and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with recommendations of gypsum board manufacturer or, if none available, with United States Gypsum Company's "Gypsum Construction Handbook".
- E. Bridging
1. Up to 10 ft. Wall Height: 1 row.
  2. 10 ft. and Over Wall Height: 2 rows of bridging.
- F. Provide a minimum of two (2) screws per connection.

### 3.04 FURRING INSTALLATION

- A. Wall Application
1. Attach to masonry with expansion anchors or at mortar joints with concrete nails or expansion anchors.
  2. Spacing shall be 16 in. o.c., unless otherwise indicated.
  3. Run vertically or horizontally for maximum efficiency.

### 3.05 GYPSUM BOARD INSTALLATION

- A. Gypsum Board Systems: Comply with ASTM C840.
- B. Application
1. Install gypsum board face side out. Do not install imperfect, damaged or damp boards.
  2. Butt boards together for a light contact at edges and ends with not more than 1/16" open space between boards. Do not force into place.
  3. Locate either edges or end joints over supports. Position boards so that both tapered edge joints abut. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.
  4. Attach gypsum board to framing and blocking as required for additional support at openings and cutouts.
  5. Floating Construction: Install gypsum board with "floating" internal corner construction, unless isolation of the intersecting board is indicated.
  6. In addition to compliance with the standards, comply with specific



requirements indicated for each type of arrangement of gypsum wallboard system shown. Space fasteners in accordance with manufacturer's recommendations and complying with referenced standards.

- a. Walls and Partitions: Apply sheets horizontally or vertically. Provide maximum sheet lengths to minimize end joints with edges or ends over supports. In two layer applications, stagger joints of second layer from joints of first layer.
- b. Cut and install panels to eliminate vertical joints in corners of door frames to ceiling.
- c. Make cutouts to fit within wall plate, register and grille flanged. All cutouts made by knife or saw.
- d. Make angles and corners clean, true, plumb and square; walls plumb, flat and straight and ceilings flat and level.
- e. Ceilings: Apply gypsum board on ceilings, before application on walls and partitions. Install in direction and manner to minimize end joints. Stagger end joints over supports. In two layer applications, stagger joints of second layer from joints of first layer.

C. Direct-Glue Application

1. Apply gypsum vertically with closely butted joints within 10 minutes after application of mastic adhesive, sooner if recommended by manufacturer of adhesive. Apply firm hand pressure over entire board to effect a bond and to level board. Use slight sliding movement to position board. Shim drywall 1/4" off floor.
2. Apply mastic adhesive in amounts and at locations on board as recommended by adhesive manufacturer. Provide temporary fasteners or bracing as recommended until adhesive sets.

3.06 TRIM AND ACCESSORIES

- A. Install corner beads at external corners of gypsum wallboard and sheathing work. Use longest practical lengths.
- B. Install edge trim wherever edge of gypsum board or sheathing would be exposed or semi-exposed.
  1. Provide beaded trim to receive joint compound at all gypsum wallboard work.
  2. Provide L-type trim where work is abutted to other work and Kerf-type where work is kerfed to receive kerf leg.
  3. Provide U-type trim where edge is exposed, revealed, gasketed or sealant filled, including expansion joints.
- C. Attach to framing with steel drill screws. Clinch attachment to wallboard not acceptable.
- D. Control Joints
  1. Install control joints to match existing where removed.

3.09 FINISHING

- A. Comply with MFR's instructions for mixing, handling and application of materials. Apply treatment at joints both directions, at flanges of trim accessories,

penetrations of gypsum board (electrical boxes, piping and similar work), fastener heads, surface defects and elsewhere indicated. Apply in manner that will result in each of these items being concealed when applied decoration has been completed

- B. Prefill open joints of more than 1/16" with special chemical-hardening type bedding compound, before bedding joint tape.
- C. Apply joint tape at joints between gypsum boards, except where trim accessories are indicated.
- D. Do not use topping compound for bedding joint tape.
- E. Apply joint compound for the final coat of joint treatment, unless specifically recommended by the manufacturer for that use.
- F. Walls Above Acoustical Ceiling Systems: Tape and fill joints with two coats of joint compound, sanding not required.
- G. Leave all exposed surfaces smooth and even, ready for painting.
- H. Provide where indicated on the drawings levels of finish as specified in ASTM C840, "Recommended Specification on Levels of Gypsum Board Finish". Levels of finish consist of:

#### **Finishes / Uses in accordance with GA-214 Levels of Finish.**

Coordinate the drywall level of finish with the proposed interior finish as outlined in the Finish Schedule. Unless otherwise indicated on drawings, use Level 2 if building interior is to remain unfinished for more than thirty (30) calendar days from proposed interior build-out. Verify with Owner / Landlord and Tenant(s) regarding extent of work and required finish on demising walls, renovated surfaces and other sheathing during shell construction:

- Level 0:** No taping, finishing or accessories. Use in temporary construction; or where final wall finish has not been determined in scope of work.
- Level 1:** All joints / interior angles are taped set in joint compound; drywall surface to be free of excess compound. Accessories are optional dependent upon potential for public view. Use in areas of non-public view and in above ceiling areas such as plenums. May be considered a "fire-tape" level if approved by local Authority Having Jurisdiction.
- Level 2:** All joints / interior angles are taped set in joint compound; drywall surface to be free of excess compound. Accessories, fastener heads and tape to be covered with a coat of compound. Use for M/R tile substrate; and where surface appearance is not a primary concern, such as garages, storage areas, or where drywall may be a substrate for a future finish.
- Level 3:** All joints / interior angles are taped set in joint compound, with a one coat cover; drywall surface to be free of excess compound. Accessories and fastener heads to have two coats of compound. Smooth all coats free of tool marks and ridges. Prepare surface with drywall primer prior to the application of the design finish. Use for walls exposed to view where heavy/medium texture finishes are applied prior to painting, or where heavy-grade wallcovering applied

**Level 4:** All joints / interior angles are taped set in joint compound, with a one coat cover over angles & two coat cover for joints; drywall surface to be free of excess compound. Accessories and fastener heads to have three coats of compound. Smooth all coats free of tool marks and ridges. Prepare surface with drywall primer prior to application of design finish. **Use for** walls exposed to view where flat paints, light textures / wallcoverings & eggshell / satin paints are used: and some drywall ceiling applications.

**Level 5:** All joints / interior angles are taped set in joint compound, with a one coat cover over angles & a two coat cover for joints; drywall surface to be free of excess compound. Accessories and fastener heads to have three coats of compound. Smooth all coats free of tool marks and ridges. A final skim coat is to be applied over the entire surface. Prepare surface with drywall primer prior to the application of the design finish. **Use for** walls exposed to view where gloss, semi-gloss enamel or non-textured flat paints are specified; or, where severe lighting conditions occur.

### 3.10 ADJUST AND CLEAN

- A. Remove any screw which does not engage into a framing member or spins freely.
- B. When paper face is punctured, drive new screw approximately 1-1/2" from defective fastener and remove defective fastener. Fill damaged surface with compound.
- C. Ridging
  - 1. Do not repair ridging until condition has fully developed: approximately 6 months after installation or one heating season.
  - 2. Sand ridges to reinforcing tape without cutting through tape.
  - 3. Fill concave areas on both sides of ridge with topping compound.
  - 4. After fill is dry, blend in topping compound over repaired area.
- D. Fill cracks with compound and finish smooth and flush.
- E. Remove and replace panels that are wet, moisture damaged, and mold damaged.
  - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

### 3.11 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

**END OF SECTION**

## **SECTION 26 01 00 - GENERAL PROVISIONS FOR ELECTRICAL SYSTEMS**

### **PART 1 - GENERAL**

#### **1.1 WORK INCLUDED**

- A. Secondary power wiring and distribution system.
- B. Fire alarm and smoke detection system.
- C. Security system.
- D. Electrical control systems and interlock wiring.

#### **1.2 RELATED WORK**

- A. Foundations and pads required for equipment furnished under this division of the specifications.
- B. Field painting, except such painting as is required to maintain shop coat painting and factory finish painting.
- C. Electrical control systems and interlock wiring as required by mechanical drawings, specifications or manufacturer's schematics.
- D. Flashing of conduits into roofing and outside walls.

#### **1.3 QUALITY ASSURANCE**

- A. Comply with applicable local, state and federal codes.
- B. Comply with applicable requirements of recognized industry associations which promulgate standards for the various trades.
- C. Employ only qualified journeymen for this work. Employ a competent qualified electrician to supervise the work.

#### **1.4 STANDARDS**

- A. Perform work specified in Division 26 in accordance with standards listed below including amendments or revisions. When these specifications are more stringent, they take precedence. In case of conflict, obtain a decision from the Designer.
- B. Reference architectural for all applicable codes.
- C. Should any work be construed as being contrary to or not conforming to aforementioned codes, such alleged confliction to be brought to attention of

Designer in writing ten (10) days prior to bid date for review so that such point in question may be resolved. All work to be installed in strict conformity with applicable codes without additional cost to Owner.

- D. Contractor to submit and/or file with proper authorities all necessary specifications and drawings as required by governing authorities.

## 1.5 SUBMITTALS

- A. Within fifteen (15) days after contract has been awarded, Contractor to submit to Designer for review a complete list of materials, equipment, and accessories proposed for use, listing the item and manufacturer's name only.
- B. Based upon aforementioned approved listing, Contractor to submit seven (7) copies of COMPLETE BROCHURES AND SHOP DRAWINGS OF ALL MATERIALS, FIXTURES, AND EQUIPMENT that he proposes to use giving the names of manufacturers, trade name and specific catalog numbers.
- C. Brochures to be submitted in time to allow fifteen (15) days from date of receipt in Engineer's office before final approval or disapproval is required to meet construction schedule. Submittals to bear Contractor's stamp of approval evidencing he has examined and checked same and information contained therein is in accordance with contract requirements, and any deviations to be clearly marked. Approval of shop drawings not to be construed as permitting departure from the contractual documents.
- D. Above-mentioned brochures to be submitted and approved before any materials are ordered.
- E. Brochures: Submit complete descriptions, illustrations, specification data, etc. of all materials, fittings, devices, fixtures, special systems, etc., including the following:
  - 1. Panelboards.
  - 2. Wiring devices and plates.
  - 3. Motor starters and contactors.
  - 4. Disconnect switches.
  - 5. Enclosed circuit breakers.
  - 6. Transformers.
  - 7. Lighting, including lamps.
- F. Proposed items to be clearly indicated when other items are shown on same sheet. When proposing items other than those specified, brochures to contain both specified item sheets and proposed item sheets for ease of comparison. On request from Designer, samples shall be submitted and/or set up, as directed, for inspection and approval. Samples will be returned to Contractor.

## 1.6 OPERATING AND MAINTENANCE MANUALS

- A. Prior to final acceptance of the project, furnish to Owner complete bound sets of operation and maintenance manuals of instructions for operation and

maintenance of all pieces of equipment and systems provided under this division of specifications.

- B. Manuals to also include all submittal data on all materials and equipment. Clearly indicate items provided on this project. A list giving name and address of nearest supply house carrying spare parts and name of Installation Contractor to be given to Owner.
- C. Verbally instruct Owner's representatives. Contractor to obtain letter signed by the owner's representative indicating that the in-service training has been completed.
- D. Three sets of the following data are required:
  - 1. Operating and maintenance instructions.
  - 2. Spare parts lists.
  - 3. Copies of approved submittal data.
- E. Arrange each set of data in an orderly way, and bind each set in a separate 3-ring, hard-cover binder.
- F. As soon as data accumulates, prepare one of the sets and deliver to the Owner's Representative, continuously updating this set as additional data is obtained.
- G. At completion of work, submit two complete sets of data to the Owner's Representative for distribution to the proper parties.

## 1.7 DELIVERY AND STORAGE

- A. Insofar as possible, deliver items in manufacturers' original unopened packaging. Where this is not practical, cover items with protective materials, to keep them from being damaged. Use care in loading, transporting, unloading, and storage to keep items from being damaged.
- B. Store items in a clean dry place and protect from damage.
- C. All damaged painted surfaces of equipment to be touched up to match original paint.

## 1.8 RECORD DRAWINGS

- A. Keep a set of blueline prints at the job site exclusively for recording deviations from the drawings.
- B. Record locations and depths of buried and concealed conduits from fixed easily identifiable objects, such as building walls. Where conduits are concealed in walls, indicate distances off of building corners or other building features not likely to be disturbed by future alterations.
- C. Mark deviations in colored pencils so that work of various systems can be easily identified.

- D. When work is completed, record all deviations on clean sepia copies of drawings.
- E. Submit three sepia copies of completed "record drawings" to Owner's Representative for distribution.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS AND EQUIPMENT**

- A. All materials and equipment used in carrying out these specifications to be American made unless approved otherwise by the Owner and to be new and have UL listing, or listing by other recognized testing laboratory when such listings are available. Specifications and drawings indicate name, type, and catalog numbers of materials and equipment to be used as "standards" shall not be construed as limiting competition. Contractor may at his option, use materials and equipment when, in the judgment of the Designer, they are equivalent to that specified.

## **PART 3 - EXECUTION**

### **3.1 COORDINATION**

- A. Intent:
  - 1. These sections of specifications and drawings form a complete set of documents for the electrical work of this project. Neither is complete without the other. Any item mentioned in one shall be as binding as though mentioned in both.
  - 2. The intent of these specifications and drawings is to form a guide for a complete electrical installation. Where an item is reasonably necessary for a complete system but not specifically mentioned, such as pull boxes, fittings, expansion fittings, support hangers, etc., provide same without additional cost to Owner.
  - 3. Electrical layouts indicated on drawings are diagrammatical only. Exact location of outlets to be governed by project conditions. The Designer reserves the right to make any reasonable changes (approximately 6 feet) in location of junction boxes, or equipment prior to roughing-in of such without additional cost to Owner.
- B. Deviations:
  - 1. No deviations from specifications and drawings to be made without full knowledge and consent of Designer.
  - 2. Should Contractor find during progress of work that existing conditions make desirable a modification of the requirements of any particular item, report such item promptly to Designer for his decision and instructions.
- C. Insofar as it is possible to determine in advance, leave proper chases and openings. Place all outlets, anchors, sleeves, and supports prior to pouring

concrete or installation of masonry work. Should contractor neglect doing this, any cutting and/or patching required to be done is at this contractor's expense.

- D. Visit site and be informed of conditions under which work must be performed. No subsequent allowance will be made because of error or failure to obtain necessary information to completely estimate and perform work involved.
- E. Designer to be mediating authority in all design related deviations and disputes arising on the project.
- F. Coordinate to assure that proper points of service transformer locations, voltage characteristics and capacity of service are in accordance with contract drawings.

### 3.2 CUTTING AND PATCHING

- A. Repair or replace routine damage caused by cutting in performance of this contract.
- B. Correct unnecessary damage caused due to installation of electrical work, brought about through carelessness or lack of coordination.
- C. Holes cut through existing floor slabs to be core drilled with drill designed for this purpose. All openings, sleeves and holes in slabs between floors to be properly sealed, fire proofed and water proofed.
- D. Repairs to be performed with materials which match existing materials and to be installed in accordance with appropriate sections of these specifications.

### 3.3 TRENCHING, EXCAVATION, BACKFILLING, AND REPAIRS

- A. Provide trenching, excavation, and backfilling necessary for performance of electrical work.
- B. Trenching and excavation to be unclassified. No extra will be paid in event that rock is encountered.
- C. Backfilling to be carefully done using only clean earth thoroughly tamped and compacted below and above embedded items.

### 3.4 TESTS

- A. On completion of work, installation to be entirely free from grounds, short circuits, and open circuits. Perform a thorough operational test in presence of Owner or his representative. Balance all circuits so that feeders to panels be not more than 10% out of balance between phases with all available load energized and operating. Furnish all labor, materials and instruments for above tests.
- B. Furnish Owner, as a part of closing file, a copy of such tests including identification of each circuit and readings recorded. Test information to be furnished to Owner includes ampere readings of all panels and major circuit breakers, insulation resistance reading of motors and transformers.



- C. Prior to final observation and acceptance, test, leave in satisfactory operating condition all electrical systems and equipment including but not limited to the following:
1. Electrical distribution system.
  2. Ground fault protection system.
  3. Emergency power generation system.
  4. Transformers.
  5. Fire alarm and smoke detection system.
  6. Electric motors for all equipment.
  7. Electric safety devices.
  8. Any alarm system.

### 3.5 INSPECTION FEES AND PERMITS

- A. Obtain and pay for all necessary permits and inspection fees required for electrical installation.

### 3.6 IDENTIFICATION OF EQUIPMENT

- A. Properly identify all starters, contactors, relays, safety switches and panels with permanently attached black (normal power) or red (essential systems) phenolic plates with 1/4" white engraved lettering on the face of each attached, with two sheet metal screws. Starters and relays connected by the electrical tradesman to be identified by him whether furnished by him or others.

### 3.7 DEMOLITION

- A. Contractor shall visit the site before submitting a bid to acquaint himself with existing conditions.
- B. Work in existing buildings shall be scheduled well in advance with the Owner. Work shall be performed at such times and under such conditions as suit the convenience of the Owner. Plan the work to minimize disruption of normal operations.
- C. In renovated areas, remove wiring devices, fixtures, components, electrical equipment, conductors, boxes, and conduits not required to remain in service when this project is complete.
- D. Remove existing conduit and wire from areas to be remodeled, back to panelboard, cabinet or junction box.
- E. Where a circuit is interrupted by removal of a device or fixture from that circuit, the contractor shall install wire, conduit, etc., as required to restore service to the remaining devices and fixtures on that circuit.
- F. Lighting fixtures, wiring devices, panelboards, and conductors removed shall be offered to the Owner. If he chooses to retain these items or a part of these items,

turn those chosen over to him. Items rejected by the Owner shall be removed from the project site by the contractor.

### 3.8 OBSERVATIONS

- A. When field observation services are a part of the project scope, Designer's office will provide periodic observation of the progress of work specified herein. Purpose of the observation is to ensure compliance of Contractor's work with specifications and drawings. Designer's office will also observe tests required of Contractor as called for in other sections of specifications.
- B. Specifications and drawings represent work to be done in view of total project requirements. Final location of conduits, fixtures, panels, switchboards, etc., to eliminate possible conflict with other trades is responsibility of Contractor. Contractor to provide all supervision required for his personnel to ensure that installation is made in accordance with specifications and drawings and all safety rules and regulations are observed. In event of conflicts of work on project with other trades, Contractor to make every reasonable effort to resolve conflict through meetings and discussions with other parties involved, by preparation of drawings or other appropriate action. Only after this has been done shall the Designer's assistance be requested.
- C. When Designer is requested to visit project to aid in resolution of conflicts or for witnessing tests, he shall be given a minimum of 48 hours notice prior to time his presence is required at job site.

### 3.9 WARRANTY-GUARANTEE

- A. Designer reserves right to accept or reject any part of installation which does not successfully meet requirements as set out in these specifications.

- B. Contractor shall and hereby does guarantee all work installed under this division shall be free from defects in workmanship and materials for a period of one year from date of final acceptance, whichever is earliest. The above parties further agree that they will repair and replace any defective material or workmanship which becomes defective within the terms of this warranty-guarantee.

**END OF SECTION 26 01 00**

## **SECTION 26 05 19 - CONDUCTORS - 600 VOLT AND BELOW**

### **PART 1 - GENERAL**

#### **1.1 WORK INCLUDED**

- A. Provide a complete system of conductors for lighting, power, and controls throughout building.
- B. Refer to drawings for sizes of conductors.

### **PART 2 - PRODUCTS**

#### **2.1 CONDUCTORS - POWER AND LIGHTING**

- A. Provide 98% conductivity copper conductors with 600-volt insulation.
- B. Interior conductors shall be Type THHN-2/THWN-2 insulation.
- C. 600-volt insulation for conductors installed in underground raceways shall have XLP (cross-linked polyethylene) insulation, Type XHHW-2.
- D. For feeder and branch circuit conductors No. 12 AWG and No. 10 AWG, provide solid type.
- E. For all control and motor circuits, and all conductors No. 8 AWG and larger, provide stranded type.
- F. Conductors shall be manufactured by Triangle, Phelps Dodge, or Southwire.
- G. Provide white or gray colored neutral conductors; provide black or color coded phase conductors.
- H. Provide No. 14 AWG stranded type THHN fixture conductors, for conductors entering fixtures and in stems of pendant fixtures.
- I. Provide type THHN stranded conductors, 90 degrees C for conductors running through continuous rows of fluorescent fixtures.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Install pull boxes in circuits or feeders over 100' long.
- B. All conductors shall be continuous from origin to panel or equipment termination without splices where possible. Where splices and taps are necessary or are required, they shall be made in splice boxes with suitable connectors.

- C. Make all splices or connections only at outlet, pull or junction boxes.
- D. Use pulling compound to pull conductors except conductors from isolation transformers.
- E. Install instrument and data connection conductor in separate raceways from all other conductors. Separate control wiring from power wiring in separate raceways. Separation distances shall be as specified by control system manufacturer or as listed in IEEE Standard 518, whichever is greater.
- F. Bend radius on conductors shall be less than the limitations listed by the cable manufacturer.
- G. Deliver all conductors to job site new and in original wrapping, package or reel.
- H. All conductors and connections shall test free of grounds, shorts, and opens.
- I. For 20-amp, 120-volt branch circuits, provide No. 10 wire in lieu of No. 12 wire for any branch circuit in excess of 90 linear feet to prevent excessive voltage drop. Where branch circuit exceeds 175 linear feet, use No. 8 wire.
- J. Use Ideal wing nuts, Scotchlok Type Y, R, G, or B, or approved equivalent connectors for fixture connections at outlet boxes.
- K. Make feeder taps and joints with OZ type T, PT, PM or PTS, as manufactured by Kupler, Bridgeport or Midwest, or with approved compression sleeves. Wrap connectors with No. 10 electro-seal or approved equivalent plastic filler and vinyl tape.
- L. Leave a minimum of 8" slack wire in every outlet box whether it be in use or left for future use.
- M. Color code conductors as follows:

CONDUCTOR COLOR CODE		
	120/208 Volt	277/480 Volt
Phase A	Black	Brown
Phase B	Red	Orange
Phase C	Blue	Yellow
Neutral	White	Gray
Ground	Green	Green

- N. If the above conflicts with existing color coding, match existing.
- O. Use factory color coded conductors where commercially available. If not, use black wire and band with color tape.

**END OF SECTION 26 05 19**

## **SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS**

### **PART 1 - GENERAL**

#### **1.1 WORK INCLUDED**

- A. The entire system of raceways and equipment to be grounded in accordance with Article No. 250 of latest edition of National Electrical Code and any local regulation or governmental governing authority.

### **PART 2 - PRODUCTS**

#### **2.1 GROUND CLAMPS**

- A. OZ Electrical Manufacturing Company, Steel City, or Appleton.

2.2 All branch circuits shall have a separate green grounding conductor installed in same conduit as phase and neutral conductor from panel ground bus to device. The grounding conductor shall be sized in accordance with Table 250.122 of N.E.C.

2.3 Flexible conduit will not be approved as achieving continuity of ground. All flexible conduit shall have a jumper wire sized to ampacity of branch breaker and shall be connected to conduit system on both ends; this applies to fixtures, motors, controls, etc.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Effectively bond all grounding conductors to grounding electrodes, equipment enclosures and ground busses.
- B. Locate all grounding attachments away from areas subject to physical damage. Provide protective covering as required.

- C. Clean all non-conductive surfaces on equipment to be grounded, to assure good electrical continuity.

**END OF SECTION 26 05 26**

## **SECTION 26 05 29 - SUPPORTING DEVICES AND HANGERS**

### **PART 1 - GENERAL**

#### **1.1 WORK INCLUDED**

- A. Provide a system of supporting devices and hangers to ensure secure support or bracing for conduit, electrical equipment, including safety switches, fixtures, panelboards, outlet boxes, junction boxes, cabinets, etc.

### **PART 2 - PRODUCTS**

#### **2.1 ACCEPTABLE MANUFACTURERS**

- A. Provide appropriate supporting devices and hangers as manufactured by Erico Products, Inc., Steel City, or Rayco:
  - 1. Vertical flange clamps (beam clamps).
  - 2. "Z" purlin clips.
  - 3. Conduit clips.
  - 4. Universal clamps (Beam clamps).
  - 5. Beam clamps (set screw type).
  - 6. Combination push-in conduit clips.
  - 7. Combination conduit hanger clamps.
  - 8. Flexible conduit clips.
  - 9. Special combination conduit clips.
  - 10. One hole steel straps.
  - 11. Minerallac conduit hangers.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Secure conduits to within 3' of each outlet box, junction box, cabinet, fitting, etc., and at intervals not to exceed ten feet (10') for EMT and IMC conduit and in accordance with Table 344.30 (B) (2) for Rigid Steel conduit. In seismic zones, support conduits 1" and under at 6' intervals.
- B. Install clamps secured to structure for feeder and other conduits routed against the structure. Use drop rods and hangers or racks to support conduits run apart from the structure.
- C. Furnish and install suitable angle iron, channel iron or steel metal framing with accessories to support or brace electrical equipment including safety switches, fixtures, panelboards, outlet boxes, etc.



- D. Paint all supporting metal not otherwise protected, with rust inhibiting primer and then with a finish coat if appropriate to match the surrounding metal surfaces. (Prepainted or galvanized support material is not required to be painted or repainted.)
- E. Use of chains, perforated iron, bailing wire, or tie wire for supporting conduit runs will not be permitted.
- F. For support of low voltage wiring not required to be in conduit, Contractor shall bundle cables together in a neat manner using approved nylon tie wraps. Bundled cables shall be supported with "J" hooks on telephone type bridle rings, a minimum of 6 feet on centers. Contractor shall clearly identify all differing types of cables being run and tag them with tape tags reading "telephone", "data", etc., for the appropriate system cables. Identification tape shall be provided at minimum intervals of 25 feet on center and within each building space.

**END OF SECTION 26 05 29**

## **SECTION 26 05 34 - RACEWAYS AND CONDUIT SYSTEMS**

### **PART 1 - GENERAL**

#### 1.1 WORK INCLUDED

- A. Provide a complete conduit system with associated couplings, connectors, and fittings.
- B. Conduits shall be mechanically and electrically continuous from outlet to outlet and from outlets to cabinets, pull or junction boxes.

#### 1.2 SUBMITTALS

- A. Submittal for products furnished under this section is not required.

### **PART 2 - PRODUCTS**

#### 2.1 ACCEPTABLE MANUFACTURERS

- A. IMC, RGS and EMT conduit shall be hot-dip galvanized, or electrogalvanized steel by Triangle, Raco, Allied, or approved substitute. Catalog numbers used below are those of Raco and shall be considered as standards.
- B. Erickson couplings, Raco 1502-1516 for IMC and RGS, shall be used where neither length of conduit can be rotated.
- C. IMC/RGS conduit connectors from 1/2" to 4" trade sizes shall use compression type, Raco 1802-1816.
- D. EMT conduit connectors from 1/2" to 2" trade sizes shall use set screw type, Raco 2002-2008. EMT conduit connectors from 2-1/2" to 4" trade sizes shall use two set screw type, Raco 2140-2146.
- E. Grounding bushings shall be Raco 1212-1296, or by Triangle or Allied.
- F. Insulated bushings shall be Raco 1402-1416, or by Triangle or Allied.
- G. Weatherproof hub shall be Raco 1702-1716, or by Triangle or Allied, complete with sealing "O" ring or sealing locknuts.
- H. Provide polyvinyl chloride (PVC) conduit, Type 40, and associated couplings, connectors, and fittings. PVC conduit shall be UL listed and 90 degrees C UL rated.

## 2.2 ELECTRICAL METALLIC TUBING (EMT)

- A. Use Electric Metallic Tubing (EMT) for branch circuits and panelboard feeders installed overhead, both exposed and concealed, installed more than 6 feet above finished floor.

## 2.3 INTERMEDIATE METAL CONDUIT (IMC)

- A. Use Intermediate Metal Conduit (IMC) for:
  - 1. Panelboard feeders.
  - 2. Branch circuits installed in hazardous areas.
  - 3. Branch circuits and feeders installed in concrete slabs at ground floor.
  - 4. Branch circuits installed exposed below 6 feet above finished floor.
  - 5. Branch circuits installed in wet locations.
  - 6. Pendant drops.

## 2.4 RIGID GALVANIZED STEEL (RGS)

- A. Conduit Use:
  - 1. Interior and exterior exposed primary service conduit.
  - 2. Interior and exterior exposed secondary service conduit.
  - 3. Exterior exposed branch circuits.

## 2.5 FLEXIBLE METAL CONDUIT

- A. Provide a flexible metal conduit system for the termination points at equipment that may possibly vibrate such as motors, welders, etc. The length shall not exceed 6 feet.
- B. Conduit shall be electrically continuous from outlet or conduit end to the utilization equipment.
- C. The total length of flexible conduit in any circuit shall not exceed 6 feet.
- D. Where exposed to continuous or intermittent moisture, conduit shall be liquid tight flexible type, U.L. Type EF.

## **PART 3 - EXECUTION**

### 3.1 INSTALLATION

- A. Minimum size of conduits shall be 3/4 inch.
- B. Conduit joints shall be cut square, threaded, reamed smooth, and drawn up tight so conduit ends will butt in couplings, connectors, and fittings.

- C. Make bends or offsets with standard ells or field bends with an approved bender.
- D. Run conduits concealed in floor slabs, below slabs, or in walls in direct line with long sweep bends or offsets. Run exposed conduits and conduits run above lay-in ceilings parallel to and at right angles to building lines. Group multiple conduit runs in banks.
- E. Secure conduits to all boxes and cabinets with two locknuts and bushings so system will be electrically continuous from service to all outlets.
- F. Cap ends of conduits to prevent entrance of water and other foreign material during construction.
- G. Complete conduit systems before pulling conductors.
- H. Conduits shall be divided according to voltage and amperage service level. Conduits of different voltage levels shall be physically separated by the following distances unless otherwise specified on the drawings by the electrical engineer or control system supplier.
  - 1. Level 1 conduits shall contain low level input/output signal conductors including RTD cables, thermocouple cables, and 4-20 mA d.c. cables from field transmitters.
  - 2. Level 2 conduits shall contain all conductors for 24 volts d.c. power and signal.
  - 3. Level 3 conduits shall contain all conductors for 120 volt a.c. power to the PLC control cabinets, motor control circuits, field devices requiring 120-volt power, etc.
  - 4. Level 4 conduits shall contain all conductors for 120 volts d.c. control power greater than 3 amps, all 120 volts a.c. power greater than 20 amps, and all power circuits with voltage ratings higher than 120 volts a.c. (277, 480, 4160, 13,200 volts etc.). Examples include 480-volt motor feeds, 5-kV feeders, and 120-volt lighting circuit and input/output devices such as limit switches and solenoid valves.
  - 5. Conduits shall be physically separated from each other by the following distances:

SPACING REQUIREMENTS (IN INCHES) FOR METALLIC CONDUITS			
From Level	To Level 2	To Level 3	To Level 4
Level 1	Minimum 1"	Minimum 6"	Minimum 26"
Level 2	0"	Minimum 6"	Minimum 26"
Level 3	Minimum 6"	0"	Minimum 18"

- 6. Levels 1, 2, and 3 conductors shall additionally be routed away from sources of high voltage or RF radiation such as switchgear, transformers, radio transmitters, and repeaters. Minimum separation from these sources of interference shall be 5 feet.
- 7. Data highway communications cable are generally considered Level 1 conductors; however, special requirements apply for routing to assure a low noise environment. Refer to electrical drawings and controls supplier requirements for special considerations before routing these conduits.

- I. Where conduits of different levels must cross, the minimum separations shall be maintained, and they shall cross at right angles.
- J. Provide cable supports in conduits rising vertically in accordance with the National Electrical Code, Article 300-19.
- K. Provide nylon pull cord in all empty conduits. Steel wire not acceptable as pull wire.
- L. Conduits which pass through floor slabs (except ground floor) shall be sealed with concrete grout. Seal around conduits or other wiring materials passing through partitions, which extend to the underside of the slab above, and those passing through smoke partitions and fire-rated walls. Refer to appropriate details on architectural and mechanical drawings.
- M. Conduits which enter crawl space, tunnels, and basements from outside the building shall be grouted-in to prevent entry of gases, vapors, insects, or rodents to these spaces from street mains.
- N. Conduit not serving elevator equipment shall not be permitted to pass through elevator shafts or elevator equipment rooms.
- O. Where IMC or RGS conduit is installed in a cabinet, junction box, pull box, or auxiliary gutter, conductors shall be protected by an insulated bushing. Locknuts shall be installed on conduit outside and inside enclosure.
- P. In areas where enclosed and gasketed fixtures and weatherproof devices are specified, where rigid conduit enters a sheet metal enclosure, junction box and outlet box, and not terminated in a threaded hub, a steel, or malleable iron nylon insulated hub, complete with recessed sealing "O" ring or sealing locknut shall be used.
- Q. Where conduits stub up in conduit space beneath switchgear and do not connect directly to equipment enclosures, use malleable iron nylon insulated ground bushing with a lay-in lug design complete with bonding screw, Raco 1212-1296.
- R. Provide seal-off fitting in all conduits entering hazardous areas and any conduits entering a cold temperature area such as freezers and dry refrigerators.
- S. In concrete slabs, block up conduit from forms and securely fasten in place. All conduits in slabs shall have a minimum of 1-1/2 inches concrete coverage above and below.
- T. Encase in 4 inches of 1:2:4 mix concrete on all sides all feeder conduits laid below ground outside building foundation line.
- U. Where conduits running overhead pass through building expansion joints they shall be connected by flexible metal conduit of same size with sufficient slack to allow conduits on either side of expansion joint to move a minimum of 3 inches in any direction. Provide supports as required on each side of expansion joint, all in accordance with seismic requirements of specific area.

- V. Conduits for feeders and branch circuits shall be terminated directly into panelboard enclosure without the use of pull boxes, junction boxes, wireways, or auxiliary gutters, unless the panelboard enclosure does not provide sufficient surface area for all conduits. Where such cases exist, the contractor shall notify the Designer. In no case will splices in such boxes, wireways, etc., be permitted.
- W. Failure to route conduit through building without interfering with other equipment and construction shall not constitute a reason for an extra charge. Equipment, conduit, and fixtures shall fit into available spaces in building and shall not be introduced into building at such times and manner as to cause damage to structure. Equipment requiring servicing shall be readily accessible.
- X. No conduit shall be installed in elevated slabs.

### 3.2 EMT

- A. Do not use electric metallic tubing in cinder concrete or cinder fill where subject to permanent moisture unless protected on all sides by a layer of noncinder concrete at least 2 inches thick or unless the EMT is at least 18 inches under the fill. Use of set-screw fitting is not acceptable in concrete or in fill under slab.

### 3.3 FLEXIBLE METAL CONDUIT

- A. Flexible metal conduits shall be 1/2 inch minimum size.
- B. Where fittings for liquidtight flexible conduit are brought into an enclosure with a knock-out, a gasket assembly, consisting of one piece "O" ring, with Buna-N sealing material, shall be installed on outside of box. Fittings shall be made of either steel or malleable iron only, and shall have insulated throats or insulated bushings.
- C. In dry locations, where final connections to motors and other equipment may be made with flexible metal conduit, fittings shall be of steel or malleable iron only with insulated throats or insulated bushings, and shall be of wedge and screw type having an angular wedge fitting between convolutions of conduit.
- D. An additional copper ground wire shall be installed inside of flexible conduit and bonded at each end to assure continuity of ground to lighting fixtures, controls, and other utilization equipment.
- E. All recessed lighting fixtures shall be connected with flexible metallic conduit from outlet box to fixture. Rigid conduit connections to lighting fixtures are not acceptable.
- F. Install liquidtight flexible conduit in such a manner as to prevent liquids from running on the surface toward fittings.
- G. Allow sufficient slack conduit to reduce the effect of vibration.

**END OF SECTION 26 05 34**

## **SECTION 26 05 38 - PULL AND JUNCTION BOXES**

### **PART 1 - GENERAL**

#### **1.1 WORK INCLUDED**

- A. Provide pull and junction boxes of appropriate size and depth or as indicated on the drawings and as specified hereinafter.

#### **1.2 SUBMITTALS**

- A. Submittals of products furnished under this section are not required.

### **PART 2 - PRODUCTS**

#### **2.1 ACCEPTABLE MANUFACTURERS/MATERIALS**

- A. Pull and junction boxes shall be by Hoffman, Cooper, or Steel City.
- B. For interior work, provide galvanized sheet metal boxes of code thickness with lapped and welded joints, 3/4 inch flanges, screw covers, etc.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Provide junction boxes as shown on drawings and otherwise where required, sized according to number of conductors in box or type of service to be provided. Minimum junction box size 4 inches square and 2-1/8 inches deep. Provide screw covers for junction boxes.
- B. Use minimum 16 gauge steel for pull boxes and provide with screw cover.
- C. Install boxes in conduit runs wherever necessary to avoid long runs or excessive bends. Do not exceed 100 foot runs, or three 90 degree bends, without pull boxes.
- D. Rigidly secure boxes to walls or ceilings. Use of conduit as a support is not acceptable.
- E. Install boxes in accessible locations. Size boxes in accordance with Articles No. 312 and No. 314 of the latest edition of the National Electrical Code.
- F. Install boxes so that the covers will be accessible at all times.



- G. Do not install pull or junction boxes for joint use of line voltage and signal or low voltage controls unless all conductors are insulated for the highest voltage being used in the same box. Emergency system and normal system circuits shall not be routed through a common pull or junction box.

**END OF SECTION 26 05 38**

## **SECTION 32 31 19**

### **DECORATIVE METAL FENCES AND GATES**

#### **PART 1 GENERAL**

##### 1.01 SECTION INCLUDES

- A. Ornamental picket fencing.

##### 1.02 RELATED SECTIONS

- A. Electrical: See drawings and Access Control documents.

##### 1.03 QUALITY ASSURANCE

- A. Manufacturer: Minimum of 5 years experience manufacturing ornamental picket fencing similar to the type specified and detailed for this project.
- B. Loading and Spacing: Completed fence panels and posts shall be capable of supporting a 400 lb. load (applied at midspan) without permanent deformation.

##### 1.04 SUBMITTALS

- A. Shop drawings: Layout of fences and gates with dimensions, details, and finishes of components, accessories, and post foundations.
- B. Product Data: Manufacturer's catalog cuts indicating material compliance and specified options.
- C. Samples: Color selection for polymer finishes. If requested, samples of materials (e.g., finials, caps, and accessories).

##### 1.05 WARRANTY

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- A. All structural fence components (i.e. rails, pickets, and posts) shall be warranted within specified limitations, by the manufacturer for a period of 10 years from date of original purchase. Warranty shall cover any defects in material finish, including cracking, peeling, chipping, blistering or corroding.

#### **PART 2 PRODUCTS**

##### 2.01 FENCE AND GATE MANUFACTURER

- A. Basis of Design: Drawings and specifications are based on Aegis Plus Commercial Classic by AMERISTAR.
- B. Other Manufacturers: Fence systems manufactured by others are acceptable providing the fence components meet the requirements specified and is an acceptable match as determined by the Architect.

- C. Component sizes and spacing specified herein and indicated on the drawings are approximate and may be slightly adjusted per MFR's specific component designs

2.02 ORNAMENTAL PICKET FENCE

- A. Material: Steel ASTM A924/A924M, with a minimum yield strength of 45,000 psi (310 MPa). The steel shall be hot-dip galvanized to meet the requirements of ASTM A653/A653M with a minimum zinc coating weight of 0.60 oz/ft<sup>2</sup> (276 g/m<sup>2</sup>), Coating Designation G-60 minimum.
- B. Pickets:
  1. Size pickets: 3/4" square x 17 Ga. tubing.
  2. Space pickets: 5" center-to-center.
  3. Attach each picket to each rail with screws or welds.
  4. Retaining Rods: 0.125" diameter galvanized steel
- C. Rails: Double-wall design with outside cross-section dimensions of 1.50" square and a minimum thickness of 14 Ga.
- D. Provide reinforced concrete footings for posts. Fence manufacturer to provide engineered drawings for fence design and fence footings sealed by an engineer licensed in Tennessee. **Minimum post sizes as follows:**

Fence Posts	Panel Height
2-1/2" x 12 Ga.	Up to & Including 8' Height
3" x 12 Ga.	Over 8' Up to & Including 10' Height
4" x 11 Ga.	Over 10' Height
- E. Accessories: Assembled panels with ornamental accessories attached using security screws to prevent removal and vandalism. Provide stainless steel screws, with exposed heads finished to match fence finish.
- F. High Performance Finish: All pickets, channels, posts, fittings and accessories: Polyester coated individually after drilling and layout.
  1. Pre-Treatment: Power wash process
  2. Base coat: Thermoset epoxy; minimum 2 mils.
  3. Finish: Polyester resin based power coating; minimum thickness: 2.0 mils
  3. Color: Black.

2.03 ACCESSORIES

- A. Ornamental Picket Fence Accessories: Provide indicated items required to complete fence system. Galvanize each ferrous metal item in accordance with ASTM B695 and finish to match framing.
- B. Post Caps: Formed or cast alloy, weathertight closure cap. Provide one post cap for each post. Match picket fence finish specified herein.

2.04 GATES

- A. Material: 1.5" x 14ga double channel rail, 1.75" sq. x 14ga. gate ends, and 3/4" sq. x 17ga. pickets. Gates that exceed 6' in width will have a 1.5" sq. x 14ga. intermediate upright. All rail and upright intersections shall be joined by welding. All picket and rail intersections shall also be joined by welding.

- B. Pedestrian swing gates: self-closing, having a gate leaf no larger than 48" width.
- C. Hardware: Latches permitting operation from both sides of gate, hinges, and keepers for each gate leaf more than 5 feet (1.52 m) wide. Provide center gate stops and cane bolts for pairs of gates. Fabricate latches with integral eye openings for padlocking; padlock accessible from both sides of gate.
- D. Hinges: BHMA A156.1, Grade 1, suitable for exterior use.
  - 1. Function: 39 - Full surface, triple weight, antifriction bearing.
  - 2. Material: Wrought steel, forged steel, cast steel, or malleable iron.
- E. Cane Bolts: Provide for inactive leaf of pairs of gates. Fabricated from 3/4-inch- (19-mm-) diameter, round steel bars, hot-dip galvanized after fabrication. Finish to match gates. Provide galvanized-steel pipe strikes to receive cane bolts in closed position.
- F. Integrated hinge-closer set (2 qty) ADA compliant that shall include a variable speed & final snap adjustment with compact design (no greater than 5" x 6" footprint) for double gates at vehicle access.
  - 1. Hinge-closer set (2 qty) shall be tested to a minimum of 500,000 cycles and capable of self-closing gates up to a maximum gate weight of 260 lbs. and maximum weight load capacity of 1,500 lbs. Hinge-closer device shall be externally mounted with tamper-resistant security fasteners, with full range of adjustability, horizontal (.5" - 1.375") and vertical (0 - .5").
  - 2. Maintenance free hinge-closer set shall be tested to operate in temperatures of negative 20 F to 200 F degrees, and swings to negative 2 degrees to ensure reliable final lock engagement.
- G. Security plates for door hardware at pedestrian gate access. Coordinate with door hardware manufacturer and security system manufacturer.
- H. Finish: Match picket fence finish specified herein

## 2.05 SETTING MATERIAL

- A. Concrete: Footings provided by fence manufacturer. See paragraph 2.02.D

## 2.06 FABRICATION

- A. Pickets, rails and posts shall be pre-cut to specified lengths. Rails shall be pre-punched to accept pickets.
- B. Grommets: To be inserted into the pre-punched holes in the rails and pickets shall be inserted through the grommets so that pre-drilled picket holes align with the internal upper raceway of the rails
- C. Retaining Rods: To be inserted into each rail so that they pass through the pre-drilled holes in each picket, completing the panel assembly.

## **PART 3 EXECUTION**

3.01 EXAMINATION

- A. Verify areas to receive fencing are completed to final grades and elevations.

3.02 INSTALLATION - FENCE

- A. Install fence in accordance with manufacturer's instructions.
- B. Space posts uniformly at spacings indicated on the drawings.
- C. Concrete Set Posts: Drill hole in firm undisturbed or compacted soil. Holes shall have diameter 4 times greater than nominal outside dimension of post, and depths approximately 36" deep (6" deeper than post bottom). Place concrete around post in a continuous pour. Trowel finish around posts and slope to direct water away from posts.
- D. Surface mount (wall mount) posts with mounting plates where indicated. Fasten with lag bolts and shields.
- E. Check each post for vertical and top alignment and maintain in position during placement and finishing operation.
- F. Align fence panels between posts. Firmly attach rail brackets to posts with bolt and lock nut, ensuring panels and posts remain plumb.

3.02 INSTALLATION - GATE

- A. Provide gate post foundations in accordance with manufacturers shop drawings.
- B. Mount operator with mounting hardware as recommended by manufacturer.
- C. Install gates plumb, level, and secure for full opening without interference in accordance with manufacturer's recommendations.
- D. Attach hardware by means that will prevent unauthorized removal.
- E. Adjust hardware for smooth operation.

3.03 ACCESSORIES

- A. Install post caps and other accessories to complete fence.

3.04 CLEANING

- A. Clean up debris and unused material and remove from site.

**END OF SECTION**