

**Specification
for the**

**GHURA-24-008; Concrete Roof Repair Coating at
GHURA 100, Yona Units**

**OWNER
Guam Housing and Urban Renewal Authority**

BY: _____
Elizabeth F. Napoli, EXECUTIVE DIRECTOR

Contractor: _____

By: _____
Signature and Title

Date: _____

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IFB Number: GHURA-24-008		Submit bid to: GHURA 117 Bien Venida Ave. Sinajana, Guam 96910 Contact: Sonny Perez, 671-475-1404 or email sperez@ghura.org Ervin Santiago, 671-3008424 or email essantiago@ghura.org
Bid Opening Date: 06/28/2024	Bid Opening Time: 2:00 pm	
Project Title: GHURA-24-008;Concrete Roof Repair Coating at GHURA 100, Yona Guam		
Project Description: Roof Repair and Coating for GHURA 100		

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GHURA

Guahan Housing and Urban Renewal Authority
Aturidat Ginima' Yan Rinueban Siudad Guahan
117 Bien Venida Avenue, Sinajana, GU 96910
Phone: (671) 477-9851 · Fax: (671) 300-7565 · TTY: (671) 472-3701



Lourdes A. Leon Guerrero
Governor of Guam

Joshua F. Tenorio
Lt. Governor of Guam

Invitation for Bid IFB GHURA-24-008

Concrete Roof Repair and Coating at GHURA 100, Yona Units
This ad is paid with HUD Funds by GHURA

Guam Housing and Urban Renewal Authority (GHURA) will receive sealed proposals for **IFB GHURA-24-008 Concrete Roof Repair and Coating at GHURA 100, Yona Units, until 2:00 p.m. ChST, Friday, June 28, 2024**, at GHURA's Main office in Sinajana.

Bid packets are available for view at GHURA's website: <https://www.ghura.org/doing-business-us/bidsproposalsrelease-funds/invitation-bids> beginning **Friday, June 7, 2024**. **Interested parties must register at GHURA's Main Office in Sinajana to receive access to a downloadable bid packet file and receive notifications of any changes, amendments and/ or addendums; or to obtain a physical copy of the bid packet, there is a fee of \$50.00 (exact cash amount, money order, or company check) which is non-refundable. Registration schedule is: Monday through Friday, 8:30 a.m. - 4:00 p.m. ChST with the exception of government of Guam holidays.** A pre-bid conference will be held on **Monday, June 10, 2024, at 2:00 p.m. ChST** in the GHURA main office conference room in Sinajana. A site visit will be conducted by GHURA staff on **Tuesday, June 11, 2024**. Attendance at pre-bid conference or site visit is nonmandatory, but highly recommended. Any questions regarding the project or requirements must be submitted in writing via email to Antonio C. Camacho, Housing Procurement Administrator, at accamacho@ghura.org no later than **Wednesday, June 19, 2024. Bid closing date and time is Friday, June 28, 2024, at 2:00 p.m. ChST.** All bid submittals will be opened publicly at GHURA's main office conference room, Sinajana.

Pursuant to 5 GCA, Chapter 5, § 5212, bid guarantees in the amount of 15% of the total base bid shall accompany each bid. Bid guarantee shall be a bid bond secured by a surety company authorized to do business in Guam and listed in the latest Department of Treasury Circular 570 published in the Federal Register or as permitted by state law, a certified check, bank draft, or U.S. Government Bond at par value. All bid guarantees must be made payable to GHURA. Personal checks *will not* be accepted. GHURA reserves the right to waive irregularities and to reject any or all bids whole or in part in the best interest of the Territory as provided for in 2 GAR, Div. 4 § 3115(e)(2). In addition, GHURA also has the right to cancel all bids as provided in 5 GCA § 5225 and 2 GAR, Div. 4 § 3115(c).

For all contracts which exceed \$100,000.00, the successful bidder will be required to furnish and pay for a performance and payment bond for 100% of the contract price. GHURA will retain the bid guarantee until the performance bond is received and will release it soon thereafter. The contractor must not discriminate on the basis of race, color, religion, sex, national origin, age, disability, or genetic information in employment or the provision of services. There is a restriction against contractors employing convicted sex offenders from working at government of Guam venues. (5 GCA § 5253).

The successful bidder will be required to accomplish the following to the best possible and greatest extent feasible:

1. A goal of awarding at least 50 % of the dollar value of construction contracts to Minority and/or Women Business Enterprises (MBE/WBE) or general contractors with MBE/WBE participation.
2. In accordance with Section 3 of the U.S. Department of Housing and Urban Development Act of 1968, all construction contractors, to the maximum extent feasible shall provide training, contracting, and employment opportunities to low-income residents residing in GHURA public housing.

GHURA intends to award a contract on the basis of the lowest most responsive and responsible bid for the work described in the bid documents. No bid shall be withdrawn for a period of 60 days subsequent to the opening of bids without the prior written consent of GHURA.

GHURA is an Equal Opportunity Employer

|s| Fernando B. Esteves
Deputy Director

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

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

Instructions to Bidders for Contracts

Public and Indian Housing Programs

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1. Bid Preparation and Submission

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

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

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

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

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

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

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

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

2. Explanations and Interpretations to Prospective Bidders

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

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

3. Amendments to Invitations for Bids

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

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

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

4. Responsibility of Prospective Contractor

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

- (1) Integrity;
- (2) Compliance with public policy;
- (3) Record of past performance; and
- (4) Financial and technical resources (including construction and technical equipment).

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

5. Late Submissions, Modifications, and Withdrawal of Bids

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

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

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

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

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

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

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

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

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

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

6. Bid Opening

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

7. Service of Protest

(a) Definitions. As used in this provision:

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

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

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

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

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

8. Contract Award

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

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

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

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

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

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

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

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

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

10. Assurance of Completion

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

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

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

[] (3) a 20 percent cash escrow;

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

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

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

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

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

11. Preconstruction Conference (applicable to construction contracts)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Representations, Certifications,
and Other Statements of Bidders**
Public and Indian Housing Programs

Representations, Certifications, and Other Statements of Bidders

Public and Indian Housing Programs

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1. Certificate of Independent Price Determination

(a) The bidder certifies that--

(1) The prices in this bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to (i) those prices, (ii) the intention to submit a bid, or (iii) the methods or factors used to calculate the prices offered;

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

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

(b) Each signature on the bid is considered to be a certification by the signatory that the signatory--

(1) Is the person in the bidder's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above.

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

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

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

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

[] [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)

**AFFIDAVIT DISCLOSING OWNERSHIP, INFLUENCE, COMMISSIONS AND
CONFLICTS OF INTEREST**

(Required by 5 GCA § 5233 as amended by P.L. 36-13 (4/9/2021))

CITY OF _____)
) ss.
 ISLAND OF GUAM)

Preface. As a condition of submitting a Bid/Offer/Proposal or responding to any method of source selection under Guam’s Procurement Law for the purpose of entering into a contract with the government of Guam, this Affidavit requires all Bidders/Offerors/Prospective Contractors to make disclosures of ownership, influence, commissions, gratuities, kickbacks, and conflicts of interest occurring **during the 365 calendar days preceding the publication of this solicitation and until award of a contract**. This includes the duty to disclose **any changes** to the facts disclosed herein throughout the solicitation process; and if the entity submitting this Affidavit is awarded a contract, the duty to disclose **any changes** to the facts disclosed herein **continues throughout the life of the contract, including any extensions or renewals**.

A. I, the undersigned, being first duly sworn, depose and say that I am an authorized representative of the Bidder/Offeror/Prospective Contractor and that (please check and fill out all that apply):

The Bidder/Offeror/Prospective Contractor is an individual with a business license, and all decisions are by, and all profit is for, that same individual, with principal place of business street address being: _____

The Bidder/Offeror/Prospective Contractor is a business or artificial person (as defined in 1 GCA § 715 or 5 GCA §§ 5030(n) or 5233(b)), and is a sole proprietorship owned entirely (100%) by _____, with principal place of business street address being: _____

The Bidder/Offeror/Prospective Contractor is a business or artificial person (as defined in 1 GCA § 715 or 5 GCA §§ 5030(n) or 5233(b)), and is owned by the following multiple individuals. Note: owners of more than 10% are statutorily required to be listed below, but other owners of smaller percentage are encouraged to be listed as well.

Name of Owner	Principal Place of Business Street Address	% of Interest
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

[] One or more of the more-than-10% owners listed above is a business or artificial person. Any more-than-25% owners of such a business or artificial person are listed below per 5 GCA § 5233. Note: any less-than-25% owners of such a business or artificial person is encouraged to also be listed below.

Name of >10% Owner Business or Artificial Person:

--

Names of owners of the >10% Owner Business or Artificial Person (“Second Tier Owner”)	Owner’s Principal Place of Business Street Address	% of Interest

Name of other >10% Owner Business or Artificial Person:

--

Names of owners of the >10% Owner Business or Artificial Person (“Second Tier Owner”)	Owner’s Principal Place of Business Street Address	% of Interest

B. If any Second Tier Owner identified above is an artificial person, the natural or artificial owners of such Second Tier Owner who have held more than 49% of the shares or interest in the Bidder/Offeror/Prospective Contractor (Third Tier Owners) are as follows [if none, please so state]:

Second Tier Owner Name _____

Name of Third Tier Owner	Principal Place of Business Street Address	% of Interest
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

C. If the name of no natural person has been identified as an owner, or a Second or Third Tier Owner of the Bidder/Offeror/Prospective Contractor, please identify the name, position, address, and contact information of the natural person having the authority and responsibility for the Bid/Offer/Proposal/Prospective Contract, and the name of any natural person who has the authority and power to remove and replace the designated responsible person:

Name of Natural Person	Position	Street Address of Principal Place of Business	Phone Number, Email Address, and other Contact Information

D. Further, I say that the persons who have received or are entitled to receive a commission, gratuity, contingent fee or other compensation to solicit, secure, or assist in obtaining business related to the Bid/Offer/Proposal/Prospective Contract for which this Affidavit is submitted are as follows (if none, please so state):

Name	Principal Place of Business Street Address	Amount of Compensation
_____	_____	_____
_____	_____	_____

E. Further, I say that the persons who have directly or indirectly participated in this solicitation and who are also employees of the government of Guam or the government of the United States, if federal funds are to be used in the payment of the contract related to the Bid/Offer/Proposal/Prospective Contract for which this Affidavit is submitted, are as follows (if none, please so state):

Name	Principal Place of Business Street Address
_____	_____
_____	_____

F. Regardless of any ownership interest, the following individuals have the power to control the performance of the contract or to control the Bidder/Offeror/Prospective Contractor, directly or indirectly:

Name	Principal Place of Business Street Address
_____	_____
_____	_____

///

///

- G. Until award of the contract, and throughout the term of any contract awarded to the Bidder/Offeror/Prospective Contractor represented herein, I agree to promptly make any disclosures not made previously and update changes in ownership, identities of owners and other required information, interests, compensation or conflicts of the persons required to be disclosed. I understand that failure to comply with this requirement shall constitute a material breach of contract.
- H. I hereby declare under penalty of perjury under the laws of Guam that the foregoing is true and correct.

Executed on: _____
(date)

Signature of one of the following:
Bidder/Offeror/Prospective Contractor, if a licensed individual
Owner of sole proprietorship Bidder/Offeror/Prospective
Contractor
Partner, if the Bidder/Offeror/Prospective Contractor is a
partnership
Officer, if the Bidder/Offeror/Prospective Contractor is a
corporation

Subscribed and sworn to before me

This ____ day of _____, 20 ____.

NOTARY PUBLIC

My commission expires: _____

Requirements for Compliance with Requirements of Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u) (Section 3) Provisions of 24CFR 75

Overview of Section 3 Requirements

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

General Policy Statement:

It is the declared policy of GHURA that Equal Employment Opportunities shall be provided for every employee and applicant for employment regardless of race, color, religion, sex, national origin, handicap, or economic status; and, that through the award of contracts to contractors, vendors, and suppliers, that employment and business opportunities be created for residents of GHURA properties and other qualified low- and very low-income persons residing on the island of Guam. This policy does not end with the mere prohibition of discriminatory practices by programs receiving HUD financial assistance or contractors, subcontractors, and vendors contracting with GHURA. GHURA recognizes its obligation as well as the obligation of potential contractors, subcontractors, and vendors, to develop practical steps to achieve the goal of providing meaningful, full-time permanent employment opportunities, as well as business opportunities to GHURA Residents and other Section 3 eligible persons.

Eligibility:

Individuals and businesses that meet Section 3 criteria may seek Section 3 preference from GHURA. Targeted Section 3 worker or a Section 3 business concern, each must self-certify that they meet the applicable criteria.

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

Applicability:

For public housing financial assistance, all funding is covered, regardless of the amount of expenditure or size of a contract. This plan applies to development assistance, operating funds, capital funds, and all mixed-finance development. For housing and community development financial assistance, this plan applies to housing rehabilitation, housing construction, and other public construction projects that exceed \$200,000 or more of housing and community development financial assistance from one or more HUD programs. Applicability is determined at the project level.

For projects funded with Lead and Hazard Control and Healthy Homes Programs, this plan applies to projects that exceed \$100,000.

This plan also applies to projects that include multiple funding sources. Multiple funding source projects include projects that include public housing financial assistance, housing and community development financial assistance for single or multiple recipients, and the Lead Hazard Control and Healthy Homes Program.

Section 3 requirements do not apply to: 1) Material Supply Contracts - § 75.3(b), 2) Indian and Tribal Preferences - § 75.3(c), and 3) Other HUD assistance and other Federal assistance not subject to Section 3 §75.3 (d). However, for financial assistance that is not subject to Section 3, recipients are encouraged to consider ways to support the purpose of Section 3.

Purpose of this Policy and Compliance Plan:

The purposes of this Policy are to create sustained employment and other opportunities for Section 3 Beneficiaries and to assist Contractors in understanding their Section 3 obligations so that they can be successful in meeting the responsibilities of the Section 3 requirements. These purposes are accomplished through the guidance provided by GHURA and assistance provided by GHURA’s Section 3 coordinator. This policy shall remain in effect for so long as it remains consistent with federal regulations or amended by GHURA’s Board of Commissioners.

Numerical Goals for Section 3 Compliance:

Recipients and Contractors may demonstrate compliance with the requirement of Section 3 by meeting the numerical goals set forth in this Section 3 Program for providing training, employment, and contracting opportunities to Section 3 Residents and Section Business Concerns. Efforts to employ Section 3 Residents to the greatest extent feasible should be made at all job levels.

GHURA, in its own operations, shall endeavor to achieve the goals of Section 3 and shall provide equal responsibility to its contractors, vendors, and suppliers to implement progressive efforts to also attain compliance. In doing so, GHURA shall evaluate contractors’ compliance towards achieving the goals of Section 3.

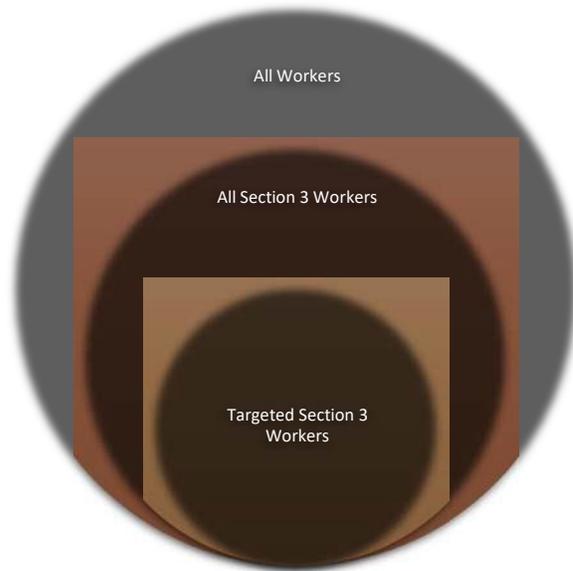
Section 3 Final Rule Benchmark Notice:

- 25% of all labor hours must be performed by a Section 3 worker.
- 5% of all labor hours must be performed by Targeted Section 3 workers

The numerical goals established above represent minimum numerical targets and all prospective contractors shall be advised and encouraged to seek Section 3 participation to the greatest extent feasible. Any contractor that meets the minimum numerical goals set forth above will be considered to have complied with the Section 3 requirements. Any contractor that does not meet the numerical goals set forth above has the burden of demonstrating why it was not feasible to meet the numerical goals. In the event no competing contractors were successful in meeting the minimum goals set forth above, GHURA shall consider documentation provided by the contractor evidencing impediments encountered despite actions taken to comply with the Section 3 Requirements. Such evidence shall be subject to the satisfaction of GHURA. Any contractor found to be in non-compliance with GHURA Section 3 shall be considered ineligible for award

All contractors submitting bids/proposals to the GHURA shall be required to complete certifications, as acknowledgment of the Section 3 contracting and employment provisions as required by this section. Such certifications shall be supported with adequate evidence to support representations made. The certifications required to be submitted with the bid/proposal consist of the following:

- Certification for business concerns seeking Section 3 preference.
- Contractor certification of efforts to fully comply with employment and training provisions of Section 3.



Section 3 Worker and Targeted Section 3 Worker:

A Section 3 worker seeking certification shall submit self-certification documentation to the recipient contractor or subcontractor, that the person is a Section 3 worker or Targeted Section 3 worker as defined in 24 CFR Part 75. For the purposes of Section 3 worker eligibility, GHURA will use individual income rather than family/household income to determine eligibility.

Individual Income Limits		
FY2022 Income Limit Area	Income Limit Category	FY 2023 Income Limits
GUAM	Extremely Low-Income Limits 30%	\$17,000
	Very Low-Income Limits 50%	\$28,300
	Low Income Limits 80%	\$45,250

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

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

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

(For public housing financial assistance)

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

- b) A resident of other public housing projects or Section 8-assisted housing; or
- c) A YouthBuild participant.

(For housing and community development assistance)

- 1) Employed by a Section 3 business concern or
- 2) Currently meets or when hired met at least one of the following categories as documented within the past five years: a) Living within the service area or the neighborhood of the project, as defined in 24 CFR Part 75.5; or b) A YouthBuild participant.

Section 3 workers and Targeted Section 3 workers who are seeking preference in training and employment must submit the Section 3 Worker and Targeted Section 3 Worker Certification Form from the GHURA office. Example of the Section 3 Worker and Targeted Section Worker form is as follows.

Please check on the link below for each of the Self-Certifications Forms:

- a. [HUD Form 4736 - Section 3 PH Certification Form](#)
- b. [HUD Form 4736A-Section3 Worker Employer Certification Form - HCD](#)
- c. [HUD Form 4736B-Section3 Worker Employer Certification Form- PH](#)
- d. [HUD Form 4736C- Section3 Worker Self-Certification Form - HCD](#)
- e. [HUD Form 4736D-Section3 Worker Self Certification Form - PH](#)

Section 3 Program Participant Certification Procedure:

GHURA will certify Section 3 program participants who reside in GUAM or near the project site and who are seeking preference in training and employment by completing and attaching adequate proof of Section 3 eligibility.

- 1. All persons living in GUAM or within the required radius of the project site who meet the Section 3 eligibility guidelines.
- 2. Once this assessment is complete, the Section 3 Coordinator will determine if the individual needs the eligibility requirements and is job ready.
- 3. If the individual is deemed eligible for Section 3 participation and deemed not ready for employment, a referral will be made to other agencies that are better equipped to address the individual's needs, i.e., substance abuse providers, etc.
- 4. The Section 3 readiness component is a part of GHURA's commitment to provide economic opportunities and training to residents/eligible participants to become gainfully employed.

Section 3 Business Concern Certification:

Businesses that believe they meet the Section 3 Business requirements can may self-register in the HUD Business registry, here: <http://www.hud.gov/sec3biz>. Businesses may seek Section 3 Business Concern preference by demonstrating that it meets one or more of the following criteria:

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

Businesses that seek Section 3 preference shall certify, or demonstrate to GHURA contractors or subcontractors, that they meet the definitions provided in the above. Businesses may demonstrate eligibility by submitting the Section 3 Business Concern Certification Form, located at the GHURA office.

Section 3 Business Concern Certification Forms must be submitted at the time of bid/proposal. If GHURA previously approved the business concern to be Section 3 certified, then the certification can be submitted along with the bid, as long as the form is submitted within the prescribed expiration date. The Section 3 Business Concern Certification Form will expire after **12 months**. Establishing a **12-month certification** of eligibility period allows GHURA the ability to assess contractor performance to ensure the business is striving to meet the required goals.

Note: While registering as a Section 3 Business Concern may give a business certain preference, such registration is not a guarantee of such preferences that the business will be awarded any contractors or subcontracts by GHURA or its contractors/vendors.

Example of a Certification for Business Concerns Seeking Section 3 Preference form is located below:

Certification for Business Concerns Seeking Section 3 Preference in Contracting and Demonstration of Capability

Business Information	
Name of Business:	
Address of Business:	
Name of Business Owner:	
Phone Number of Business Owner:	
Email Address of Business Owner:	

Preferred Contact Information

Same as above: <input type="checkbox"/>	
Name of Preferred Contact:	
Phone Number of Preferred Contact:	

Type of Business (select from the following options):

Corporation Partnership Sole Proprietorship Joint Venture

Select from ONE of the following three options below that applies:

At least 51 percent of the business is owned and controlled by low- or very low-income persons (Refer to income guidelines on page 3)

At least 51 percent of the business is owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.

Over 75 percent of the labor hours performed for the business over the prior three-month period are performed by Section 3 workers (Refer to definition on page 3).

GHURA SECTION 3 FORM-01B
pg. 1

Business Concern Affirmation

I affirm that the above statements on this form are true, complete, and correct to the best of my knowledge and belief. I understand that businesses who misrepresent themselves as Section 3 business concerns and report false information to [insert name of recipient/grantee] may have their contracts terminated as default and be barred from ongoing and future considerations for contracting opportunities. I hereby certify, under penalty of law, that the following information is correct to the best of my knowledge.

Print Name: _____

Signature: _____ **Date:** _____

*Certification expires within six months of the date of signature. Information regarding Section 3 Business Concerns can be found at 24 CFR 75.3

FOR ADMINISTRATIVE USE ONLY

Is the business a Section 3 business concern based upon their certification?
 Yes No

EMPLOYERS MUST RETAIN THIS FORM IN THEIR SECTION 3 COMPLIANCE FILE FOR FIVE YEARS.

GHURA SECTION 3 FORM-01B
pg. 2

Section 3 Recruitment and New hires:

Contractors are expected to make best efforts to achieve the benchmarks and Section 3 Worker priorities outlined in this Policy and at 24 CFR Part 75. This section provides guidance for the recruitment of New Hires who are Section 3 Workers and Targeted Section 3 Workers to assist Contractors in meeting their benchmarks and obligations.

A. Recruitment Efforts:

1. Contractors/Subcontractors are to advertise Job Announcements within the project site area.
2. Independent of GHURA's efforts and referrals, Contractors shall engage in independent employment recruitment efforts and follow the Section 3 Worker and Targeted Section 3 Worker order in of hiring priority as identified in this policy.
5. Contractors shall submit to GHURA the status reports of this Recruitment efforts.

B. Section 3 Worker and Targeted Section 3 Worker New Hires:

1. All Section 3 Worker and Targeted Section 3 Worker New Hires shall be employees of the Contractor and shall have all the protections afforded to employees under state, federal and local laws. Contractors are expected to impose the same hiring requirements and personnel rules and policies upon Section 3 Worker New Hires as are imposed upon their other employment candidates and employees. GHURA expects and requires Contractors to abide by equal pay for equal work principles.
2. Contractors are required to report to GHURA within five (5) business days of hiring Section 3 Workers and Targeted Section 3 Workers and shall provide to GHURA a completed Section 3 Worker and Targeted Section 3 Worker form.

C. Apprenticeship Programs:

1. Contractors who employ apprentices are required to utilize apprenticeship programs approved by the United States Department of Labor.
2. Contractors who employ apprentices on construction projects that are subject to the Davis-Bacon Wage Act are required to adhere to all legal requirements for wage rates and ratios of apprentices to journeymen set forth.

D. Limitations:

Contractors retain the sole discretion and control over any hiring and personnel decisions. GHURA cannot and will not exercise any control over any of the Contractor's employees, including New Hires, regardless of whether they were referred by GHURA or are Section 3 Workers/Targeted Section 3 Workers recruited through other means.

Safe Harbor Compliance: 25% of total hours or 5% of hours contracted to targeted workers:

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

Good Faith and Qualitative Efforts:

Qualitative efforts to satisfy its benchmark goals, which may include, but are not limited to the following:

1. Engaging in outreach efforts to generate job applicants who are Targeted Section 3 Workers, including notifying GHURA's Section 3 Coordinator, posting job openings at the job site, HUD Opportunity Portal, social media pages, contacting Resident Advisory Councils, and other platforms;
2. Contacting agencies administering Department of Labor YouthBuild Programs, and requesting their assistance in recruiting Department of Labor YouthBuild Program participants for training opportunities and employment positions; *(Not Applicable in Guam at this time)*
3. Consulting with state and local agencies administering training programs, such as those funded through Workforce Investment Act, unemployment compensation programs, community organizations and other officials or organizations to assist with training and recruiting Section 3 Workers and Targeted Section 3 Workers;
4. Holding job fairs;
5. Providing or connecting Section 3 Workers and Targeted Section 3 Workers with assistance in seeking employment, including: drafting resumes, preparing for interviews, and finding job opportunities connecting residents to job placement services;
6. Providing or referring Section 3 Workers to services supporting work readiness and retention (e.g., work readiness activities, interview clothing, test fees, transportation, child care);
7. Assisting Section 3 Workers to obtain financial literacy training and/or coaching;
8. Engaging in outreach efforts to identify and secure bids from Section 3 Business Concerns.
9. Providing technical assistance to help Section 3 Business Concerns understand and bid on contracts;
10. Dividing contracts into smaller jobs to facilitate participation by Section 3 Business Concerns;
11. Providing bonding assistance, guaranties, or other efforts to support viable bids from Section 3 Business Concerns;
12. Promoting use of Section 3 Business Registries designed to create opportunities for Section 3, disadvantaged and small businesses

Documented Efforts:

Contractors shall document efforts taken to recruit and interview Section 3 Workers/Targeted Section 3 Workers for hire and shall, upon reasonable request, provide GHURA with documentation that demonstrates such efforts, including interview notes, which shall include reasons for denial of employment or other actions as applicable.

Lack of Compliance:

A Contractor's failure to satisfy the requirements of this section may result in GHURA's determination that the Contractor has failed to demonstrate good faith and qualitative efforts to comply with the requirements of Section 3 and this Policy, and may subject Contractor to the penalties for default.

Reporting Requirements:

For Section 3 covered contracts, contractors must submit the Section 3 Performance and Summary Report to GHURA's Section 3 Coordinator on a periodic basis, and the annual reporting requirement set forth in these HUD forms:

- a. HUD form 4737 → [Section 3 Utilization Tracker: Business Labor Hours](#)
- b. HUD Form 4737A → [Section 3 Utilization Tracker: Section 3 Labor Hours](#)

Notes:

- i) Once a project is completed, contractors must submit a final Section 3 cumulative report.
- ii) Upon the completion of a project, GHURA's Section 3 Coordinator will conduct a final review of the project's overall performance and compliance.
- iii) GHURA's Section 3 Coordinator will submit the Section 3 data into required reporting system to HUD at the respective reporting period.

Internal Section 3 Complaint Procedure:

In an effort to resolve complaints generated due to non-compliance through an internal process, GHURA encourages submittal of such complaints to its Section 3 Coordinator as follows:

- 1) Complaints of non-compliance should be filed in writing and must contain the name of the complainant and brief description of the alleged violation of 24 CFR Part 75.
- 2) Complaints must be filed within 14 calendar days after the complainant becomes aware of the alleged violation.
- 3) An investigation will be conducted if complaint is found to be valid. GHURA will conduct an informal, but thorough investigation affording all interested parties, if any, an opportunity to submit testimony and/or evidence pertinent to the complaint.
- 4) GHURA will provide written documentation detailing the findings of the investigation. GHURA will review the findings for accuracy and completeness before it is released to complainants. The findings will be made available no later than 30 days after the filing of complaint. If complainants wish to have their concerns considered outside of GHURA a complaint may be filed with:

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

Expiration:

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

This plan expires: December 2025.

Appendices A: Definitions

The terms **HUD, Public housing, and Public Housing Agency (PHA)** are defined in 24 CFR part 5.

The following definitions also apply to 24 CFR Part 75 HUD's Economic Opportunities for Low-and Very Low-Income Persons:

1937 Act means the United States Housing Act of 1937, 42 U.S.C. 1437 et seq. activities related to Public Housing

Contractor means any entity entering into a contract with:

- (1) A recipient to perform work in connection with the expenditure of public housing financial assistance or for work in connection with a Section 3 project; or
- (2) A sub recipient for work in connection with a Section 3 project.

Labor hours means the number of paid hours worked by persons on a Section 3 project or by persons employed with funds that include public housing financial assistance.

Low-income person means a person as defined in Section 3(b)(2) of the 1937 Act, at or below 80% AMI. Note that Section 3 worker eligibility uses individual income rather than family/household income.

Material supply contracts means contracts for the purchase of products and materials, including, but not limited to, lumber, drywall, wiring, concrete, pipes, toilets, sinks, carpets, and office supplies.

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

Public housing financial assistance means assistance as defined in 24 CFR Part 75.3(a)(1).

Public housing project is defined in 24 CFR 905.108.

Recipient means any entity that receives directly from HUD public housing financial assistance or housing and community development assistance that funds Section 3 projects, including, but not limited to, any State, local government, instrumentality, PHA, or other public agency, public or private nonprofit organization.

Section 3 means Section 3 of the Housing and Urban Development Act of 1968, as amended (12 U.S.C. 1701u).
Section 3 business concern means:

- (1) A business concern meeting at least one of the following criteria, documented within the last six-month period:
 - (i) It is at least 51 percent owned and controlled by low- or very low-income persons;
 - (ii) Over 75 percent of the labor hours performed for the business over the prior three-month period are performed by Section 3 workers; or
 - (iii) It is a business at least 51 percent owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.

(2) The status of a Section 3 business concern shall not be negatively affected by a prior arrest or conviction of its owner(s) or employees.

(3) Nothing in this part shall be construed to require the contracting or subcontracting of a Section 3 business concern. Section 3 business concerns are not exempt from meeting the specifications of the contract.

Section 8-assisted housing refers to housing receiving project-based rental assistance or tenant-based assistance under Section 8 of the 1937 Act.

Service area or the neighborhood of the project means an area within one mile of the Section 3 project or, if fewer than 5,000 people live within one mile of a Section 3 project, within a circle centered on the Section 3 project that is sufficient to encompass a population of 5,000 people according to the most recent U.S. Census.

Subcontractor means any entity that has a contract with a contractor to undertake a portion of the contractor's obligation to perform work in connection with the expenditure of public housing financial assistance or for a Section 3 project.

Subrecipient has the meaning provided in the applicable program regulations or in 2 CFR 200.93.

Targeted Section 3 worker has the meanings provided in 24 CFR Part 75.11, 75.21, or 75.29, and does not exclude an individual that has a prior arrest or conviction.

Very low-income person means the definition for this term set forth in section 3(b) (2) of the 1937 Act (at or below 50% AMI)

YouthBuild programs refers to YouthBuild programs receiving assistance under the Workforce Innovation and Opportunity Act (29 U.S.C. 3226).

Law to be Observed

1. The Proposer is to be familiar with federal and local laws, codes, ordinances, and regulations which, in any manner, affect those engaged or employed in the work or the material or equipment used in or upon the site, or in any way affect the conduct of the work. No place of misunderstanding or ignorance on the part of the Arbitrator will in any way serve to modify the provision of the contract.

2. Restriction Against Contractors Employing Convicted Sex Offenders from Working at Government of Guam Venues. (§5253 of Title 5 Guam Code Annotated).

(a) No person convicted of a sex offense under the provisions of Chapter 25 of Title 9 Guam Code Annotated, or an offense as defined in Article 2 of Chapter 28, Title 9 GCA in Guam, or an offense in any jurisdiction which includes, at a minimum all of the elements of said offenses, or who is listed on the Sex Offender Registry, and who is employed by a business contracted to perform services for an agency or instrumentality of the Government of Guam other than a public highway;

By submission of this bid or offer, each Vendor and each person signing on behalf of any Vendor certifies, and in the case of a joint bids or offers each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his knowledge and belief will be in compliance:

Print Name:

Print Name:

Signature:

Signature:

Title: _____
Bidder/offeror, if the Bidder/offeror is an Individual
Partner, if the Bidder/offeror is a Partnership
Officer, if the Bidder/offeror is a Corporation

Title: _____
Bidder/offeror, if the Bidder/offeror is an Individual
Partner, if the Bidder/offeror is a Partnership
Officer, if the Bidder/offeror is a Corporation

Company Name: _____

Company Name: _____

Date: _____

Date: _____

Bidder's Qualifications

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, add separate sheets for items requiring additional explanation. This information may be submitted in a separate sealed envelope marked **CONFIDENTIAL** "Bidder's Qualifications and Financial Statement". In the event your bid is not selected for award, this envelope will be returned to the Contractor unopened.

1. Name of Bidder	2. Date organized
3. Permanent main office address	4. State incorporated
	5. How many years have you been engaged in the contracting business under your present firm name?

6. Listing of current contracts: (Schedule these, showing nature of the work, gross amount of each contract, anticipated dates for completion, name and telephone number of owner's representative).

7. General character of work usually performed by your company.

8. Have you ever failed to complete any work awarded to you? If so, where and why?

9. Have you ever defaulted on a contract?

10. List the three (3) most important structures recently completed by your company, stating approximate cost of each, month and year completed, name and telephone number of owner's representative.

11. List your major equipment available for use on this contract.

12. Experience in construction work similar in importance to this project.

13. Background and experience of the principal members of your firm, including the officers and proposed construction superintendent.

--

14. Credit available for administration of this contract, furnish written evidence.

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15. Financial report not more than three (3) months old and containing a balance sheet providing at least the following information.

Balance Sheet

ASSETS

CURRENT ASSETS:

- Cash
- Joint Venture Accounts
- Accounts Receivable
- Notes Receivable
- Accrued Interest on Notes
- Deposits
- Material and Prepaid Expense
- Total Current Assets

FIXED ASSETS - NET

OTHER ASSETS

TOTAL ASSETS:

LIABILITIES AND CAPITAL

CURRENT LIABILITIES

- Accounts Payable
- Notes Payable
- Accrued Interest on Notes
- Provision for Income Taxes
- Advances Received from Owners
- Accrued Salaries
- Accrued Payroll Taxes
- Other
- Total Current Liabilities

OTHER LIABILITIES

CAPITAL

- Capital Stock
- Authorized and Outstanding Shares,
Par Value
- Earned Surplus

TOTAL LIABILITIES AND CAPITAL

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Guam Housing and Urban Renewal Authority in verification of the recitals comprising this Statement of Bidder's Qualifications.

Signature of Bidder	Name of Bidder
Date	Title of Bidder

Sworn to before me this ____ day of _____, 20 ____

Notary Public
My Commission Expires _____

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. 1/31/2027)

**Applicability. This form is applicable to any
construction/development contract greater than \$250,000.**

Public reporting burden for this collection of information is estimated to average 1.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Comments regarding the accuracy of this burden estimate and any suggestions for reducing this burden can be sent to the Reports Management Officer, Office of Policy Development and Research, REE, Department of Housing and Urban Development, 451 7th St SW, Room 4176, Washington, DC 20410-5000. When providing comments, please refer to OMB Approval No. 2577-0157. This form includes those clauses required by OMB's common rule on grantee procurement, implemented at HUD in 2 CFR 200, and those requirements set forth in Section 3 of the Housing and Urban Development Act of 1968 and its amendment by the Housing and Community Development Act of 1992, implemented by HUD at 24 CFR Part 75. The form is required for construction contracts awarded by Public Housing Agencies (PHAs). The form is used by Housing Authorities in solicitations to provide necessary contract clauses. If the form were not used, PHAs would be unable to enforce their contracts. Responses to the collection of information are required to obtain a benefit or to retain a benefit. The information requested does not lend itself to confidentiality. HUD may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB number.

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1. Definitions

- (a) "Architect" means the person or other entity engaged by the PHA to perform architectural, engineering, design, and other services related to the work as provided for in the contract. When a PHA uses an engineer to act in this capacity, the terms "architect" and "engineer" shall be synonymous. The Architect shall serve as a technical representative of the Contracting Officer. The Architect's authority is as set forth elsewhere in this contract.
- (b) "Contract" means the contract entered into between the PHA and the Contractor. It includes the forms of Bid, the Bid Bond, the Performance and Payment Bond or Bonds or other assurance of completion, the Certifications, Representations, and Other Statements of Bidders (form HUD-5370), these General Conditions of the Contract for Construction (form HUD-5370), the applicable wage rate determinations from the U.S. Department of Labor, any special conditions included elsewhere in the contract, the specifications, and drawings. It includes all formal changes to any of those documents by addendum, change order, or other modification.
- (c) "Contracting Officer" means the person delegated the authority by the PHA to enter into, administer, and/or terminate this contract and designated as such in writing to the Contractor. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer also designated in writing. The Contracting Officer shall be deemed the authorized agent of the PHA in all dealings with the Contractor.
- (d) "Contractor" means the person or other entity entering into the contract with the PHA to perform all of the work required under the contract.
- (e) "Drawings" means the drawings enumerated in the schedule of drawings contained in the Specifications and as described in the contract clause entitled Specifications and Drawings for Construction herein.
- (f) "HUD" means the United States of America acting through the Department of Housing and Urban Development including the Secretary, or any other person designated to act on its behalf. HUD has agreed, subject to the provisions of an Annual Contributions Terms and Conditions (ACC), to provide financial assistance to the PHA, which includes assistance in financing the work to be performed under this contract. As defined elsewhere in these General Conditions or the contract documents, the determination of HUD may be required to authorize changes in the work or for release of funds to the PHA for payment to the Contractor. Notwithstanding HUD's role, nothing in this contract shall be construed to create any contractual relationship between the Contractor and HUD.
- (g) "Project" means the entire project, whether construction or rehabilitation, the work for which is provided for in whole or in part under this contract.
- (h) "PHA" means the Public Housing Agency organized under applicable state laws which is a party to this contract.
- (j) "Specifications" means the written description of the technical requirements for construction and includes the criteria and tests for determining whether the requirements are met.
- (l) "Work" means materials, workmanship, and manufacture and fabrication of components.

2. Contractor's Responsibility for Work

- (a) The Contractor shall furnish all necessary labor, materials, tools, equipment, and transportation necessary for performance of the work. The Contractor shall also furnish all necessary water, heat, light, and power not made available to the Contractor by the PHA pursuant to the clause entitled Availability and Use of Utility Services herein.
- (b) The Contractor shall perform on the site, and with its own organization, work equivalent to at least [] (12 percent unless otherwise indicated) of the total amount of work to be performed under the order. This percentage may be reduced by a supplemental agreement to this order if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the PHA.
- (c) At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the work site a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.
- (d) The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The Contractor shall hold and save the PHA, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.
- (e) The Contractor shall lay out the work from base lines and bench marks indicated on the drawings and be responsible for all lines, levels, and measurements of all work executed under the contract. The Contractor shall verify the figures before laying out the work and will be held responsible for any error resulting from its failure to do so.
- (f) The Contractor shall confine all operations (including storage of materials) on PHA premises to areas authorized or approved by the Contracting Officer.
- (g) The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. After completing the work and before final inspection, the Contractor shall (1) remove from the premises all scaffolding, equipment, tools, and materials (including rejected materials) that are not the property of the PHA and all rubbish caused by its work; (2) leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer; (3) perform all specified tests; and, (4) deliver the installation in complete and operating condition.
- (h) The Contractor's responsibility will terminate when all work has been completed, the final inspection made, and the work accepted by the Contracting Officer. The Contractor will then be released from further obligation except as required by the warranties specified elsewhere in the contract.

3. Architect's Duties, Responsibilities, and Authority

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

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

4. Other Contracts

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

Construction Requirements

5. Pre-construction Conference and Notice to Proceed

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

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

6. Construction Progress

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

7. Site Investigation and Conditions Affecting the Work

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

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

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

8. Differing Site Conditions

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

9. Specifications and Drawings for Construction

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

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

- (b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by", or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.
- (c) Where "as shown" "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place" that is "furnished and installed".
- (d) "Shop drawings" means drawings, submitted to the PHA by the Contractor, subcontractor, or any lower tier subcontractor, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit, and attachment details) of materials of equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract. The PHA may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.
- (e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with other contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the PHA's reasons therefore. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.
- (f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Architect approves any such variation and the Contracting Officer concurs, the Contracting Officer shall issue an appropriate modification to the contract, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.
- (g) It shall be the responsibility of the Contractor to make timely requests of the PHA for such large scale and full size drawings, color schemes, and other additional information, not already in his possession, which shall be

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

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

10. As-Built Drawings

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

11. Material and Workmanship

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

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

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

12. Permits and Codes

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

waivers. Before installing the work, the Contractor shall examine the drawings and the specifications for compliance with applicable codes and regulations bearing on the work and shall immediately report any discrepancy it may discover to the Contracting Officer.

Where the requirements of the drawings and specifications fail to comply with the applicable code or regulation, the Contracting Officer shall modify the contract by change order pursuant to the clause entitled Changes herein to conform to the code or regulation.

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

13. Health, Safety, and Accident Prevention

(a) In performing this contract, the Contractor shall:

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

(b) For these purposes, the Contractor shall:

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

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

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

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

14. Temporary Heating

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

15. Availability and Use of Utility Services

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

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

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

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

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

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

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

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

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

17. Temporary Buildings and Transportation of Materials

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

18. Clean Air and Water

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

19. Energy Efficiency

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

20. Inspection and Acceptance of

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

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

21. Use and Possession Prior to Completion

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

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

22. Warranty of Title

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

23. Warranty of

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

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

24. Prohibition Against Liens

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

Administrative Requirements

25. Contract Period

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

26. Order of Provisions

accordance with the terms and conditions of the

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

27. Payments

retain ten (10) percent of the amount of progress

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

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

- (d) The Contractor shall submit, on forms provided by the PHA, periodic estimates showing the value of the work performed during each period based upon the approved submitted not later than _____ days in advance of the date set for payment and are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment. If the contract covers more than one project, the Contractor shall furnish a separate progress payment estimate for each.
- (e) Along with each request for progress payments and the required estimates, the Contractor shall furnish the following certification, or payment shall not be made: I hereby certify, to the best of my knowledge and belief, that:

- (1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;
- (2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements; and,
- (3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in subcontract.

Name:

Title:

Date:

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

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

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

28. Contract Modifications

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

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

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

29. Changes

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

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

30. Suspension of Work

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

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

31. Disputes

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

32. Default

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

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

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

33. Liquidated Damages

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

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

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

34. Termination for

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

35. Assignment of Contract

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

36. Insurance

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

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

(3) Automobile Liability on owned and non-owned motor vehicles used on the site(s) or in connection therewith for a combined single limit for bodily injury and property damage of not less than \$ _____

[Contracting Officer insert amount] per occurrence.

(b) Before commencing work, the Contractor shall furnish the PHA with a certificate of insurance evidencing that Builder's Risk (fire and extended coverage) Insurance on all work in place and/or materials stored at the building site(s), including foundations and building equipment, is in force. The Builder's Risk Insurance shall be for the benefit of the Contractor and the PHA as their interests may appear and each shall be named in the policy or policies as an insured. The Contractor in installing equipment supplied by the PHA shall carry insurance on such equipment from the time the Contractor takes possession thereof until the Contract work is accepted by the PHA. The Builder's Risk Insurance need not be carried on excavations, piers, footings, or foundations until such time as work on the superstructure is started. It need not be carried on landscape work. Policies shall furnish coverage at all times for the full cash value of all completed construction, as well as materials in place and/or stored at the site(s), whether or not partial payment has been made by the PHA. The Contractor may terminate this insurance on buildings as of the date taken over for occupancy by the PHA. The Contractor is not required to carry Builder's Risk Insurance for modernization work which does not involve structural alterations or additions and where the PHA's existing fire and extended coverage policy can be endorsed to include such work.

(c) All insurance shall be carried with companies which are financially responsible and admitted to do business in the State in which the project is located. If any such insurance is due to expire during the construction period, the Contractor (including subcontractors, as applicable) shall not permit the coverage to lapse and shall furnish evidence of coverage to the Contracting Officer. All certificates of insurance, as evidence of coverage, shall provide that no coverage may be canceled or non-renewed by the insurance company until at least 30 days prior written notice has been given to the Contracting Officer.

37. Subcontracts

(a) Definitions. As used in this contract -

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

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

(b) The Contractor shall not enter into any subcontract with any subcontractor who has been temporarily denied participation in a HUD program or who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or of the state in which the work under this contract is to be performed.

(c) The Contractor shall be as fully responsible for the acts or omissions of its subcontractors, and of persons either directly or indirectly employed by them as for the acts or omissions of persons directly employed by the Contractor.

(d) The Contractor shall insert appropriate clauses in all subcontracts to bind subcontractors to the terms and conditions of this contract insofar as they are applicable to the work of subcontractors.

(e) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the PHA or between the subcontractor and HUD.

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

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

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

39. Equal Employment Opportunity

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

(a) The Contractor/Seller shall not discriminate against any employee or applicant for employment because of race color, religion, sex, sexual orientation, gender identity, disability, or national origin.

(b) The Contractor/Seller shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, disability, or national origin. Such action shall include, but not be limited to, (1) employment, (2) upgrading demotion, (4) transfer, (5) recruitment or recruitment advertising, (6) layoff or termination, (7) rates of pay or other forms of compensation, and (8) selection for training, including apprenticeship

(c) The Contractor/Seller agrees to post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

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

(e) The Contractor/Seller shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(f) The Contractor/Seller shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(g) The Contractor/Seller shall furnish all information and reports required by Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto. The Contractor/Seller shall permit

access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(h) In the event of a that the Contractor/Seller is in noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor/seller may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(i) The contractor/seller will include the provisions of paragraphs (a) through (h) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each sub[contractor/seller] or vendor. The [contractor/seller] will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the [contractor/seller] becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the [contractor/seller] may request the United States to enter into such litigation to protect the interests of the United States.

(j) Compliance with the requirements of this clause shall be to the maximum extent consistent with, but not in derogation of, compliance with section 7(b) of the Indian Self-Determination and Education Assistance Act and the Indian Preference clause of this contract.

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

(a) The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

(b) The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 75, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 75 regulations.

(c) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 prioritization requirements and shall state the minimum percentages of labor hour requirements established in the Benchmark Notice (FR-6085-N-04).

(d) The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 75. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 75.

(e) Noncompliance with HUD's regulations in 24 CFR Part 75 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

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

41. Interest of Members of Congress

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

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

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

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

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

44. Royalties and Patents

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

45. Examination and Retention of Contractor's Records

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

46. Labor Standards - Davis-Bacon and Related

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

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

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

(2) (i) Any class of laborers or mechanics, including

helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met: (A) The work to be performed by the classification requested is not performed by a classification in the wage determination; and (B) The classification is utilized in the area by the construction industry; and (C) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

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

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

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

(2) (i) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under subparagraph (c)(1) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The Contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1214-0149.)

(ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (A) That the payroll for the payroll period contains the information required to be maintained under paragraph (c) (1) of this clause and that such information is correct and complete;
 - (B) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3; and
 - (C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirements for submission of the "Statement of Compliance" required by subparagraph (c)(2)(ii) of this clause.
- (iv) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(3) The Contractor or subcontractor shall make the records required under subparagraph (c)(1) available for inspection, copying, or transcription by authorized representatives of HUD or its designee, the Contracting Officer, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to

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

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

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

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

- (2) No part of this contract shall be subcontracted to any person or firm ineligible for award of a United States Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (3) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.
- (j) Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.
 - (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.
 - (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions set forth in subparagraph (j)(1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic (including watchmen and guards) employed in violation of the provisions set forth in subparagraph (j)(1) of this clause, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by provisions set forth in subparagraph (j)(1) of this clause. DOL posts current fines at: <https://www.dol.gov/whd/govcontracts/cwhssa.htm#cmp>
 - (3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions set forth in subparagraph (j)(2) of this clause.
- (k) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts all the provisions contained in this clause, and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all these provisions.

47. Non-Federal Prevailing Wage Rates

(a) Any prevailing wage rate (including basic hourly rate and any fringe benefits), determined under State or tribal law to be prevailing, with respect to any employee in any trade or position employed under the contract, is inapplicable to the contract and shall not be enforced against the Contractor or any subcontractor, with respect to employees engaged under the contract whenever such non-Federal prevailing wage rate exceeds:

(1) The applicable wage rate determined by the Secretary of Labor pursuant to the Davis-Bacon Act (40 U.S.C. 3141 et seq.) to be prevailing in the locality with respect to such trade;

(b) An applicable apprentice wage rate based thereon specified in an apprenticeship program registered with the U.S. Department of Labor (DOL) or a DOL-recognized State Apprenticeship Agency; or

(c) An applicable trainee wage rate based thereon specified in a DOL-certified trainee program.

48. Procurement of Recovered Materials.

(a) In accordance with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, the Contractor shall procure items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition. The Contractor shall procure items designated in the EPA guidelines that contain the highest percentage of recovered materials practicable unless the Contractor determines that such items: (1) are not reasonably available in a reasonable period of time; (2) fail to meet reasonable performance standards, which shall be determined on the basis of the guidelines of the National Institute of Standards and Technology, if applicable to the item; or (3) are only available at an unreasonable price.

() Paragraph (a) of this clause shall apply to items purchased under this contract where: (1) the Contractor purchases in excess of \$10,000 of the item under this contract; or (2) during the preceding Federal fiscal year, the Contractor: (i) purchased any amount of the items for use under a contract that was funded with Federal appropriations and was with a Federal agency or a State agency or agency of a political subdivision of a State; and (ii) purchased a total of in excess of \$10,000 of the item both under and outside that contract.

"General Decision Number: GU20240001 01/05/2024

Superseded General Decision Number: GU20230001

State: Guam

Construction Types: Building, Heavy, Highway and Residential

Excludes any projects funded under the National Defense Authorization Act 2010 - Guam Realignment Fund - Defense Policy Review

County: Guam Statewide.

BUILDING, HEAVY, HIGHWAY AND RESIDENTIAL

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

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract.
	The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.

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

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

Modification Number Publication Date
0 01/05/2024

SUGU2020-001 03/05/2020

Rates Fringes

CARPENTER.....\$ 15.48 **
CEMENT MASON.....\$ 14.92 **
ELECTRICIAN.....\$ 18.52
Heavy Equipment Mechanic.....\$ 18.32
Heavy Equipment Operator.....\$ 16.58 **
IRONWORKER, REINFORCING.....\$ 15.61 **
IRONWORKER, STRUCTURAL.....\$ 14.90 **
PAINTER.....\$ 12.86 **
PIPEFITTER.....\$ 16.52 **
PLASTERER.....\$ 22.89
PLUMBER.....\$ 16.52 **
REFRIGERATION MECHANIC
(including Heating, Air
Conditioning (HVAC) Mechanic
work).....\$ 18.43
SHEET METAL WORKER.....\$ 16.73 **

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

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** Workers in this classification may be entitled to a higher
minimum wage under Executive Order 14026 (\$17.20). Please see
the Note at the top of the wage determination for more
information. Please also note that the minimum wage
requirements of Executive Order 14026 are not currently being
enforced as to any contract or subcontract to which the states
of Texas, Louisiana, or Mississippi, including their agencies,
are a party.

Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses

(29CFR 5.5 (a) (1) (iii)).

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

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

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

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

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

Union Average Rate Identifiers

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

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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

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END OF GENERAL DECISION"

A. APPLICABILITY

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

1. Minimum wages and fringe benefits

- i. All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), 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 basic hourly 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. As provided in 29 CFR 5.5(d) and (e), the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(v) of these contract clauses; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) 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 classifications and wage rates conformed under 29 CFR 5.5(a)(1)(iii)) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

ii. Frequently recurring classifications

- A. In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to 29 CFR 5.5(a)(1)(iii), provided that:
 1. The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;
 2. The classification is used in the area by the construction industry; and
 3. The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.
- B. The Administrator will establish wage rates for such classifications in accordance with 29 CFR 5.5(a)(1)(iii)(A)(3). Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

iii. Conformance

- A. The contracting officer must require that 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 be

classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

1. The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 2. The classification is used in the area by the construction industry; and
 3. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- B. The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.
- C. If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- D. In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- E. The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under 29 CFR 5.5 (a)(1)(iii)(C) and (D). The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to 29 CFR 5.5 (a)(1)(iii)(C) or (D) must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

iv. Fringe benefits not expressed as an hourly rate

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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

v. Unfunded plans

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, in accordance with the criteria set forth in 29 CFR 5.28, 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.

- vi. Interest** In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding

i. Withholding requirements

The U. S. Department of Housing and Urban Development may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in 29 CFR 5.5(a) for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work (or otherwise working in construction or development of the project under a development statute) all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in 29 CFR 5.5(a)(3)(iv), HUD may on its own initiative and after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, 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.

ii. Priority to withheld funds

The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:

- A. A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- B. A contracting agency for its procurement costs;
- C. A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- D. A contractor's assignee(s);
- E. A contractor's successor(s); or
- F. A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

3. Records and certified payrolls

i. Basic record requirements

A. Length of record retention. All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

B. Information required Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; 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 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

C. Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(v) that the wages of any laborer or mechanic include the amount of any

costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must 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.

D. Additional records relating to apprenticeship Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

ii. Certified payroll requirements

A. Frequency and method of submission The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to HUD if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the certified payrolls to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system

B. Information required The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i)(B), except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.*, the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the sponsoring government agency (or the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records).

C. Statement of Compliance Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

1. That the certified payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information and basic records are being maintained under 29 CFR 5.5 (a)(3)(i), and such information and records are correct and complete;
2. That each laborer or mechanic (including each helper and apprentice) working 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

3. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.
 - D. **Use of Optional Form WH-347** The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the “Statement of Compliance” required by 29 CFR 5.5(a)(3)(ii)(C).
 - E. **Signature** The signature by the contractor, subcontractor, or the contractor’s or subcontractor’s agent must be an original handwritten signature or a legally valid electronic signature.
 - F. **Falsification** The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.
 - G. **Length of certified payroll retention** The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.
- iii. **Contracts, subcontracts, and related documents** The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.
- iv **Required disclosures and access**
- A. **Required record disclosures and access to workers** The contractor or subcontractor must make the records required under 29 CFR 5.5(a)(3)(i)–(iii), and any other documents that HUD or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by 29 CFR 5.1, available for inspection, copying, or transcription by authorized representatives of HUD or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.
 - B. **Sanctions for non-compliance with records and worker access requirements** If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, 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, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to 29 CFR 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.
 - C. **Required information disclosures** Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to HUD if the agency is a party to

the contract, or to the Wage and Hour Division of the Department of Labor. If the Federal agency is not such a party to the contract, the contractor, subcontractor, or both, must, upon request, provide the full Social Security number and last known address, telephone number, and email address of each covered worker to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. **Apprentices and equal employment opportunity**

i. **Apprentices**

- A. **Rate of pay** Apprentices will be permitted to work at less than the predetermined rate for the work they perform 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 (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- B. **Fringe benefits** Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.
- C. **Apprenticeship ratio** The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to 29 CFR 5.5(a)(4)(i)(D). Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in 29 CFR 5.5(a)(4)(i)(A), must 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 this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.
- D. **Reciprocity of ratios and wage rates** Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

- ii **Equal employment opportunity** The use of apprentices and journeyworkers under this part must be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

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

6 Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (11), along with the applicable wage determination(s) and such other clauses or contract modifications as the U.S. Department of Housing and Urban Development may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate.

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

8 Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9 Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

i. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).

ii. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).

iii. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11 Anti-retaliation It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

i. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;

ii. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;

iii. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5; or

iv. Informing any other person about their rights under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5.

B. Contract Work Hours and Safety Standards Act (CWHSSA)

The Agency Head must cause or require the contracting officer to insert the following clauses set forth in 29 CFR 5.5(b)(1), (2), (3), (4), and (5) in full, or (for contracts covered by the Federal Acquisition Regulation) by reference, in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses must

be inserted in addition to the clauses required by 29 CFR 5.5(a) or 4.6. As used in this paragraph, the terms “laborers and mechanics” include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in 29 CFR 5.5(b)(1) the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. 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 watchpersons and guards, employed in violation of the clause set forth in 29 CFR 5.5(b)(1), in the sum of \$31 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in 29 CFR 5.5(b)(1).

3. Withholding for unpaid wages and liquidated damages

i. Withholding process The U.S Department of Housing and Urban Development or the recipient of Federal assistance may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in 29 CFR 5.5(b) on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

ii Priority to withheld funds The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:

- A.** A contractor’s surety(ies), including without limitation performance bond sureties and payment bond sureties;
- B.** A contracting agency for its procurement costs;
- C.** A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor’s bankruptcy estate;
- D.** A contractor’s assignee(s);
- E.** A contractor’s successor(s); or
- F.** A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in 29 CFR 5.5(b)(1) through (5) and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in 29 CFR 5.5(b)(1) through (5). In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss,

due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

- 5 Anti-retaliation** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:
- i. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in 29 CFR part 5;
 - ii. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or 29 CFR part 5;
 - iii. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or 29 CFR part 5; or
 - iv. Informing any other person about their rights under CWHSSA or 29 CFR part 5.
- C. CWHSSA required records clause** In addition to the clauses contained in 29 CFR 5.5(b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other laws referenced by 29 CFR 5.1, the Agency Head must cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor must maintain regular payrolls and other basic records during the course of the work and must preserve them for a period of 3 years after all the work on the prime contract is completed for all laborers and mechanics, including guards and watchpersons, working on the contract. Such records must contain the name; last known address, telephone number, and email address; and social security number of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid; daily and weekly number of hours actually worked; deductions made and actual wages paid. Further, the Agency Head must cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph must be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview workers during working hours on the job.
- D. Incorporation of contract clauses and wage determinations by reference** Although agencies are required to insert the contract clauses set forth in this section, along with appropriate wage determinations, in full into covered contracts, and contractors and subcontractors are required to insert them in any lower-tier subcontracts, the incorporation by reference of the required contract clauses and appropriate wage determinations will be given the same force and effect as if they were inserted in full text.
- E. Incorporation by operation of law** The contract clauses set forth in this section (or their equivalent under the Federal Acquisition Regulation), along with the correct wage determinations, will be considered to be a part of every prime contract required by the applicable statutes referenced by 29 CFR 5.1 to include such clauses, and will be effective by operation of law, whether or not they are included or incorporated by reference into such contract, unless the Administrator grants a variance, tolerance, or exemption from the application of this paragraph. Where the clauses and applicable wage determinations are effective by operation of law under this paragraph, the prime contractor must be compensated for any resulting increase in wages in accordance with applicable law.

F. HEALTH AND SAFETY

The provisions of this paragraph (F) are applicable where the amount of the prime contract exceeds **\$100,000**.

1. No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his or her health and safety, as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.
2. The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to 29 CFR Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96), 40 U.S.C. § 3701 et seq.
3. The contractor shall include the provisions of this paragraph in every subcontract, so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned _____

(Name of Principal)

as PRINCIPAL, and

SURETY

are held and firmly bound unto Guam Housing and Urban Renewal Authority, hereinafter called "GHURA", in the penal sum of _____

Dollars, (_____), lawful money of the United States, for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas, the Principal has submitted the accompanying bid, dated the _____, 20____, for the _____

NOW THEREFORE, if the principal shall not withdraw said bond within the period specified therein after the opening of the same, or, if no period be specified, within sixty (60) days after the said opening, and shall within ten (10) days after the prescribed forms are presented to him for signature, enter into a written contract with Guam Housing and Urban Renewal Authority in accordance with the bid as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract; or in the event of the withdrawal of said bid within the period specified, or time specified, if the principal shall pay Guam Housing and Urban Renewal Authority, the difference between the amount specified in said bid and the amount for which Guam Housing and Urban Renewal Authority may procure the required work or supplies, or both, if the latter amount be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their several seals this _____ day of _____ 20____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representatives, pursuant to authority of its governing body.

ATTEST:

Sole Proprietorship

(Individual Principal Signature)

(Business Address)

(Name of Individual Principal Above)

(Seal)

ATTESTED:

Corporation

(Corporate Principal Signature)

(Business Address)

(Name of Corporate Principal Above)

(Title)

Affix Corporate Seal

ATTEST:

Surety Company

(Corporate Surety Signature)

Corporate Surety Signature)

(Business Address)

Name of Corporate Surety)

(Title)

Affix Corporate Seal

(Power of Attorney for person signing for Surety Company must be attached to the Bond)

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the _____

Secretary of the Corporation names as Principal in the within the bond; that
_____ " who signed the said bond on behalf of the

Principal was then _____ of said corporation; that I know his

signature, and his signature thereto is genuine; and that said bond was duly signed,

sealed, and attested to, for and *in* behalf of said corporation by authority of its governing

body.

(Corporate Seal)

THIS AGREEMENT MADE THIS _____ day of _____ in the year _____ by and between _____, A Corporation, Partnership or Sole Proprietorship existing under the laws of the State of _____ Guam hereinafter called the "Contractor," and the Guam Housing and Urban Renewal Authority, herein called the "GHURA."

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

ARTICLE I

Statement of Work. The Contractor shall furnish all labor, material, equipment, and services and perform and complete all work required for the construction of Project No. GHURA-24-008 in strict accordance with "Specifications" for the ,which includes all items listed in the Tale of Contents and Addenda thereto, Numbered and the drawings referred to herein, all as prepared by Architect, which said Specifications, Addenda and Drawings are incorporated herein by reference and made a part hereof.

ARTICLE II

Contract Price. GHURA shall pay the Contractor for the performance of the Contract, in current funds, subject to additions and deductions as provided in the specifications for completed work meeting the requirements of the Contract Documents, the sum of _____.

ARTICLE III

Contractor agrees that time is of the essence in the completion of the work in the time required by this contract and hereby waives any notice of putting in default for failure to complete on time.

ARTICLE IV

Contract Documents. The contract shall consist of the following component parts:

- (a) This Instrument
- (b) General Conditions
 - (HUD-5370EZ or HUD-5370)
 - Wage Determination
- (c) Special/supplemental Conditions
- (d) Technical Specifications
- (e) Drawings
- (f) IFB # GHURA-24-008
- (g) Forms
 - (AG-002) Affidavit Disclosing Ownership and Commissions
 - (AG-003) - Affidavit re Non-Collusion
 - (AG-004) - Affidavit re No Gratuities or Kickbacks
 - (AG- 005) - Affidavit re Ethical Standards
 - (AG-007) - Affidavit re Contingent Fees
 - (GHURA-13) - Mandatory Compliance for Section 3
 - (GHURA-01B) - Section 3 Business Preference
 - (HUD-4010) - Federal Labor Standards
 - (HUD-5369) – Instructions to Bidders Offerors
 - (HUD-5369-a) - Representations, Certifications, and Other Statements of Bidders
- (h) Proposal
- (i) Addendum(s)

This instrument, together with the other documents enumerated in this ARTICLE IV, 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 other component part of this Contract conflicts with any provision of any other component part, the provision of the component part first enumerated in the ARTICLE IV shall govern, except as otherwise specially stated. The various provisions in Addenda shall be construed in the order of the preference of the component part of the Contract which each modifies. IN WITNESS WHEREOF, the parties hereto have caused this Instrument to be executed in three (3) original counterparts as of the day and year first above written

Form of Contract

Name: Executed by: **Elizabeth F. Napoli**
 Executive Director for the Guam Housing Urban
 Renewal Authority

Signature: Signature:

Title: Date:

Company Name:

Date:

Contractor's Certification

I, _____, certify that I am the
 _____, of the Corporation, Partnership or Sole
 (Title)
 Proprietorship named as Contractor herein, and that _____, who signed
 (Name of Signatory)
 the Contract on behalf of the Contractor, was then the
 of said Corporation, Partnership or Sole Proprietorship; that said contract was duly signed for and in behalf of said
 Corporation, Partnership or Sole Proprietorship by authority of its governing body, and is within the scope of its
 corporate powers.

(Corporate Seal)

Signature of person affixing the Corporate Seal

Funds Certified By: _____ Date: _____
 Controller

Grant No.	Project Number	Amount	

Bid Information

IFB Number GHURA-24-008		Submit bid to: GHURA 117 Bien Venida Ave. Sinajana, Guam 96926 Contract: Sonny Perez, 671-475-1404 or email sperez@ghura.org Ervin Santiago, 671-3008424 or email essantiago@ghura.org
Bid Opening Date: 06/28/2024	Bid Opening Time: 2:00 PM	
Project Title: GHURA-24-008;Concrete Roof Repair Coating at GHURA 100, Yona Guam		
Project Description: Roof Repair and Coating At GHURA 100		
Contract Completion Time: See Special Conditions		
Amount of Liquidated Damages: \$150.00 per calendar day		

Bidder's Information

Name of Company	FEIN
	Bidder's Telephone Number
Bidder's Address	Bidder's Fax Number
	Name of Person Submitting the Bid
	Title of Person Submitting the Bid

Bidder's Acknowledgments

This is to acknowledge that an authorized representative(s) of the above named company has familiarized himself/herself/themselves with the local conditions affecting the cost of the work, all instructions, General and Supplemental Conditions, Contractor's compliance and reporting requirements, the specifications, drawings, and addenda.

GHURA requires a minimum acceptance period of 60 calendar days "Acceptance period," as used in this provision, means the number of calendar days available to GHURA for awarding a contract from the date specified in this solicitation for receipt of bids. **GHURA reserves the option, depending on the availability of funds to award a contract to the lowest responsible responsive bidders submitting the lowest bid on Base Bid Item No. 1, 2 & 3 . A bid may be submitted for either or both bid items**

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). In submitting this bid, it is understood that the right is reserved by GHURA to reject any and all bids.

Acknowledgment of Addenda The bidder acknowledges the following addenda: (Failure to acknowledge may cause bid rejection.)

Addenda No.	Addenda Date	Addenda No.	Addenda Date

Required Submissions

To be responsive, the bidder must submit the following documents in a sealed envelope marked on its face with the correct bidding information with his/her bid:

Form HUD-5369-a , Representations, Certifications, and Other Statements of Bidders AG form 002 , Disclosing ownership & Commission AG form 003 , Affidavit re Non-Collusion AG form 004 , Affidavit re No Gratuities or Kickbacks AG form 005 , Affidavit re Ethical Standards AG form 007 -Affidavit re Contingent Fees Form GHURA 01B , Section 3 Preference Certification completed and certified OR marked NA if the bidder is not claiming Section 3 preference.	Form GHURA 09 , Law to be observed GHURA 010 , Bidder's Qualifications including a Financial Statement and a certificate of authority to do business in Guam Form GHURA 013 , Bidder's Section 3 Commitment Form GHURA 014 , Bid Form Form GHURA 016 , Bid Bond and Certificates Contractor's License Acknowledged copies of any and all Addenda
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GHURA shall reject a bid as non-responsive and bid that does not include each of the above documents, fully completed and properly executed.

Additive Bid Items

GHURA does not require an additive bid for this proposal. To offer a bid the bidder is requested to breakout the following items from the base bid. Each item shall include all labor, materials, equipment and services required to complete

Item #	Item Description	Item Bid

Individual Bidder

<p>Trading and doing business as</p> <p>If fictitious trade name is employed in the conduct of business, insert such name and complete, as appropriate. This foregoing fictitious or trade name <input type="checkbox"/> is <input type="checkbox"/> is not a been registered under Guam Law.</p>	<p>Bidder's Signature _____</p> <p>Date _____</p>
<p>Name of person submitting the bid</p>	<p>Witness</p> <p>Witness Name _____</p>
<p>Business address</p>	<p>Witness Signature _____</p> <p>Date _____</p>

Partnership Bidder

<p>Name of Partnership</p> <p>If fictitious trade name is employed in the conduct of business, insert such name and complete, as appropriate. This foregoing fictitious or trade name <input type="checkbox"/> is <input type="checkbox"/> is not a been registered under Guam Law.</p>	<p>Bidder's Signature _____</p> <p>Date _____</p>
<p>Name of person submitting the bid</p>	<p>Witness</p> <p>Witness Name _____</p>
<p>Business address</p>	<p>Witness Signature _____</p> <p>Date _____</p>

Corporate Bidder

Name of Corporation	Corporate's Signature _____ Title _____ Date _____
Name of person submitting the bid	Certificate as to Corporate Principle I, _____, certify that I am the Secretary of the corporation named as Principal in the within bond: That _____ _____ , who signed the bond on behalf of the Principal, was then of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, sealed, and attested to for and I behalf of said corporation by authority of its governing body. _____ (Corporate Seal)
Business address	

Schedule of Amounts for Contract Payments

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

OMB Approval No. 2577-0157
(Exp. 1/31/2027)

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

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. HUD may not conduct or sponsor, and an applicant is not required to respond to a collection of information unless it displays a currently valid OMB control number. Comments regarding the accuracy of this burden estimate and any suggestions for reducing this burden can be sent to the Reports Management Officer, Office of Policy Development and Research, REE, Department of Housing and Urban Development, 451 7th St SW, Room 4176, Washington, DC 20410-5000. When providing comments, please refer to OMB Approval No. 2577-0157. Construction practices and HUD administrative requirements establish the need that HAs maintain certain records or submit certain documents in conjunction with the oversight of the award of construction contracts for the construction of new low-income housing developments or modernization of existing developments. These forms are used by HAs to provide information on the construction progress schedule and schedule of amounts for contract payments. Responses to the collection of information are required to obtain a benefit or to retain a benefit. The information requested does not lend itself to confidentiality.

Project Name and Location	Project Number
---------------------------	----------------

Name, Address, and Zip Code of Contractor

Nature of Contract	Contract Number
--------------------	-----------------

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

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

Approved for Owner by	Title	Date (mm/dd/yyyy)
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Item No. (1)	Description of Item (2)	Quantity (3)	Unit of Measure (4)	Unit Price in Place (5)	Amount of Sub-Item (6)	Amount of Principal Item (7)

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

Signature of authorized representative	Date signed (mm/dd/yyyy)
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Instructions for Preparation of form HUD-51000

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

Master List of Items

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

1 General Conditions should be 3% to 5% of contract amount.

2 Punch List should be approximately 1/2 of 1% or \$30 per dwelling unit, whichever is greater.

SPECIAL CONDITIONS

1. PROJECT SITE AND DESCRIPTION

The project is located at GHURA 100, Housing Site in Yona. See attached drawing for location. The work consists of Roof coating of all 100-units, and concrete crack & spall repairs for 13-units (see scope of work below).

2. TIME OF COMPLETION

The work shall commence at the time stipulated in the Notice to Proceed and shall be fully completed within the time frame indicated below:

Complete the required work per the Bid specifications.

Contract Period **120** consecutive calendar days

3. LIQUIDATED DAMAGES

In case of failure on the part of the Contractor to complete the work within the time fixed in the Contract or within any time extensions given thereof, the Contractor and his sureties shall be liable for and shall pay to GHURA the sum of \$150.00 liquidated damages per calendar day of delay until the work is completed and accepted.

4. Scope of work and Standards

A. SCOPE OF WORK

OBJECTIVE- It is the intent of Guam Housing and Urban Renewal Authority to repair various roof slabs and to provide new roof coating at all 99-units in GHURA 100.

Work includes;

- 1) Clean and strip all existing elastomeric roof coating from the exterior roof surfaces to bare concrete. Power wash, clean and remove all grease, oil, dirt, and other contaminants which may affect the bond between the coating and the applied surfaces.

Expose all roof cracks, repair roof cracks with pressure epoxy injection. Pressure Grouting of Cracks: Clean each crack of dust, dirt, loose concrete and unsound material. Insert a valve at both ends of each crack, at the junction of two cracks, and along the length of each crack at 8 to 12 inch intervals. Fill crack between valves with crack surface sealer. After crack surface sealer has hardened and cured, pump crack sealer into valve at one end of crack. For vertical surfaces start at lowest valve and work upwards. As crack sealer appears at next valve, pinch closed

pumping valve and move to next valve and commence pumping. Continue procedure until other end of crack is reached. Avoid delays in pumping operation. After crack sealer has hardened and cured grind valves off flush with concrete surface. Coat areas of valves with crack surface sealer and allow hardening and curing. Cure epoxy materials in accordance with manufacturer's recommendations.

- 3) Existing concrete spalls to be repaired with Epoxy mortar. PREPARATION: Clean concrete surfaces of dirt, laitance, corrosion, or other contamination; wire brush using acid. Rinse surface and allow to dry. Flush out cracks and voids with muriatic acid to remove laitance and dirt. Chemically neutralize by rinsing with water.

For areas patched with epoxy mortar, remove broken and soft concrete 1/4 inch deep. Remove corrosion from steel. Clean surfaces mechanically; wash with acid and rinse with water. Sandblast clean the exposed reinforcement steel surfaces. Mechanically cut away damaged portions of bar.

REPAIR WORK: Repair exposed structural, shrinkage, and settlement cracks of concrete as indicated on Drawings by the bonding agent and cementitious paste method. For patching honeycomb, trowel mortar onto surface, working into honeycomb to bring surface flush with surrounding area. Finish trowel surface to match surrounding area. Cover exposed steel reinforcement with epoxy mortar; feather edges to flush surface

APPLICATION - CEMENTITIOUS MORTAR Apply brush coating of bonding agent to damp concrete surfaces. Provide full surface coverage. Apply cementitious mortar by steel trowel to an average thickness of 3/4 inches. Tamp into place filling voids at spalled areas.

- 4) Apply an elastomeric roof membrane over the entire roof (and to include roof fascia curb). The product should be applied by a manufacture authorized contractor and have a 5 years warranty. The CONTRACTOR shall prepare the existing surfaces to be coated as specified. All surfaces shall be prepared in accordance with the manufacturer's instructions for the material to be applied.

MATERIAL: Fluid applied urethane roofing system, "Multi-Thane 60 Mil". Consisting of the following:

Primer: Epoxy-Polyamide, low viscosity, two-component primer sealer.
Base Membrane: Single-component, high adhesion, moisture cured, liquid aromatic urethane, 85% weigh solids.
Second and Third Coat Membrane: Single-component liquid, aromatic urethane, 80% weight solids. Warranty period is five years after date of substantial completion of roof work. Finish top coat color shall to White.

Provide New Elastomeric Roof Coating for all 99 units.

Ghura - 100	no. of units	No. of Buildings	Building roof sq. ft.	total sq ft per Build.
2-bedroom	16	16	1283	20528
2-bedroom duplex	4	2	2617	5234
3-bedroom	47	47	1688	79336
3-bedroom duplex	12	6	3207	19242
4-bedroom	20	20	1913	38260
Total	99	91		162600

Units with Roof Cracks & Conc Spalls:

Units 2 SME, 6 SME, 18 SME, 33 SME,
4 JTQ, 8 JTQ, 12 JTQ, 15 JTQ, 10 JCC, 3 JCR, 16 JCR and 12 JAP

ROOF SLAB CRACK EPOXY INJECTION REPAIR DETAIL,
380lf.-total, (See Detail 1A, Page 15 of 19).

OVERHEAD CONCRETE SPALL REPAIR DETAIL < 1/2" DEEP,
75sf.-total, (See Detail 1B, Page 16 of 19).

5. SITE: The site is described on the site location plan. Bidders shall verify existing structure, site conditions and all pertinent information needed for the satisfactory performance of the scope of work prior to submitting the bid.

6. APPLICABLE STANDARD.- The design and construction shall be in accordance with sound construction practices, and the following codes and standards:
 - a) Building Law, Title XXXII, Government Code of Guam
 - b) International Building Code (2009 Edition)
 - c) International Mechanical Code (Latest Edition)
 - d) International Plumbing Code (Latest Edition)
 - e) National Electrical Code (NEC-Latest Edition)
 - f) National Electrical Safety (NESC -Latest Edition)
 - g) Life Safety (Latest Edition)
 - h) International Fire Code (IFC Latest Edition)
 - i) National Fire Protection Association Handbook (NFPA 70)
 - j) Illuminating Engineering Society (IES)
 - k) American Disability Act (ADA)
 - l) GEPA, USEPA, CFR29
 - m) Guam Energy Code
 - n) Army Corp of Engineers
 - o) 2006 CNMI/Guam Storm water Management Manual
 - p) All other codes, regulations, technical publications and design manuals applicable in the performance of this RFP.

q) Specialty license required: C-42 Roofing and/or C-55 Waterproofing and C-68 Classified Specialist.

GOVERNMENT REVIEWING AND APPROVING AGENCIES:

1. Department of Public Works
2. Guam Environmental Protection Agency
3. Department of land Management
4. Guam Power Authority
5. Guam Waterworks Authority
6. Guam Historic Preservation
7. Guam Department of Agriculture

6. COMMUNICATIONS

- A. All notices, demands, requests, instructions, approvals, proposals, and claims must be in writing.
- B. Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Contract (or at such office as he may from time to time designate in writing to GHURA), or deposited in the United States mail in sealed, postage-prepaid envelope, or if delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office.
- C. All papers required to be delivered to GHURA shall, unless otherwise specified in writing to the Contract, be delivered to the Guam Housing and Urban Renewal Authority at 117 Bien Venida Avenue , Sinajana , Guam, 96926, and any notice to or demand upon GHURA shall sufficiently given if so delivered, or deposited in the United States mail in sealed, postage-prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission to said Guam Housing and Urban Renewal Authority at such address as GHURA may subsequently specify in writing to the Contractor for such purposes.
- D. Any such notice shall be deemed to have been given as of the time of actual delivery or (in the case of mailing) when the same should have been received in due course of post, or in the case of telegrams, at the time of actual receipt, as the case may be.
- E. Signs

The Contractor shall erect a sign at the project site at his own expense. The location of the sign shall be as directed by the Contracting Officer. Lettering of sign, and other pertinent data that should appear on the sign will be furnished by the Contracting Officer to the Contractor.
- F. Any damages to existing conditions shall be repaired in good condition with finish to match existing.

7. MINIMUM RATES OF PAY AND WAGE RATES

Schedules of the minimum rates of pay applicable to this Contract are attached. Public

Law 19-31 Section 46004. 1, equalizing wages between citizens and aliens, shall be applicable to contractors or any subcontractor who employs temporary alien workers (H-2) on Guam.

8. UTILITIES CONSUMPTION

The contractor shall be responsible for providing utilities required in the performance of this contract

9. DOCUMENTS REQUIRED PRIOR TO FINAL PAYMENT

Prior to final payment, and before the issuance of final certificate for payment in accordance with the provisions of the General Conditions, file the following papers with the GHURA.

A. Guarantees: The guarantee required by the General Conditions and any other extended guarantees stated in the technical sections of the specifications.

B. Certificate of Release or Waiver of Liens: As required by the General Conditions.

10. Operation and Maintenance Manuals

1. Furnish three (3) complete sets of manuals containing the manufacturer's instructions for maintenance and operation of each item of equipment and apparatus furnished under the Contract and any additional data specifically required under the various sections of the specifications.
2. Arrange the manuals in proper order, indexed and suitably bonded. Certify by endorsement thereon that each of the manuals is complete and accurate. Assemble these manuals for all divisions of the work, review them for completeness, submit them to GHURA.

11. Project Record Documents

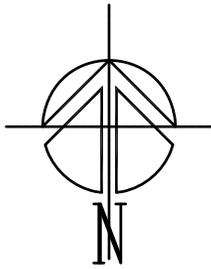
- a) As the work progresses keep a complete and accurate record of changes or deviations from the Contract Documents and the Shop Drawings, indicating the work as actually installed. Changes shall be neatly and correctly shown on the respective portions of the affected document, using blue line prints of the Drawings affected, or the Specifications with appropriate supplementary notes. The record set Drawings, Shop Drawings, and Specifications shall be kept at the job site for inspections by the Owner.
- b) At the completion of the work, the Owner will provide a complete set of sepia (reproducible) prints of the Drawings. Transfer the information recorded on the record set of Drawings to the sepia set, in ink.
- c) Certify by endorsement that each of the revised sepia prints of the Drawings and the record set of Specifications is complete and accurate. Prior to application for final payment, and as a condition to the approval by GHURA, deliver both sets of the record, drawings and specifications, arranged in proper order, indexed, and endorsed as herein before specified.
- d) No review or receipt of such records by the Owner shall be a waiver of any deviation from the Contract Documents or the Shop Drawings or shall in any

way relieve the Contractor from his responsibility to perform the work in accordance with the Contract Documents and the Shop Drawings to the extent they are in accordance with the Contract Certify by endorsement that each of the revised sepia prints of the Drawings and the record set of Specifications is complete and accurate. Prior to application for final payment, and as a condition to the approval by the Owner, deliver both sets of the record Drawings and Specifications, arranged in proper order, indexed, and endorsed as herein before specified.

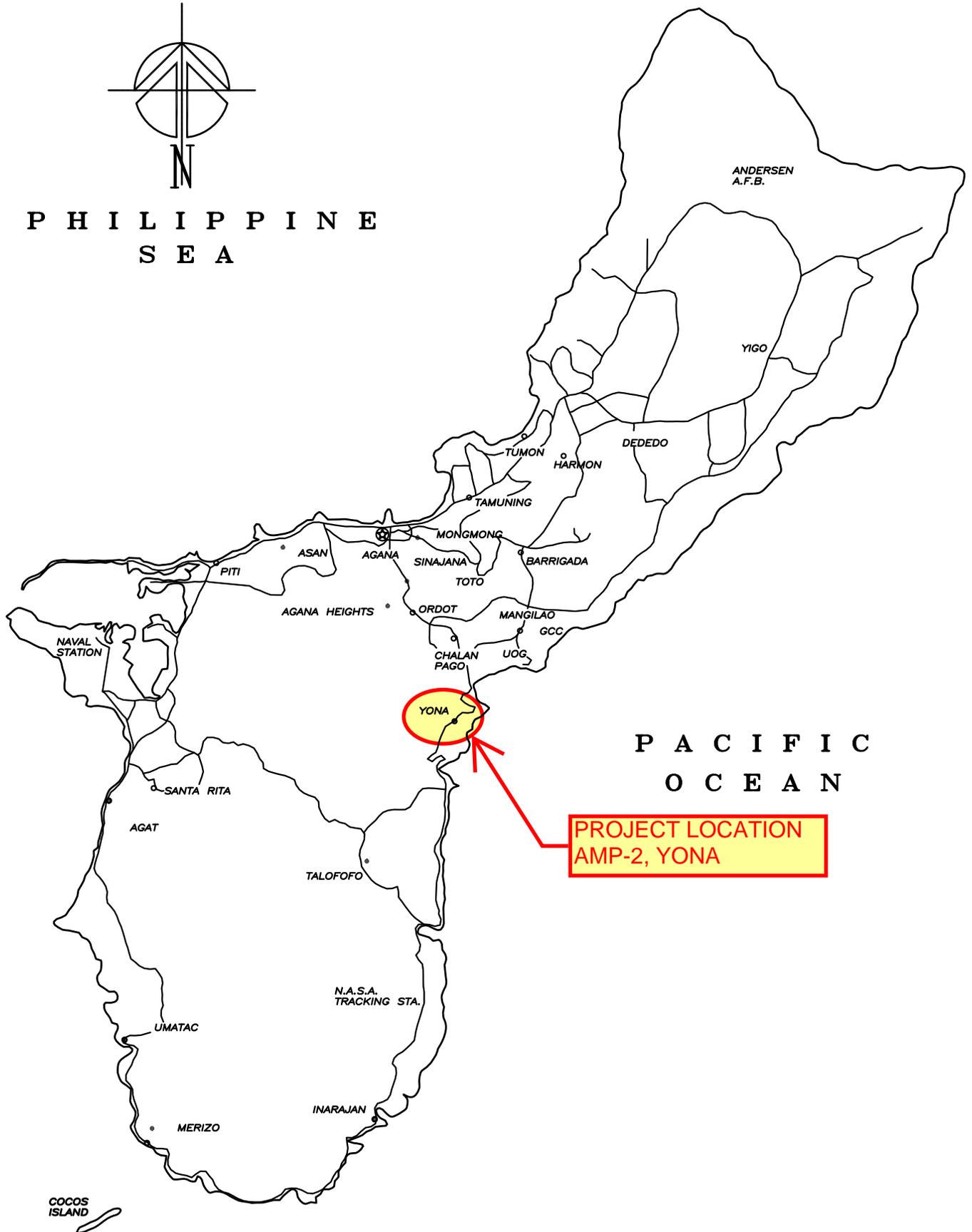
6. No review or receipt of such records by the Owner shall be a waiver of any deviation from the Contract Documents or the Shop Drawings or shall in any way relieve the Contractor from his responsibility to perform the work in accordance with the Contract Documents and the shop Drawings to the extent they are in accordance with the Contract Documents.
7. Certificate of Occupancy: Where either a temporary or permanent Certificate of Occupancy is required, obtain and pay for these certificates and deliver to the Owner.
8. **CLEAN UP**
The Contractor shall, at all times, keep the premises free from accumulations of waste materials or rubbish caused by his operations. At the completion of the work, he shall remove all his waste materials and rubbish from and about the sites as well as all his tools, construction equipment, machinery and surplus materials and shall clean all glass surfaces and leave the work "broom clean" or its equivalent, except as otherwise specified. If the Contractor fails to clean up, GHURA may do so and cost thereof shall be charged to the Contractor as provided in Paragraph 31 of the General Conditions. If a dispute arises between the separate contractors as to their Responsibility for cleaning up, GHURA shall clean up and charge the cost thereof to the several contractors as GHURA shall determine to be just.

NOTE: "The use of Lead-based, both in Paint or Solder is prohibited."

End of Special Conditions



PHILIPPINE
SEA



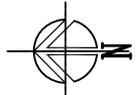
PACIFIC
OCEAN

PROJECT LOCATION
AMP-2, YONA

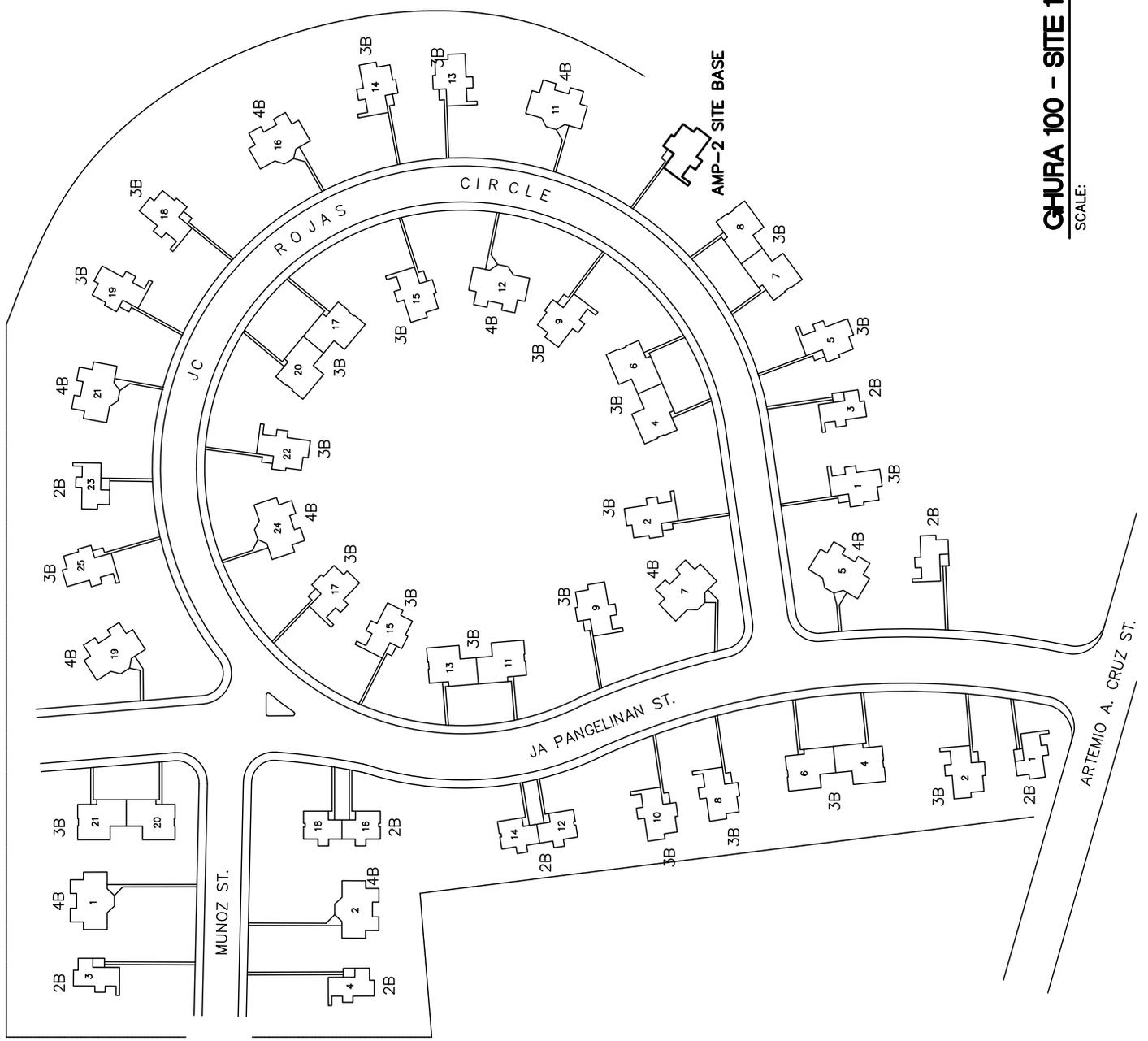
LOCATION MAP

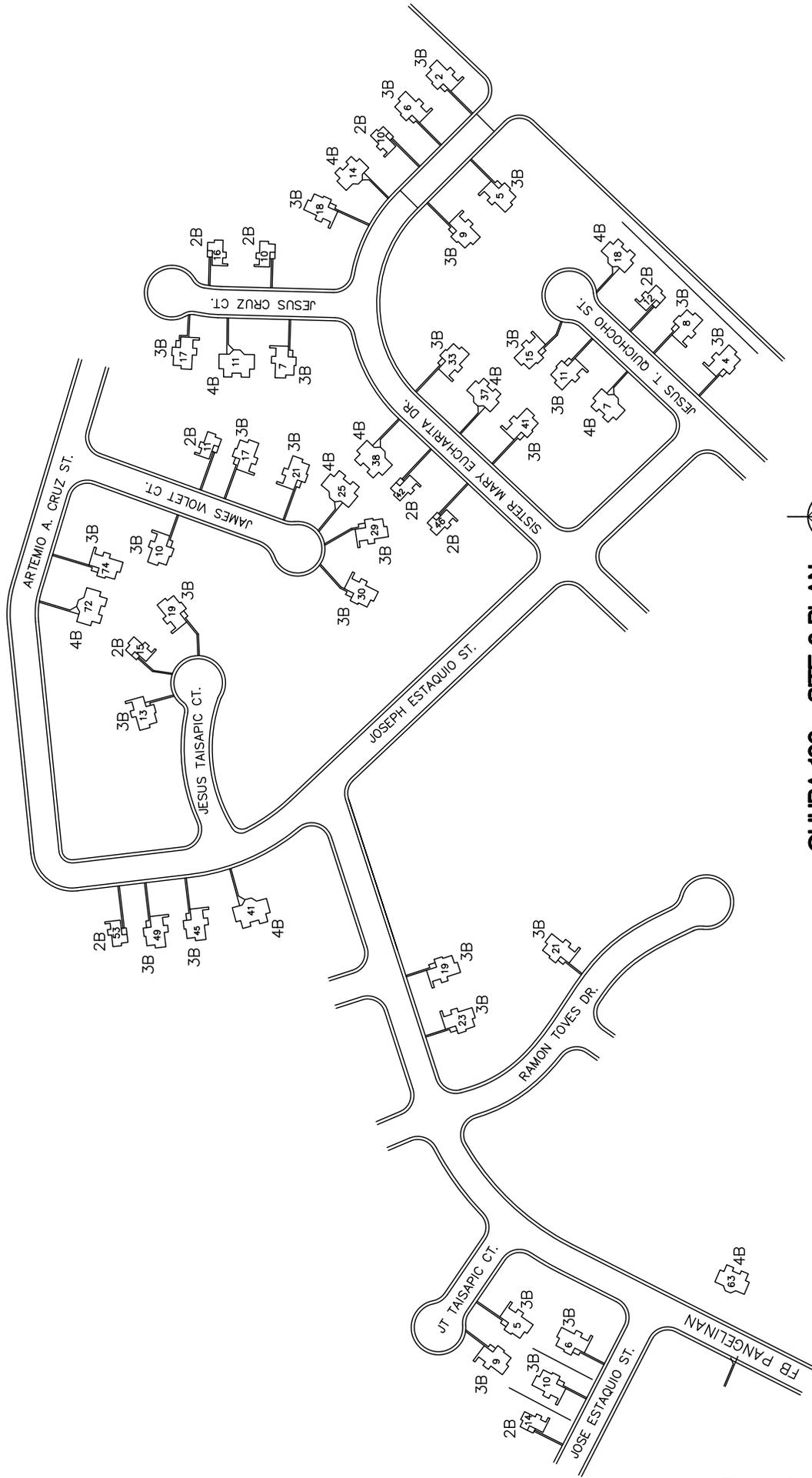
GHURA 100

AMP 2



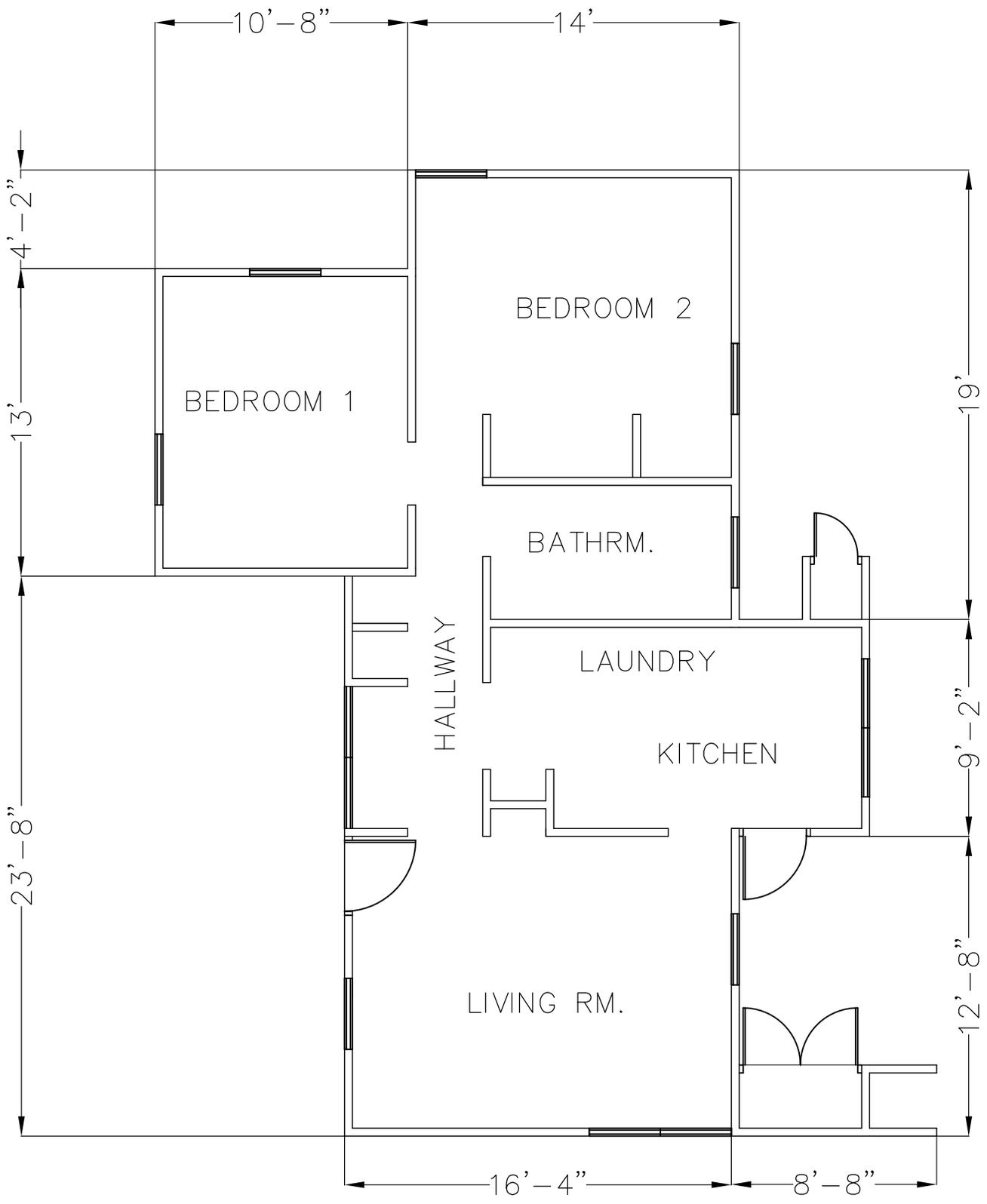
GHURA 100 - SITE 1 PLAN
SCALE: NTS



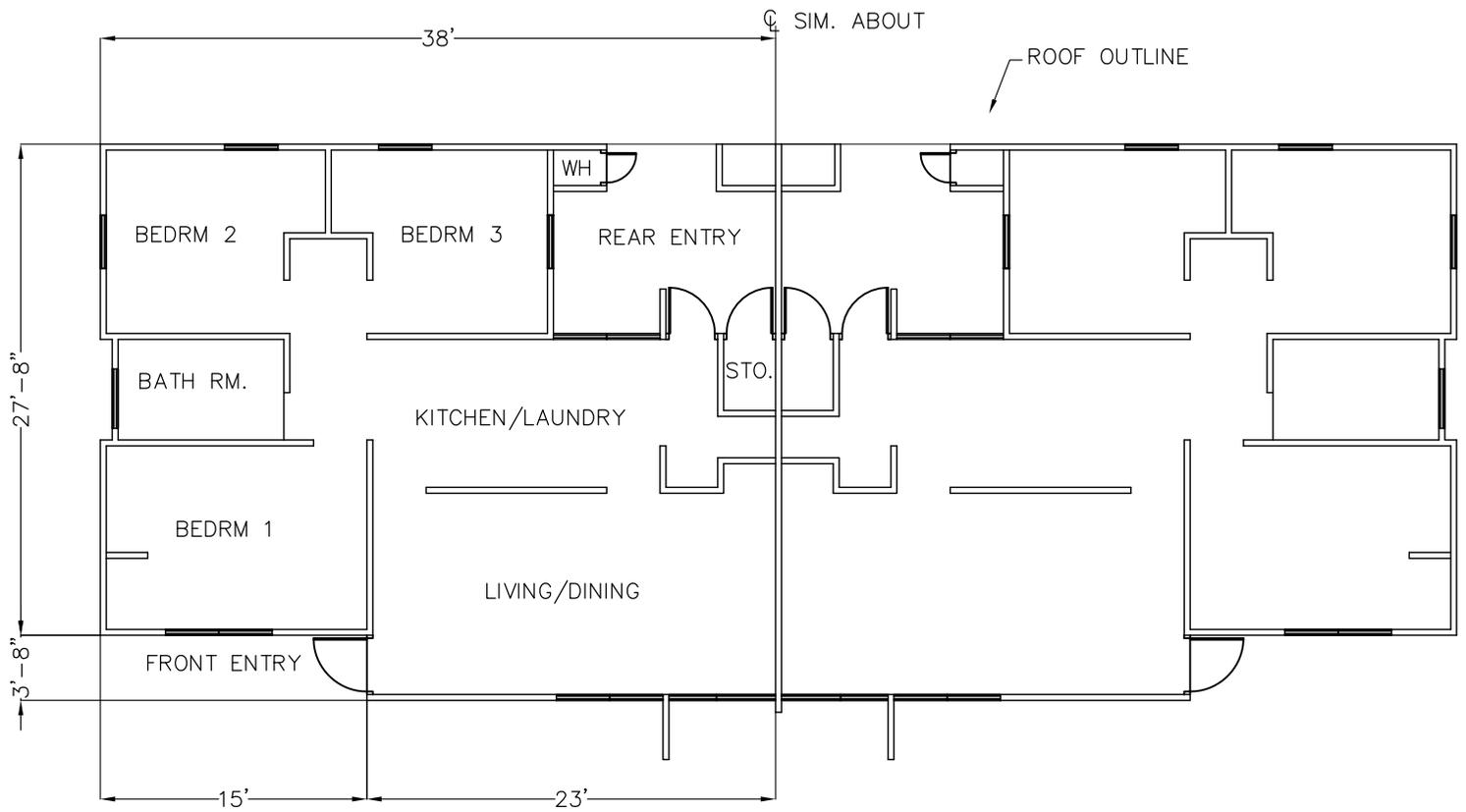


GHURA 100 - SITE 2 PLAN
 SCALE: NTS

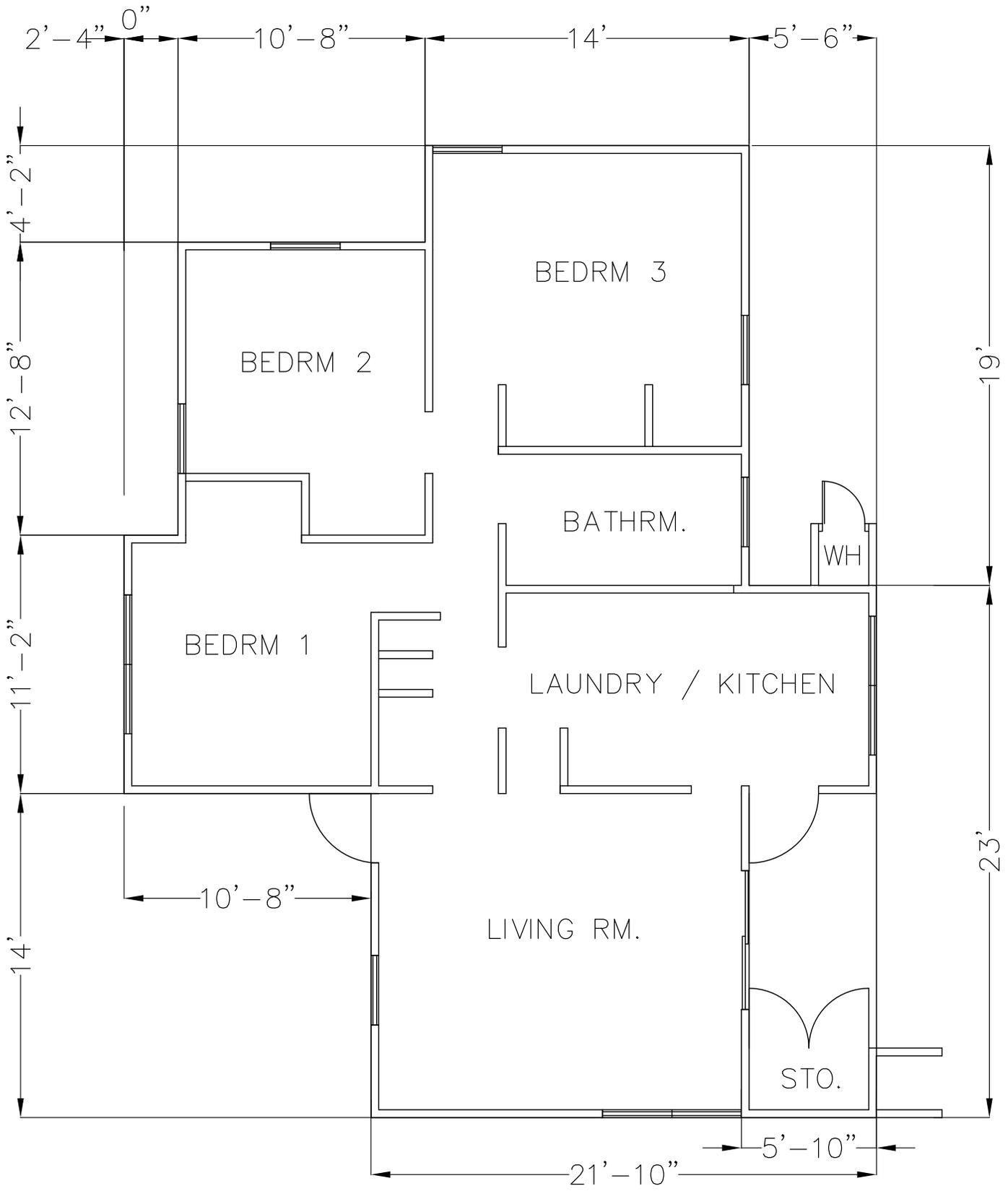
GHURA 100
AMP 2



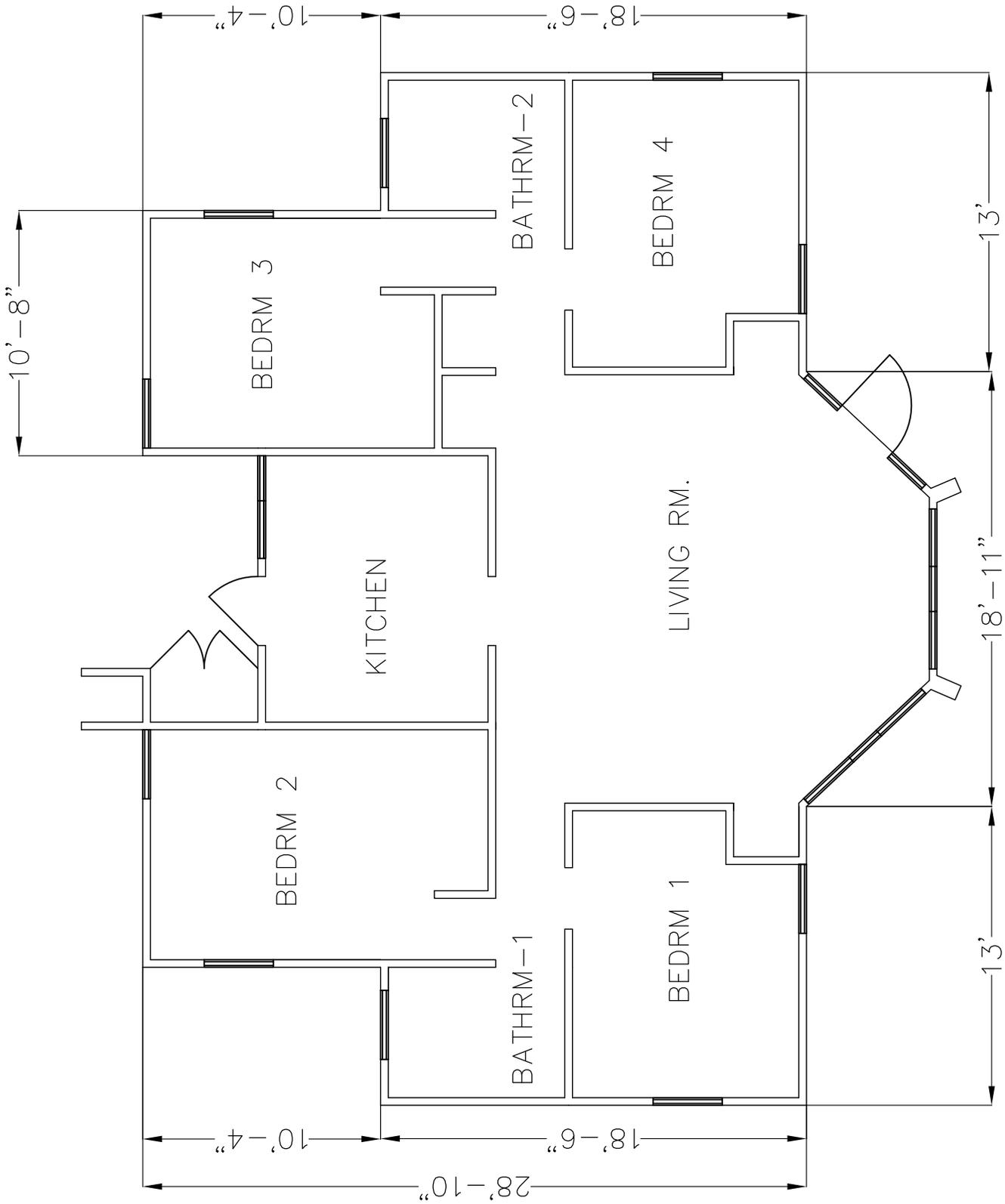
2-BEDROOM FLOOR PLAN, GH-100



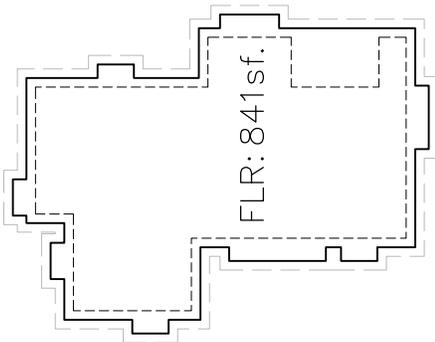
3-BEDROOM DUPLEX FLOOR PLAN, GH-100



3-BEDROOM FLOOR PLAN, GH-100

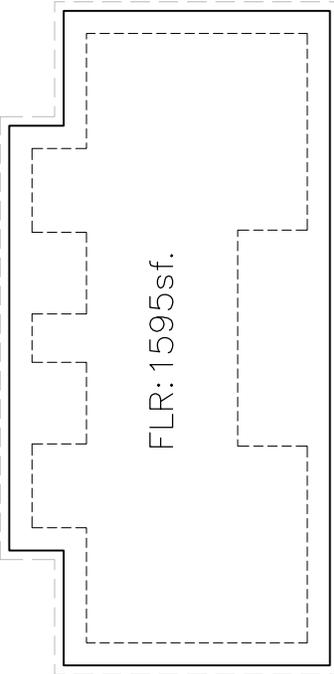


4-BEDROOM FLOOR PLAN, GH-100



ROOF: 1283sf.

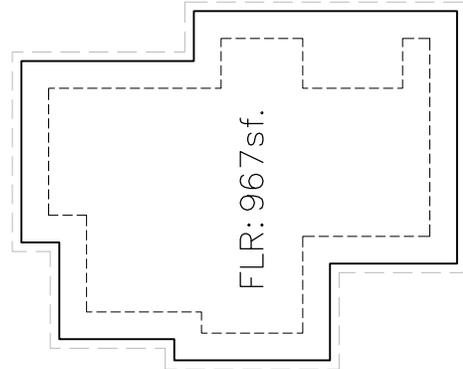
2-BEDROOM FLOOR PLAN



ROOF: 2617sf.

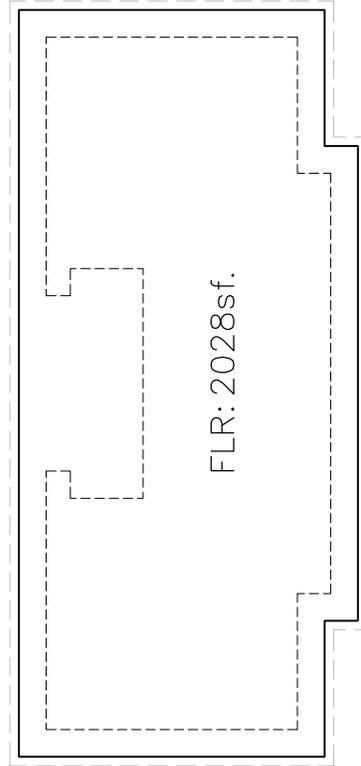
2-BEDROOM DUPLEX PLAN

Ghura - 100	no. of units	No. of Buildings	Building roof sq. ft.	total sq ft per Build.
2-bedroom	16	16	1283	20528
2-bedroom duplex	4	2	2617	5234
3-bedroom	47	47	1688	79336
3-bedroom duplex	12	6	3207	19242
4-bedroom	20	20	1913	38260
Total	99	91		162600



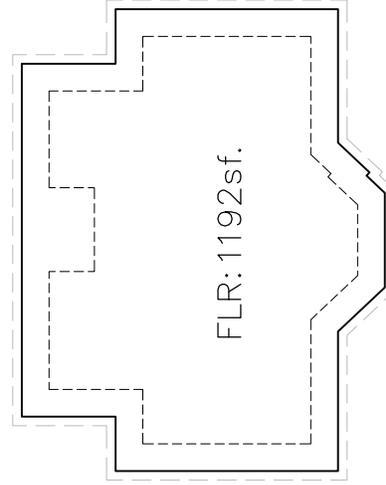
ROOF 1688sf.

3-BEDROOM FLOOR PLAN



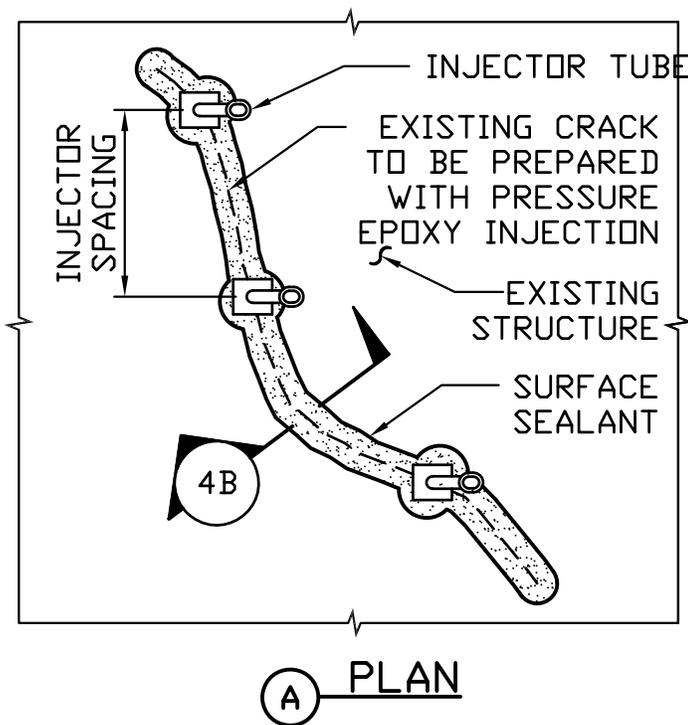
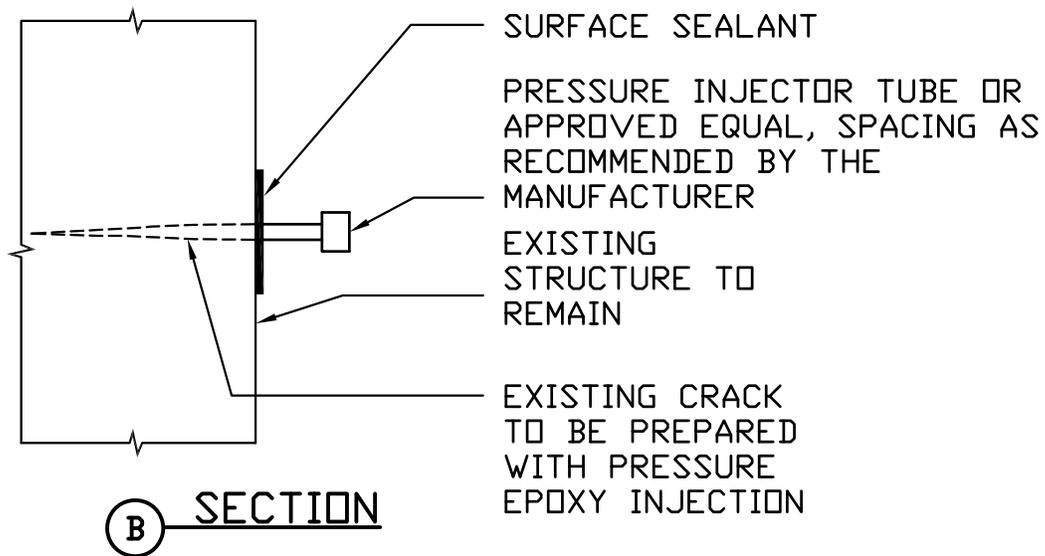
ROOF: 3207sf.

3-BEDROOM DUPLEX FLOOR PLAN



ROOF: 1913sf.

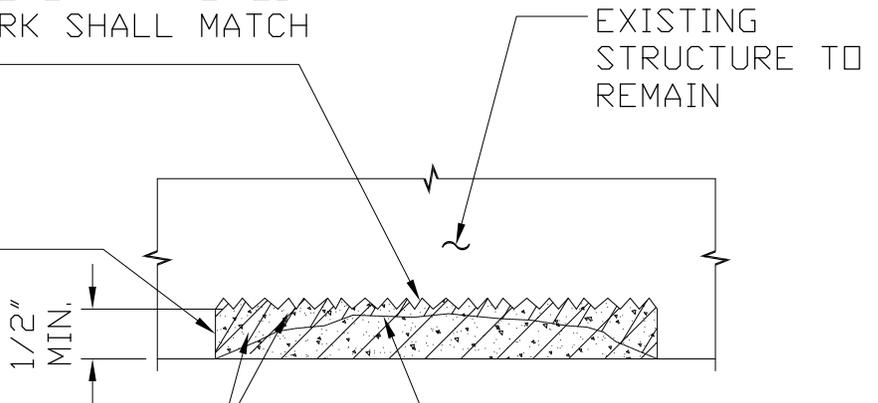
4-BEDROOM FLOOR PLAN



1A ROOF SLAB CRACK EPOXY INJECTION REPAIR DETAIL NOT TO SCALE

REPAIR DAMAGED AREA WITH HIGH STRENGTH, NON-SHRINK POLYMER MODIFIED CONCRETE OR APPROVED EQUAL (FINISH WORK SHALL MATCH EXISTING)

SAW CUT ALONG DAMAGED AREA PRIOR TO CONCRETE REMOVAL



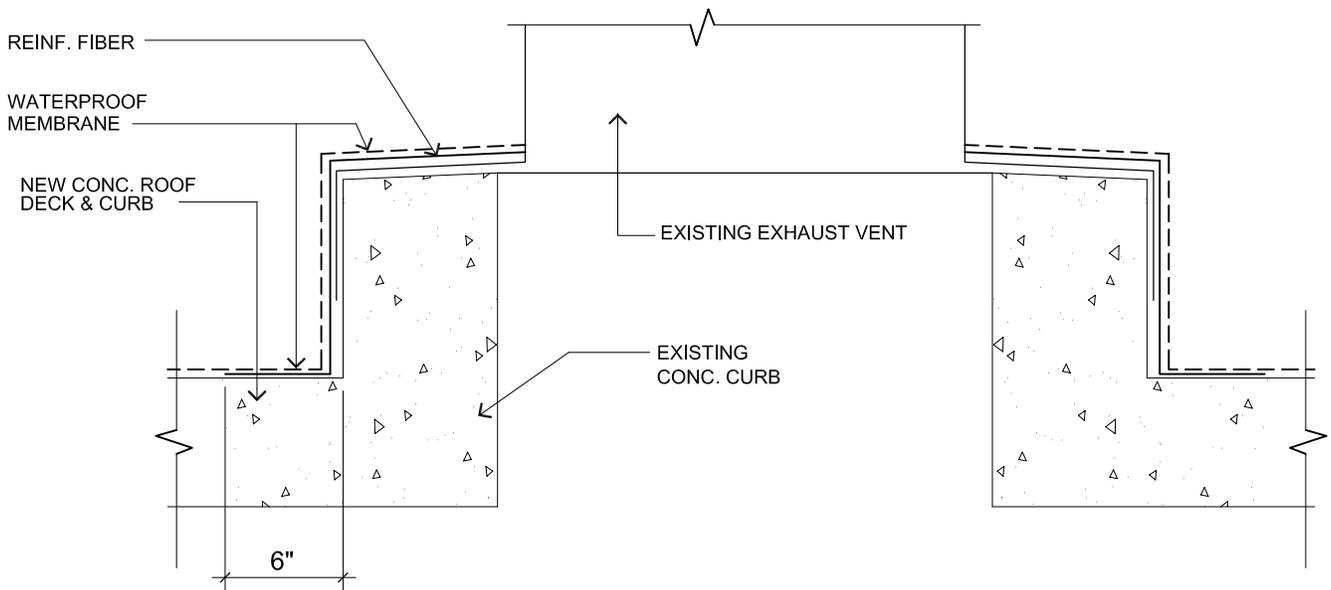
REMOVE EXISTING CONCRETE (CROSS HATCHED) AND ROUGHEN EXISTING SURFACE (1/2" MIN. AMPLITUDE) APPLY CONCRETE BINDER TO ROUGHENED SURFACE PRIOR TO REPAIR WORK

REMOVE ALL LOOSE CONCRETE WITHIN DAMAGED AREA (HATCH)

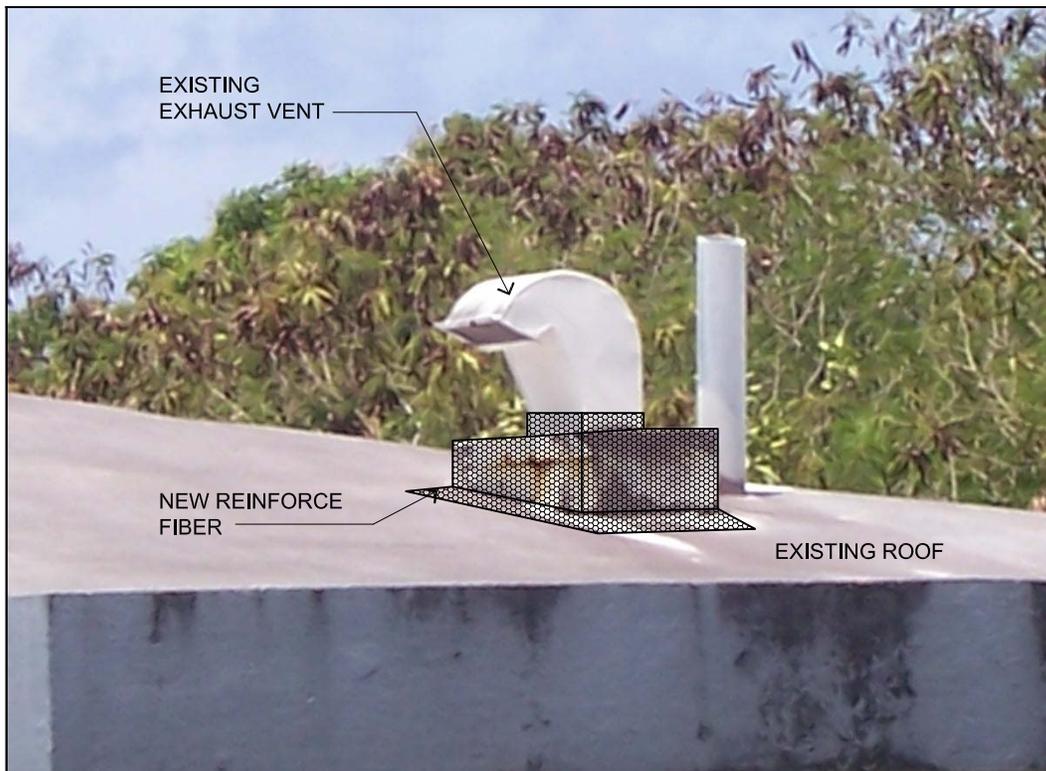
NOTE:

TOP OF SLAB SPALL REPAIR SIMILAR.

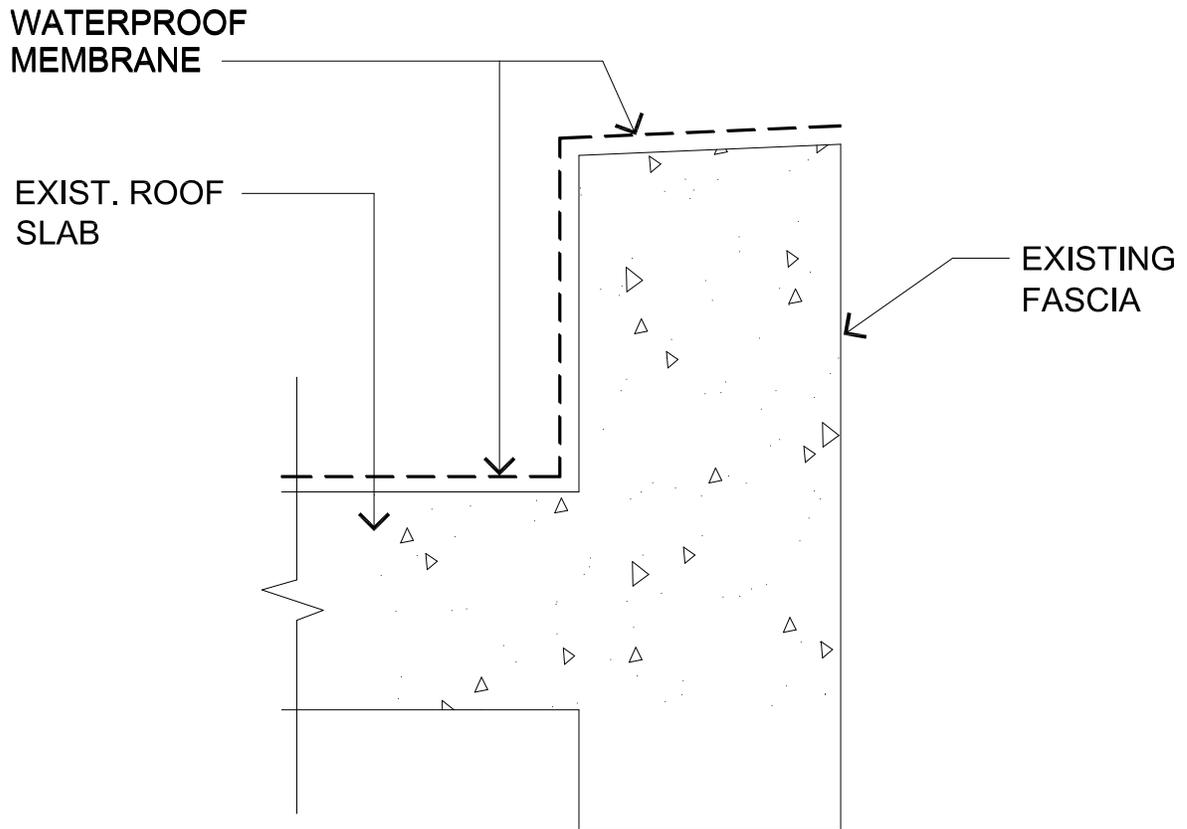
1B OVERHEAD CONC. SPALL REPAIR DETAIL < 1/2" DEEP
NOT TO SCALE



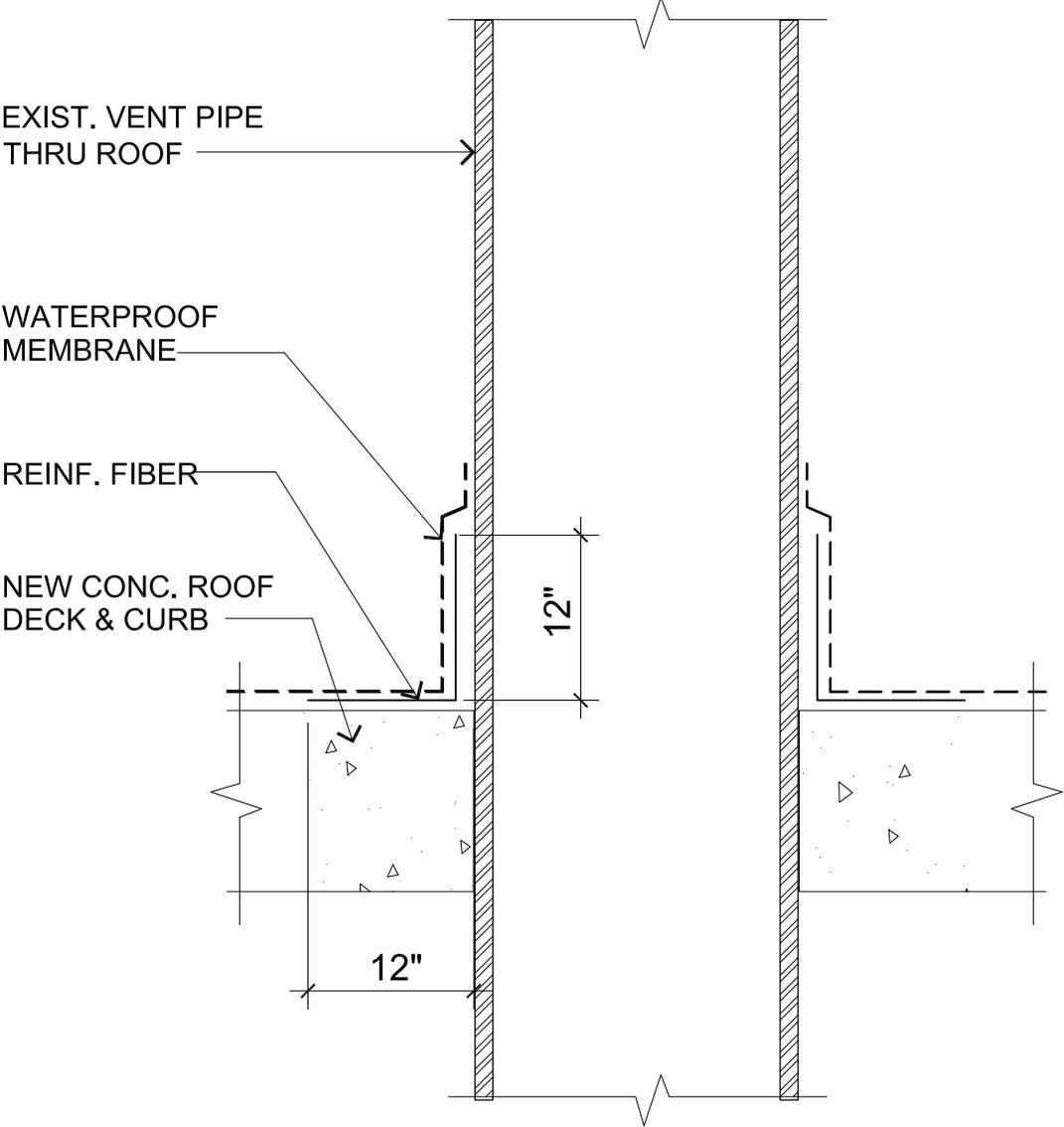
NEW ROOF COATING at EXISTING EXHAUST VENT



EXISTING EXHAUST VENT



NEW ROOF COATING at FASCIA



NEW ROOF COATING at

EXISTING VENT PIPE THRU ROOF

TABLE OF CONTENTS

DIVISION/SECTION	TITLES
DIVISION 0	
00100	TABLE OF CONTENTS
00950	LIST OF CONTRACT DRAWINGS
DIVISION 1	GENERAL REQUIREMENTS <i>(None.)</i>
DIVISION 2	SITWORK <i>(None)</i>
DIVISION 3	CONCRETE
03300	CAST-IN-PLACE CONCRETE
03730	CONCRETE REPAIR USING EPOXY RESIN
03732	CONCRETE REPAIR
02930	CONCRETE REHABILITATION
DIVISION 4	MASONRY <i>(None)</i>
DIVISION 5	METALS <i>(None)</i>
DIVISION 6	WOOD AND PLASTICS <i>(None)</i>
DIVISION 7	THERMAL AND MOISTURE PROTECTION
07210	BUILDING INSULATION
07220	OPEN-CELL SPRAY FOAM INSULATION
07260	UNDER-SLAB VAPOR BARRIER
07466	FIBER CEMENT BOARD

07540 FLUID APPLIED URETHANE ROOFING SYSTEM
07570 COATED FOAMED ROOFING
07901 JOINT SEALANTS

DIVISION 8 DOORS AND WINDOWS *(None)*

DIVISION 9 FINISHES *(None)*

DIVISION 10 SPECIALTIES *(None)*

DIVISION 11 EQUIPMENT *(None.)*

DIVISION 12 FURNISHINGS *(None.)*

DIVISION 13 SPECIAL CONSTRUCTION *(None.)*

DIVISION 14 CONVEYING SYSTEMS

DIVISION 15 MECHANICAL *(None)*

DIVISION 16 ELECTRICAL *(None)*

SECTION 01340 – SUBMITTALS

GENERAL

DESCRIPTION OF REQUIREMENTS

The types of submittal requirements specified in this section include shop drawings, product data, samples and miscellaneous work-related submittals. Individual submittal requirements are specified in applicable sections for each unit of work. Refer to other Division – 1 section and other contract documents for requirements for requirements for administrative submittals.

Definitions: Work-related submittals of this section are categorized for conveniences as follows:

Shop drawings include specially-prepared technical data for this project, including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form.

Product data includes standard printed information on materials, products and systems; not specially prepared for this project, other than the designation of selections from among available choices printed herein.

Samples include both fabricated and unfabricated physical examination of materials, products and units of work; both as complete units and as smaller portions of units of work; either for limited visual inspection or (where indicated) for more detailed testing and analysis.

Mock-ups are special form of samples, which are too large or otherwise inconvenient for handling in specified manner for transmittal of sample submittals.

Miscellaneous submittals related directly to work include warranty, maintenance agreements workmanship bonds, project photographs, survey data and reports, physical work records, quality testing and field measurement data, operating and maintenance materials, overrun stock, and similar information, devices and applicable to the work and not processed as shop drawings, product data or samples.

Design Calculations required to show that components parts of a system meet the design criteria and performance requirements. Manufacturer's published calculations or shall be certified by a professional Engineering, manufacturer or fabricator certifications may be accepted in lieu of calculations.

GENERAL SUBMITTAL REQUIREMENTS

Coordination and Sequencing: Coordinate preparation and processing of submittals with performance of the work so that work will not be delayed by submittals. Coordinate and sequence different categories of submittals of same work, and or interfacing units of work, so that one will not be delayed for coordination of Engineer's review with another.

Preparation of Submittals: Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, submittal name and similar information to distinguish it from other submittals. Show Contractor's executed review and approval stamp and provide space for Engineer's "action" marking. Package each submittal appropriately for transmittal handling. Engineer will return submittals that are received from sources other than through the Contractor's office "without action".

Transmittal Form: Provide a special transmittal form for project. Provide places to indicate project, date, "To:"; "From:"; names of subcontractors, suppliers, manufacturers, specification sections, category and type of submittal, purpose, description record (for both transmittal and submittals), and signature of transmitter. Provide Contractor's certificate on form, ready for execution, stating that information submitted complies with requirements of contract documents. Provide space for Engineer's remarks.

SPECIFIC CATEGORY SUBMITTAL REQUIREMENTS

General: Except as otherwise indicated on individual work sections, comply with requirements specified herein for each indicated category of submittal. Provide and process intermediate submittals, where required between initial and final, similar to initial submittals.

Shop Drawing: Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale, with name of preparer indicated. Show dimensions and note that are based on field measurement. Identify materials and products in the work shown. Provide key plans or cross reference to room numbers to identify location of multiple elements. Indicate compliance with standards, and special coordination requirements. Identify deviations from the Contract Documents, check dimensions, and check that trades have been coordinated and that no conflict will develop in its installation. Do not allow shop-drawing copies without appropriate final "Action" markings by Engineer to be used in connection with the work.

Submittals: One correctable translucent reproducible print and two blue line or black line prints; reproducible will be returned.

Product Data: Collect required data into one submittal for each unit of work or system; and mark each copy to show which choices or options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements, which have been checked, and special coordination requirements. Maintain one set of product data at a project site, available for reference by Engineer and others.

Submittals: Do not submit product data, or allow its use on the project, until compliance with requirements of contract documents have been confirmed by Contractor. Initial submittal is final submittal unless returned by Engineer, marked with an "Action" which indicates resubmittal or non-compliance. Submit 6 sets of product data; three sets will be returned.

Installer's Copy: Do not proceed with installation of materials, products or systems until final copy of applicable product data is in possession of Installer.

Samples: Provide units identical with final condition of proposed materials or products of the work. Include "range" samples (not less than three units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where Engineer's selection is required. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture, and "kind" by Engineer. Engineer will not "test" samples (except as otherwise indicated) for compliance with other requirements, which are therefore the exclusive responsibility of Contractor.

Submittals: At Contractor's option, provide preliminary submittal of a single set of samples for Engineer's review and "Action". Otherwise, initial submittal is final submittal unless returned with "Action" which indicates resubmittal. Submit three sets of samples in final submittal; two sets will be returned.

Quality Control Set: Maintain one final set of samples at project site, in suitable condition and available for quality control comparisons by Engineer, and by others.

Reusable Samples: Returned samples which are intended or permitted to be incorporated in the work are so indicated in the individual work sections, and must be undamaged condition at the time of use.

Mock-ups: Mock-ups and similar samples are indicated in individual work sections recognized as a special type of sample, comply with requirements for "samples" to greatest extent possible, and process transmittal forms to provide a record of activity.

Inspection and Test Reports: Classify each as either "shop drawing" or "product data", depending upon whether report is uniquely prepared for project or a standard publication or workmanship control testing of point of production, and process accordingly.

Warranties: Refer to specifications for specific general requirements on warranties, product/workmanship bonds, and maintenance agreements. In addition to copies desired for Contractor's use, furnish two executed copies. Furnish two additional copies where required for maintenance manuals.

Standards: Where copy submittal is indicated, and except where specified integrally, with "Product Data" submittal, two copies for Engineer's use. Where workmanship at project site and elsewhere is governed by standard, furnish additional copies to fabricators, installer and others involved in performance of the work.

Closeout Submittals: Refer to individual work sections and to "closeout" sections for specific requirements on submittal of closeout information, materials, tools and similar items.

Record Document Copies: Furnish one set.

Maintenance/Operating Manuals: Furnish two bound copies.

Materials and Tools: Refer to individual work sections for required quantities of spare parts, extra and overrun stock, maintenance tools and device, keys, similar physical units to be submitted.

Administrative Submittals: Submit three (3) copies; no copies will be returned.

General Distribution: Provide additional distribution of submittals to subcontractor, suppliers, fabricators, installers, governing authorities and others as necessary for proper performance of the work. Include such additional copies in transmittal to Engineer where required to receive "Action" marking before final distribution. Record distributions on transmitted forms.

ACTION ON SUBMITTALS

Engineer's Action: Where action and return is required or requested, Engineer will review each submittal, mark with required action, if any, and where possible return within 15 days of receipt. Where submittal is to be reviewed by off-island consultants or where it must be held for coordination, 25 days will be required for review.

Action Stamp: Engineer's action stamp, for use on submittals to be returned to Contractor, is self-explanatory as marked.

Any review and approval by Architect of any Shop Drawings, Product Data or Samples is only for conformance to the general design concept of the Work and does not extend to consideration of structural integrity, safety, detailed compliance with the Contract Documents or any other obligation of th Contractor. The Architect's review and approval of any such data does not relieve the

Contractor from its obligation to perform his obligations under the Contract Documents, nor shall it give rise to any claim in favor of Contractor or any third party against Owner.

END OF SECTION 01340

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SECTION 01705 – PROJECT CLOSEOUT

PART 1 – GENERAL

DESCRIPTION OF REQUIREMENTS

Definitions: Closeout is hereby defined to include general requirements near the end of Contract Time, in preparation for substantial for substantial completion and beneficial occupancy, final acceptance and final payment.

PREREQUISITES TO SUBSTANTIAL COMPLETION

General: Prior to requesting Engineer's inspection for certification of substantial completion (for either entire work or portions thereof), complete the following and list:

1. Provide a list of incomplete items, reasons for being incomplete and schedule for completion.
2. Obtain and submit releases enabling Owner's full and unrestricted use of work and access to services and utilities, including recorded occupancy permits, operating certificates, and similar releases.
3. Complete start-up testing of system, and instructions of Owner's operating/maintenance personnel. Discontinue (or change over) and remove from project site temporary facilities and services, along with construction tools and facilities, mock-ups, and similar elements.
4. Place in good working operation all systems within the structure, including but not limited to, all fire, mechanical, electrical and life safety systems.
5. Submit manuals and other supporting documentation as indicated in these contract documents.
6. Complete final cleaning.

Inspection Procedures: Upon receipt of Contactor's request, Engineer will either proceed with inspection or advise Contractor of prerequisites not fulfilled. Following initial inspection, Engineer will either prepare certificate of substantial completion, or advise Contractor of work which must be performed prior to issuance of certificate; and repeat inspection when requested and assured that work has been substantially completed. Results of completed inspection will form initial "punch-list" for final acceptance.

CLOSEOUT PROCEDURES

General Operating/Maintenance Instruction: Arrange for each installer of work requiring continuing maintenance or operation, to meet with Owner's personnel, at project site, to provide basic instructions needed for proper operation and maintenance of entire work. Include instruction by manufacturer's representatives where installers are not expert in the required procedures. Review maintenance manuals, record documentation, tools, spare parts and material, lubricants, fuels, identification system, control sequences, hazards, cleaning and similar procedures and facilities. For operational equipment, demonstrate start-up, shutdown, emergency operation, noise and vibration adjustments, safety, economy/efficiency adjustments, energy effectiveness, and similar operations. Review maintenance and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments.

FINAL CLEANING

General: Provide final cleaning of the work consisting of cleaning each surface or unit of work to normal "clean" condition expected for a first-class building cleaning and maintenance program. Comply with manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required:

Remove labels, which are not required as permanent labels.

Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances, which are noticeable as vision obscuring materials.

Clean exposed exterior and interior hard-surfaced finishes, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition.

Wipe surfaces of mechanical and electrical equipment clean, including elevator equipment and similar equipment; remove excess lubrication and other substances.

Remove debris and surface dust from limited-access spaces including roofs, plenums, shafts trenches, equipments vaults manholes and similar spaces.

Clean concrete floors in non-occupied spaces broom clean.

Remove of Protection: Except as otherwise indicated or requested by Engineer, remove temporary protection devices and facilities which were installed during course of work.

PARTIAL OCCUPANCY OR USE

The Owner shall have the right to occupy or permit its employees, agents, representative, or subcontractors to occupy any part of the Project (to the extent that such work is not covered hereunder).

PREREQUISITES TO FINAL ACCEPTANCE

General: Prior to requesting Engineer's final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list know exceptions in request:

Submit final payment request with final releases and supporting documentation not previously submitted and accepted.

Submit dated final statement showing accounting for changes to Contract Sum.

Submit certified copy of Engineer's final punch list of itemized work to be completed or corrected, stating tat each item has been completed or otherwise resolved for acceptance, endorsed and dated by Engineer.

Submit consent of Surety to release of final payment.

Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner.

Submit Record Drawings, Record Product Data and Miscellaneous Record Submittals.

Submit warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.

Submit compliance with mechanics liens laws.

Reinspecting Procedure: Upon receipt of Contractor's notice that the work has been completed, including punch list items resulting from earlier inspections, and except incomplete items delayed because of acceptable circumstances, Architect will reinspect the work. Upon completion of reinspection, Architects will either process final closeout documents or advise Contractor of work not completed or obligations not fulfilled as required for final acceptance.

Final Payment; Liens and Punchlist of Work: If at the time of Final Payment, any application or applications for mechanic's or materialmen's liens have been filed against the project, the Owner may withhold an amount equal to two hundred percent (200%) of the amount of the claimed lien or liens until the liens are removed or the contractor posts a bond or cash deposit discharging such liens. The Owner may also withhold from the Final payment such amount as the Owner reasonably deems necessary to cover (i) minor corrective work (punchlist items) until such corrective work has been completed by the Contractor, and (ii) any remaining Work Contractor is required to perform under the Contract Documents. The amount withheld shall be two hundred percent (200%) of the value of the incomplete work as reasonably estimated by the Owner.

RECORD DOCUMENT SUBMITTALS

Record Drawings: Maintain a set of contract drawings and shop drawings of architectural, civil, structural, landscaping, interior, mechanical (plumbing and HVAC), electrical, kitchen and elevator in clean, undamaged condition, with markup of actual installations which vary substantially from the work as originally shown.

Mark whichever drawing is most capable of showing "field" condition fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at corresponding location on working drawings. Mark-up new information, which is recognized to be of importance to Owner. Give particular attention to concealed work, which would be difficult to measure and record at a later date. Not related change-order numbers where applicable. Organize record drawings sheets into manageable sets, bind with durable paper cover sheets, and print title, dates and other identification on cover of each set. Record drawing cover sheet shall be signed by an authorized representative of the Contractor.

Record Product Data and Shop Drawings: Maintain one copy of each product data submittal, and mark-up significant variations in actual work in comparison with submitted information. Include both variations in product as delivered to site, and variations from manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the work, which cannot otherwise be readily discerned at a later date by direct observation. Not related change orders and mark-up of record drawings and specifications. Upon completion of mark-up, submit complete set to Architect for Owner's Records.

Miscellaneous Record Submittals: Refer to other sections of these specifications for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the work. Immediately prior to date(s) of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Architect for Owner's records.

MANUALS

Upon completion of the work, submit to the Architect two loose-leaf hard cover binders with the project name printed on it, containing five indexed sections as follows:

Subcontractors: A listing of all subcontractors and major suppliers for the project, including portions of work done, address and telephone number of the firm, and contact at the firm familiar with the project. Lien releases from each subcontractor and major supplier.

Guarantees and Warranties: Fully executed copy of each guarantee and warranty specified.

Certificates: Fully executed copy of each certificate specified or required.

Instruction: Operating, service, and maintenance manual or instruction sheet for each item specified.

List of Record Drawings and Shop Drawings

DEFAULT

The owner may declare the Contractor in default in accordance with and in the manner described in the general conditions of the Contract for Construction.

Failure to complete the work within the contract Period or any extension thereof.

Failure or refusal to comply with an order of the Owner or Architect within a reasonable time.

Failure or refusal to remove rejected materials.

Failure or refusal to perform anew any defective or unacceptable Work.

Bankruptcy or insolvency, or the making of an assignment for the benefit of creditors.

Failure to pay Subcontractors and suppliers promptly.

Repeated failure to provide a qualified superintendent, competent workmen or subcontractors to carry on the work in an acceptable manner or failure to prosecute the work according to the agreed schedule of completion.

PRODUCTS (not applicable)

EXECUTION (not applicable)

END OF SECTION 01705

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SECTION 03050

SLIP-RESISTANT CONCRETE SEALER

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Application of clear, acrylic, slip resistant concrete sealer.

1.02 RELATED SECTIONS

- A. Section 03300 - Cast-in-Place Concrete.

1.03 REFERENCES

- A. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.

1.04 SUBMITTALS

- A. Comply with Section 01330 - Submittal Procedures.
- B. Submit manufacturer's product data and application instructions.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Store materials in a clean dry area in accordance with manufacturer's instructions.
- C. Keep product from freezing.
- D. Avoid direct contact with this product as it may cause irritation of the eyes and/or skin.
- E. Protect materials during handling and application to prevent damage or contamination.
- F. Do not mix with any compound containing solvent.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply product when air, surface, or material temperatures are expected to fall below 40°F (4°C) within 4 hours of expected application.
- B. Do not apply to frozen concrete.
- C. Do not use on dense or porous surfaces.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers with products that GHURA believes meet the specification listed below.
 - 1. W. R. MEADOWS, INC., PO Box 338, Hampshire, Illinois 60140-0338. (800) 342-5976. (847) 683-4500. Fax (847) 683-4544, www.wrmeadows.com.
 - 2. Deck-Shield, United Shields Product, www.unitedshieldsproducts.com.

These brands are provided only as examples and any manufacturer providing substantially equivalent products that meet the specification will be considered pending evaluation and approval by GHURA.

2.02 MATERIALS

- A. Acrylic concrete sealer shall be a water-based, non-yellowing, clear, slip-resistant compound meeting the following requirements:
 - 1. ASTM C1315 Ultraviolet Resistance
Class A – Non-yellowing.
Chalk Resistance – No chalking.
Check/Peel Resistance – No deterioration
 - 2. Dried film accepted by USDA.
 - 3. Meets the maximum VOC content limits of 200 g/L for Concrete Curing and Sealing Compounds as required by the California Air Pollution Control Districts.
 - 4. Meets the 400 g/L VOC maximum required by the U.S. EPA Architectural Coatings Rule.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to receive concrete sealer. Notify Architect if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

3.02 SURFACE PREPARATION

- A. Protect adjacent surfaces not designated to receive sealer.
- B. Clean and prepare surfaces to receive sealer in accordance with manufacturer's instructions, ensuring that all stains, oil, grease, form release agents, dust and dirt is removed prior to application.
- C. Ensure surface is clean and free from all powdered release agent residue.
- D. Apply concrete sealer when concrete surface is clean and dry.

3.03 APPLICATION

- A. Apply sealer in accordance with manufacturer's instructions.
- B. Mix or agitate concrete sealer thoroughly avoiding excessive mixing.
- C. Apply a uniform film using a standard industrial-grade sprayer, sprayed with an 8001 tip that produces a flow of 1/10 of one gallon per minute. Alternatively, apply using a short nap roller.
- D. Apply a second coat at right angles to the first for added protection if required.
- E. Stir occasionally during application to ensure particles remain suspended.

3.04 PROTECTION

- A. Restrict foot traffic for at least 6 hours, 12 hours is preferable.

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SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mix design, placement procedures, and finishes.

1.2 DEFINITIONS

- A. Retain this definition, if required, to clarify what makes up the cementitious component of the water-cementitious materials ratio.
- B. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume.

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data: For each type of manufactured material and product indicated.
- C. Design Mixes: For each concrete mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.
 - 1. Indicate amounts of mix water to be withheld for later addition at Project site.
- D. Delete paragraph below if not required.
- E. Steel Reinforcement Shop Drawings: Details of fabrication, bending, and placement, prepared according to ACI 315, "Details and Detailing of Concrete Reinforcement." Include material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports of concrete reinforcement. Include special reinforcement required for openings through concrete structures.
- F. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated, based on comprehensive testing of current materials.

- G. Material Certificates: Signed by manufacturers certifying that each of the following items complies with requirements:
1. Cementitious materials and aggregates.
 2. Steel reinforcement and reinforcement accessories.
 3. Admixtures.
 4. Curing materials.
 5. Floor and slab treatments.
 6. Bonding agents.
 7. Adhesives.
 8. Vapor retarders.
 9. Epoxy joint filler.
 10. Joint-filler strips.
 11. Repair materials.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed concrete Work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
- C. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 to conduct the testing indicated, as documented according to ASTM E 548.
1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
- D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, each aggregate from one source, and each admixture from the same manufacturer.

- E. ACI Publications: Comply with the following, unless more stringent provisions are indicated:
 - 1. ACI 301, "Specification for Structural Concrete."
 - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- F. Mockups: As required by the Architect, cast concrete slabs-on-grade mockup to demonstrate typical joints, surface finish, texture, tolerances, and standard of workmanship.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle steel reinforcement to prevent bending and damage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers with products that GWA believes meet the specifications are listed below.

These brands are provided only as examples and any manufacturer providing substantially equivalent products that meet the specification will be considered pending evaluation and approval by GWA.

2.2 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
 - 1. Plywood, metal, or other approved panel materials.
 - 2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
 - a. High-density overlay, Class 1, or better.
 - b. Medium-density overlay, Class 1, or better, mill-release agent treated and edge sealed.
 - c. Structural 1, B-B, or better, mill oiled and edge sealed.
 - d. B-B (Concrete Form), Class 1, or better, mill oiled and edge sealed.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

- C. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.
- D. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch (19 by 19 mm), minimum.
- E. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- F. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that will leave no corrodible metal closer than 1 inch (25 mm) to the plane of the exposed concrete surface.
 - 2. Furnish ties that, when removed, will leave holes not larger than 1 inch (25 mm) in diameter in concrete surface.

2.3 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M or dual grade ASTM A 615/A 706, Grade 60 (Grade 420), deformed.
- B. Plain-Steel Wire: ASTM A 82, as drawn.
- C. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

2.4 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete, and as follows:
 - 1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected or CRSI Class 2 stainless-steel bar supports.
- B. Joint Dowel Bars: Plain-steel bars, ASTM A 615/A 615M, Grade 60 (Grade 420). Cut bars true to length with ends square and free of burrs.

2.5 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II.
- B. Normal-Weight Aggregate: ASTM C 33, uniformly graded, and as follows:
 - 1. Class: Moderate weathering region, but not less than 3M.
 - 2. Nominal Maximum Aggregate Size: 3/4 inch (19 mm).
 - 3. Combined Aggregate Gradation: Well graded from coarsest to finest with not more than 18 percent and not less than 8 percent retained on an individual sieve, except that less than 8 percent may be retained on coarsest sieve and on No. 50 (0.3-mm) sieve, and less than 8 percent may be retained on sieves finer than No. 50 (0.3 mm).
- C. Water: Potable and complying with ASTM C 94.

2.6 ADMIXTURES

- A. General: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material and to be compatible with other admixtures and cementitious materials. Do not use admixtures containing calcium chloride.
- B. Air-Entraining Admixture: ASTM C 260.
- C. Water-Reducing Admixture: ASTM C 494, Type A.
- D. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
- E. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.

2.7 VAPOR RETARDERS

- A. Vapor Retarder: ASTM E 1745, Class B, five-ply, nylon- or polyester-cord-reinforced, high-density polyethylene sheet; 10 mils (0.25 mm) thick.
 - 1. Available Products: Subject to compliance with requirements, a product that may be incorporated into the Work includes, but is not limited to, "Griffolyn T-85" by Reef Industries Inc. or "Stego Wrap" by Stego Industries, LLC.

2.8 FLOOR AND SLAB TREATMENTS

- A. Slip-Resistive Aggregate Finish: Factory-graded, packaged, rustproof, nonglazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery with emery aggregate containing not less than 50 percent aluminum oxide

and not less than 25 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.

- B. Unpigmented Mineral Dry-Shake Floor Hardener: Factory-packaged dry combination of portland cement, graded quartz aggregate, and plasticizing admixture.
- C. Pigmented Mineral Dry-Shake Floor Hardener: Factory-packaged dry combination of portland cement, graded quartz aggregate, coloring pigments, and plasticizing admixture. Use coloring pigments that are finely ground, nonfading mineral oxides interground with cement.
 - 1. Colors: Match Architect's samples.
 - 2. Colors: As indicated by referencing manufacturer's designations.
 - 3. Colors: As selected by Architect from manufacturer's full range for these characteristics.
- D. Penetrating Liquid Floor Treatment: Chemically reactive, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; colorless; that penetrates, hardens, and densifies concrete surfaces.
- E. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- F. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Unpigmented Mineral Dry-Shake Floor Hardener:
 - a. Burke Group, LLC (The).
 - b. ChemMasters.
 - c. Conspec Marketing & Manufacturing Co., Inc.
 - d. Dayton Superior Corporation.
 - e. Euclid Chemical Co.
 - f. Kaufman Products, Inc.
 - g. Lambert Corporation.
 - h. L&M Construction Chemicals, Inc.
 - i. Master Builders, Inc.
 - j. Metalcrete Industries.
 - k. Richmond Screw Anchor Co.
 - l. L. M. Scofield Co.
 - m. Sonneborn, Div. of ChemRex, Inc.
 - n. Sternson Group.
 - o. Symons Corporation.
 - 2. Pigmented Mineral Dry-Shake Floor Hardener:

- a. Burke Group, LLC (The).
 - b. ChemMasters.
 - c. Conspec Marketing & Manufacturing Co., Inc.
 - d. Dayton Superior Corporation.
 - e. Euclid Chemical Co.
 - f. Kaufman Products, Inc.
 - g. Lambert Corporation.
 - h. L&M Construction Chemicals, Inc.
 - i. Master Builders, Inc.
 - j. Metalcrete Industries.
 - k. L. M. Scofield Co.
 - l. Sonneborn, Div. of ChemRex, Inc.
 - m. Sternson Group.
3. Penetrating Liquid Floor Treatment:
- a. Burke Group, LLC (The).
 - b. ChemMasters.
 - c. Conspec Marketing & Manufacturing Co., Inc.
 - d. Curecrete Chemical Co., Inc.
 - e. Dayton Superior Corporation.
 - f. Euclid Chemical Co.
 - g. L&M Construction Chemicals, Inc.
 - h. Vexcon Chemicals, Inc.

2.9 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Clear, Solvent-Borne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- F. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, 18 to 22 percent solids.

2.10 RELATED MATERIALS

- A. Epoxy Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Shore A hardness of 80 per ASTM D 2240.

- B. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- C. Epoxy-Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class and grade to suit requirements, and as follows:
 - 1. Type II, non-load bearing, for bonding freshly mixed concrete to hardened concrete.
 - 2. Types I and II, non-load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
 - 3. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

2.11 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 - 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3 to 6 mm) or coarse sand as recommended by underlayment manufacturer.
 - 4. Compressive Strength: Not less than 4000 psi (29 MPa) at 28 days when tested according to ASTM C 109/C 109M.
 - 5. Density: Not more than 128 lbs. per cu. Ft.
- B. Repair Topping: Traffic-bearing, cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch (6 mm).
 - 1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 - 2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3 to 6 mm) or coarse sand as recommended by topping manufacturer.

4. Compressive Strength: Not less than 5700 psi (39 MPa) at 28 days when tested according to ASTM C 109/C 109M.
5. Density: Not more than 128 lbs. per cu. Ft.

2.12

CONCRETE MIXES

- A. Prepare design mixes for each type and strength of concrete determined by either laboratory trial mix or field test data bases, as follows:
 1. Proportion normal-weight concrete according to ACI 211.1 and ACI 301.
- B. Proportion normal-weight concrete mixes as follows:
 1. Compressive Strength (28 Days): As indicated on the Structural drawings.
 2. Maximum Slump: As indicated on the Structural drawings.
- C. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
 1. Fly Ash: 25 percent.
 2. Combined Fly Ash and Pozzolan: 25 percent.
 3. Ground Granulated Blast-Furnace Slag: 50 percent.
 4. Combined Fly Ash or Pozzolan and Ground Granulated Blast-Furnace Slag: 50 percent portland cement minimum, with fly ash or pozzolan not exceeding 25 percent.
- D. Maximum Water-Cementitious Materials Ratio: 0.55.
- E. Air Content: Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content as follows within a tolerance of plus 1 or minus 1.5 percent, unless otherwise indicated:
 1. Air Content: 3 percent for 3/4-inch- (19-mm-) nominal maximum aggregate size.
- F. Do not air entrain concrete to trowel-finished interior floors and suspended slabs. Do not allow entrapped air content to exceed 3 percent.
- G. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- H. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing admixture or high-range water-reducing admixture (superplasticizer) in concrete, as required, for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete and concrete with a water-cementitious materials ratio below 0.50.

2.13 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.14 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94 and ASTM C 1116, and furnish batch ticket information.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until concrete structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:
 1. Class A, 1/8 inch (3 mm).
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical. Kerf wood inserts for forming keyways, reglets, recesses, and the like, for easy removal.
 1. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete as required by the Architect.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use Setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 1. Install anchor bolts, accurately located, to elevations required.
 - 2. Install reglets to receive top edge of foundation sheet waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.

3.3 REMOVING AND REUSING FORMS

- A. General: Formwork, for sides of beams, walls, columns, and similar parts of the Work, that does not support weight of concrete may be removed after cumulatively curing for not less than 24 hours after placing concrete provided concrete is hard enough to not be damaged by form-removal operations and provided curing and protection operations are maintained.
- B. Leave formwork, for beam soffits, joists, slabs, and other structural elements, that supports weight of concrete in place until concrete has achieved the following:
 - 1. At least 70 percent of 28-day design compressive strength.

2. Determine compressive strength of in-place concrete by testing representative field- or laboratory-cured test specimens according to ACI 301.
 3. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- C. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.
 - D. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 SHORES AND RESHORES

- A. Comply with ACI 318 (ACI 318M), ACI 301, and recommendations in ACI 347R for design, installation, and removal of shoring and reshoring.
- B. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

3.5 VAPOR RETARDERS

- A. Vapor Retarder: Place, protect, and repair vapor-retarder sheets according to ASTM E 1643 and manufacturer's written instructions.

3.6 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder in accordance with manufacturer's recommendations before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

- E. Install welded wire fabric in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.7 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
 - 2. Form from preformed galvanized steel, plastic keyway-section forms, or bulkhead forms with keys, unless otherwise indicated. Embed keys at least 1-1/2 inches (38 mm) into concrete.
 - 3. Locate joints for beams, slabs, joists, and girders at locations approximately one-third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 - 4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 - 5. Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
 - 6. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:
 - 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3 mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
 - 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3-mm-) wide joints into concrete when cutting action will not tear, abrade, or

otherwise damage surface and before concrete develops random contraction cracks.

3.8 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless amount to be added is less than the maximum amount to be added determined in the mix design, or as approved by the Special Inspector.
- C. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation.
- D. Deposit concrete in forms in horizontal layers no deeper than 24 inches (600 mm) and in a manner to avoid inclined construction joints. Place each layer while preceding layer is still plastic, to avoid cold joints.
 - 1. Consolidate placed concrete with mechanical vibrating equipment. Use equipment and procedures for consolidating concrete recommended by ACI 309R.
 - 2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the vibrator. Place vibrators to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mix constituents to segregate.
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 - 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 2. Maintain reinforcement in position on chairs during concrete placement.
 - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.

4. Slope surfaces uniformly to drains where required.
 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, free of humps or hollows, before excess moisture or bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- F. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows, when hot-weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.9 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defective areas repaired and patched. Remove fins and other projections exceeding ACI 347R limits for class of surface specified.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding **1/8 inch (3 mm)** in height.
1. Apply to concrete surfaces exposed to public view or to be covered with a coating or covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, or painting.
 2. Do not apply rubbed finish to smooth-formed finish.
- C. Rubbed Finish: Apply the following to smooth-formed finished concrete:
1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.

2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.
 3. Cork-Floated Finish: Wet concrete surfaces and apply a stiff grout. Mix one part portland cement and one part fine sand with a 1:1 mixture of bonding agent and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Compress grout into voids by grinding surface. In a swirling motion, finish surface with a cork float.
- D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.10 FINISHING FLOORS AND SLABS

- A. General: Comply with recommendations in ACI 302.1R for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes.
1. Apply scratch finish to surfaces indicated and to surfaces to receive concrete floor topping or mortar setting beds for ceramic or quarry tile, portland cement terrazzo, and other bonded cementitious floor finishes.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
1. Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.
- D. Trowel Finish: After applying float finish, apply first trowel finish and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and

appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system
 2. Finish and measure surface so gap at any point between concrete surface and an unlevelled freestanding 10-foot- (3.05-m-) long straightedge, resting on two high spots and placed anywhere on the surface, does not exceed the following:
 - a. 1/4 inch (6.4 mm).
- E. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.
- F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.
1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.
- G. Slip-Resistive Aggregate Finish: Before final floating, apply slip-resistive aggregate finish where indicated and to concrete stair treads, platforms, and ramps. Apply according to manufacturer's written instructions and as follows:
1. Uniformly spread **25 lb/100 sq. ft. (12 kg/10 sq. m)** of dampened slip-resistive aggregate over surface in one or two applications. Tamp aggregate flush with surface, but do not force below surface.
 2. After broadcasting and tamping, apply float finish.
 3. After curing, lightly work surface with a steel wire brush or an abrasive stone, and water to expose slip-resistive aggregate.
- H. Mineral Dry-Shake Floor Hardener Finish: After initial floating, apply mineral dry-shake materials to surfaces according to manufacturer's written instructions and as follows:
1. Uniformly apply mineral dry-shake materials at a rate of **100 lb/100 sq. ft. (49 kg/10 sq. m)**, unless greater amount is recommended by manufacturer.

2. Uniformly distribute approximately two-thirds of mineral dry-shake materials over surface by hand or with mechanical spreader, and embed by power floating. Follow power floating with a second mineral dry-shake application, uniformly distributing remainder of material, and embed by power floating.
3. After final floating, apply a trowel finish. Cure concrete with curing compound recommended by dry-shake material manufacturer and apply immediately after final finishing.

3.11 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-trowelling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates of manufacturer furnishing machines and equipment.

3.12 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with recommendations in ACI 305R for hot-weather protection during curing.
- B. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing by one or a combination of the following methods:
- C. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces, by one or a combination of the following methods:
 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Retain three subparagraphs below as Contractor's options, unless not suited for Project.
 - b. Water.
 - c. Continuous water-fog spray.

- d. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - a. Retain subparagraphs below to suit Project.
 - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
 - c. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
 - d. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer recommends for use with floor coverings.
 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.13 LIQUID FLOOR TREATMENTS

- A. Penetrating Liquid Floor Treatment: Prepare, apply, and finish penetrating liquid floor treatment according to manufacturer's written instructions.
 1. Remove curing compounds, sealers, oil, dirt, laitance, and other contaminants and complete surface repairs.
 2. Do not apply to concrete that is less than seven days old.
 3. Apply liquid until surface is saturated, scrubbing into surface until a gel forms; rewet; and repeat brooming or scrubbing. Rinse with water; remove excess material until surface is dry. Apply a second coat in a similar manner if surface is rough or porous.
- B. Sealing Coat: Uniformly apply a continuous sealing coat of curing and sealing compound to hardened concrete by power spray or roller according to manufacturer's written instructions.

3.14 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
 - 1. Defer joint filling until concrete has aged at least six months. Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.

3.15 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 (1.2-mm) sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
 - 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch (13 mm) in any dimension in solid concrete but not less than 1 inch (25 mm) in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 - 2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 - 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch (0.25 mm) wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Delete subparagraph above and below, or retain both if applicable. Above uses an underlayment; below, a topping.
 6. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch (6 mm) to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 7. Repair defective areas, except random cracks and single holes 1 inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least 3/4 inch (19 mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mix as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 8. Repair random cracks and single holes 1 inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.16 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement according to requirements specified in this Article.
- B. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement. Sampling and testing for quality control may include those specified in this Article.
- C. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
 - 1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mix exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
 - 2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change.
 - 3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.
 - 4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.
 - 5. Revise number of laboratory- or field-cured test specimens below if required.
 - 6. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of four standard cylinder specimens for each composite sample.
 - a. Cast and field cure one set of four standard cylinder specimens for each composite sample.
 - 7. Compressive-Strength Tests: ASTM C 39; test one laboratory-cured specimens at 7 days and two at 28 days.

- a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at age indicated.
- D. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
- E. Strength of each concrete mix will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
- F. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-and 28-day tests.
- G. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
- H. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed by Architect.

*****END*****

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SECTION 03730 - CONCRETE REPAIR USING EPOXY RESIN

PART 1 - GENERAL

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 31	1990 (Rev. A) Making and Curing Concrete Test Specimens in the Field
ASTM C 33	1990 Concrete Aggregates
ASTM C 39	1986 Compressive Strength of Cylindrical Concrete Specimens
ASTM C 117	1990 Materials Finer than 75-Micrometer (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 136	1984 (Rev. A) Sieve Analysis of Fine and Coarse Aggregates
ASTM C 144	1989 Aggregate for Masonry Mortar
ASTM C 881	990 Epoxy-Resin-Base Bonding Systems for Concrete

DEFINITIONS

Epoxy Resin Binder: A two-component epoxy bonding system in low and medium viscosities used by itself as a primer or for producing epoxy concrete or mortars when mixed with aggregate.

Epoxy Concrete: A combination of epoxy resin binder and fine and coarse aggregate used in the repair of spalling along joints or cracks, small surface spalls or "popouts."

Epoxy Mortar: A combination of epoxy resin binder and fine aggregate used in the surface repair of non-structural cracks and filling of saw kerfs.

Non-Pressure Epoxy Grout: A combination of epoxy resin binder, a mineral filler and a thixotropic agent used in cementing dowels in place and the repair of non-structural cracks.

Pressure Grouting Epoxy: A low viscosity epoxy resin system pumped under pressure into structural cracks in walls or pavements.

SUBMITTALS

Submit the following:

SD-05, Design Data

a. Job mix formula

Job Mix Formula: Submit, at least 15 days before work commences, a job-mix formula for each use of epoxy concrete/epoxy mortar. Test reports shall accompany the mix design. Identify the proposed source of the materials and state the proportions of aggregates and epoxy resin. When determining job mix, use samples of materials to be used on the job.

Trial Batches: Perform a minimum of three trial batching in a certified testing laboratory. Try different aggregate-resin proportions to obtain satisfactory placing and finishing characteristics but keep the proportion by weight of aggregate to epoxy resin binder at least five to one. When mixing, add the fine aggregates first, and then the coarse aggregates. The final trial batch should be sufficiently wet so that some fines will "bleed" to the surface during finishing operations.

Supporting Criteria: Include in the submittal the following data for each trial batch:

- (1) Proportions by weight
- (2) Unit weights and specific gravities of constituents
- (3) Batch weights
- (4) Compressive strengths of 3- by 6-inch cylinders, made in accordance with ASTM C 31, air cured for 7 days and tested in accordance with ASTM C 39. Compressive strength shall be a minimum of 5,000 psi.
- (5) Curing time

Instructions

Epoxy repair material

Submit for mixing and applying.

SD-12, Field Test Reports

- a. Sieve analysis test for aggregate
- b. Epoxy resin binder tests
- c. Epoxy grout tests

Epoxy Resin Binder

Include the following:

- a. Viscosity
- b. Consistency
- c. Gel time
- d. Absorption
- e. Shrinkage
- f. Thermal compatibility

Epoxy Resin Grout

Include the following:

- a. Epoxy number
- b. Consistency
- c. Compressive single shear strength
- d. Pot life

SD-13, Certificates

- a. Epoxy resin binder
- b. Epoxy grout

DELIVERY, STORAGE, AND HANDLING

Inspect materials delivered to site for damage, unload and store with a minimum of handling. Deliver epoxy resin components and aggregate materials in original sealed containers and store in dry covered areas at temperatures below 90 degrees F. Remove from job site unused mixed materials which have reached end of working or pot life.

WEATHER LIMITATIONS

Halt work when weather conditions detrimentally affect the quality of patching or bonding concrete. Apply epoxy resin materials only when the contact surfaces are completely dry and if the atmospheric and surface temperature ranges are suitable for the specified epoxy material. Follow manufacturer's instructions for weather conditions and temperature ranges.

TRAFFIC CONTROL

Do not permit vehicular or heavy equipment traffic on the pavement in the work area during the curing period. At the end of the curing period, light local traffic may be permitted on the pavement if approved by the Contracting Officer.

EQUIPMENT

Use a container recommended by the epoxy manufacturer as the mixing vessel. Use a power drive (air or spark-proof) propeller type blade for mixing except that hand mixing may be used for small batches. Use equipment specified by epoxy manufacturer for field mixing of aggregates and epoxy resin.

PART 2 - PRODUCTS

MATERIALS

Epoxy: Epoxy Resin Binder for Concrete and Mortar

ASTM C 881, Type III, Grade 2, Class C without mineral filler. For walls and ceilings use ASTM C 881, Type III, Grade 3, Class C with filler.

Non-Pressure Epoxy Grout:

ASTM C 881 Type IV, Grade 3, Class C with or without mineral filler.

Crack Sealer for Pressure Grouting:

ASTM C 881, Type IV, Grade 1, Class C without filler.

Crack Surface Sealer for Pressure Grouting:

ASTM C 881, Type IV, Grade 3, Class C with mineral filler.

Aggregate: For material passing No. 200 sieve provide a non-plastic material composed of a minimum of 75 percent limestone dust, talc or silica inert filler. Provide dry aggregate.

For Epoxy Concrete: ASTM C 33, maximum size 1/2 inch. Conform to the following requirements:

Sieve Designation	Percent Passing by Weight
1/2 in.	100
3/8 in.	93-100
No. 4	70-80
No. 8	50-65
No. 16	37-53
No. 30	20-37
No. 50	10-20
No. 100	5-10
No. 200	3-5

For Epoxy Mortar: ASTM C 144, maximum size No. 8 sieve

PART 3 - EXECUTION

PREPARATION

Epoxy Concrete

Patch Areas: Remove loose concrete from the spalled areas indicated. Inspect the cavity for remaining defective concrete by tapping with a hammer or steel rod and listening for dull or hollow sounds. In areas where tapping does not produce a solid tone, remove additional concrete until testing produces a solid tone. Make the entire cavity at least one inch deep. Saw cut edges of cavity to avoid feather edging. Prepare surface of cavity by sandblasting, grinding, or water blasting. Remove dust, dirt, and loosely bonded material resulting from cleaning. Ensure cavity surfaces are dry.

Epoxy Mortar for Cracks and Saw Kerfs: Apply epoxy mortar to newly exposed loose and unsound materials. Prepare surfaces by as recommended by Manufacturer. Remove dust, dirt, and loosely bonded material. Ensure surfaces are dry before application of epoxy mortar.

Epoxy Grout for Cracks: Apply grout to newly exposed concrete free of loose and unsound materials. Prepare surfaces by sandblasting, scarifying or water blasting. Remove dust, dirt, and loosely bonded material resulting from cleaning. Ensure surfaces are dry before application of epoxy grout.

MIXING MATERIALS

Make batches small enough to ensure placement before binder sets. Mix materials in accordance with manufacturer's recommendations.

PLACEMENT

Epoxy Concrete: Prime dry cavity surfaces with epoxy resin using a stiff bristle brush. Make coating approximately 20 mils thick. Place epoxy concrete while primer is still tacky and in layers not exceeding one inch thick. Use vibratory floats, plates, or hand tampers to consolidate the concrete.

Level each layer and screed the final surface to match the adjoining surfaces. Remove excess epoxy concrete on adjacent surfaces before the concrete hardens. Do not feather epoxy concrete out onto adjacent surfaces.

Epoxy Mortar: Prime surfaces with epoxy resin binder. Scrub prime coat into surface with a stiff bristle brush. Make coating approximately 20 mils thick. Place epoxy mortar while primer is still tacky. Apply at a thickness recommended by the manufacturer. Work mortar into place and consolidate thoroughly so that the mortar wets contact surfaces. Finish surface of mortar to the required texture. Do not feather edge epoxy mortar onto adjacent surfaces.

Non-Pressure Epoxy Grout:

Cementing Dowels: Immediately prior to placing the dowel, clean hole of dust and other deleterious material with a high-pressure air hose. Fill hole halfway with grout. Insert dowel in hole by rotating it at least one complete turn while tapping it down. If necessary add more grout to fill hole.

Epoxy Grout for Cracks: Apply epoxy grout at a thickness recommended by the manufacturer. Work grout into place and consolidate thoroughly so that contact surfaces are wetted by the grout. Finish surface of grout to the required texture. Do not feather edge epoxy grout onto adjacent surfaces.

Pressure Grouting of Cracks: Clean each crack of dust, dirt, loose concrete and unsound material. Insert a valve at both ends of each crack, at the junction of two cracks, and along the length of each crack at 16 to 20 inch intervals. Fill crack between valves with crack surface sealer. After crack surface sealer has hardened and cured, pump crack sealer into valve at one end of crack.

For vertical surfaces start at lowest valve and work upwards. As crack sealer appears at next valve, pinch closed pumping valve and move to next valve and commence pumping. Continue procedure until other end of crack is reached. Avoid delays in pumping operation. After crack sealer has hardened and cured grind valves off flush with concrete surface. Coat areas of valves with crack surface sealer and allow hardening and curing.

CURING

Cure epoxy materials in accordance with manufacturer's recommendations.

FIELD QUALITY CONTROL

Sampling: As soon as epoxy resin and aggregate materials are available for sampling, obtain by random selection a sample of each batch. Clearly identify samples by designated name, specification number, batch number, project contract number, intended use and quantity involved.

Testing: At the discretion of the Contracting Officer, samples provided may be tested by the Government for verification. Test samples by an approved laboratory. If a sample fails to meet specification requirements after two tests, replace the batch represented by the samples tested and retest. Test aggregates in accordance with ASTM C 117 and ASTM C 136

Inspection: Check each repaired area for cracks, spalls, popouts and loss of bond between repaired area and surrounding concrete. Check each repaired area for voids by tapping with a hammer or steel rod and listening for dull or hollow sounds. Immediately repair defects.

END OF SECTION 03730

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SECTION 03732 - CONCRETE REPAIR

PART 1 - GENERAL

SECTION INCLUDES

Preparation of concrete and application of repair materials.

Rehabilitation of concrete surfaces.

RELATED SECTIONS

Section 03300 - Cast-In-Place Concrete.

REFERENCES

ANSI/ASTM C404 - Aggregates for Masonry Grouts.

ANSI/ASTM C882 - Bond Strength of Epoxy-Resin Systems Used with Concrete.

ANSI/AWS D1.4 - Structural Welding Code for Reinforcing Steel.

ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.

ASTM C33 - Concrete Aggregates.

ASTM C150 - Portland Cement.

SUBMITTALS

Submit product data under provisions of Section 01011.

Submit product data indicating product standards, physical and chemical characteristics, technical specifications, limitations, maintenance instructions, and general recommendations regarding each material.

Submit manufacturer's installation instructions under provisions of Section 01011.

Submit manufacturer's certificate under provisions of Section 01011 that specified products meet or exceed specified requirements.

PROJECT RECORD DOCUMENTS

Submit documents under provisions of Section 01011.

Accurately record actual locations of structural reinforcement repairs, type of repair.

QUALITY ASSURANCE

Materials Manufacturer: Company specializing in manufacturing the products specified in this Section

with minimum three years experience.

Applicator: Company specializing in concrete repair experience.

Welding: ANSI/AWS D1.4.

MOCKUP

Provide mockup of typical patch and repair for Architect's approval.

Provide testing of mockup under presence of the Architect.

Prepare one sample of each type of injection and patching procedure for Architect's approval.

When accepted, mockup will demonstrate minimum standard for the Work. Mockup may remain as part of the Work.

DELIVERY, STORAGE, AND HANDLING

Deliver products to site under provisions of Section 01011.

Store and protect products under provisions of Section 01011.

Comply with instructions for storage, shelf life limitations, and handling.

PART 2 - PRODUCTS

PATCHING MATERIALS

Epoxy Resin: Two-part epoxy adhesive containing 100 percent solids, meeting the following minimum characteristics:

Characteristic	Test Method	Results
Bond Strength	ANSI/ASTM C882	2,700 psi
Tensile Strength	ASTM D638	6,600 psi
Elongation	ASTM D638	2% for 7 days at 70 degrees F (21 degrees C)
Flexural Strength	ASTM D790	8,000 psi
Compressive Strength	ASTM D695	6,500 psi

Bonding Agent: Polyvinyl acetate emulsion, dispersed in water while mixing, non-coagulant in mix, water resistant when cured.

Portland Cement: ASTM C150, Type I; gray color.

Sand: ASTM C33; uniformly graded, clean.

Water: Clean and potable.

Cleaning Agent: Commercial muriatic acid.

REINFORCEMENT MATERIALS

Reinforcing Steel: ASTM A615, 40 ksi yield grade billet-steel deformed bars, uncoated finish.

MIXING EPOXY MORTARS

Mix epoxy mortars in accordance with manufacturer's instructions for purpose intended.

Mix components in clean equipment or containers. Conform to pot life and workability limits.

MIXING CEMENTITIOUS MATERIALS

Mix cementitious mortar in accordance with manufacturer's instructions for purpose intended.

Include bonding agent as additive to mix.

PART 3 - EXECUTION

EXAMINATION

Verify that surfaces are ready to receive work.

Beginning of installation means installer accepts existing surfaces.

PREPARATION

Clean concrete surfaces of dirt, laitance, corrosion, or other contamination; wire brush using acid. Rinse surface and allow to dry.

Flush out cracks and voids with muriatic acid to remove laitance and dirt. Chemically neutralize by rinsing with water.

Provide temporary entry ports spaced to accomplish movement of fluids between ports, no deeper than the depth of the crack to be filled. Limit port size diameter to be no greater than the thickness of the crack. Provide temporary seal at concrete surface to prevent leakage of adhesive.

For areas patched with epoxy mortar, remove broken and soft concrete 1/4 inch deep. Remove

corrosion from steel. Clean surfaces mechanically; wash with acid and rinse with water. Sandblast clean the exposed reinforcement steel surfaces. Mechanically cut away damaged portions of bar.

REPAIR WORK

Repair exposed structural, shrinkage, and settlement cracks of concrete as indicated on Drawings by the bonding agent and cementitious paste method.

APPLICATION - EPOXY MORTAR

Trowel apply mortar mix to an average thickness of 3/4 inches. Tamp into place filling voids at spalled areas.

For patching honeycomb, trowel mortar onto surface, working into honeycomb to bring surface flush with surrounding area. Finish trowel surface to match surrounding area.

Cover exposed steel reinforcement with epoxy mortar; feather edges to flush surface.

APPLICATION - CEMENTITIOUS MORTAR

Apply brush coating of bonding agent to damp concrete surfaces. Provide full surface coverage.

Apply cementitious mortar by steel trowel to an average thickness of 3/4 inches. Tamp into place filling voids at spalled areas. Work mix into honeycomb.

Damp cure cementitious mortar for four days.

FIELD QUALITY CONTROL

Field inspection and testing will be performed under provisions of Section 01011.

Test concrete for calcium chloride content during the execution of the Work.

END OF SECTION

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SECTION 03930 - CONCRETE REHABILITATION

PART 1- GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 31	(1991) Making and Curing Concrete Test Specimens in the Field
ASTM C 33	(1993) Concrete Aggregates
ASTM C 39	(1994) Compressive Strength of Cylindrical Concrete Specimens
ASTM C 117	(1995) Materials Finer than 75-Micrometer (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 136	(1995; Rev. A) Sieve Analysis of Fine and Coarse Aggregates
ASTM C 144	(1993) Aggregate for Masonry Mortar
ASTM C 881	(1990) Epoxy-Resin-Base Bonding Systems for Concrete

1.2 DEFINITIONS

- A. Epoxy Resin Binder: A two-component epoxy bonding system in low and and medium viscosities used by itself as a primer or for producing epoxy concrete or mortars when mixed with aggregate.
- B. Epoxy Concrete: A combination of epoxy resin binder and fine and coarse aggregate used in the repair of spalling along joints or cracks, small surface spalls or "popouts."
- C. Epoxy Mortar: A combination of epoxy resin binder and fine aggregate used in the surface repair of non-structural cracks and filling of saw kerfs.
- D. Non-Pressure Epoxy Grout: A combination of epoxy resin binder, a mineral filler and a thixotropic agent used in cementing dowels in place and the repair of non-structural cracks.
- E. Pressure Grouting Epoxy: A low viscosity epoxy resin system pumped under pressure into structural cracks in walls or pavements.

1.3 SUBMITTALS

Submit the following in accordance with section 01330, "Submittal Procedures."

Instructions

1. Epoxy repair material

B. Field Test Reports

1. Sieve analysis test for aggregate
2. Epoxy resin binder tests
3. Epoxy grout tests

C. Certificates

1. Epoxy resin binder
2. Epoxy grout

1.4 DELIVERY, STORAGE, AND HANDLING

Inspect materials delivered to site for damage, unload and store with a minimum of handling. Deliver epoxy resin components and aggregate materials in original sealed containers and store in dry covered areas at temperatures below 30 degrees C 90 degrees F. Remove from job site unused mixed materials which have reached end of working or pot life.

1.5 WEATHER LIMITATIONS

Halt work when weather conditions detrimentally affect the quality of patching or bonding concrete. Apply epoxy resin materials only when the contact surfaces are completely dry and if the atmospheric and surface temperature ranges are suitable for the specified epoxy material. Follow manufacturer's instructions for weather conditions and temperature ranges.

1.6 TRAFFIC CONTROL

Do not permit vehicular or heavy equipment traffic on the pavement in the work area during the curing period. At the end of the curing period, light local traffic may be permitted on the pavement if approved by the Contracting Officer.

1.7 EQUIPMENT

Use a container recommended by the epoxy manufacturer as the mixing vessel. Use a power drive (air or spark-proof) propeller type blade for mixing except that hand mixing may be used for small batches. Use equipment specified by epoxy manufacturer for field mixing of aggregates and epoxy resin.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Epoxy

1. Epoxy Resin Binder for Concrete and Mortar

ASTM C 881, Type III, Grade 1 or 2, Class C without mineral filler. For walls and ceilings use ASTM C 881, Type III, Grade 3, Class C with filler.

2. Non-Pressure Epoxy Grout

ASTM C 881 Type IV, Grade 2 or 3, Class C with or without mineral filler.

3. Crack Sealer for Pressure Grouting

ASTM C 881, Type IV, Grade 1, Class C without filler.

4. Crack Surface Sealer for Pressure Grouting

ASTM C 881, Type IV, Grade 3, Class C with mineral filler.

B. Aggregate

For material passing No. 200 sieve provide a non-plastic material composed of a minimum of 75 percent limestone dust, talc or silica inert filler. Provide dry aggregate.

1. For epoxy concrete: ASTM C 33, maximum size 1/2 inch. Conform to the following requirements:

<u>Sieve Designation</u>	<u>Percent Passing by Weight</u>
1/2 in.	
3/8 in.	100
No. 4	93-100
No. 8	70-80
No. 16	50-65
No. 30	37-53
No. 50	20-37
No. 100	10-20
No. 200	5-10
	3-5]

- b. For epoxy mortar: ASTM C 144, maximum size 1/2 inch.

PART 3 - EXECUTION

3.1 PREPARATION

A. Epoxy Concrete

1. Patch Areas

Remove loose concrete from the spalled areas indicated. Inspect the cavity for remaining defective concrete by tapping with a hammer or steel rod and listening for dull or hollow sounds. In areas where tapping does not produce a solid tone, remove additional concrete until testing produces a solid tone. Make the entire cavity at least 25 mm one inch deep. Sawcut edges of cavity to avoid feather edging. Prepare surface of cavity by sandblasting, grinding, or water blasting. Remove dust, dirt, and loosely bonded material resulting from cleaning. Ensure cavity surfaces are dry.

2. Spalls at Joints and Cracks

For spalls to be repaired that are adjacent to joints and working cracks insert preformed joint filler to the working faces of the spall. Trim filler to fit shape of the working faces of joint or crack so epoxy material is prevented from bypassing filler. Where practicable, extend filler horizontally and vertically into joint or crack opening. Secure filler strip in place prior to and during placement of epoxy concrete. Apply a bond breaker to working faces at keyed joints. Keep bond breaker off of concrete surface to be bonded. After the epoxy concrete has completely cured, saw out the top 25 mm inch of the preformed joint filler and install liquid joint sealer in accordance with Section 02762, "Joints, Reinforcement, and Mooring Eyes in Concrete Pavements."

B. Epoxy Mortar for Cracks and Saw Kerfs

Apply epoxy mortar to newly exposed loose and unsound materials. Prepare surfaces by sandblasting, scarifying or waterblasting. Remove dust, dirt, and loosely bonded material resulting from cleaning. Ensure surfaces are dry before application of epoxy mortar.

C. Epoxy Grout for Cracks

Apply grout to newly exposed concrete free of loose and unsound materials. Prepare surfaces by sandblasting, scarifying or waterblasting. Remove dust, dirt, and loosely bonded material resulting from cleaning. Ensure surfaces are dry before application of epoxy grout.

3.2 MIXING MATERIALS

Make batches small enough to ensure placement before binder sets. Mix materials in accordance with manufacturer's recommendations.

3.3 PLACEMENT

A. Epoxy Concrete

Prime dry cavity surfaces with epoxy resin using a stiff bristle brush. Make coating approximately 20 mils thick. Place epoxy concrete while primer is still tacky and in layers not exceeding one inch thick. Use vibratory floats, plates, or hand tampers to consolidate the

concrete. Level each layer and screed the final surface to match the adjoining surfaces. Remove excess epoxy concrete on adjacent surfaces before the concrete hardens. Do not feather epoxy concrete out onto adjacent surfaces.

B. Epoxy Mortar

Prime surfaces with epoxy resin binder. Scrub prime coat into surface with a stiff bristle brush. Make coating approximately 0.5 mm 20 mils thick. Place epoxy mortar while primer is still tacky. Apply at a thickness recommended by the manufacturer. Work mortar into place and consolidate thoroughly so that contact surfaces are wetted by the mortar. Finish surface of mortar to the required texture. Do not feather edge epoxy mortar onto adjacent surfaces.

C. Non-Pressure Epoxy Grout

1. Cementing Dowels

Immediately prior to placing the dowel, clean hole of dust and other deleterious material with a high pressure air hose. Fill hole halfway with grout. Insert dowel in hole by rotating it at least one complete turn while tapping it down. If necessary add more grout to fill hole.

2. Epoxy Grout for Cracks

Apply epoxy grout at a thickness recommended by the manufacturer. Work grout into place and consolidate thoroughly so that contact surfaces are wetted by the grout. Finish surface of grout to the required texture. Do not feather edge epoxy grout onto adjacent surfaces.

D. Pressure Grouting of Cracks

Clean each crack of dust, dirt, loose concrete and unsound material. Insert a valve at both ends of each crack, at the junction of two cracks, and along the length of each crack at 400 to 500 mm [16 to 20] [] inch intervals. Fill crack between valves with crack surface sealer. After crack surface sealer has hardened and cured, pump crack sealer into valve at one end of crack. For vertical surfaces start at lowest valve and work upwards. As crack sealer appears at next valve, pinch closed pumping valve and move to next valve and commence pumping. Continue procedure until other end of crack is reached. Avoid delays in pumping operation. After crack sealer has hardened and cured grind valves off flush with concrete surface. Coat areas of valves with crack surface sealer and allow to harden and cure.

3.4 CURING

Cure epoxy materials in accordance with manufacturer's recommendations.

3.5 FIELD QUALITY CONTROL

A. Sampling

As soon as epoxy resin and aggregate materials are available for sampling, obtain by random selection a sample of each batch. Clearly identify samples by designated name, specification number, batch number, project contract number, intended use and quantity involved.

B. Testing

At the discretion of the Contracting Officer, samples provided may be tested by the Government for verification. [Test samples by an approved laboratory. If a sample fails to meet specification requirements after two tests, replace the batch represented by the samples tested and retest. Test aggregates in accordance with ASTM C 117 and ASTM C 136.]

C. Inspection

Check each repaired area for cracks, spalls, popouts and loss of bond between repaired area and surrounding concrete. Check each repaired area for voids by tapping with a hammer or steel rod and listening for dull or hollow sounds. Immediately repair defects.

End of Section 03930

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SECTION 07210

BUILDING INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Acoustical wall insulation in batt form.
 - 2. Thermal roof insulation in batt form.
 - 3. Thermal roof insulation in faced semi-rigid form.

1.3 DEFINITIONS

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

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product data for each type of insulation product specified.
- C. Samples for verification purposes in full-size units of each type of exposed insulation indicated for each color specified.
- D. Product test reports from and based on tests performed by qualified independent testing laboratory evidencing compliance of insulation products with requirements including r-values

(aged values for plastic foam insulation), fire performance characteristics, perm ratings, water absorption ratings, and other properties, based on comprehensive testing of current products.

1.5 QUALITY ASSURANCE

- A. Fire Performance Characteristics: Provide insulation materials identical to those whose indicated fire performance characteristics have been determined per the ASTM test method indicated below, by UL or other testing and inspecting organizations acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing and inspecting organization.
 - 1. Surface Burning Characteristic: ASTM E 84.
 - 2. Fire Resistance Ratings: ASTM E 119.
 - 3. Combustion Characteristics: ASTM E 136.
- B. Single-Source Responsibility for Insulation Products: Obtain each type of building insulation from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

1.6 DELIVERY, STORAGE, AND HANDLING

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

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers with products that GHURA believes meet the specifications are listed below.
 - 1. Owens Corning
 - 2. CertainTeed Corporation
 - 3. Atlas Roofing Corporation

These brands are provided only as examples and any manufacturer providing substantially equivalent products that meet the specification will be considered pending evaluation and approval by GHURA.

2.2 INSULATING MATERIALS

- A. General: Provide insulating materials that comply with requirements and with referenced standards.
 - 1. Preformed Units: Sizes to fit applications indicated, selected from manufacturer's standard thickness, widths, and lengths.
- B. Sound Attenuation Batt Insulation: Unfaced fiberglass batt insulation designed to fit snugly into interior wall partitions to comply with STC-47, Min. NRC of 1.00, in thickness as required.
- C. Fiberglass Thermal Batt Insulation: Insulation produced by combining glass fibers with thermosetting resin binders to comply with ASTM C 553, Type I for Class indicated.
 - 1. 1C All service jacket (ASJ) polyethylene sheet vapor-retarder facing on one side with maximum flame spread and smoke developed values of 25 and 50, respectively; and 2C. Thermal Kraft vapor retarder facing and as follows:
 - 2. r-value of 19 to be used under roof slabs.
- D. Epoxy - Type Anchoring Adhesive
 - 1. Two component, epoxy based anchoring adhesive for attaching pin anchors to underside of concrete roof slab.

2.3 AUXILIARY INSULATING MATERIALS

- A. Adhesive for Bonding Insulation: Product with demonstrated capability to permanently bond insulation and mechanical anchors securely to substrates indicated without damaging or corroding either insulation, anchors, or substrates.
- B. Epoxy Attached Pin Anchors: Perforated plate, 2 inches square, welded to projecting pin, with self-locking washer, complying with the following requirements:
 - 1. Plate: Zinc-plated steel, 0.106 inch thick.
 - 2. Pin: Copper-coated low carbon steel, fully annealed, 0.106 inches in diameter, length to suit depth of insulation indicated and, with washer in place, to hold insulation tightly to substrate behind insulation.
 - 3. Self-Locking Washer: Mild steel, 0.016 inch thick, size as required to hold insulation securely.
 - a. Where spindles will be exposed to human contact after installation, protect ends with capped self-locking washers.

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

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

3.3 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's instructions applicable to products and application indicated. If printed instructions are not available or do not apply to project conditions, consult manufacturer's technical representative for specific recommendations before proceeding with installation of insulation.
- B. Extend insulation full thickness as indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections that interfere with placement.
- C. Apply a single layer of insulation of required thickness, unless otherwise shown or required to make up total thickness.

3.4 INSTALLATION OF ROOF INSULATION

- A. Apply insulation units to substrate by method indicated, complying with manufacturer's recommendations. If no specific method is indicated, bond units to substrate with epoxy mechanical anchorage to provide permanent placement and support of units. Spacing of pin anchors to be at 2' on centers, each way and not more than 3" from all edges.
- B. Seal joints between closed-cell (nonbreathing) insulation units by applying adhesive, mastic, or sealant to edges of each unit to form a tight seal as units are shoved into place. Fill voids in completed installation with adhesive, mastic, or sealant as recommended by insulation manufacturer.

3.5 PROTECTION

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

***** END *****

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SECTION 07220

OPEN-CELL SPRAY FOAM INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Open-cell spray polyurethane foam insulation. (JM ocSPF)

1.2 RELATED WORK

- A. The following items are not included in this Section and are specified under the designated Sections:
 - 1. Section 04 20 00 - UNIT MASONRY assemblies: Cavity wall assemblies.
 - 2. Section 06 10 00 - ROUGH CARPENTRY: Wood framing.
 - 3. Section 07210 – Building Insulation
 - 4. Section 07 62 00 - SHEET METAL FLASHING AND TRIM: Requirements for flashings.
 - 5. Section 07901 – Joint Sealants.
 - 6. Section 09250 – Gypsum Board

1.3 PERFORMANCE REQUIREMENTS

- A. Conform to applicable code for flame and smoke, concealment, and over coat requirements.
- B. JM ocSPF Spray Applied Polyurethane Insulation is approved for use as a nonstructural thermal insulating material in Type I and V construction under IBC and dwellings under IRC when installed in accordance with ICC ES Report ESR-1655. Insulation is for use in wall cavities, floor assemblies, ceiling assemblies or attics and crawl spaces when installed in accordance with Section 4. Insulation may be used in wall assemblies in fire-resistive rated-construction as described in Sections 3.6 and 4.4.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

- B. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product.
- C. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing urethane foam products and systems of this section with minimum ten years documented experience.
- B. Installer Qualifications: A current Johns Manville Qualified Applicator specializing in performing Work of this section with minimum three years documented experience.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging, clearly marked with the manufacturer's name, brand name, product identification, type of material, safety information, manufacture date, and lot numbers until ready for installation.
- B. Store spray foam materials between 65 degrees F (18 degrees C) and 85 degrees F (29 degrees C) with careful handling to prevent damage to products.
- C. Protect all materials from freezing and other damage during transit, handling, storage, and installation.

1.7 PRE-INSTALLATION MEETINGS

- A. Convene pre-installation meeting prior to commencing work of this section.
 - 1. Attendance: Architect, Contractor, manufacturer's representative and spray insulation applicator.
 - 2. Agenda: Review installation sequence and scheduling.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Do not apply the polyurethane foam when substrate or ambient air temperatures are below 40 degrees F (4.4 degrees C) or above 120 degrees F (49 degrees C) and relative humidity is greater than 85 percent unless advance means and methods are recommended by the manufacturer.
- C. Do not apply polyurethane foam when wind velocity exceeds 15 miles per hour unless advance means and methods are recommended by the manufacturer. Use precautions to prevent damage to adjacent areas from fugitive overspray.

PART 2 - PRODUCTS

2.1 OPEN-CELL SPRAY FOAM INSULATION

- A. Basis-of-Design: JM ocSPF by Johns Manville, 717 17th Street, Denver, CO 80202. Tel (800) 654-3103. www.specJM.com.
- B. Open Cell Spray Foam Insulation: Two-component, polyurethane cellular foam with a nominal density of 0.5 pcf, as manufactured by Johns Manville. JM ocSPF foam shall have the following minimum physical properties when cured:
 - 1. Apparent Density: 0.5 pcf when tested in accordance with ASTM D 1622.
 - 2. R-Value (aged) when tested in accordance with ASTM C 518: 3.9 at 1 inch, 13 at 3.5 inches, 19 at 5.5 inches.
 - 3. Oxygen Index: 25 when tested in accordance with ASTM D 2863.
 - 4. Compressive Strength: 0.5 psi when tested in accordance with ASTM D 1621.
 - 5. Fungi Resistance: Zero Rating when tested in accordance with ASTM G 21.
 - 6. Air Leakage: Less than 0.02 (L/s)/m² when tested in accordance with ASTM E 283.
 - 7. Sound Transmission Coefficient: 51 (STC) when tested in accordance with ASTM E 90.
 - 8. Noise Reduction Coefficient: 0.7 (NRC) when tested in accordance with ASTM C 423.
 - 9. Open Cell Content: Greater than 90 percent when tested in accordance with ASTM D 2846.
 - 10. Tensile Strength: Less than 5 psi when tested in accordance with ASTM D 1623.
 - 11. Shear Strength: 1.4 psi when tested in accordance with ASTM C 273.
 - 12. Permeability: 21 perm-inch when tested in accordance with ASTM E 96.
 - 13. Dimensional Stability: Less than 15 percent change in volume when tested in accordance with ASTM D 2126.

14. Surface Burning Characteristics:

- a. Flame Spread/Smoke Developed: At maximum 4 inch (102 mm) thickness, flame spread index of less than 25 and a smoke developed index of less than 450 when tested in accordance with ASTM E 84.
 - b. Corner Test: Thickness up to 12 inches (305 mm) for wall cavities and 16 inches for ceiling cavities meets NFPA 286 when covered with 1/2 inch (13 mm) gypsum board or equivalent thermal barrier.
- C. Primer as Applicable to Substrate: A water based epoxy primer to achieve superior adhesion and penetration on concrete, masonry, metal, wood, etc. as supplied by Johns Manville or approved equal.

2.2 ACCESSORIES

- A. Intumescent coating for spray foam insulation in attic and crawlspace applications, as manufactured by Johns Manville.
- B. Gypsum board assemblies providing a 15 minute fire separation thermal barrier rating are specified in Section 09250.
- C. Gypsum board assemblies providing a 1 hour fire resistant rating are specified in Section 09250.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify that all surfaces to receive polyurethane foam insulation are clean, dry and free of dust, dirt, debris, oil, solvents and all materials that may adversely affect the adhesion of the polyurethane foam.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Mask and protect adjacent surfaces from over spray.

- C. Prepare surfaces using the methods recommended by the spray foam manufacturer for achieving the best result for the substrate under the project conditions.
- D. Steel:
 - 1. Primed: Clean primed metal surfaces free of loose scale, rust, weathered or chalking paint. Remove grease, oil, or other contaminants with proper cleaning solutions.
 - 2. Previously Painted: Clean painted metal surface using hand or power tools to remove loose scale and dirt. Remove grease, oil, and other surface contaminants using a power wash technique or proper cleaning solutions.
 - 3. Galvanized: Clean galvanized steel as recommended by manufacturer. Steel should be primed with primer at the rate of 1 gallon per 300 square feet.
 - 4. Unpainted Steel: Clean as recommended by manufacturer to prepare the steel surface for the primer. Prime with primer at the rate of 1 gallon per 300 square feet.
- E. Concrete and Masonry: Must be cured and loose dirt and any other contaminants, including asphaltic materials removed. If primer is required, prime at the rate of one gallon per 300 square feet.

3.3 PRIMER APPLICATION

- A. Prepare surfaces and apply primer in accordance with manufacturer's instructions.
- B. Apply primer to the properly prepared substrates in accordance with the manufacturer's instructions to achieve a minimum thickness of dry film thickness. Allow primer to cure 24 hours prior to application of spray polyurethane foam or other products.

3.4 INSTALLATION

- A. Install in spray foam in accordance with manufacturer's instructions.
- B. Spray polyurethane foam components (A) and (B) shall be processed in accordance with instructions found on the manufacturers product datasheet.
- C. Schedule application to anticipate climatic conditions prior to application to ensure highest quality foam and to maximize yield. All substrates to be sprayed must be dry at the time of application. Moisture in the form of rain, fog, frost, dew, or high humidity greater than 85 percent R.H is not permitted unless Contractor reviews means and methods of spraying with manufacturer's representative prior to installation. Use screens, masking and other precautions to prevent damage to adjacent areas from fugitive overspray.
- D. Where spray foam system is installed within attics or crawl spaces where entry is made only for service of utilities, an ignition barrier must be installed in accordance with IBC Section

2603.4.1.6 and IRC Section R314.5.4, as applicable. The ignition barrier must be installed in a manner so that the foam plastic insulation is not exposed. JM ocSPF, as described in these sections, may be installed in unvented attics in accordance with IRC Section R806.4.

E. Application in attics and crawlspaces with Intumescent Coating:

1. JM ocSPF insulation may be installed in unvented conditioned attics in accordance with IRC Section R806.4.
2. In attics, spray foam insulation may be spray-applied to the underside of roof sheathing and roof rafters.
3. In crawlspaces, spray foam insulation may be spray-applied to the underside of floors as described in this section.
4. Thickness of JM ocSPF open-cell foam applied to the underside of the top space must not exceed 10 inches (254 mm).
5. Thickness of JM ocSPF open-cell foam applied to vertical surfaces must not exceed 12 inches (300 mm).
6. JM ocSPF must be coated uniformly coated with JM intumescent coating at a coverage rate of 0.6 gallons per 100 square feet in accordance with manufacturer's instructions.
7. Surfaces to be coated must be dry, clean, and free of dirt, loose debris, and any other substances that could interfere with the adhesion of the coating.
8. Coating must be applied when ambient and substrate temperatures are above 50 degrees F (10 degrees C) and requires a 24-hour curing time after application.

F. Application in attics and crawlspaces with Minimum 1/2 inch (12.7 mm) Gypsum Board.

1. In attics, spray foam insulation may be spray-applied to the underside of roof sheathing and roof rafters.
2. In crawlspaces, spray foam insulation may be spray-applied to the underside of floors as described in this section.
3. Thickness of JM ocSPF open-cell foam applied to horizontal surfaces must not exceed 16 inches (406 mm).
4. When applied to vertical surfaces, the thickness of JM ocSPF open-cell foam must not exceed 12 inches (305 mm).

G. Application on Attic Floors:

1. JM ocSPF must be separated from the area beneath the attic by an approved 15 minute rated coating.
2. JM ocSPF maximum height is 12 (305 mm) inches.
3. JM ocSPF must be coated with 0.6 gallons per square foot of JM intumescent coating.
4. JM ocSPF insulation may be installed to a maximum thickness of 12 inches (254 mm) between joists in attic floors. JM ocSPF insulation must be separated from the area

beneath the attic by an approved thermal barrier. The ignition barrier in accordance with IBC Section 2603.4.1.6 and IRC Section R314.5.3 may be omitted when installed in accordance with this Section.

H. One-hour Fire-Resistance Rated Wall Assemblies (Limited Load Bearing):

1. Interior Face: One layer of 5/8-inch-thick (15.9 mm) Type X gypsum wallboard must be applied parallel to the interior face of 2-by-6 wood studs space a maximum of 16 inches (406 mm) on center and fastened with Type S, 1-5/8 inch (41 mm) long screws spaced 8 inches (203 mm) on center. The interior cavity is filled with 3 inches of JM ocSPF spray-applied foam insulation.
2. Exterior or Opposite Face: Another layer of 5/8 inch (15.9 mm) thick Type X gypsum wallboard must be applied in the same manner as the interior face.
3. Axial Load Design: Axial loads applied to the wall assembly must be limited to the least of the following:
 - a. 2,756 pounds (122 642 N) per stud.
 - b. A maximum of 51 percent of the load calculated in accordance with Sections 3.6 and 3.7 of the ANSI/AF&PA NDS.

I. Exothermic Caution:

1. Polyurethane foam shall be sprayed in minimum 1/2 inch (12.7 mm) thick passes or lifts. Overall thickness applied in one pass shall be limited to a maximum of 6 inches for JM ocSPF open cell foam to avoid fire hazards resulting from excessive heat generation. When applying SPF on chlorinated polyvinyl chloride the pass thickness for JM ocSPF must be limited to 6 inches. If additional thickness is required it must applied within 15 minutes.
2. If a second pass is needed, wait 10 to 15 minutes between passes to allow reaction heat to dissipate. If more passes are needed, wait 30 minutes between passes to allow reaction heat to dissipate.
3. The exothermic reaction can cause temporary substrate thermal rises in excess of 150 degrees F, which may result in substrate thermal expansion. If the substrate then contracts when the reaction heat dissipates, substrate deformation can occur.
4. The full thickness of spray polyurethane foam to be applied within any given area should be completed in one day.

3.5 ACCESSORY APPLICATION

- A. Joint Filler Foam and Caulk: Use joint filler foam and/or caulk to seal around windows, doors, electrical raceways, sill plates, multiple studs, etc. Expansion of joint filler foam in a confined space can tighten window frames and door jambs. Use care in these areas to avoid distortion of these members.

- B. Under-slab vapor barriers are specified in Section 07260.

3.6 FIELD QUALITY CONTROL

- A. Protect installed products until completion of project.
- B. Perform field inspection and testing. Inspection will include verification of insulation and overcoat thickness and density.

3.7 PROTECTION

- A. Protect installed products until completion of project.
- B. After completing work, clean glass and spattered surfaces.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

3.8 SCHEDULES

- A. For the following locations, apply the average cured open-cell SPF thickness indicated:
 - 1. Interior surface of exterior basement walls: _____ inches.
 - 2. Garage ceiling between joists and over air ducts: _____ inches.
 - 3. Cathedral ceilings: _____ inches.
 - 4. Unvented roof spaces: _____ inches.
 - 5. Voids in overhangs such as bay windows and cantilevered floors: _____ inches.

*****END*****

SECTION 07260

UNDER-SLAB VAPOR BARRIER

PART 1 – GENERAL

1.1 SUMMARY

- A. Products supplied under this section:
 - 1. Vapor barrier, seam tape, mastic, and tack tape for installation under concrete slabs.
- B. Related sections:
 - 1. Section 03300 Cast-In-Place Concrete

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM E 1745-09 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.
 - 2. ASTM E 154-99 (2005) Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.
 - 3. ASTM E 96-05 Standard Test Methods for Water Vapor Transmission of Materials.
 - 4. ASTM F 1249-06 Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor.
 - 5. ASTM E 1643-09 Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
- B. American Concrete Institute (ACI):
 - 1. ACI 302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials.

1.3 SUBMITTALS

- A. Quality control/assurance:
 - 1. Summary of test results as per paragraph 8.3 of ASTM E 1745.
 - 2. Manufacturer's samples and product data.
 - 3. Manufacturer's installation instructions for placement, seaming and penetration repair instructions.

1.4 QUALITY ASSURANCE

- A. Use an experienced installer and adequate number of skilled personnel who are thoroughly trained and experienced in the application of the vapor barrier.

- B. Obtain vapor barrier materials from a single manufacturer regularly engaged in manufacturing the product.
- C. Provide products which comply with all state and local regulations controlling use of volatile organic compounds (VOCs).

1.5 PRECONSTRUCTION MEETING

- A. Pre-Construction Meeting: Convene one week prior to installation of underslab vapor barrier with Architect to discuss the application in detail.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Store materials in a clean, dry area in accordance with manufacturer's instructions.
- C. Protect materials during handling and application to prevent damage or contamination.
- D. Ensure membrane is stamped with manufacturer's name, product name, and membrane thickness at intervals of no more than 85" (220 cm).

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Stego Industries, LLC, 216 Avenida Fabricante, Suite 101, San Clemente, CA, (877) 464-7846.
- B. W. R. Meadows, Inc., PO Box 338, Hampshire, Illinois 60140-0338, (800) 342-5976.
- C. Insulation Solutions, Inc., 401 Truck Haven Road, East Peoria, IL 61611, (866) 698-6562.

2.2 MATERIALS

- A. Vapor barrier shall have all of the following qualities:
 - 1. Manufactured from virgin polyolefin resins.
 - 2. Permeance of less than 0.01 Perms [grains/(ft² · hr · inHg)] as tested in accordance with ASTM E 1745 Section 7.
 - 3. Puncture resistance: 2200 grams minimum
 - 4. Tensile strength: 45.0 lbf/in. minimum
 - 5. Other performance criteria:
 - a. Strength: ASTM E 1745 Class A.
 - b. Thickness: 15 mils minimum
 - c. Roll Length: Minimum of 12-feet wide, minimum of 140-feet long.

2.3 ACCESSORIES

- A. Seam tape:
 - 1. Low permeance tape designed for protective sealing, hanging, seaming, splicing, and patching applications where a highly conformable material is required.
 - a. Tape shall be composed of polyethylene film and an acrylic, pressure-sensitive adhesive.
 - b. Minimum width: 3.75 inches.
- B. Vapor-proofing mastic:
 - 1. Liquid-applied vapor retardant membrane for use in conjunction with vapor barrier.
- C. Tack tape:
 - 1. A double-sided, foldable and moldable adhesive strip used to bond and seal the vapor barrier to concrete, masonry, wood, metal, and other surfaces.
 - a. Made from a blend of synthetic rubber and resins.
 - b. Minimum width: 2 inches.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Ensure that base material is approved by Architect or Geotechnical Engineer.
 - 1. Level and compact base material.

3.2 INSTALLATION

- A. Install vapor barrier in accordance with manufacturer's instructions and ASTM E 1643.
 - 1. Unroll vapor barrier with the longest dimension parallel with the direction of the concrete placement.
 - 2. Lap vapor barrier over footings and/or seal to foundation walls.
 - 3. Overlap joints 6 inches and seal with manufacturer's tape.
 - 4. Seal all penetrations (including pipes) per manufacturer's instructions.
 - 5. No penetration of the vapor barrier is allowed except for reinforcing steel and permanent utilities.
 - 6. Repair damaged and penetrated areas by cutting patches of vapor barrier, overlapping damaged area 6 inches and taping all sides with tape.

*** END ***

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SECTION 07466

FIBER CEMENT BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 DESCRIPTION

A. Work Included:

- 1. Non-asbestos fiber cement board panels.

B. Related Work:

- 1. Section 07901 - Joint Sealants.
- 2. Section 09910 - Interior Paints.

1.3 REFERENCES

- A. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants; 1998.
- B. ASTM C 1185 - Standard Test Methods for Sampling and Testing Non-Asbestos Fiber-Cement Flat Sheet, Roofing and Siding Shingles, and Clapboards; 1999.
- C. ASTM C 1186 - Standard Specification for Flat Non-Asbestos Fiber Cement Sheets; 1999.
- D. ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction; 1998.
- E. ASTM E 84 -- Standard Test Method for Surface Burning Characteristics of Building Materials; 1999.
- F. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials; 1995.
- G. ASTM E 136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C; 1999.
- H. ASTM E 228 - Standard Test Method for Linear Thermal Expansion of Solid Materials With a Vitreous Silica Dilatometer; 1995.
- I. ASTM G 26 - Standard Practice for Operating Light-Exposure Apparatus (Xenon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials; 1996.

1.4 SUBMITTALS

- A. Make submittals under provisions of Division 1.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods, including nailing patterns.
 - 4. Applicable model code authority evaluation report (ICBO, BOCA, CCMC, etc.)
 - 5. For each finish product specified, two samples, minimum size 4 inches x 6 inches (100 mm x 150 mm), representing actual product.
- C. Fiber cement board manufacturer's requirements for primer, paint, etc., to be installed by others.
- D. Maintenance and periodic inspection recommendations.

1.5 QUALITY ASSURANCE

- A. Installer: Provide installer with not less than three years of experience with products similar to those specified.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products off the ground, on a flat surface, and under a roof or separate waterproof covering.

1.7 WARRANTY

- A. Register manufacturer's warranty, made out in Owner's name, with copy to Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers with products that GHURA believes meet the specifications are listed below.
 - 1. Acceptable Manufacturers:
 - a. CertainTeed Corporation, Siding Products Group, P.O. Box 860, Valley Forge, Pennsylvania 19482. ASD. Tel: (800) 233-8990. www.certainteed.com.
 - b. James Hardie Building Products, 26300 La Alameda, Suite 250, Mission Viejo, California 92691. Tel: (888) 542-7343. www.jameshardie.com
 - c. American Fiber Cement Corporation, 6901 S. Pierce St., Ste. 260, Littleton, CO 80128. Tel: (800) 688-8677. www.americanfibercement.com

These brands are provided only as examples and any manufacturer providing substantially equivalent products that meet the specification will be considered pending evaluation and approval by GHURA.

2.2 PANELS

- A. Fiber Cement Board Panels - General: Cement and cellulose fiber formed under high pressure into boards with integral surface texture; complying with ASTM C 1186 Type A Grade II; machined edges; for nail attachment.
 - 1. Thickness: 1/4 inch nominal or 1/2 inch nominal, as indicated in wall type schedule.
 - 2. Size: 4'-0" x 8'-0" nominal board panels.
 - 3. Surface Burning Characteristics: Flame spread index of 0, smoke developed index of 6, maximum when tested in accordance with ASTM E 84 (Class I/A).
 - 4. Flammability: Noncombustible, when tested in accordance with ASTM E 136
 - 5. Flexural Strength: At least 1450 psi (10 MPa) when in equilibrium condition, and at least 1015 psi (7 MPa) when in wet condition, tested in accordance with ASTM C 1185.
 - 6. Coefficient of Thermal Expansion: Less than 1×10^{-5} /inch/inch/degree F (0.5×10^{-5} /degree C), when tested in accordance with ASTM E 228.
 - 7. Water Vapor Transmission: Less than 7.0 perm-inch (10 ng/(Pa s m), when tested in accordance with ASTM E 96.
 - 8. UV Resistance: No cracking, checking, or erosion, when tested for 2000 hours in accordance with ASTM G 26.
 - 9. Water Tightness: No water droplets on underside, when tested in accordance with ASTM C 1185.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to commencing installation, verify governing dimensions of building and condition of substrate.

3.2 PREPARATION

- A. Examine, clean, and repair.
- B. Do not begin installation until unacceptable conditions have been corrected.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions and drawing details.
 - 1. Read warranty and comply with all terms necessary to maintain warranty coverage.

2. Install in accordance with conditions stated in model code evaluation report applicable to location of project.
 3. Use trim details indicated on drawings.
 4. Touch up all field cut edges before installing.
 5. Pre-drill nail holes if necessary to prevent breakage.
- B. Over Steel Studs: Minimum 20 gauge galvanized steel C-studs, size as indicated on drawings or as required by limiting span. Use 1-5/8 (41 mm) long, #8-18 x 3/8. HD self-tapping, corrosion-resistant ribbed bugle head screws. Attach panel at each stud insuring that at least 3 screw threads penetrate the studs.
- C. After installation, seal all joints. Seal around all penetrations.
- D. Finish Painting: Follow manufacturer's recommended timeline for painting primed and unprimed products. Paint all exposed cut edges.

3.4 CLEANING

- A. At completion of work, remove debris caused by siding installation from project site.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

***** END *****

SECTION 07540

FLUID APPLIED URETHANE ROOFING SYSTEM

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Provide labor materials, equipment and supervision necessary to complete the installation of a 60 mil, durable waterproof and weatherproof aliphatic urethane elastomeric roofing system.

1.03 QUALITY ASSURANCE

- A. Qualifications: The system applicator shall be licensed by the roofing manufacturer and shall have a minimum of 5 years' experience in application of elastomeric deck coatings.
- B. A sample of the system to be installed shall be made at the job site. The size of the sample shall be large enough to be representative of the installed system. This sample is to be approved by the Architect. The sample shall remain at the job site for reference during the project.

1.04 SUBMITTALS

- A. Sample of coating system applied to 1/4-inch plywood or similar rigid base. Submit one sample of color(s) to be used on project.
- B. Manufacturer's Literature: Two copies of manufacturer's literature for all products furnished, including appropriate Material Safety Data Sheets, and copy of guarantee.
- C. Certification: List of at least 5 projects of a similar nature by applicator which have been installed during the last 5 years, identified with project name, location and date.
- D. Applicator's License Certificate: Copy of 'Certificate of License' issued to system applicator by roofing manufacturer.
- E. Maintenance Manual: Upon completion of the work required by this Section, submit one Maintenance Manual, identified with project name, location, and date; type of coating system applied; and surface to which system was applied, including sketches where necessary. Include recommendations for periodic inspections, care and maintenance. Identify common

causes of damage with instruction for temporary patching until permanent repair can be made.

PART 2 - PRODUCTS

2.01 GENERAL

A. Manufacturers with products that GHURA believes meet the specifications are listed below.

1. Urethane Polymers International, Inc.
2. Carlisle Coatings and Waterproofing
3. Neogard

These brands are provided only as examples and any manufacturer providing substantially equivalent products that meet the specification will be considered pending evaluation and approval by GHURA.

2.02 MATERIALS

- A. The materials shall be delivered to the job site in the original sealed containers bearing the product name, color, manufacturer's lot number, directions for use and precautionary labels. All products shall be provided by a single source manufacturer.
- B. Color: Deck coatings/Top Coat shall be manufacturer's standard stock colors. Sealant color shall match adjacent surface unless otherwise specified.
- C. Caulking Compound: Shall be one or two component polyurethane compound recommended by roofing manufacturer.
- D. Flashing: Shall be neoprene sheet at 45-60 mils thickness, non-woven reinforcing fabric or as recommended by the coating manufacturer.
- E. Primer: Shall be an epoxy-polyamide, low viscosity, two-component primer/sealer.
- F. Base Membrane: Shall be a single component, VOC compliant, high adhesion, moisture cured, and liquid polyurethane membrane and shall meet or exceed the following typical performance properties:

<u>Property</u>	<u>Typical Value</u>	<u>ASTM Method</u>
Composition	Aromatic Urethane	
Weight Solids	86± 2%	
VOC Content	Less than 200 gm/l	
Hardness, Shore A	65 ± 5	ASTM D-2240
Tensile Strength	900 ± 100 PSI	ASTM D-412

Ultimate Elongation	650 ± 100%	ASTM D-412
Tear Resistance	150 ± 25lb/in	ASTM D-1004
Weather Resistance	Slight Checking at 500 hrs.	ASTM D-822
Adhesion to Concrete	30 PLI	ASTM D-903
Low Temp. Flexibility	-40°F.	

G. Elastomeric Membrane: Shall be a high tensile strength, moisture cured elastomeric polyurethane and shall meet or exceed the following typical properties:

<u>Property</u>	<u>Typical Value</u>	<u>ASTM Method</u>
Composition	Aromatic Urethane	
Weight Solids	81± 2%	
VOC Content	Less than 250 gm/l	
Hardness, Shore A	80 ± 5	ASTM D-2240
Tensile Strength	2500 ± 250 PSI	ASTM D-412
Ultimate Elongation	450 ± 50%	ASTM D-412
Tear Resistance	250 ± 50lb/in	ASTM D-1004
Weather Resistance	Slight Chalk at 1000 hrs.	ASTM D-822
Adhesion to Concrete	30 PLI	ASTM D-903

H. Traffic-Resistant Top Coat: Shall be a single component, high tensile strength, abrasion-resistant and weather-resistant aliphatic polyurethane coating and shall meet or exceed the following typical performance properties:

<u>Property</u>	<u>Typical Value</u>	<u>ASTM Method</u>
Composition	Aliphatic, Saturated Polyester Urethane	
Standard Color	White	
Weight Solids	75± 2%	
VOC Content	Less than 250 gm/l	
Hardness, Shore A	90 ± 5	ASTM D-2240
Tensile Strength	3500 ± 250 PSI	ASTM D-412
Ultimate Elongation	250 ± 50%	ASTM D-412

Tear Resistance	300 \pm 50lb/in	ASTM D-1004
Water permeability	Less than 0.1 Perm	ASTM E -96
Weather Resistance	No Chalking @ 2000 hrs.	ASTM D-822
Abrasion Resistance	Negligible Change CS-17 wheels, 1000 mg. load	ASTM D-501

- I. Aggregate: Shall be rounded, non-angular, preblended 20/30 mesh flint shot silica, or equivalent washed and kiln-dried aggregate.

2.03 GUARANTEE

- A. When this Elastomeric Coating System is installed, inspected, and approved, the applicator and manufacturer and the general contractor shall issue a Standard Maintenance Guarantee covering defects in material and workmanship for a period 5 years, from the date of installation. Provisions of this guarantee shall include responsibility for repairs of ruptures in the membrane caused by cracking of the substrate up to 1/16 of an inch.

PART 3 - EXECUTION

3.01 CONDITION OF CONCRETE SURFACES

- A. Concrete: The concrete surface shall be of sound structural grade, (3000 psi compressive strength recommended) and shall have a steel troweled followed by a fine broom finish, free of fins, ridges, voids or air entrained holes.
- B. Concrete shall be cured by water curing method or pure sodium silicate. Curing compounds or curing agents of any type shall not be used unless they have prior approval from the roofing manufacturer.
- C. Concrete shall be cured at least 28 days and until it is completely dry and shall be sloped for proper drainage.
- D. Saw-cut control joints and/or expansion joints shall have been properly installed at strategic points throughout the field of the deck to control cracking caused by deflection and shrinkage.
- E. Any required crickets or drains should be installed at the time the main deck is poured (i.e., monolithic).
- F. Voids, rock pockets and excessively rough surfaces shall have been finished with an epoxy grout or ground to match the unrepaired areas.
- G. When metal decking is used as the concrete form, it shall be of the ventilating type.

- H. All concrete decks poured over precast “Ts”, planks or slabs, shall have hand tooled joints placed directly over all corresponding joints or openings in the underlying precast units.

3.02 PREPARATION

- A. The concrete surface must be thoroughly clean, dry and free from any surface contaminates or cleaning residue. Acceptable methods of cleaning are sandblasting, acid etching or mechanical grinding followed by the complete and thorough removal of the following residue.
- B. All cracks over 1/16” in width and all moving cracks under 1/16” in width shall be routed out of 1/4” minimum in width and depth and filled flush with a polyurethane elastomeric sealant.
- C. All cracks and stress-relief joints shall be stripe-coated with 30 mils of base membrane coating for a distance of 2 inches of either side of the crack and embodied with polyester reinforcing fabric. Apply 3/4” sealant cant around pipes, drains, vertical junctions.
- D. Any expansion and contraction joints shall be cleaned, primed, fitted with a backing rod and caulked with elastomeric polyurethane sealants. Joints and all caulked cracks shall be stripe-coated with a 30 mil preparatory coat of base membrane.

3.03 FLASHING

- A. All required metal, neoprene, and fabric flashings shall be installed at this time.
- B. All shop primed metal shall be primed with epoxy polyamide primer prior to coating with the flashing adhesive or base membrane. (For metal or plastic surfaces, this may exhibit adhesion difficulties, first prime with zinc chromate Metal Primer.)
- C. The base membrane shall be used as an adhesive and as a coating for the reinforcing fabric flashing. The flashing fabric shall be laid into the wet base membrane with roller, brush or broad blade knife. The fabric shall be laid relaxed, smooth and wrinkle-free.
- D. The wet imbedded tape shall be over-coated with base membrane extending at least one inch beyond fabric edge. Allow to cure overnight.
- E. Flashing shall be coated (with base coats and top coats) each time the deck is coated.

3.04 APPLICATION OF MEMBRANES

- A. The waterproofing applicator shall have sole right of access to the specified areas for the time needed to complete the application and affect an adequate cure.
- B. Primer: Apply the mixed epoxy-polyamide primer at the approximate rate of 250-300 SF per gallon. Allow primer to dry until it is tack-free. Within 16 hours of application of the primer, the base coat must be applied. If the base coat can't be applied within 16 hours then reprime.
- C. The base membrane shall be spray or squeegee and roller applied in one uniform coat at the rate of one-gallon minimum per 66 square feet or as needed in order to obtain a minimum

film thickness of 20 dry mils. Allow 16 to 48 hours curing time before applying the next coat. Do not apply coating system over joints greater than ½” wide.

- D. The elastomeric membrane shall be spray or squeegee and roller applied in one uniform coat at the rate of one-gallon minimum per 66 per square feet or as needed in order to obtain an average thickness of 18 dry mils. Allow up to a maximum of 36 hours curing time before applying the next coat. (If the preceding layers of membrane should become dirty or contaminated or lose their surface tack, wire clean with xylene immediately before applying the next application).
- E. Apply additional elastomeric membrane in one uniform coat at the rate of one gallon minimum per 100 square feet or as needed in order to obtain an average thickness of 12 dry mils. While the coating is still fluid, uniformly broadcast and thoroughly encapsulate 20/30 mesh aggregate into the coating at the rate of 25 lbs. per 100 square feet. Allow a maximum of 36 hours curing time before applying the next coat.
- F. Top Coat shall be spray or squeegee and roller applied in one uniform coat at the rate of one gallon minimum per 100 square feet in order to obtain a minimum coating thickness of 10 dry mils and to completely coat the aggregate.
- G. Thickness: The overall dry film thickness of the complete waterproofing system, excluding aggregate, shall average 60 mils.

3.05 TRAFFIC ON COATED SURFACE

- A. The completed coating system shall not be subject to any light pedestrian traffic during the first 24 hours after application is completed or to any normal traffic during the first four (4) days after application of the final coat. If the Owner, Architect or Contractor has not approved the application during the first four (4) days after application is complete, then there shall be no traffic of any type until such acceptance and approval is given.

***** END *****

SECTION 07570

COATED FOAMED ROOFING

1.1 SUMMARY

1.2 WORK

- A. For use on new and existing concrete and metal roofs.

1.3 SUBMITTALS

- A. Product Data: Submit the manufacturer's standard submittal package including specification, installation instructions, and general information for each waterproofing material.
- B. Submitted Material Warranty must be supplied by product manufacturer.
- C. Applicator Qualifications: Submit current "Qualified Applicator" Certificate from the specified waterproofing manufacturer.
- D. Sample: Two physical samples reflecting the completed installation, i.e. finish, color, must be submitted to the owner/owners representative. Size of these samples shall be 12" X 12" (30.48 cm x 30.48 cm) minimum.
- E. Substrate Conditions:
 - 1. Manufacturer's representative will present to the owner a completed inspection form verifying the substrate condition and any noted defects not specifically addressed in regard to this installation.
 - 2. The surface shall be free from loose dirt, stone, debris, moisture, and shall be in stable condition. Any work on the area to receive this application shall be completed prior to the installation.
 - 3. The applicator shall complete a substrate inspection prior to start of the roofing. The architect/owner and applicator shall accept the surface. Start of the work constitutes acceptance.

1.4 QUALIFICATIONS

- A. The primary polyurethane foam insulation and the designated elastomeric coating system shall be of:
 - 1. Single manufacturer. The manufacturer shall have a minimum of 10 years experience in the manufacture of materials of this type.
 - 2. Applicators shall have a minimum of 5 years experience in the application of waterproofing materials of the type specified. Applicator shall possess a current "Qualified Applicator" Certificate from the specified waterproofing manufacturer.

- B. Pre-Bid Conference: 10 working days prior to the bid opening there is to be a mandatory Pre-Bid Conference. Anyone not attending the Pre-Bid Conference will not be allowed to bid the project. All products considered an equal to the specified product or any changes in the scope of work installation or specifications must be presented at the Pre-Bid Conference. If a change in the specifications is accepted, it will be considered as an alternate and will be presented as a bid amendment issued 5 working days prior to the bid opening. No other changes to the specification or bid documents will be accepted.
- C. Materials other than those specified shall be submitted to the architect/owner for approval no later than ten days prior to the bid date. In requesting prior approval, it shall be necessary to submit:
 - 1. A letter of certification, signed by an officer of the manufacturer, stating that the alternative material is equal to or better than the specified product.
 - 2. Independent laboratory test data giving physical property values in comparison to the specified material.
- D. Pre-Installation Conference: Just prior to the commencement of the installation, meet at the job site with a representative of the coating manufacturer, waterproofing contractor, general contractor, architect and other parties affected by this section. Review methods and procedures, substrate conditions, scheduling and safety.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver all materials in sufficient quantities as not to cause delays in the application of the roofing system. Owner/owner's representative shall reject damaged materials not conforming. Rejected materials shall be removed immediately from the job site and replaced at no additional cost to the owner.
- B. Store materials as recommended by the manufacturer and conforming to applicable safety regulatory agencies: town, state, and federal. Refer to all applicable data including, but not limited to MSD's, Product Data Sheets, product labels and specific instructions for personal protection.
- C. Provide adequate ventilation, protection from hazardous fumes, overspray potential to workers and associated trades in close proximity of the application.

1.6 ENVIRONMENTAL REQUIREMENTS

Proceed with the work of this section only when the existing and forecasted weather conditions will permit the application to be performed in accordance with the manufacturer's recommendations.

- A. Do not install polyurethane foam insulation under the following conditions:

1. When the surface temperature is below 50 deg F (10° C) or is above 160 deg F (71° C).
2. When the relative humidity is above 80% or temperature is within 5 deg F of the dew point.
3. When the wind velocity exceeds 15 mph (24 kph)
(Without the use of a wind screen)

1.7 WARRANTY

- A. The contractor shall guarantee that all work performed under this section will be free from defects in material and workmanship. Upon notice of a defect in writing to the contractor within one year after completion of the work, the contractor shall, at his own expense, make the necessary repair or replacement of the defective work.
- B. Warranty must be supplied by product manufacturer
- C. A warranty is available with this system provided it has been installed by a Gaco Western Qualified Applicator and is installed according to this specification .An application for Warranty must be made prior to starting the job.
- D. Protection of building and occupants:
 1. All surfaces not to receive the system specified shall be protected from overspray hazard i.e. windows, doors, exterior and vehicles. Protective coverings shall be secured against wind and shall be vented if used in conjunction with the application preventing collection and moisture.
 2. The contractor is to post signs noting a potential overspray hazard within 400' (121.90 m) of the application.
 3. All air intake ventilation equipment shall be turned off to prevent fumes from entering the building.
 4. All surfaces damaged during the application shall be restored at no expense to the owner.
 5. No smoking signs are be posted as mandated by local fire officials.
- E. Substrate: Proceed with the work as specified only after the substrate construction, preparation, and detail work has been completed.
- F. Equipment: All equipment used during the operations shall be located so as not to adversely affect the daily operations or endanger occupants, structure or materials on-site. All spray equipment must be grounded during the operations.

PART 2 - PRODUCTS

2.1 MANUFACTURER

Acceptable Manufacturers:

Gaco Western, LLC www.gaco.com, 800-456-4226, or approved equal

2.2 MATERIALS

- A. Cleaner: GacoFlex GacoWash Concentrated Cleaner
- B. Primer: Gacoflex E-5320 Epoxy Primer
- C. Polyurethane foam insulation shall be designed for a spray application resulting in high quality, rigid polyurethane under the prevailing application conditions. Polyurethane foam shall be of the proper formulation to meet climatic conditions at the time of the application.
 - 1. Polyurethane foam insulation shall be Gaco RoofFoam 273 or 2733 manufactured by Gaco Western meeting the following minimum physical and performance properties.

Gaco RoofFoam 273 or 2733

<u>Property:</u>	<u>Value:</u>	<u>Test Method:</u>
Nominal Density	2.5/3.0 lbs/ft ³	ASTM 1622-93
Closed Cells	94.3%	ASTM D-2856 C-94
Compressive	50.1 psi	ASTM D-1621
R Value	6.5 per inch	ASTM C-518

NOTE: It is Gaco Western's position that the use of foamed plastic insulation for interior application on walls or ceilings may represent an unreasonable fire hazard unless the foamed plastic insulation is covered with a thermal barrier and that the resulting composite construction has a minimum 15 minute rating as listed by Factory Mutual Research Corporation or other equally accepted listing agency.

Fire rated coating systems for plastic foam insulation tested under ASTM E-108 Class "A" Roof Composite Construction do not qualify for thermal barrier use on interior walls and ceilings.

D. Elastomeric Coating:

Gaco Western GacoFlex S-20 Series Silicone Coating with the following physical properties:

<u>Property:</u>	<u>Value:</u>	<u>Test Method:</u>
Tensile Strength	550 psi	ASTM D-412
Elongation	150%	ASTM D-412
Tear Resistance	21 ply	ASTM D-624
Hardness	55 Shore A	ASTMD-2240
Water Vapor Permeability	5.3 perms	ASTM E-96
	Procedure B at 0.5 mm (20 mils) thickness ± 10%	
	Minimum permeance requirement is 2.5 US perms	
Volume Solids	95% ± 1%	Calculated
Reflectance	0.88	ASTM C-1549

Emittance	0.87	S-2000 White ASTM C-1371 S-2000 White
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- E. Flashing: Gaco Western RoofFoam 273 or 2733 can be self-flashing at curbs, parapets, walls and penetrations. Contact a Gaco Western Representative for assistance.

Flashing at dynamically moving joints require GacoFlex NF-621 Field Curing Neoprene Sheet Flashing 1/16" (.16 cm) and GacoFlex N-1207 Neoprene Adhesive.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that the substrate is ready to receive the work; surface is clean, dry and free of substances which could affect the bond.
- B. Cleaning of the roof should be accomplished by using power vacuum equipment, power sweepers, air blowers, power washers or other suitable means. Use GacoWash diluted 1 part of GacoWash with 9 parts of water when power washing.
- C. All associated construction (i.e. drain installation, edge flashing, penetrations and mechanical apparatus) shall be completed prior to the commencement of the specified roofing system.
- D. Verify that all other work involved with this area, done under other sections, has been completed and accepted by the architect and general contractor prior to starting the waterproofing application.

3.2 PREPARATION

- A. Clean substrate to remove all oils and surface contaminants. Refer to Gaco Western's General Instructions GW-1-1, Surface Preparation.
- B. Mask off all adjoining areas that will not receive the roofing system.

3.3 INSTALLATION

- A. Technical Advice: The installation of this roofing system shall be accomplished in the presence of, or with the advice of the manufacturer's technical representative. Contact the nearest regional office for assistance.

Note: Surface should be clean and dry, remove all oils and other surface containments.

- B. Primer: No primer system is required unless rust is present. Area the contain Rust: Apply GacoFlex E-5320 Primer at one gallon per 300 square feet (3.78 L2) to steel, aluminum, copper and ferrous metal. The primer must be completely dry before starting the polyurethane foam application.
- C. Foam: Install Gaco RoofFoam 273 or 2733 in a thickness recommended by the manufacturer based on type of application (ranges from 1/4-inch to 1-inch thick. Neatly terminate the sprayed-in-place polyurethane foam on all vertical surfaces, (i.e. pipe penetrations, vents, mechanical equipment, parapet walls, etc.) a minimum of 3" (7.62 cm) or 2 1/2 times as specified minimum foam thickness.

Example: If 1" (2.54 cm) minimum is specified, all vertical terminations shall have a minimum of 2 1/2" (6.35 cm) sprayed up onto the vertical surface and canted to the horizontal surface.

1. The polyurethane foam spray application shall be limited to an area which can be completed to full foam thickness in one day.
 2. The completed polyurethane foam surface shall be smooth to an orange peel texture; a popcorn texture is not acceptable.
 3. The completed polyurethane foam surface shall be free of pinholes and "glass windows" due to improper equipment calibration or climatic conditions.
 4. Apply the base protective coating to the polyurethane foam surface on the same day (2 hours minimum).
- D. Elastomeric Top Coat: Apply one coat of GacoFlex S-20 Series Silicone Coating at a coverage rate of 2 1/2 gallon per 100 square feet (5.68 L / 9.3 m2) to achieve a nominal film thickness of 38 dry mils. Double coat flashings and edge terminations.

Optional 2 Coat Application:

1. Base Coat: Apply GacoFlex S-20 Silicone Series at the rate of 1.25 gallon per 100 sq. ft. (2.84 L / 9.3 m2). At all edges and penetrations, an extra pass must be applied. Dry film thickness shall be a minimum of 19 mils.
2. Top Coat: Apply GacoFlex S-20 Silicone Series at the rate of 1.25 gallon per 100 square feet (2.84 L / 9.3 m2). Coat all surfaces including expansion joint covers and flashing. At all edges and penetrations, an extra pass must be applied. Dry film thickness shall be a minimum of 19 mils.

NOTE: The base coat shall be allowed to cure a minimum of 2 to 6 hours. For best results, apply at temperatures above 50 deg F. (10 deg C) to a dry, frost free surface. The surface must be dry, clean & free of debris between coats.

NOTE: The topcoat must completely cover the base coat (the base coat must be an alternate color from the top coat) including expansion joint covers and flashing. The contractor should figure a 10% loss due to overspray, foam texture and wind.

NOTE: The base coat must cover all surfaces completely extending at least 2" (5.08 cm) beyond the polyurethane foam on vertical terminations. An extra pass of base coat material is required at all edges and penetrations if GacoFlex NF-621 Neoprene Sheet Flashing is not used.

3.4 FIELD QUALITY CONTROL

- A. The contractor shall maintain the system to verify compliance with this specification.
 - 1. Thickness of polyurethane foam and applied coating shall be measured and recorded for each coat and the total protective coating system.
- B. The owner's representative has the option of taking core samples to verify compliance with the specification.
 - 1. Cut out sections shall be immediately repaired by the contractor at his cost.
 - 2. All costs of testing the core samples shall be paid for by the owner.
- C. Any variations from the specified limits found by the contractor or owner's representative shall be corrected by the contractor.
- D. Dry Film Thickness: The total dry mil thickness of the coating, without the granular coat, shall measure a minimum of 38 dry mils. Rough foam which increases the surface area will require proportionate increases in the coating to maintain an average dry film thickness.

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SECTION 07901

JOINT SEALANTS

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Liquid joint sealants.

B. Related Sections:

1. Section 08800 Laminated Glass & Glazing for sealants for glazing installation, glazing framing perimeters, and structural glazing.

1.2 REFERENCE STANDARDS

A. ASTM International (ASTM): www.astm.org:

1. ASTM C 661 - Standard Test Method for Indentation Hardness of Elastomeric Type Sealants by Means of a Durometer.
2. ASTM C 794 - Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
3. ASTM C834 - Specification for Latex Sealants.
4. ASTM C 920 - Specification for Elastomeric Joint Sealants.
5. ASTM C 1087 - Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems
6. ASTM C 1193 - Guide for Use of Joint Sealants.
7. ASTM C 1248 - Test Method for Staining of Porous Substrate by Joint Sealants.
8. ASTM C 1311 - Specification for Solvent Release Sealants.
9. ASTM C 1330 - Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
10. ASTM D 412 - Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension.
11. ASTM D 624 - Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
12. ASTM D 2240 - Test Method for Rubber Property - Durometer Hardness.
13. ASTM E 283 - Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
14. ASTM E 331 - Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.

B. Sealant, Waterproofing, and Restoration Institute (SWRI): www.swrionline.org:

1. SWRI Validation Program.

C. U. S. Environmental Protection Agency (EPA): www.epa.gov:

1. 40 CFR 59, Subpart D: National Volatile Organic Compound Emission Standards for Architectural Coatings.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate installation of joint sealants with cleaning of joint sealant substrates and other operations that may impact installation or finished joint sealant work.
- B. Preinstallation Conference: Conduct conference at Project Site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of joint sealant product specified, including:
 - 1. Preparation instructions and recommendations.
 - 2. Standard drawings illustrating manufacturer's recommended sealant joint profiles and dimensions applicable to Project.
- B. Joint Sealant Schedule: Indicate joint sealant location, joint sealant type, manufacturer and product name, and color, for each application.
- C. Samples for Color Selection: For each joint sealant type.
- D. Samples for Verification: For each joint sealant product, for each color selected.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified applicator.
- B. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.
- C. Preconstruction compatibility and adhesion test reports.
- D. Preconstruction field-adhesion test reports.
- E. Field quality control adhesion test reports.
- F. Warranty: Sample of unexecuted manufacturer and installer special warranties.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced Installer equipped and trained for application of joint sealants required for this Project with record of successful completion of projects of similar scope.
- B. Single Source Responsibility: Provide exterior and joint sealants by a single manufacturer responsible for testing of Project substrates to verify compatibility and adhesion of joint sealants.
- C. Preconstruction Manufacturer Laboratory Compatibility, Staining, and Adhesion Testing: Submit four samples of each material that will be in contact with or affect joint sealants. Test sealants with substrate materials using ASTM C794 or manufacturer's standard test methods to determine requirements for joint preparation, including cleaning and priming. Test sealants with related materials to verify compatibility.
- D. Preconstruction Field-Adhesion Testing: Prior to installing joint sealants, field test adhesion to joint substrates using ASTM C1193 Method A or method recommended by manufacturer. Verify adhesion is adequate. Modify joint preparation recommendations for failed joints and re-test. Submit written report to Architect.
- E. Mockups: Provide joint sealant application within mockups required in other sections identical to specified joint sealants and installation methods.

1.7 WARRANTY

- A. Special Installer's Warranty: Original statement on Installer's letterhead in which Installer agrees to repair or replace joint sealants that demonstrate deterioration or failure within warranty period specified.

1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint sealant manufacturer agrees to furnish joint sealants to repair or replace those that demonstrate deterioration or failure under normal use within warranty period specified.
 1. Warranty Period for Silicone Sealants: 20 years date of Substantial Completion.
- C. Warranty Conditions: Special warranties exclude deterioration or failure of joint sealants in normal use due to structural movement resulting in stresses on joint sealants exceeding sealant manufacturer's written specifications, joint substrate deterioration, mechanical damage, or normal accumulation of dirt or other contaminants.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers with products that GHURA believes meet the specifications are listed below.
 1. Dow Corning Corporation, Dow Corning Corporation, Corporate Center, 2200 W. Salzburg Rd., PO Box 994, Auburn MI 48611, (800) 248-2481.
 2. Tremco Commercial Sealants and Waterproofing, 3735 Green Road, Beachwood, Ohio, 44122, (800) 321-7906.
 3. Pecora Corporation, 165 Wambold Road, Harleysville, Pennsylvania 19438, (800) 523-6688.

These brands are provided only as examples and any manufacturer providing substantially equivalent products that meet the specification will be considered pending evaluation and approval by GHURA.

2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants and accessory materials that are compatible with one another, and with materials in close proximity under use conditions, as demonstrated by sealant manufacturer using ASTM C1087 testing and related experience.
- B. Joint Sealant Standard: Comply with ASTM C 920 and other specified requirements for each liquid-applied joint sealant.
- C. Stain Test Characteristics: Provide sealants tested per ASTM C 1248 as non-staining on porous joint substrates indicated for Project.

2.3 LIQUID JOINT SEALANTS

- A. Exterior Joint Sealant:
 1. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, for Use NT, G, A, and O; SWRI validation.
 2. **Basis of Design Product: DOW CORNING® 795 Silicone Building Sealant.**
 3. Hardness, ASTM C 661: 35 - 45 durometer Shore A.
 4. Volatile Organic Compound (VOC) Content: 32 g/L maximum
 5. Staining, ASTM C 1248: None on concrete, granite, limestone, and brick.
 6. Color: White.
- B. Interior Joint Sealant:
 1. Single-component neutral-curing silicone sealant.
 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

2.4. ACCESSORIES

- A. Joint Substrate Primers: Substrate primer recommended by sealant manufacturer for application.
- B. Cylindrical Sealant Backing: ASTM C 1330, Type B non-absorbent, bi-cellular material with surface skin, or Type O open-cell polyurethane, as recommended by sealant manufacturer for application.
- C. Bond Breaker Tape: Polymer tape compatible with joint sealant materials and recommended by sealant manufacturer.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine joint profiles and surfaces to determine if work is ready to receive joint sealants. Verify joint dimensions are adequate for development of sealant movement capability. Proceed with joint sealant work once conditions meet sealant manufacturer's recommendations.

3.2 PREPARATION

- A. Joint Surface Cleaning: Clean joints prior to installing joint sealants using materials and methods recommended by sealant manufacturer.
 - 1. Remove laitance, form-release agents, dust, and other contaminants.
 - 2. Clean nonporous and porous surfaces utilizing chemical cleaners acceptable to sealant manufacturer.

3.3 SEALANT APPLICATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Masking: Mask adjacent surfaces to prevent staining or damage by contact with sealant or primer.
- C. Joint Priming: Prime joint substrates when recommended by sealant manufacturer or when indicated by preconstruction testing or experience. Apply recommended primer using sealant manufacturer's recommended application techniques.
- D. Joint Backing: Select joint backing materials recommended by sealant manufacturer to be compatible with sealant material. Install backing material at depth required to produce profile of joint sealant allowing optimal sealant movement.
 - 1. Install bond breaker tape over substrates when sealant backings are not used.
- E. Liquid Sealant Application: Install sealants using methods recommended by sealant manufacturer, in depths recommended for application. Apply in continuous operation from bottom to top of joint vertically and horizontally in a single direction. Apply using adequate pressure to fill and seal joint width.
 - 1. Tool sealants immediately with appropriately shaped tool to force sealants against joint backing and joint substrates, eliminating voids and ensuring full contact.
 - 2. Using tooling agents approved by sealant manufacturer for application.
- F. Cleaning: Remove excess sealant using materials and methods approved by sealant manufacturer that will not damage joint substrate materials.

1. Remove masking tape immediately after tooling joint without disturbing seal.
2. Remove excess sealant from surfaces while still uncured.

3.4 PREFORMED JOINT SEALANT APPLICATION

- A. Preparation: Prepare surfaces in accordance with sealant manufacturer's written instructions. Perform field adhesion testing to determine need for application of primer. Clean surfaces to dust free, and perform solvent wipe where recommended. Mask edges of surface to be treated.
- B. Application: Apply bead of recommended liquid joint sealant to each side of joint in bead size recommended by manufacturer. Press extrusion into sealant using roller to ensure uniform and complete contact. Lap vertical and horizontal joints as indicated in manufacturer's instructions. Trim preformed joint sealant. Remove masking tape and excess sealant.

3.6 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Perform adhesion tests in accordance with manufacturer's instructions and with ASTM C 1193, Method A.
 1. Perform five tests for the first 1000 feet (300 m) of joint length for each kind of sealant and joint substrate, and one test for each 1000 feet (300 m) of joint length thereafter or 1 test per each floor per building elevation, minimum.
 2. For sealant applied between dissimilar materials, test both sides of joint.
- B. Remove sealants failing adhesion test, clean substrates, reapply sealants, and re-test. Test adjacent sealants to failed sealants.
- C. Submit report of field adhesion testing to Architect indicating tests, locations, dates, results, and remedial actions taken.

3.7 JOINT-SEALANTS

- A. Exterior and interior joints
 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant **Dow Corning 795** or approved equal.
 2. Joint-Sealant Color: White.
- B. Interior exposed and non-exposed acoustical applications:
 1. Joint Sealant: Acoustical sealant specified in Division 09 finishes sections.

*** END ***

**Specification
for the**

**GHURA-24-008; Concrete Roof Repair Coating at
GHURA 100, Yona Units**

**OWNER
Guam Housing and Urban Renewal Authority**

**BY: _____
Elizabeth F. Napoli, EXECUTIVE DIRECTOR**

Contractor: _____

**By: _____
Signature and Title**

Date: _____

END OF SPECIFICATION