GAINESVILLE HOUSING AUTHORITY

Request for Proposal for Training Center Repairs and Renovations

RFP 2023-28

Closing Date and Time - October 17, 2023 at 3:00 p.m.

9/14/2023

GAINESVILLE HOUSING AUTHORITY

Where Housing Matters

Request for Proposal Specifications and Instructions – Training Center Repairs and Renovations for Gainesville Housing Authority Properties. RFP Number 2023-28 – Gainesville Housing Authority; 1900 S.E. 4th Street; Gainesville, FL 32641. www.gainesvillehousingauthoirty.org.

Request for Proposal for Training Center Repairs and Renovations Services

Proposals will be received by the Gainesville Housing Authority, 1900 S.E. 4th Street; Gainesville, FL 32641 until 3:00 p.m. local time, October 17, 2023 All proposals received will be downloaded from either DemandStar at https://network.demandstar.com or through Gainesville Housing Authority, publicly opened and read aloud, for the furnishing of all materials and labor for the following contract service to be provided in Alachua County:

Training Center Repairs and Renovations, Gainesville Housing Authority, RFP 2023-28.

All proposals will be received via DemandStar at https://network.demandstar.com or e-mail to Pamela Davis at PamelaD@gnvha.org. Any proposal received after 3:00 p.m. eastern standard time will be considered late and will not be considered.

Proposals will be tabulated and evaluated by the Chief Executive Officer (CEO) of the Gainesville Housing Authority (GHA) or member(s) of the staff or other individual(s) designated by her/him. An award recommendation will be made by the CEO at the next meeting of the GHA's Board of Commissioners. The proposals as opened, tabulated, and evaluated, will be presented and the lowest most responsible proposer, meeting the requirements of the law, will be recommended. Proposers' qualifications must be satisfactory to the GHA's Board of Commissioners. The Commission reserves the right to waive informalities in any bid and to accept any proposal which is authorized by law to accept and to reject any and/or all bids.

Contract documents (plans and specifications) may be obtained by General Contractors online. Bidders may go online to electronically download bid documents. Bidders can use links, https://network.demandstar.com or Gainesville Housing Authority to access/download bid documents consisting of plans and specifications. here Housing Matters

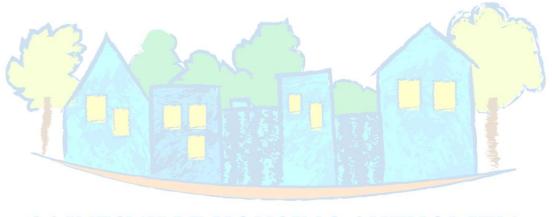
The site visit will be Wednesday, September 27, 2023 at 11:00 a.m. eastern standard time, located at 2626 E. University Avenue, Gainesville, FL 32641. All work shall be completed in accordance with this Request for Proposal. All questions following the site visit can be sent electronically to Shanna Miller at Shanna@fc-groupllc.com. All questions must be submitted to Shanna Miller no later than October 2, 2023, at 5:00 p.m., via email. Responses to all questions will be answered via DemandStar https://network.demandstar.com_ by means of an addendum. No proposer may withdraw their proposal for a period of thirty (30) consecutive calendar days after the date set for opening thereof.

Any actual or prospective contractor may protest the solicitation or award of a contract for serious violations of the principles of the Gainesville Housing Authority's Procurement Policy. Any protest against a solicitation must be received before the due date for receipt of bids or proposals, and any protest against the award of a contract must be received within ten (10) calendar days after the





contract award or the protest will not be considered. All bid protests must be in writing, submitted to the CEO or designee, who shall issue a written decision on the matter. The CEO or designee may, at their discretion, suspend the procurement.



GAINESVILLE HOUSING AUTHORITY





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Advertisement for Request for Proposal (RFP)

The Gainesville Housing Authority (GHA) herein solicits Requests for Proposal (RFP) from qualified, licensed, and responsible firms interested in providing GHA with Construction Services to complete Training Center Repairs and Renovations, located in Gainesville, FL 32641.

RFP 2023-28 Training Center Repairs and Renovations

All bidders are invited to attend a Pre-bid conference and site visit, located at 2626 E. University Avenue, Gainesville, FL 32641 on Wednesday, September 27, 2023 at 11:00 a.m. EST.

Bids are to be submitted no later than 3:00 p.m. local time, Tuesday, October 17, 2023. All bids received at 3:00 p.m. EDT or prior will be publicly opened and read at the GHA's main office located at 1900 SE 4th Street, Gainesville, FL 32641.

Bid Guarantee: Bid Bond, Certified Check or Cashier's Check for not less than 5% of bid payable to the Gainesville Housing Authority.

How to obtain Bid Documents

Contract documents (plans and specifications) may be obtained by DemandStar at https://network.demandstar.com. Bidders will need to go online to electronically download bid documents.

> Date and Time for Receiving Proposals: Tuesday, October 17, 2023 by 3:00 p.m. EST

Proposals are to be submitted electronically via email Pamela Davis at PamelaD@gnvha.org or through DemandStar at https://network.demandstar.com.

> By: Ms. Pamela E. Davis, CEO Gainesville Housing Authority, Gainesville, FL

Advertisement dates:

The Sun: August 31, 2023, September 13, 2023, and September 28, 2023 Alachua Today: August 31, 2023, September 14, 2023, and September 28, 2023





Section 1 – Information and Instructions

Submission Requirements

All proposals shall be marked: Training Center Repairs and Renovations RFP 2023-28

Proposers shall include all supporting documents they want considered with their proposal. All documents shall be submitted thorough DemandStar at https://network.demandstar.com or e-mail to Pamela Davis at Pamela D@gnvha.org.

- 1.1 Proposal Format: Proposals shall be submitted in the following format and include the following information.
 - 1.1.1 1) Reference form; (2) HUD form 5369A; (3) Non-Collusive Affidavit; (4) Insurance check list; (5) Certification regarding Drug-Free Workplace Requirements; (6) Florida Statues on Public Entity Crimes; (7) Bid Bond
 - 1.1.2 Any additional information that may be pertinent to the proposal.
- 1.2 Proposers will be notified in writing by Gainesville Housing Authority (GHA) of any change in the specifications contained in this RFP.
- 1.3 No verbal or written information which is obtained other than through this RFP or its addenda shall be binding by GHA. No employee of GHA is authorized to interpret any portion of this RFP or give information as to the requirements of the RFP in addition to that contained in or amended to this written RFP document.
- Right of Rejection and Clarification: The GHA reserves the right to reject any and all proposals and to request clarification of information from any proposer. The GHA is not obligated to enter into a contract on the basis of any proposal submitted in response to this document.
- 1.5 Request for additional information: Prior to the final selection, proposers may be required to submit additional information which GHA may deem necessary to further evaluate the proposer's qualifications.
- 1.6 Denial of Reimbursement: GHA will not reimburse proposers for any costs associated with the preparation and submittal of any proposal, or for any travel and/or per diem costs that are incurred.
- 1.7 Right of Withdrawal: A proposal may not be withdrawn before the expiration of thirty (30) days from the proposal due date.





- 1.8 Right of Negotiation: GHA reserves the right to negotiate with the selected proposer the exact terms and conditions of the contract.
- 1.9 Right of Rejection of Lowest Fee Proposal: GHA is under no obligation to award this contract to the proposer offering the lowest fee proposal. Evaluation criteria included in this document shall be used in evaluating proposals.
- 1.10 Exceptions to the RFP: Proposers may find instances where they must take exception with certain requirements or specifications of the RFP. All exceptions shall be clearly identified, and written explanations shall include the scope of the exceptions, the ramifications of the exceptions for GHA, a description of the advantage to be gained or disadvantages to be incurred by the GHA as a result of these exceptions.
- Indemnification: Proposer, at its own expense and without exception, shall indemnify, defend and pay all damages, costs, expenses – including attorney fees – and otherwise hold harmless the GHA, its employees, and agents from any liability of any nature or kind in regard to the delivery of services.
- 1.12 Rights to Submitted Material: All proposals, responses, inquiries, or correspondence relating to, or in reference to this RFP, and all reports charts, and other documentation submitted by proposers shall become the property of GHA when received.
- 1.13 Basis of Award: Proposals will be evaluated according to the following criteria and weight at a minimum: IIV U JIIV HU I IIV MII
 - 1.13.1 Section 3 business preference 10 points Matters
 - 1.13.2 References 5 points
 - 1.13.3 Cost of Services 50 points
 - 1.13.4 Contractors ability to complete the work within the time required by GHA 25 points
 - 1.13.5 Qualifications 10 points
- 1.14 Selection Process: The proposals will be reviewed by a selection panel appointed by the CEO. The selection panel and CEO shall be sole judge as to evaluation and ranking of proposals. Based on the responses, evaluation, and ranking, interviews may be conducted with selected proposers at our regularly scheduled Board of Commissioners meeting.





- 1.15 Proposed Time Schedule:
 - 1.15.1 Pre-Submittal Meeting: September 27, 2023 at 11:00 a.m. e.s.t.
 - 1.15.2 Proposal Due Date: October 17, 2023 no later than 3:00 p.m. e.s.t.
- 1.16 Questions: Questions regarding this Request for Proposal should be directed to:

Shanna Miller

Shanna@fc-groupllc.com.

- 1.17 Termination of Contract: GHA may cancel at any time by providing the company with a written thirty (30) day notice of such cancellation. Should GHA exercise its right to cancel the contract, the cancellation shall become effective on the date as specified in the written notice of cancellation sent to the company.
- 1.18 Insurance Coverage and Limits: The proposer shall furnish to GHA evidence of the following minimum amounts of insurance coverage.
 - 1.18.1 Worker's Compensation to apply to all employees for statutory limits in compliance with applicable state and federal laws.
 - 1.18.2 Business auto policy or similar form shall have minimal limits of \$1MM per occurrence combined single limit for bodily injury and property damage liability. This shall include owned, hired and non-owned vehicles.
 - 1.18.3 Commercial General Liability or similar form shall have minimum limits of \$1MM per occurrence combined single limit for personal injury, bodily injury, and property damage liability. Coverage shall include premises and/or operations, independent contractors, products and/or complete operations, contractual liability and broad form property damage endorsements. Coverage for the hazards of explosion, collapse and underground property damage (XCU) must also be included when applicable to the work to be performed.
- 1.19 HUD Forms:
 - 1.19.1 General Conditions for Construction Contracts HUD Form 5370
 - 1.19.2 Representations, Certifications, and other Statements of Bidders HUD 5369-A.
- 1.20 Section 3 Business Preference (Attachment 4) must be submitted with proposal.
- 1.21 Non Collusive Affidavit





- 1.22 Florida Statues on Public Entity Crimes
- 1.23 Certification Regarding Drug-Free Workplace Requirements
- 1.24 Davis Bacon Wage Ruling



GAINESVILLE HOUSING AUTHO





Section II

Scope of Work

Gainesville Housing Authority (GHA) is requesting proposals to repair and renovate a training center located at 2626 E. University Avenue, Gainesville FL. Contractor is responsible for permits and inspections as required by the Alachua County Building Department.

All work is to be performed in accordance with manufactures specifications, industry standards and best work practices. All work is to be performed by skilled and qualified workmen in best practices of the trade and in compliance with Building Regulations and or Government Laws, Statues and Ordinances. Hours of work: Monday through Friday 8:00 a.m. to 5:00 p.m. local time excluding all the GHA recognized holidays.

Contract Period: The contract shall be for one hundred twenty (120) calendar days from the date of "Notice to Proceed".

- 2.0 Submittal of Qualifications: Proposal format may follow these basic guidelines for each category of service submitted in response to this RFP. For each item please provide a statement regarding the firm's ability to meet the criteria.
- 2.1 Describe in detail the qualifications of the firm and the company personnel to whom the task will be assigned, as well as any back-up personnel. Details should include:
 - Familiarity and years of service to housing authorities or other multi-family properties.
 - Detailed description of experience with this type of work. 2.12
 - 2.13 Copy of all the necessary licenses and certifications required by the State of Florida.
- 2.2 Reference with names, addresses and phone numbers of current clients who can be contacted by GHA for discussion of services provided to that client.
- Any additional remarks/comments the company wishes to make to elaborate their proposal. 2.3

All proposers should **describe in detail their call back services** and related costs if any.

Contract Agreement and Compensation:





- The proposer will be required to enter into an agreement with GHA. At all times during the term of the contract, the proposer shall act as an independent contractor.
- o GHA reserves the right to negotiate any and all parts of the contract.
- o GHA reserves the right to delete or amend any of the services as listed and described herein.

Interested parties must submit their proposals electronically on or before, October 17, 2023 at 3:00 p.m. eastern standard time, through DemandStar at https://network.demandstar.com or e-mail to Pamela Davis at PamelaD@gnvha.org.

All bids must be marked or stated in the subject line:

Training Center Repairs and Renovations RFP 2023-28

Gainesville Housing Authority reserves the right to contact/interview only those respondents that they feel are capable of best representing their program's objectives.







PROPOSAL FORM

(To be copied on Proposer's Business Letterhead)

Ms. Pamela Davis Chief Executive Officer Gainesville Housing Authority 1900 S.E. 4th Street Gainesville, FL 32641

Dear Ms. Davis:

The undersigned contractor, here-in-after called "Proposer" proposes to furnish all materials and labor for Training Center Repairs and Renovations located in Gainesville Florida, in full accordance with RFP 2023-28 documents.

The Proposer sul	bmits the	following price	for services:

The following documents/forms from the specifications are completed and are attached to this proposal: (1) Reference form; (2) HUD form 5369-A; (3) Non-Collusive Affidavit; (4) Insurance check list; (5) Certification regarding Drug-Free Work Place Requirements; (6) Florida Statues on Public Entity Crimes; (7) Bid Bond

In consideration of the Agreement by the Owner, the Proposer has agreed and does hereby agree:

That the above proposal shall remain in full force and effect for a period of thirty (30) consecutive calendar days after the time of the opening of this proposal, and that the Proposer will not revoke or cancel this proposal or withdraw from the competition within said thirty (30) day period.

IN WITNESS WHEREOF, the Propose	er has hereunto set his/her signature this
day of	_, 2023.
n.	









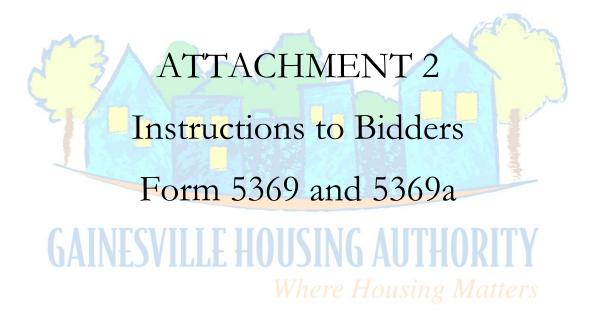


REFERENCE FORM

Proposer:	
RFP Title:	
Proposer must provide references for all size and scope to this contract.	I contracts performed within the past two (2) years of similar
Reference Contact:	
Address:	
Phone:	Fax:
E-Mail:	
Description and Date(s) of supplies or ser	rvices provides:
7 3/4 35	
Reference Contact:	
Address:	
Phone:	Fax:
E-Mail:	
Description and Date(s) of supplies or ser	vices provides:
	Where Housing Matters
Reference Contact:	
Address:	
	Fax:
E-Mail:	
	rvices provides:











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.

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 Indianowned commercial, industrial, or business activity established or organized for the purpose of profit, except that the Indian ownership must constitute not less than 51 percent of the enterprise; "Indian organization" to mean the governing body of any Indian tribe or entity established or recognized by such governing body; "Indian" to mean any person who is a member of any tribe, band, group, pueblo, or community which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs and any "Native" as defined in the Alaska Native Claims Settlement Act; and Indian "tribe" to mean any Indian tribe, band, group, pueblo, or community including Native villages and Native groups (including

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

- (b) (1) The successful Contractor under this solicitation shall comply with the requirements of this provision in awarding all subcontracts under the contract and in providing training and employment opportunities.
- (2) A finding by the IHA that the contractor, either (i) awarded a subcontract without using the procedure required by the IHA, (ii) falsely represented that subcontracts would be awarded to Indian enterprises or organizations; or, (iii) failed to comply with the contractor's employment and training preference bid statement shall be grounds for termination of the contract or for the assessment of penalties or other remedies.
- (c) If specified elsewhere in this solicitation, the IHA may restrict the solicitation to qualified Indian-owned enterprises and Indian organizations. If two or more (or a greater number as specified elsewhere in the solicitation) qualified Indian-owned enterprises or organizations submit responsive bids, award shall be made to the qualified enterprise or organization with the lowest responsive bid. If fewer than the minimum required number of qualified Indian-owned enterprises or organizations submit responsive bids, the IHA shall reject all bids and readvertise the solicitation in accordance with paragraph (d) below.
- (d) If the IHA prefers not to restrict the solicitation as described in paragraph (c) above, or if after having restricted a solicitation an insufficient number of qualified Indian enterprises or organizations submit bids, the IHA may advertise for bids from non-Indian as well as Indian-owned enterprises and Indian organizations. Award shall be made to the qualified Indian enterprise or organization with the lowest responsive bid if that bid is -
- (1) Within the maximum HUD-approved budget amount established for the specific project or activity for which bids are being solicited; and
- (2) No more than the percentage specified in 24 CFR 905.175(c) higher than the total bid price of the lowest responsive bid from any qualified bidder. If no responsive bid by a qualified Indian-owned economic enterprise or organization is within the stated range of the total bid price of the lowest responsive bid from any qualified enterprise, award shall be made to the bidder with the lowest bid.
- (e) Bidders seeking to qualify for preference in contracting or subcontracting shall submit proof of Indian ownership with their bids. Proof of Indian ownership shall include but not be limited to:
- (1) Certification by a tribe or other evidence that the bidder is an Indian. The IHA shall accept the certification of a tribe that an individual is a member.
- (2) Evidence such as stock ownership, structure, management, control, financing and salary or profit sharing arrangements of the enterprise.

- (f) (1) All bidders must submit with their bids a statement describing how they will provide Indian preference in the award of subcontracts. The specific requirements of that statement and the factors to used by the IHA in determining the statement's adequacy are included as an attachment to this solicitation. Any bid that fails to include the required statement shall be rejected as nonresponsive. The IHA may require that comparable statements be provided by subcontractors to the successful Contractor, and may require the Contractor to reject any bid or proposal by a subcontractor that fails to include the statement.
- (2) Bidders and prospective subcontractors shall submit a certification (supported by credible evidence) to the IHA in any instance where the bidder or subcontractor believes it is infeasible to provide Indian preference in subcontracting. The acceptance or rejection by the IHA of the certification shall be final. Rejection shall disqualify the bid from further consideration.
- (g) All bidders must submit with their bids a statement detailing their employment and training opportunities and their plans to provide preference to Indians in implementing the contract; and the number or percentage of Indians anticipated to be employed and trained. Comparable statements from all proposed subcontractors must be submitted. The criteria to be used by the IHA in determining the statement(s)'s adequacy are included as an attachment to this solicitation. Any bid that fails to include the required statement(s), or that includes a statement that does not meet minimum standards required by the IHA shall be rejected as nonresponsive.
- (h) Core crew employees. A core crew employee is an individual who is a bona fide employee of the contractor at the time the bid is submitted; or an individual who was not employed by the bidder at the time the bid was submitted, but who is regularly employed by the bidder in a supervisory or other key skilled position when work is available. Bidders shall submit with their bids a list of all core crew employees.
- (i) Preference in contracting, subcontracting, employment, and training shall apply not only on-site, on the reservation, or within the IHA's jurisdiction, but also to contracts with firms that operate outside these areas (e.g., employment in modular or manufactured housing construction facilities).
- (j) Bidders should contact the IHA to determine if any additional local preference requirements are applicable to this solicitation.
- (k) The IHA [] does [] does not [Contracting Officer check applicable box] maintain lists of Indian-owned economic enterprises and Indian organizations by specialty (e.g., plumbing, electrical, foundations), which are available to bidders to assist them in meeting their responsibility to provide preference in connection with the administration of contracts and subcontracts.

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

Previous edition is obsolete form **HUD-5369-A** (11/92)

Representations, Certifications, and Other Statements of Bidders

Public and Indian Housing Programs

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1. Certificate of Independent Price Determination

- (a) The bidder certifies that--
- (1) The prices in this bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to (i) those prices, (ii) the intention to submit a bid, or (iii) the methods or factors used to calculate the prices offered;
- (2) The prices in this bid have not been and will not be knowingly disclosed by the bidder, directly or indirectly, to any other bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a competitive proposal solicitation) unless otherwise required by law; and
- (3) No attempt has been made or will be made by the bidder to induce any other concern to submit or not to submit a bid for the purpose of restricting competition.
- (b) Each signature on the bid is considered to be a certification by the signatory that the signatory--
- (1) Is the person in the bidder's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(l) through (a)(3) above; or
- (2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(I) through (a)(3) above.

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.

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)		

ATTACHMENT 3 **HUD General Conditions for** Construction Contracts Sections 6A L. Form 5370





General Conditions for Construction Contracts - Public Housing Programs

U.S. Department of Housing and Urban Development

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

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

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

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Liens Materials

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 provision 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.
- (I) "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.
- act on its behalf. HUD has agreed, subject to the provisions of an (f) The Contractor shall confine all operations (including Annual Contributions Terms and Conditions (ACC), to storage of materials) on PHA premises to areas provide financial assistance to the PHA, which includes 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
- 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.

performing the work, or for proceeding to successfully

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
- (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.
- The Contractor shall give all required notices to any adjoining or adjacent property owner or other party before the commencement of any work.
- (j) The Contractor shall indemnify and save harmless the PHA from any damages on account of settlement or the loss of lateral support of adjoining property, any damages from changes in topography affecting drainage, and from all loss or expense and all damages for which the PHA may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.
- (k) The Contractor shall repair any damage to vegetation, structures, equipment, utilities, or improvements, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

17. Temporary Buildings and Transportation of Materials

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

18. Clean Air and Water

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

19. Energy Efficiency

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

20. Inspection and Acceptance of

- (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 ^{1 YEAR} (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 30 calendar days of the effective date of the contract, or within the time schedule established in the notice to proceed issued by the Contracting Officer.

26. Order of Provisions

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

27. Payments

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

- basis for determining progress payments. The breakdown shall be approved by the Contracting Officer and must be acceptable to HUD. If the contract covers more than one project, the Contractor shall furnish a separate breakdown for each. The values and quantities employed in making up this breakdown are for determining the amount of progress payments and shall not be construed as a basis for additions to or deductions from the contract price. The Contractor shall prorate its overhead and profit over the construction period of the contract.
- (d) The Contractor shall submit, on forms provided by the PHA, periodic estimates showing the value of the work performed during each period based upon the approved
 - submitted not later than 120 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:
- 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:

Pamela Davis

Title: C.E.O.

Date: 08/31/2023

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

- Material delivered to the Contractor at locations other than the site may also be taken into consideration if the Contractor furnishes satisfactory evidence that (1) it has acquired title to such material; (2) the material is properly stored in a bonded warehouse, storage yard, or similar suitable place as may be approved by the Contracting Officer; (3) the material is insured to cover its full value; and (4) the material will be used to perform this contract. Before any progress payment which includes delivered material is made, the Contractor shall furnish such documentation as the Contracting Officer may require to assure the protection of the PHA's interest in such materials. The Contractor shall remain responsible for such stored material notwithstanding the transfer of title to the PHA
- (h) All material and work covered by progress payments made shall, at the time of payment become the sole property of the PHA, but this shall not be construed as (1) relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or, (2) waiving the right of the PHA to require the fulfillment of all of the terms of the contract. In the event the work of the Contractor has been damaged by other contractors or persons other than employees of the PHA in the course of their employment, the Contractor shall restore such damaged work without cost to the PHA and to seek redress for its damage only from those who directly caused it.
- (i) The PHA shall make the final payment due the Contractor under this contract after (1) completion and final acceptance of all work; and (2) presentation of release of all claims against the PHA arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. Each such exception shall embrace no more than one claim, the basis and scope of which shall be clearly defined. The amounts for such excepted claims shall not be included in the request for final payment. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned.
- (j) Prior to making any payment, the Contracting Officer may require the Contractor to furnish receipts or other evidence of payment from all persons performing work and supplying material to the Contractor, if the Contracting Officer determines such evidence is necessary to substantiate claimed costs.
- (k) The PHA shall not; (1) determine or adjust any claims for payment or disputes arising there under between the Contractor and its subcontractors or material suppliers; or, (2) withhold any moneys for the protection of the subcontractors or material suppliers. The failure or refusal of the PHA to withhold moneys from the Contractor shall in nowise impair the obligations of any surety or sureties under any bonds furnished under this contract

28. Contract Modifications

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

- responsibilities of the parties (e.g., change in the PHA address). All other contract modifications shall be in the form of supplemental agreements signed by the Contractor and the Contracting Officer.
- (c) When a proposed modification requires the approval of HUD prior to its issuance (e.g., a change order that exceeds the PHA's approved threshold), such modification shall not be effective until the required approval is received by the PHA.

29. Changes

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

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

30. Suspension of Work

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

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

31. Disputes

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

32. Default

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

- (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 \$ 250.00 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 \$ 1.000,000.00 [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 \$\frac{1}{1,000,000,00}\$
 - [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
 - 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 nonrenewed by the insurance company until at least 30 days prior written notice has been given to the Contracting Officer.

37. Subcontracts

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

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

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

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

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

39. Equal Employment Opportunity

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

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

- (c) The Contractor/Seller agrees to post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.
- (d) The Contractor/Seller shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor/Seller, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- (e) The Contractor/Seller shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.
- (f) The Contractor/Seller shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.
- (g) The Contractor/Seller shall furnish all information and reports required by Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto. The Contractor/Seller shall permit
 - access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders
- (h) In the event of a that the Contractor/Seller is in 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 in cluding sanctions for noncompliance: Provided, however, that in the event the [contractor/seller] becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the [contractor/seller] may request the United States to enter into such litigation to protect the interests of the United States.
- (j) Compliance with the requirements of this clause shall be to the maximum extent consistent with, but not in derogation of, compliance with section 7(b) of the Indian Self-Determination and Education Assistance Act and the Indian Preference clause of this contract.
- 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.
- In the event the Contractor, the laborers or (iii) 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:
- 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
 - (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

program is approved.

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
- (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.

and outside that contract.

() 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







CERTIFICATION FOR BUSINESS CONCERNS SEEKING SECTION 3

PREFERENCE IN CONTRACTING AND DEMONSTRATION OF CAPABILITY

Name of Business _		
Address of Business		
Type of Business:	☐ Corporation	☐ Partnership
	☐ Sole Proprietorship	☐ Joint Venture
	e of participation ance program y as applicable: of Incorporation s Name Certificate ockholders and each rt with names, titles	
		contracting 25 percent of the d <mark>ollar awarded to</mark>
For business claim currently Section 3 employment with to List of all current PHA/IHA Residently PHA/IHA Residence of ability to contract: Current Statement List of o	cted Section 3 business(es) and sing Section 3 status, claiming resident or were Section 3 she business: full-time employees ential lease less than 3 of employment	Ing at least 30 percent of their workforce are eligible residents within 3 years of date of first List of employees claiming Section 3 status Other evidence of Section 3 status less 3 years from date of employment the terms and conditions of the proposed ablic policy ears
Authorizing Name a	nd Signature	(Corporate Seal)
ranionzing ranic a	aid digitatuic	
Attested by:		<u></u>











NON-COLLUSION AFFIDAVIT OF CONTRACTOR

	(Name)
1.	S/He is the of
	(Owner,Partner,Officer,orRepresentative), hereinafter referred to as Contractor.
	(Business Name)
2.	S/He is fully knowledgeable of the preparation and contents of the Subcontractors proposals which were submitted to (Contractor) :
	for the specific work required in connection with a Gainesville Housing Authority (GHA) project titled
	and located at:
3.	Said Contractor's proposal is genuine and is not a collusive or sham proposal;
4.	Neither the Contractor nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including myself, has in any way colluded, conspired connived or agreed, directly or indirectly, with any other bidder, firm, or person to submit a collusive or sham proposal in connection with such contractor has in any manner, directly or indirectly, sought by unlawful agreement or connivances with any other bidder, firm, or person to fix the price or prices in said Contractor's Proposal, or to secure through collusion, conspiracy, connivance or unlawful agreement any advantage against GHA, or any person interested in the proposed Contract; and
5.	The price or prices quoted in the Contractor's Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties of interest, including myself.
igned:	
tie:	





ATTACHMENT 6 Florida Statutes on Public Entity Crimes





SWORN STATEMENT UNDER F.S. SECTION 287.133(3)(A), ON PUBLIC CRIMES

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

1.	This sworn statement is submitted with Bid, Proposal, or Contract #
2.	business address is and (ij
	applicable) Federal Employer Identification (FEIN) is(If you're a sole proprietor and you have no FEIN, then the last four (4) digits of your Social Security number).
3.	My name is and the relationship to the entity named
	above is
4.	I understand a "public entity crime" as defined in Paragraph 287.133(a)(g). Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or any agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering conspiracy, or material misrepresentation.
5.	I understand "convicted" or "conviction" as defined in Paragraph 287.133(a)(b), Florida Statutes, means finding of guilt or a conviction of a public entity crime with or without an adjudication of guilt. Lany federal or state trial court of records relating to charges brought by indictment or

- guilt, I ally rederal or state trial court of records relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.
- 6. I understand an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:
 - 1. A predecessor or successor of a person convicted of a public entity crime; or
 - 2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The Gainesville Housing Authority (GHA) ownership by one of the shares constituting income among persons when not for fair interest in another person, or a pooling of equipment or income among persons when not for fair market value under the length agreement, shall be a prima facie case that one person controls another person. A person who was knowingly convicted of a public entity crime, in Florida during the preceding 36 months shall be considered an affiliate.
- 7. I understand a "person" as defined in Paragraph 287.133(1)(e), Florida Statute, means any natural person or entity organized under the laws of the state or the United States with the legal power to enter into a binding contract for provision of goods or services led by a public entity, or which





otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies)
Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in neither management of the entity, nor affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.
The entity submitting this sworn statement or one or more of the officers, directors, executives, partners, shareholders, employees, members or agents who are active in management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. (Please attach a copy of the final order.) The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the by the hearing officer determined it was in the public's interest to remove the person or affiliate from the convicted vendor list. (Please attach a copy of the final order.) The person or affiliate has not been placed on the convicted vendor list. (Please describe any action taken by or pending with the Department of General Services.)
GAINESVILLE HOUSING AUTHORITY (Signature)
Where Housing Matters
STATE OF FLORIDA COUNTY OF
, PERSONALLY APPEARED BEFORE ME, the undersigned authority, who after first being sworn by me, affixed his/her signature at the space provided above on thisday of, 202, and is personally known to me, or has provided as identification.
(Notary Signature)

NOTARY STAMP











FOR CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS

Name of Contractor	
Contract	
Contractor	
Date	
The contractor acknowledges that the site(s) expected to be used for contract are covered under the statement of a Drug-Free Workplace.	the performance of work under this
Place of Performance:	
GAINESVILLE HOUSING A	UTHORITY
Total estimated number of employees expected to be engaged in the per noted above	formance of the contract at the site(s)
(Contractor's Signature)	(Date)











INSURANCE COVERAGE CHECKLIST

TO THE PROPOSER:

Please list the amount of insurance coverage that your firm currently carries.

INSURANCE COVERAGES	LIMITS	NAME OF COMPANY
1.0 Workers Compensation		
2.0 Employers Liability		
3.0 General Liabilities		
4.0 Automobile Liability		
5.0 Ind. Contractor Liability		
6.0 Personal Injury		All
7.0 Professional Liability		

Please provide a contact person and phone number for each type of insurance carried by your firm.		
PROPOSER'S STATEMENT		
I understand the insurance requirements and will com	ply in full if awarded the contract.	
(Signature)	(Date)	
Name (Printed or Typed)		











"General Decision Number: FL20230052 01/06/2023

Superseded General Decision Number: FL20220052

State: Florida

Construction Type: Residential

County: Alachua County in Florida.

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

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

IIf the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an |. The contractor must pay option is exercised) on or after January 30, 2022:

- . Executive Order 14026 generally applies to the contract.
- all covered workers at least \$16.20 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 2023.

If the contract was awarded on . Executive Order 13658 or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:

- generally applies to the contract.
- . The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

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.

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Crawler Cranes; Truck Cranes; Pile Driver Cranes; Rough Terrain Cranes; and Any Crane not otherwise described below	¢ 20.61	11.50
Hydraulic Cranes Rated 100 Tons or Above but Less Than 250 Tons; and Lattice Boom Cranes Less Than 150	.⊅ 29.01	11.50
Tons if not described below Lattice Boom Cranes Rated at 150 Tons or Above; Friction Cranes of Any Size; Mobile Tower Cranes or Luffing Boom Cranes of Any Size; Electric Tower Cranes; Hydraulic Cranes Rated at 250 Tons or Above; and Any Crane Equipped with 300 Foot or More of Any Boom		11.50
CombinationOiler		11.50 11.50
SHEE0435-004 10/01/2022		
	Rates	Fringes
SHEET METAL WORKER (Including HVAC Duct Installation)	.\$ 27.46	
SUFL2009-091 06/08/2009		
	Rates	Fringes
BRICKLAYER	.\$ 20.00	0.00
CARPENTER, Includes Cabinet Installation (Excludes Drywall Hanging)	¢ 12 15 **	0.00
DRYWALL HANGER		0.00
	•	0.00
ELECTRICIAN		0.00
INSULATOR: Batt and Blown	.\$ 10.04 **	0.00
IRONWORKER, STRUCTURAL, REINFORCING AND ORNAMENTAL	\$ 9.00 **	0.00
LABORER: Common or General	.\$ 9.06 **	0.00
LABORER: Mason Tender - Brick	\$ 11.51 **	0.00
LABORER: Mason Tender - Cement/Concrete	\$ 10.46 **	0.00
LABORER: Pipelayer	\$ 10.08 **	0.00

LABORER: Roof Tearoff 9.00 **	0.00
LABORER: Landscape and Irrigation\$ 8.90 **	0.00
OPERATOR: Asphalt Paver\$ 11.63 **	0.00
OPERATOR: Backhoe Loader Combo\$ 17.04	0.00
OPERATOR: Backhoe/Excavator\$ 12.72 **	0.00
OPERATOR: Bulldozer \$ 12.40 **	0.00
OPERATOR: Distributor\$ 11.41 **	0.00
OPERATOR: Forklift \$ 17.50	0.00
OPERATOR: Grader/Blade \$ 15.50 **	0.00
OPERATOR: Loader	0.00
OPERATOR: Roller \$ 10.59 **	0.00
OPERATOR: Screed \$ 10.93 **	0.00
OPERATOR: Trackhoe	0.00
OPERATOR: Tractor\$ 10.20 **	0.00
PAINTER: Brush, Roller and Spray\$ 11.28 **	0.00
PLASTERER\$ 13.94 **	0.00
PLUMBER\$ 11.61 **	0.00
ROOFER, Includes Built Up, Modified Bitumen, and Shake & Shingle Roofs (Excludes Metal Roofs)\$ 9.77 **	a aa
,	0.00
ROOFER: Metal Roof	0.00
TRUCK DRIVER: Dump Truck\$ 10.62 **	0.00
TRUCK DRIVER: Lowboy Truck\$ 12.14 **	0.00

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

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide

^{**} Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at

https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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.

END OF GENERAL DECISIO"

"General Decision Number: FL20230194 01/20/2023

Superseded General Decision Number: FL20220194

State: Florida

Construction Type: Building

County: Alachua County in Florida.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an |. The contractor must pay option is exercised) on or after January 30, 2022:

- Executive Order 14026 generally applies to the contract.
- all covered workers at least \$16.20 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 2023.

If the contract was awarded on . or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:

- Executive Order 13658 generally applies to the contract.
- The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

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 1 01/06/2023 01/13/2023

ASBE0013-001 09/01/2021

, ,			
	Rates	Fringes	
ASBESTOS WORKER/HEAT & FROST INSULATOR		11.80	
ELEV0049-001 01/01/2023			
	Rates	Fringes	
ELEVATOR MECHANIC	46.83 3	7.335+a+b	
FOOTNOTE: a. Employer contributions 8% of regular hourly rate to vacation pay credit for employee who has worked in business more than 5 years; Employer contributions 6% of regular hourly rate to vacation pay credit for employee who has worked in business less than 5 years.			
 b.Paid Holidays: New Year's Day Day; Labor Day; Veterans' Day after Thanksgiving Day; and Chri 	Thanksgiving Da		
ENGI0487-021 07/01/2016			
	Rates	Fringes	
OPERATOR: Crane All Cranes 160 Ton Capacity and Over	\$ 33.05	9.20	
All Cranes Over 15 Ton Capacity	32.05	9.20	
OPERATOR: Forklift		9.20	
OPERATOR: Mechanic		9.20 9.20	
IRON0402-001 10/01/2021			
	Rates	Fringes	
IRONWORKER, ORNAMENTAL	\$ 25.50	14.66	
* IRON0597-006 04/01/2022			
	Rates	Fringes	
IRONWORKER, STRUCTURAL	\$ 28.00	12.23	
PLUM0234-006 09/01/2022			
	Rates	Fringes	
PLUMBER	32.84	16.25	
PLUM0234-011 09/01/2022			
	Rates	Fringes	
PIPEFITTER (Includes HVAC Pipe and Unit Installation)	32.84	16.25	

Rates	Fringes
CARPENTER, Includes Form Work\$ 15.08	** 0.00
CEMENT MASON/CONCRETE FINISHER\$ 14.47	** 1.74
ELECTRICIAN, Includes Low Voltage Wiring 17.35	1.98
IRONWORKER, REINFORCING\$ 22.81	11.58
LABORER: Common or General, Including Cement Mason Tending\$ 11.38	** 0.63
LABORER: Pipelayer 12.49	** 1.07
OPERATOR: Backhoe/Excavator/Trackhoe\$ 14.44	** 1.40
OPERATOR: Bulldozer 15.40	** 1.90
OPERATOR: Grader/Blade 18.97	0.00
OPERATOR: Loader 14.83	** 1.84
OPERATOR: Roller 14.43	** 4.78
PAINTER: Brush, Roller and Spray\$ 15.62	** 2.05
ROOFER\$ 16.99	0.00
SHEET METAL WORKER, Includes HVAC Duct Installation\$ 20.09	0.30
SPRINKLER FITTER (Fire Sprinklers)\$ 17.87	5.00
TILE SETTER \$ 18.01	0.00
TRUCK DRIVER: Dump Truck\$ 13.22	** 2.12
TRUCK DRIVER: Lowboy Truck\$ 14.24	

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

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their

^{**} Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at

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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
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- * a conformance (additional classification and rate) ruling

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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.

END OF GENERAL DECISIO"







ARTICLE ____

Legally Required Statement and Provisions Regarding Access to Records

The Parties acknowledge and agree that the statement and provisions below are required by Florida Statute to be included in this Agreement. The inclusion of this statement and provisions below shall not be construed to imply that the VENDOR has been delegated any governmental decision-making authority, governmental responsibility, or governmental function or that the VENDOR is acting on behalf of the PHA as provided under Section 119.011(2), Florida Statutes, or that the statement or provisions are otherwise applicable to the VENDOR. As stated below, the VENDOR may contact the PHA'S Custodian of Public Records with questions regarding the application of the Public Records Law; however, the VENDOR is advised to seek independent legal counsel as to its legal obligations. The PHA cannot provide the VENDOR advice regarding its legal rights or obligations.

IF THE VENDOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE VENDOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

- i) Mikki Daniels
- ii) 352-872-5500 ext. 7116
- iii) MikkiD@gnvha.org
- iv) Gainesville Housing Authority 1900 SE 4th Street Gainesville, FL 32641

If, under this Agreement, the VENDOR is providing services and is acting on behalf of the PHA as provided under Florida Statutes Section 119.011(2), the VENDOR shall comply with public records laws, and specifically shall comply with the following:

- i) Keep and maintain public records required by the PHA to perform the services.
- ii) Upon request from the PHA'S custodian of public records, provide the PHA with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119 Florida Statutes or as otherwise provided by law.
- iii) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the Agreement term and following completion of the Agreement if the VENDOR does not transfer the records to the PHA.
- iv) Upon completion of the Agreement, transfer at no cost to the PHA, all public records in possession of the VENDOR or keep and maintain public records required by the PHA to perform the service. If the VENDOR transfers all public records to the PHA upon completion of the Agreement, the VENDOR shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the VENDOR keeps and maintains public records upon completion of the Agreement, the VENDOR shall meet all applicable requirements for retaining public records. All records stored electronically must be

provided to the PHA, upon request from the PHA'S custodian of public records, in a format that is compatible with the information technology systems of the PHA.

Failure of the VENDOR to comply with Chapter 119, Florida Statutes, and/or the provisions set forth above, where applicable, shall be grounds for immediate unilateral termination of this Agreement by the PHA.









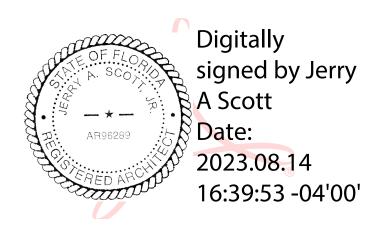
TRAINING CENTER REPAIRS AND RENOVATIONS

GAINESVILLE, FLORIDA

FOR GAINESVILLE HOUSING AUTHORITY

PROJECT MANUAL PERMIT SET

AUGUST 11, 2023



ARCHITECTURE - INTERIOR DESIGN - BUILDING ENVELOPE

TRAINING CENTER REPAIRS AND RENOVATIONS
GAINESVILLE HOUSING AUTHORITY
GAINESVILLE, FLORIDA

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SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

SECTION 01 33 00 - SUBMITTAL PROCEDURES

SECTION 01 66 00 - PRODUCT REQUIREMENTS

SECTION 01 73 29 - CUTTING AND PATCHING

SECTION 01 77 00 - CLOSEOUT PROCEDURES

DIVISION 2 – EXISTING CONDITIONS

SECTION 02 41 19 - SELECTIVE DEMOLITION

DIVISION 6 – WOOD AND PLASTICS

SECTION 06 10 00 - ROUGH CARPENTRY

SECTION 06 20 00 - FINISH CARPENTRY

SECTION 06 40 23 - ARCHITECTURAL WOODWORK

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

SECTION 07 54 10 - POLYVINYL-CHLORIDE (PVC) ROOFING

SECTION 07 56 00 - REINFORCED LIQUID MEMBRANE ROOFING AND FLASHING

SECTION 07 60 00 – FLASHING AND SHEET METAL

SECTION 07 70 00 - ROOF SPECIALTIES AND ACCESSORIES

SECTION 07 90 00 – JOINT SEALANTS

DIVISION 8 – DOORS AND WINDOWS

SECTION 08 11 13 - STEEL DOORS AND FRAMES

SECTION 08 51 13 - ALUMINUM WINDOWS

SECTION 08 71 00 – DOOR HARDWARE

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SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

SECTION 09 30 00 - TILING

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SECTION 09 91 23 - INTERIOR PAINTING

DIVISION 10 – SPECIALTIES

SECTION 10 44 16 - FIRE EXTINGUISHERS AND ACCESSORIES

END OF TECHNICAL INDEX



Digitally signed by Jerry A Scott Date:

2023.08.14

16:40:08 -04'00'

SECTION 01 11 00 - SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 PROJECT/WORK IDENTIFICATION:

- A. General: Project name is Gainesville Housing Authority, Training Center Repairs and Renovations, Gainesville, Florida, as shown on the Contract Documents prepared by MLD Architects, LLC. 211 John Knox Road, Suite 105, Tallahassee, Florida, 32303 (1-850-385-9200).
- B. Contract Documents: Indicate the work of the Contract and related requirements and conditions that have an impact on the project.
- C. Summary of References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, Drawings, addenda and modifications to the contract documents issued subsequent to the initial printing of this project manual and including but not necessarily limited to printed material referenced by any of these. It is recognized that work of the contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions and other forces outside the contract documents.
- D. Abbreviated Written Summary: Briefly and without force and effect upon the contract documents, the work of the Contract can be summarized as follows:

The work includes removing and installing new flooring, walls, ceilings, and roofing system. Removing and replacing existing cabinetry, plumbing fixtures, lighting fixtures, electrical/telecommunication receptacles, and mechanical equipment.

1.3 CONTRACTOR USE OF PREMISES:

- A. General: The Contractor shall limit his use of the premises to the work indicated, to allow for Owner occupancy and operations of adjacent property.
- B. Use of the Site: Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction.
 - 1. Keep existing driveways and entrances serving the premises clear and available to the Owner and his employees, at all times. Do not use these areas for parking or storage of materials.
 - 2. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of

- materials and location of storage sheds to the areas agreed upon. If additional storage is necessary, obtain and pay for such storage off site.
- Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.

1.4 OWNER OCCUPANCY:

A. Full Owner Occupancy: The Owner will occupy the adjacent operation areas and facilities, on the site. Cooperate fully with the Owner or his representative during construction operations to minimize conflicts, maintain safe conditions and to facilitate Owner usage. Perform the work so as not to interfere with the Owner's operations.

1.5 ALTERATIONS AND COORDINATION:

- A. General: The work of this Contract includes coordination of the entire work of the project, including preparation of general coordination drawings, diagrams and schedules, and control of site utilization, from beginning of construction activity through project close-out and warranty periods.
- B. Alterations: Where applicable, requirements of the contract documents apply to alteration work in the same manner as to new construction.
- C. All work shall comply with the Florida Building Code Seventh Edition 2020

1.6 MISCELLANEOUS PROVISIONS:

- A. Mechanical/Electrical Requirements of General Work:
 - 1. General: Except as otherwise indicated, comply with applicable requirements of Division-23 sections for mechanical provisions within units of general (Division 2-14) Work. Except as otherwise indicated, comply with applicable requirements of Division-26 sections for electrical provisions within units of general (Division 2-14) Work.
 - 2. Service Connections: Refer to Division-23 and Division-25 sections for the characteristics of the mechanical and electrical services to be connected to units of general work. Provide units manufactured or fabricated for proper connection to and utilizations of available services, as indicated. Except as otherwise indicated, final connection of mechanical services to general work is defined as being mechanical work, and final connection of electrical services to general work is defined as electrical work.
 - 3. Plumbing, sewer and water tap fees shall be paid by the Contractor.
 - 4. Electrical Requirements: Except as otherwise indicated, comply with applicable provisions of 2017 National Electric Code for electrical components of general work. Provide Underwriters

Laboratories listed and labeled products where applicable.

- a. Unless otherwise indicated electrical components for general work shall comply with the items and work listed in Specification Division 26 and other areas of the Specifications.
- B. Performance Requirements for Completed Work:
 - 1. General: The Contract Documents indicated the intended occupancy and utilization of the building and its individual systems and facilities. Compliance with governing regulations is intended and required for the work and for the Owner's occupancy and utilization.

END OF SECTION 01 11 00

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
 - 1. Coordination.
 - 2. Administrative and supervisory personnel.
 - 3. General installation provisions.
 - 4. Request for Interpretation (RFI's)
 - 5. Cleaning and protection.
- B. Requirements for the Contractor's Construction Schedule are included in Section "Submittals".

1.3 DEFINITIONS

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

1.4 COORDINATION AND MEETINGS

- A. General: Prepare a written memorandum on required coordination activities. Include such items as required notices, reports and attendance at meetings. Distribute this memorandum to each entity performing work at the project site.
- B. Coordination: Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.
 - 1. Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
 - 2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 5. Prepare similar memoranda for the Owner and separate Contractors where coordination of their Work is required.

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

1.5 REQUESTS FOR INTERPRETATION (RFIs)

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.
 - 1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
 - 1. Project name.
 - 2. Date.
 - 3. Name of Contractor.
 - 4. Name of Architect and Construction Manager.
 - 5. RFI number, numbered sequentially.
 - 6. Specification Section number and title and related paragraphs, as appropriate.
 - 7. Drawing number and detail references, as appropriate.
 - 8. Field dimensions and conditions, as appropriate.
 - 9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 - 10. Contractor's signature.
 - 11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
- C. Architect's and Construction Manager's Action: Architect and Construction Manager will review each RFI, determine action required, and return it. Allow seven working days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
 - 1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.

- d. Requests for adjustments in the Contract Time or the Contract Sum.
- e. Requests for interpretation of Architect's actions on submittals.
- f. Incomplete RFIs or RFIs with numerous errors.
- 2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
- 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 1 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Construction Manager in writing within 10 days of receipt of the RFI response.
- D. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly.

1.6 SUBMITTALS

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

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.
- E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.
- F. Recheck measurements and dimensions, before starting each installation.
- G. Install each component during weather conditions and Project status that will ensure the best

possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.

- H. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.
- I. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision.

3.2 CLEANING AND PROTECTION

- A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

END OF SECTION 01 31 00

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including;
 - 1. Contractor's construction schedule.
 - 2. Submittal schedule.
 - 3. Daily construction reports and drawings.
 - 4. Shop Drawings.
 - 5. Product Data.
 - 6. Samples.
- B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
 - 1. Special prequalification requirements.
 - 2. Applications for payment.
 - 3. Performance and payment bonds.
 - 4. Insurance certificates.
 - 5. List of Subcontractors.
- C. Inspection and test reports are included in Section "Quality Control Services."

1.3 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - 3. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
- B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

- 1. Project name, and building reference.
- 2. Date.
- 3. Name and address of Architect.
- 4. Name and address of Contractor.
- 5. Name and address of subcontractor.
- 6. Name and address of supplier.
- 7. Name of manufacturer.
- 8. Number and title of appropriate Specification Section.
- 9. Drawing number and detail references, as appropriate.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.
 - 1. On the transmittal Record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar- chart type Contractor's construction schedule. Submit within 30 days of the date established for "Commencement of the Work".
 - Provide a separate time bar for each significant construction activity. Provide a
 continuous vertical line to identify the first working day of each week. Use the
 same breakdown of units of the Work as indicated in the "Schedule of Values".
 - 2. Within each time bar indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.
 - 3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
 - 4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the Work.
 - 5. Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
 - 6. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.
- B. Work Stages: Indicate important stages of construction for each major portion of the

Work, including testing and installation.

- C. Area Separations: Provide a separate time bar to identify each major construction area for each major portion of the Work. Indicate where each element in an area must be sequenced or integrated with other activities.
- D. Cost Correlation: At the head of the schedule, provide a two-item cost correlation line, indicating "precalculated" and "actual" costs. On the line show dollar-volume of Work performed as of the dates used for preparation of payment requests.
- E. Distribution: Following response to the initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project meeting room and temporary field office.
 - When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- F. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.5 SUBMITTAL SCHEDULE

A. After development and acceptance of the Contractor's construction schedule, prepare a complete schedule of submittals. Submit the schedule within 10 days of the date required for establishment of the Contractor's construction schedule.

1.6 DAILY CONSTRUCTION REPORTS

- A. Prepare a daily construction report, recording the following information concerning events at the site; and submit duplicate copies to the Architect at weekly intervals:
 - 1. Work completed this date
 - 2. Area of work
 - 3. Products used, number of gallons, square feet covered, coverage rate, etc.
 - 4. Approximate count of personnel at the site.
 - 5. High and low temperatures, humidity, general weather conditions.
 - 6. Accidents and unusual events.
 - 7. Meetings and significant decisions.
 - 8. Stoppages, delays, shortages, losses.
 - 9. Emergency procedures.
 - 10. Orders and requests of governing/inspecting authorities.
 - 11. Change Orders received, implemented.
 - 12. Field tests and inspections. Meter readings and similar recordings.
 - 13. Partial Completions.
 - 14. Substantial Completions authorized.

1.7 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, and performance curves.
 - Mark each copy to show applicable choices and options. Where printed Product
 Data includes information on several products, some of which are not required,
 mark copies to indicate the applicable information. Include the following
 information:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with recognized trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
 - f. Notation of coordination requirements.
 - 2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
 - 3. Preliminary Submittal: Submit a preliminary single-copy of Product Data where selection of options is required.
 - 4. Submittals: Submit a minimum of three (3) copies of each required submittal. The Architect will retain two and will return the other marked with action taken and corrections or modifications required. If digital (pdf) files are provided, a minimum of one (1) hard copy is required.
 - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
 - 5. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
 - 6. Do not proceed with installation until an applicable copy of Product Data applicable is in the installer's possession.
 - 7. Do not permit use of unmarked copies of Product Data in connection with construction.
- B. As required by Florida Statute 553.842 and the Florida Administrative Code 9B-72, the Contractor is required to provide the information and the product approval number(s) on building components listed on the attached PRODUCT APPROVAL SPECIFICATION SHEET prior to the start of work. Should you not know the product approval number of any of the listed products applicable to this project, contact your local product supplier or find the approved product number at www.floridabuilding.org.

1.8 SAMPLES

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of materials, color range sets, and swatches showing color, texture and pattern.
 - 1. Mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. Include the following:
 - a. Generic description of the Sample.

- b. Sample source.
- c. Product name or name of manufacturer.
- d. Compliance with recognized standards.
- e. Availability and delivery time.
- Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
- 3. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.
- B. Submittals: Submit electronic sets; one will be returned marked with the action taken.
 - 1. Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of construction.
 - 2. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
 - 3. Sample sets may be used to obtain final acceptance of the construction associated with each set.
- C. Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.
 - Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.9 PROJECT MOCKUPS

- A. Mockups: Build mockups to demonstrate aesthetic effects and set quality standards for materials and execution and for fabrication and installation. Prepare mockups so they are inconspicuous or reversible.
 - 1. Locate mockups where directed by Architect in locations that enable viewing under same conditions as the completed Work.
 - 2. Provide mockups as noted, but not limited to, materials and workmanship noted in specification sections.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 4. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.9 ARCHITECT'S ACTION

A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal, mark to indicate action taken, and return promptly.

- 1. Compliance with specified characteristics is the Contractor's responsibility
- B. Action Stamp: The Architect will stamp each submittal with a uniform, self-explanatory action stamp.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01 33 00

SECTION 01 66 00 - PRODUCT STORAGE AND HANDLING REQUIREMENTS

PART 1 - GENERAL:

1.1 STANDARDS:

- A. Reference to standards, codes specifications, recommendations and regulations: refer to the latest edition of printing in effect at the date of issue shown in the Documents, unless other date is implied by the suffix number of the standard.
- B. Applicable portions of the standards listed that are not in conflict with the Contract Documents shall be constructed as Specifications for this work.
- C. Specified variations from the standards listed shall be constructed as amendments and the unaltered portions of the Standards shall remain in full effect.
- D. In cases of discrepancies or variations between the listed Standards, the more stringent requirements shall govern.
- E. Keep at the site not less than one copy, in good condition, of the standards specifically indicated as the methods for applying, installing, connecting and erecting. Inform involved personnel as to the requirements and availability of the standards.

1.2 DELIVERY AND STORAGE:

- A. Schedule deliveries and unloading to prevent interference with other site operations and construction work. Arrange deliveries to avoid larger accumulations than can be suitably stored at site.
- B. Pack and handle material to prevent damage during loading, delivering and storing.
- C. Deliver packaged materials to site in manufacturer's original, unopened, labeled containers. Do not open containers until approximate time for use.
- D. Store materials at locations that will not interfere with progress of work. Arrange locations of storage areas in approximate order of intended use.
- E. Store materials in a manner that will prevent damage to materials or structure, and that will prevent injury to persons.

1.3 STORING AREAS:

A. The Owner will make available limited storage areas on the building site. At the start of the operation, make arrangements with the Owner's representative for the assignment of the areas. During construction maintain the areas in a neat condition.

B. Limited parking of private cars is permitted on the property of the Owner in specified locations. Notify employees and Subcontractors of the restrictions before beginning the work.

1.4 MANUFACTURER'S DIRECTIONS:

- A. Apply, install, connect and erect manufactured items or materials according to the recommendations of the manufacturer when such recommendations are not in conflict with the Contract Documents.
- B. Furnish to the Architect in request, copies of the manufacturer's recommendations. Secure approval of recommendations before proceeding with work.
- C. Keep at site not less than one copy, in good condition, of manufacturer's recommendations or directions pertaining to work at the site. Inform involved personnel of requirements and availability of manufacturer's recommendations.

END OF SECTION 01 66 00

SECTION 01 73 29 - CUTTING AND PATCHING

PART 1 - GENERAL

RELATED DOCUMENTS:

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

DESCRIPTION OF REQUIREMENTS:

Definition: "Cutting and patching" includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition.

"Cutting and patching" is performed for coordination of the work, to uncover work for access or inspection, to obtain samples for testing, to permit alterations to be performed or for other similar purposes.

Cutting and patching performed during the manufacture of products, or during the initial fabrication, erection or installation processes is not considered to be "cutting and patching" under this definition. Drilling of holes to install fasteners and similar operations are also not considered to be "cutting and patching".

Refer to other sections of these specifications for specific cutting and patching requirements and limitations application to individual units of work.

Unless otherwise specified requirements of this section apply to mechanical and electrical work. Refer to Division-23 and Division-26 sections for additional requirements and limitations on cutting and patching of mechanical and electrical work.

QUALITY ASSURANCE:

Requirements for Structural Work: Do not cut and patch structural work in a manner that would result in a reduction of load-carrying capacity or of load-deflection ratio.

Operational and Safety Limitations: Do not cut and patch operational elements or safety related components in a manner that would result in a reduction of their capacity to perform in the manner intended, including energy performance, or that would result in increased maintenance, or decreased operational life or decreased safety.

Visual Requirements: Do not cut and patch work exposed on the building's exterior or in its occupied spaces, in a manner that would, in the Architect/Engineer's opinion, result in lessening the building's aesthetic qualities. Do not cut and patch work in a manner that would result in substantial visual evidence of cut and patch work. Remove and replace work judged by the Architect/ Engineer to be cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

MATERIALS:

General: Except as otherwise indicated, or as directed by the Architect/Engineer, use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal-or-better performance characteristics.

PART 3 - EXECUTION

INSPECTION:

Before cutting, examine the surfaces to be cut and patched and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.

PREPARATION:

Temporary Support: To prevent failure provide temporary support of work to be cut.

Protection: Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of the project that may be exposed during cutting and patching operations.

Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

Take precautions not to cut existing pipe, conduit or duct serving the building but scheduled to be relocated until provisions have been made to bypass them.

PERFORMANCE:

General: Employ skilled workmen to perform cutting and patching work. Except as otherwise indicated or as approved by the Architect/Engineer, proceed with cutting and patching at the earliest feasible time and complete work without delay.

Cutting: Cut the work using methods that are least likely to damage work to be retained or adjoining work. Where possible review proposed procedures with the original installer; comply with original installer's recommendations.

In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill to insure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

Temporarily cover openings when not in use.

Comply with requirements of applicable sections of Division 2 where cutting and patching requires excavating and backfilling.

By-pass utility services such as pipe and conduit, before cutting, where such utility services are shown or required to be removed, relocated or abandoned. Cut-off conduit and pipe in walls or partitions to be removed. After by-pass and cutting, cap, valve or plug and seal tight remaining portion of pipe and conduit to prevent entrance of moisture or other foreign matter.

Patching: Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.

Where feasible, inspect and test patched areas to demonstrate integrity of work.

Restore exposed finishes of patched areas and where necessary extend finish restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.

Where removal of walls or partitions extends one finished area into another finished area, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. If necessary to achieve uniform color and appearance, remove existing floor and wall coverings and replace with new materials.

Where patch occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing patch, after patched area has received prime and base coat.

Patch, repair or rehang existing ceilings as necessary to provide an even plane surface of uniform appearance.

CLEANING:

Thoroughly clean areas and spaces where work is performed or used as access to work. Remove completely point, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION 01 73 29

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Warranties.
 - 3. Final cleaning.
- B. Related Sections include the following:
 - 1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
 - 2. Division 1 Section "Photographic Documentation" for submitting Final Completion construction photographs and negatives.
 - 3. Division 1 Section "Execution Requirements" for progress cleaning of Project site.
 - 4. Divisions 2 through 16 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs damage or settlement surveys, property surveys, and similar final record information.

- 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
- 7. personnel of changeover in security provisions.
- 8. Complete startup testing of systems.
- 9. Submit test/adjust/balance records.
- 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
- 11. Advise Owner of changeover in heat and other utilities.
- 12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- 13. Complete final cleaning requirements, including touchup painting.
- 14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 - 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
 - 1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
 - Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 - 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 4. Submit pest-control final inspection report and warranty.
 - 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Page number.

1.6 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Sweep concrete floors broom clean in unoccupied spaces.
 - g. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - h. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - i. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - j. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - k. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - I. Remove labels that are not permanent.
 - m. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

- n. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- o. Replace parts subject to unusual operating conditions.
- p. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- q. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
- s. Leave Project clean and ready for occupancy.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.
- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01 77 00

SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Comply with EPA regulations and disposal regulations of authorities having jurisdiction.
- B. Conduct demolition without disrupting Owner's occupation of the building.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 DEMOLITION

- A. Maintain and protect existing utilities to remain in service before proceeding with demolition, providing bypass connections to other parts of the building.
- B. Locate, identify, shut off, disconnect, and cap off utility services to be demolished.
- C. Employ a certified, licensed exterminator to treat building and to control rodents and vermin.
- D. Conduct demolition operations and remove debris to prevent injury to people and damage to adjacent buildings and site improvements.
- E. Provide and maintain shoring, bracing, or structural support to preserve building stability and prevent movement, settlement, or collapse.
- F. Protect building structure or interior from weather and water leakage and damage.
- G. Protect remaining walls, ceilings, floors, and exposed finishes. Erect and maintain dustproof partitions. Cover and protect remaining furniture, furnishings, and equipment.
- H. Promptly patch and repair holes and damaged surfaces of building caused by demolition. Restore exposed finishes of patched areas and extend finish restoration into remaining adjoining construction.

END OF SECTION 02 41 19

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

- 1. Carpentry work not specified as part of other sections and which generally is not exposed, except as otherwise indicated.
- 2. Rough carpentry for:
 - a. Wood framing.
 - b. Miscellaneous lumber for attachment and support of other work.
 - c. Wood furring.
 - d. Sheathing.
- 3. Preservative treatment.

B. Related Sections:

1. Finish carpentry: Elsewhere in Division 6.

1.2 SUBMITTALS

- A. Framing Connectors and Supports: Submit manufacturer's standard data demonstrating compliance with building code requirements.
- B. Material Certificates: For dimension lumber specified by minimum allowable unit stress, submit:
 - 2. Statement of species and grade selected for each application.
 - 3. Grading agency's grading rules showing allowable design values accepted by the Board of Review of American Lumber Standards Committee.
- C. Treated Wood: Treating plant's instructions for use, including storage, cutting, and finishing.
 - 1. Pressure preservative treatment: Treating plant's certification of compliance with specified standards and stating process employed and preservative retention values.

1.3 QUALITY ASSURANCE

- A. Lumber: Comply with NBS PS 20 and approved grading rules and inspection agencies.
- B. Grade Stamps for Concealed Lumber: Each piece of lumber, applied by inspection agency and showing compliance with each specified requirement.
- C. Construction Panels: Comply with NBS PS 1 where veneer plywood is specified; comply with APA PRP-108 where APA rated panels are specified; bearing APA trademark showing compliance with each specified requirement.

1.4 DELIVERY STORAGE AND HANDLING

A. Protect wood products against moisture and dimensional changes. Support stacks at several

uniformly spaced points to prevent deformation. Store stacks raised above ground. Cover to protect from rain and snow. Select and arrange cover to allow air circulation under and all around stacks to prevent condensation. Maintain and restore displaced coverings. Remove from the site any wood products that have been subjected to moisture or that do not comply with the specified moisture requirements.

PART 2 - PRODUCTS

2.1 DIMENSION LUMBER

- A. Size: Provide nominal sizes indicated, complying with NBS PS 20 except where actual sizes are specifically required.
 - 1. Surfacing: Smooth lumber.
 - 2. Moisture content: Kiln-dry or MC15 (15 percent maximum moisture content).
- B. Joist and Small Beam Framing -- 2 x 6 through 4 x 16:
 - 1. Species:
 - a. Any wood species listed in National Design Specification Supplement.
 - 2. Grade: No. 2.
- C. Miscellaneous Lumber: Provide dimension lumber and boards necessary for the support of work specified in other sections, whether or not specifically indicated, and including but not limited to blocking, nailers, etc.
 - 1. Moisture content: 15 percent maximum (kiln-dry).
 - 2. Lumber: S4S, No. 2 or standard grade.
 - 3. Boards: Construction, 2 common, or No. 2 grade.

2.2 BOARDS - LESS THAN 2 INCHES THICKNESS

- A. Moisture Content: Kiln-dry (15 percent maximum).
- B. Surfacing: Smooth.
- C. Grading Agency:
 - 1. SPIB.
- D. Species:
 - 1. Any allowed under referenced grading rules.
- E. Grade: No. 2, 2 common, or construction boards.

2.3 MISCELLANEOUS MATERIALS

- A. Fasteners: Provide as required by applicable codes and as otherwise indicated.
 - 1. Provide fasteners with a hot-dip zinc coating (ASTM A 153) or equal, for treated lumber and where wood is in ground contact, subjected to high relative humidity, or exposed to weather.

B. Framing Connectors and Supports: Prefabricated, formed steel units; hot-dip galvanized finish unless otherwise indicated; type and size as required; approved by applicable codes.

2.4 WOOD TREATMENT BY PRESSURE PROCESS

- A. Aboveground Lumber: AWPB LP-2 (waterborne preservatives).
 - 1. Manufacturer's standard moisture content.
 - 2. Treat the following:
 - a. Wood in contact with roofing, flashing, or waterproofing.
 - b. Wood in contact with masonry or concrete.
 - c. Wood within 18 inches of grade.
 - d. All wood to be pressure treated.
 - e. Other members indicated.
- B. Ground Contact Treatment: AWPB LP-22.
 - 1. Treat the following:
 - a. Wood in contact with ground.
 - b. All wood to be pressure treated.
- C. Fasteners for Preservative Treated Wood: Hot-dip galvanized steel (ASTM A153), or equal.

PART 3 - EXECUTION

3.1 INSTALLATION - GENERAL

- A. Arrange work to use full length pieces except where lengths would exceed commercially available lengths. Discard pieces with defects that would lower the required strength or appearance of the work.
- B. Cut and fit members accurately. Install plumb and true to line and level.
- C. Fasten carpentry in accordance with applicable codes and recognized standards.
- D. Where exposed, countersink nails and fill flush with suitable wood filler.
- E. Use fasteners of appropriate type and length. Predrill members when necessary to avoid splitting wood.

3.2 MISCELLANEOUS CARPENTRY

- A. Provide miscellaneous blocking, nailers, grounds, and framing as shown and as required for support of facing materials, fixtures, specialty items, and trim. Cut and shape to the required size. Provide in locations required by other work.
- B. Use countersunk fasteners appropriate to applied loading.

C. Install permanent grounds for concrete and masonry where required.

3.3 WOOD FURRING

- A. Install wood furring plumb and level; shim as necessary to bring true to plane; install closure strips at ends perpendicular to main furring direction.
 - 1. Furring for plywood paneling: Install 1-by-3 furring at 2 feet maximum on center both horizontally and vertically. Select furring for freedom from knots capable of producing bent-over nails and resultant damage to paneling.

3.4 WOOD FRAMING - GENERAL

- A. Comply with sizes, spacing, and configurations indicated. Where not specifically indicated, comply with applicable codes and NFPA "Manual for Wood Frame Construction." Splice members only where specifically indicated or approved.
- B. Space fasteners as indicated. Where not specifically indicated, comply with applicable codes and the "Recommended Nailing Schedule" of NFPA "Manual for Wood Frame Construction" and "National Design Specification for Wood Construction."

3.5 JOIST FRAMING

A. General:

- 1. Install with crown edge up.
- 2. End bearing on wood or metal: 1-1/2 inches, minimum.
- 3. End bearing on masonry: 3 inches, minimum.
- 4. Attach joists bearing on wood members by toenailing, unless otherwise indicated.
- 5. Where joists do not have direct bearing on supporting members, frame joists to supporting members using metal joist hangers unless specifically detailed otherwise.
- 6. Install headers and trimmers at openings; double headers and trimmers over 4 feet in length.
- 7. Notches in middle third of joist span are prohibited; notches elsewhere for pipes shall not exceed 1/6 of depth of joist. Replace any joists so notched. Do not notch joists at bearing unless specifically indicated and in no case more than 1/4 of joist depth.
- 8. Do not bore holes within 2 inches of top or bottom of joist nor larger than 1/3 depth of joist. Replace any joists so bored.
- 9. Install solid blocking equal to depth of joists at ends of joists and over supports.

3.6 BOARD SHEATHING AND SUBFLOORING

A. Locate end joints over supports unless end matched boards are used. Separate joints in adjacent boards by at least one joist or stud space. Separate joints over the same support by at least two boards. Nail 6-inch-wide boards using two 8d nails at intermediate supports and three at diaphragm boundaries. Nail 8-inch and wider boards using three 8d nails at intermediate supports and four at diaphragm boundaries.

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

1.2 SECTION INCLUDES

- A. Work of this Section includes all labor, materials, equipment, and services necessary to complete the architectural woodwork as shown on the drawings and/or specified herein, including, but not limited to, the following:
 - 1. Wood trim, moldings, and base.
 - 2. Wood millwork, counters, and wall panels with plastic laminate finish.
 - 3. Hardware for millwork.
 - 4. Wood framing and rough lumber as required for work of this Section.
 - 5. Wood grounds, blocking, nailers, furring as required for work of this Section.
 - 6. All rough hardware and fastenings for work of this Section.
 - 7. Drilling concrete and masonry, drilling and/or tapping metal work, as required, for the installation of work of this Section.
 - 8. Back painting as specified herein.
 - 9. Shop finish of work of this Section, except items indicated herein to be shop primed only.

1.3 RELATED SECTIONS

A. Division 01, Division 06, Division 07 and Division 09

1.4 QUALITY STANDARDS

- A. The quality standards of the Architectural Woodwork Institute, "Architectural Woodwork Standards," 1st Edition, dated October 1, 2009, shall apply to all workmanship, including materials and installation, for architectural woodwork, and by reference are made a part of this specification. All work shall conform to "Premium" grade requirements of the AWI "Architectural Woodwork Standards," unless otherwise modified herein.
- B. In the event of a dispute as to the quality grade (or grades), the Contractor shall call upon the Architectural Woodwork Institute for an inspection under AWI's Quality Certification Program which shall include a QCP Inspection and Report. The Contractor agrees to abide by the decision of this Report. The cost of said inspection and report shall be borne by the Contractor.

- C. Employ only tradesmen experienced in the fabrication and installation of architectural woodwork.
- Woodworking firm must be accredited by the AWI Quality Certification Program (QCP).

1.5 SUBMITTALS

A. Shop Drawings

- 1. Submit shop drawings of all woodwork specified and indicated on the drawings. Shop drawings shall indicate room plans and elevations at not less than 3/4" equals 1'-0" scale and typical construction details at not less than 3" equals 1'-0" scale. Shop drawings shall indicate all materials, thicknesses and finishes.
- 2. Shop drawings shall show all finish hardware, anchors, fastenings and accessories.
- 3. Shop drawings shall show all jointing, joint treatment and butt jointing in veneers and plastic laminate.
- 4. Shop drawings for wood paneling must show complete elevations of units as well as panel matching required by these specifications.
- 5. Shop drawings for cabinet work must show centerline height and horizontal location of all required internal wall blocking.
- 6. Where architectural woodwork deviates from AWI standards noted herein, shop drawings must identify these deviations.
- B. Samples: Submit samples of each of the following items:
 - 1. Plastic laminate, twelve (12) inches square, including a section of outside corner.
 - 2. Transparent finish for each species of wood veneer laminated to particleboard twelve (12) inches square, for each finish specified or shown.
 - 3. Transparent finish of wood panels consisting hardwood veneer on Baltic Birch/End Grain plywood 24" wide x 36" high.
 - 4. Opaque finish wood veneer laminated to particleboard, twelve (12) inches square for each color, gloss and finish specified or shown.
 - 5. Each type and finish of each type of wood trim, molding, etc., eight (8) inches long, finish as specified.
 - 6. Cabinet hardware.

1.6 QUALIFICATIONS

A. The work of this Section shall be provided by a firm having a minimum of five (5) years' experience on projects of similar size and quality to that specified and shown.

1.7 COORDINATION

- A. Coordinate the work of this Section with other appropriate Sections of the specifications to ensure proper scheduling for fabrication and installation of the work specified herein.
- B. Coordinate with partition and finish trades to ensure that proper provisions are made for the installation of the work specified herein.
- C. Verify all dimensions in the field prior to fabrication of all Architectural Woodwork to assure proper fit.

1.8 PRODUCT HANDLING

- A. All materials and work of this Section shall be protected from damage from time of shipment from shop to final acceptance of work. Cover, ventilate, and protect work of this Section from damage caused by weather, moisture, heat, staining, dirt, abrasions, any other causes which may adversely affect appearance or use, or which may cause deterioration of finish, warping, distortion, twisting, opening of joints and seams, delamination, loosening, etc., of work of this Section.
- B. Keep all finish carpentry, millwork, and cabinet work under cover both in transit and at the premises. Do not deliver any finish carpentry, millwork or cabinet work before it is required for installation. Protect such work to avoid damage in transit, during erection and after erection until acceptance of the building; use all such methods to provide the proper protection. Remove such protection when directed by the Architect.
- C. Deliver finish carpentry, millwork, and cabinet work in a dry stable condition; protect same against injury and dampness. Do not store or install finish carpentry, millwork or cabinet work until after the concrete, masonry and plaster work are thoroughly dry.
- D. Damaged or defective items of work of this Section are subject to rejection and replacement with new by Contractor, at no cost to Owner.

1.9 JOB CONDITIONS

- A. Humidity Controls: The ambient relative humidity at the site, including both the storage and the installation areas, shall be maintained between 25% and 55% prior to delivery and through the life of the installation.
- B. Determine equilibrium moisture content and maintain required temperature and relative humidity as required for a tolerance of plus or minus one (1) percent of the specified optimum moisture content until woodwork receives specified finishes. Refer to "Guide to Wood Species Selection," AWI, for method of determining equilibrium moisture content values.
- C. Examination of Substrate and Conditions: The installer must examine the substrate and the conditions under which the work of this Section is to be performed and notify the Contractor in writing of unsatisfactory conditions. Do not proceed with work under this Section until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

- D. Areas to receive architectural woodwork must be fully enclosed with windows and/or curtain wall installed and glazed, exterior doors in place, HVAC systems operational, and temporary openings closed. Any plaster, wet grinding and concrete work shall be fully dry.
- E. Architectural woodwork shall be allowed to come to equilibrium on site for 7 days prior to installation.

PART 2 PRODUCTS

2.1 BASIC REQUIREMENTS

- A. Wood Moisture Content: Provide kiln-dried (KD) lumber with an average moisture content range of nine (9) to twelve (12) percent for exterior work and six (6) to eleven (11) percent for interior work.
- B. Measurements: Before proceeding with woodwork required to be fitted to other construction, obtain field measurements and verify all dimensions of shop drawing details as required for accurate fit.
- C. Compatibility of Grain and Color: Architect reserves the right to select materials for best compatibility between visually related members and veneers.
- D. Machine and sand woodwork to comply with requirements of Standards for specified grade.
- E. Fabricate woodwork to dimensions, profiles and details shown. Rout or groove back of flat trim members, kerf backs of other wide flat members except plywood or veneered members.
- F. Miter joints by joining, splining and gluing to comply with requirements for the specified grade.
- G. Inspect each piece of lumber and plywood or each unit of woodwork after drying; do not use twisted, warped, bowed or otherwise damaged or defective wood.

2.2 GENERAL - MATERIALS

- A. Softwood lumber shall conform to the requirements of the latest edition of American Lumber Standards Simplified Practice Recommendation R-16. Grades shall conform to the grading rules of the Association having jurisdiction and shall bear the official grade and trademark of the Inspection Bureau of the Association and a mark of mill identification.
- B. Framing and Rough Lumber: No. 1 KD grade Southern Pine or Dense Construction grade Douglas Fir, having extreme fiber in bending stress of at least 1700 psi, surfaced four sides (S4S). Provide fire retardant treatment meeting requirements of Division 06.
- C. Grounds, Blocking, Nailers, Furring: Southern Pine, Douglas Fir or Sitka Spruce, grade to suit particular purpose and to be straight, square edged, straight grained, surfaced four

sides (S4S), and which will retain nails and screws without splitting. Provide fire retardant treatment.

- D. Plywood: AWI Section 4; veneer core, particleboard or plywood core unless otherwise specified, and with the following requirements:
 - 1. Hardwood: Premium Grade, face veneers as shown or specified.
 - Particleboard: Premium Grade, fire retardant for wall paneling only equal to Duraflake FR and Duraflake for cabinets. In addition, particleboard and MDF shall be certified to the following EPP CPA 3-08 formaldehyde emission limits:
 - a. Particleboard meets 0.18 ppm.
 - b. MDF meets 0.21 ppm.
 - 3. Edges: Banded with hardwood in accordance with Premium Grade Standards.

2.3 PLASTIC LAMINATE

- A. Face Sheets: NEMA Publication LD3, Grade GP50, Type I, 0.05" thick, as manufactured by Formica, Nevamar, WilsonArt. Color, pattern and finish as selected by the Architect.
- B. Backing Sheets: Non-decorative, high-pressure plastic laminate, NEMA LD3, Grade BK20, 0.02" thick.
- C. Edges: Finish with plastic laminate to match face and applied before face sheets are applied, unless otherwise shown or specified.
- D. Plastic laminate Schedule (Basis of Design)

1. PLAM1:

Manufacturer: Schedule with Construction Documents Product Number: Schedule with Construction Documents

Color: Schedule with Construction Documents

2.4 MISCELLANEOUS PRODUCTS

A. Fasteners

- 1. Wood Screws: FS FF-S-111, type, size, material and finish as required for the condition of use.
- 2. Nails: FS FF-N-105, type, size, material and finish as required for the condition of use.
- 3. Anchors: Type, size, material and finish as required for the condition of use.
- 4. Staples: Upholstery type staples of sufficient strength to hold fabric taut in place without sagging.

B. Adhesives

1. For Laminating Plastic Laminate Surfaces: Urea resin, Type II, as recommended by

fabricator.

2. For All Other Uses: Polyvinyl acetate resin emulsion or other type as recommended by the fabricator.

2.5 CABINETS WITH PLASTIC LAMINATE FINISH

A. General

- 1. Fabricate all cabinetry and millwork to the "Premium Grade" standards of the AWI, Section 10.
- 2. Face construction of cabinets shall be "Flush Overlay."
- 3. Provide 3/4" thick doors, drawer fronts and fixed panels (including thickness of plastic) except where required to be thicker by Standards; and provide flush units.
- 4. Provide dust panels of 1/4" thick plywood or tempered hardboard above compartments and drawers, except where located directly below countertops.
- 5. Exposed Edges: Plastic laminate matching exposed panel surfaces. Ease exposed edge of overlap sheet.

B. Plastic Laminate

- 1. Plastic Laminate for Horizontal Surfaces: 0.050" thick, general purpose type (high pressure).
- 2. Plastic Laminate for External Vertical Surfaces: 0.028" thick, general purpose type (high pressure).
- 3. Plastic Laminate for Post Forming: 0.042" thick, post forming (high pressure).
- 4. Plastic Laminate for Cabinet Linings: 0.020" thick, cabinet liner (high pressure).
- 5. Plastic Laminate for Concealed Panel Backing: 0.020" thick, backer type (high pressure).
- 6. Plastic Laminate Colors and Patterns As specified in Paragraph 2.3 of this Section.
- C. Shop Assembly: All work shall be shop assembled. Work that is too large for entrance into the use area shall be fabricated in attachable sections with provisions for reconnection in the using space.
- D. Material Thicknesses: See drawings for general material thicknesses. Minimum thickness of solid lumber for web frames, trim, bases, etc., shall be 3/4". Minimum thickness of plywood and particleboard shall be 3/4".
- E. Sizes: See drawings for woodwork sizes required. The manufacturer shall check field dimensions and verify all openings and actual field conditions prior to fabrication of work.
- F. Manufacturer is responsible for rigidity and structural stability.

2.6 PLASTIC LAMINATE COUNTERTOPS

A. Grade: Same as AWI grade required for cabinet work; plastic laminate finish.

B. Construction

- 1. Provide back-splash and end-splash, where detailed; top-mounted square butt joint, fully covered with matching plastic laminate, eased edges.
- 2. Exposed Counter Edges: Plastic laminate matching surface, except as otherwise indicated. Ease exposed edges of overlap sheet.
- 3. Cut openings for equipment to be installed. Comply with equipment manufacturer's requirements but provide internal corners of 1/8" minimum radius. Smooth saw cut and ease edges.
- 4. Seal cut edges of counter at openings for sinks and other "wet" equipment, using waterproofing compound recommended by plastic manufacturer and compatible with laminating adhesive.

2.7 HARDWARE

- A. Architectural Woodwork Hardware: Provide the following items, or their approved equal, as required:
 - 1. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 135 degrees of opening, self-closing.
 - 2. Catches: Magnetic; top and bottom.
 - 3. Back-Mounted Pulls: Stanley Hardware Cabinet Pull 4478 Aluminum Satin Finish
 - 4. Drawer Slides: BHMA A156.9.
 - a. Grade 1HD-100 and Grade 1HD-200: Side mounted; full-extension type; zinc-plated-steel ball-bearing slides.
 - b. For drawers not more than 3 inches high and not more than 24 inches wide, provide Grade 1.
 - c. For drawers more than 3 inches high but not more than 6 inches high and not more than 24 inches wide, provide Grade 1.
 - d. For drawers more than 6 inches high or more than 24 inches wide, provide Grade 1HD- 100.
 - 5. Shelf Supports: Pin and grommet system equal to No. 282.01.701 pin and 282.50.704 grommet made by Hafele.
 - 6. Door and Drawer Silencers: BHMA A156.9, B04071; with shelf rests, B04081.
 - 7. Locks: All cabinets to have locks keyed per room.

- 8. Grommets for holes drilled in countertops as indicated on drawings.
 - a. Bobrick B-529- 6" Grommet Sleeve or equal.
- 9. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
 - a. Satin Stainless Steel: BHMA 630.
- B. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9. Closet Hardware: Oval wardrobe rails, chrome plated steel with center bracket and wall support brackets made by Hafele or approved equal.
- 2.8 WOOD FOR TRIM, BASES, AND MOLDINGS.
 - A. Quality Standard: For the following types of interior architectural woodwork, comply with indicated standards as applicable.
 - 1. Standing and Running Trim: AWI Section 6.
 - 2. Miscellaneous Millwork: AWI Section 6.
 - B. Wood Species for Wall Base, Moldings, and Solid Wood pieces: HDWD 2- Poplar finished to match Architect's sample.
 - C. Woodwork for Transparent Finish: Except as otherwise indicated, comply with the following:
 - 1. Grade: Premium.
 - 2. Species of Solid Wood: Quarter Sawn Species as noted on drawings.
 - D. Woodwork for Paint Finish: Except as otherwise indicated, comply with the following:
 - 1. Grade: Premium.
 - 2. Species of Solid Wood: Solid, paint grade, sound clear Poplar or Birch.

2.9 FABRICATION - GENERAL

- A. Provide lumber framing for architectural woodwork, complete with all bracing and fastening devices as required for a rigid installation, and as required to sustain the imposed loads.
- B. Do all fabrication from field measurement with provision for scribing as required to meet built-in conditions.
- C. Coordinate the work of this Section with the work of other trades.
- D. Fabricate units in largest practicable sections. Assemble in the shop for trial fit, disassemble for shipment and reassemble with concealed fasteners.

- E. Maintain relative humidity and temperature during fabrication, storage and finishing operations matching that of the areas of installation.
- F. Details indicate the required type and quality of construction. Modifications to conform to manufacturer's standards will be considered provided that they comply with the Contract Documents and maintain the profiles shown, subject to acceptance by the Architect.
- G. Reinforcing shown is minimum. Provide additional reinforcing as required to ensure a rigid assembly. Exposed surfaces shall be free from dents, tool marks, warpage, buckle, glue and open joints, or other defects affecting serviceability or appearance. Accurately fit all joints, corners and miters. Conceal all fasteners. Make threaded connections up tight so that threads are entirely concealed.
- H. Factory finish all items where possible. Defer final touch-up, cleaning and polishing until after delivery and installation.
- Comply with AWI, Premium Grade, for sanding, filling countersunk fasteners, back priming and similar preparations for the finishing of architectural woodwork, as applicable to each unit of work.
- J. Prepare all countersunk wood screw attachments for wood plugs. Wood plugs shall match surrounding species and grain direction; putty filling is not acceptable.

2.10 FABRICATION - SPECIFIC ITEMS

A. Millwork

- 1. Include all preparations for mechanical, electrical, telephone and plumbing work required.
- 2. Provide cabinet hardware for millwork as shown.
- 3. Provide dust panels in body webs and between drawer units.
- 4. Provide wood veneers for exposed surfaces as specified herein before.
- 5. Hollow core doors will not be permitted.
- 6. Provide matching veneers for edge treatments of case body members where transparent finishes are indicated or specified.
- 7. Provide drawers with slides as specified. Drawers shall not rest on web body frames.
- 8. Provide wood veneers for transparent finish, of matching and continuing grain, for drawer and door edges.
- B. Closet and Storage Shelving
 - 1. Provide closet and storage shelving in accordance with AWI, Custom Grade, unless otherwise shown or specified.

- 2. Exposed edges shall have hardwood edge bands.
- C. Standing and Running Trim: Provide standing and running trim of the sizes, profiles, species and finish as specified or shown and complying with AWI Section 6, Premium Grade.

PART 3 EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions where architectural woodwork is to be installed and correct any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.

3.2 FRAMING

- A. Use specified framing lumber, sizes and spacing as indicated on drawings and as required to support loads.
- B. Framing shall be cut square on bearings, closely fitted, accurately set to required lines and levels, rigidly secured in place at bearings and connection with nails, lag screws and/or bolts as required by conditions.

3.3 GROUNDS, BLOCKING, NAILERS AND FURRING

A. Provide all wood grounds, blocking, nailers, furring, and the like for work of this Section, where shown and where required, dressed to size indicated or required to suit the condition. Install grounds, blocking, nailers, furring, etc., rigidly, in proper alignment, trued with a long straight edge.

3.4 ROUGH HARDWARE

- A. Provide all rough hardware, such as nails, screws, bolts, anchors, hangers, clips and similar items. Hardware shall be of the proper size and kind to adequately secure the work together and in place, in a rigid and substantial manner. Use galvanized hardware at exterior walls, and at other locations where subject to moisture or where water will be present.
- B. Secure wood to concrete and to solid masonry with countersunk bolts in expansion sleeves or other approved manner, to steel with countersunk bolts, to hollow masonry and to drywall with heavy duty countersunk toggle bolts. Space fastenings not more than sixteen (16) inches apart. Hardened cut nails, power-driven fastenings, or other suitable devices may be used where approved by the Architect.
- C. Connections and fastenings shall be made in such manner as will compensate for swelling and shrinkage and shall permit the work to remain permanently in place without any splitting or opening of joints.

3.5 INSTALLATION OF CABINET FINISH HARDWARE

- A. All items of finish hardware furnished under this Section shall be carefully fitted and secured in place as part of the work of this Section. Locations and positioning of hardware shall be subject to the Architect's approval. Care shall be taken not to mar or damage hardware, or other work. Install doors plumb and true. Hardware shall be fitted to assure operation without forcing.
- B. After preliminary fitting of hardware, the Contractor shall remove trim for painting and finishing work; after which he shall reinstall the hardware in a permanent manner.
- C. Upon completion of the work, before final acceptance of the building by the Owner, the Contractor shall, in the presence of the Architect, show that all hardware is in satisfactory working order; fit all keys in their respective locks and, upon acceptance of the work, shall tag and deliver all keys to the Architect and Owner.
- D. When directed by the Owner, at any time during the first year after the completion of the Contract, the Contractor shall return to the building and adjust and refit the work and hardware and leave such items in satisfactory working order.

3.6 GENERAL INSTALLATION

- A. Wall anchorage and general installation procedures for cabinetry work shall conform to AWI Section 10, Article entitled "EXECUTION," Sub-Article 6.1, with all related subparagraphs.
- B. Install the work plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8'-0" for plumb and level (including countertops), and with 1/16" maximum offset in flush adjoining surfaces, 1/8" maximum offset in revealed adjoining surfaces.
- C. Scribe and cut work to fit adjoining work and refinish cut surfaces or repair damaged finish at cuts.
- D. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation.

3.7 WOOD TRIM

- A. Install with minimum number of joints possible, using full-length pieces for each run. Stagger joints in adjacent and related members. Cope at returns, miter corner.
- B. Joints of all trim and/or moldings shall be set tight, miter exterior angles and cope interior angles. Joints, except end joints less than twelve (12) feet apart, will not be permitted in straight runs of trim and/or moldings and rails.
- C. Secure all trim and/or moldings with glue and blind nail with finishing nails. Set exposed nail heads in finished work and putty. Sand all work to remove any tool marks and irregularities.

D. Wood shall receive finish as specified Paragraph 2.2-H of this Section.

3.8 CLOSET AND STORAGE SHELVING

A. Provide closet and storage shelving at the locations shown. Provide hang rods where shown. Set adjustable center hangers.

3.9 CABINET WORK AND MILLWORK

A. General

- 1. Materials and workmanship shall conform to the Quality Standards of the Architectural Woodwork Institute specified herein and to the drawings.
- 2. Cabinet work and millwork shall be performed by experienced cabinet work and millwork company, having craftsmen skilled in their trade.
- 3. Fabricate all cabinet work and millwork completely in the shop, in complete and/or as large units as practical, leaving only fitting, assembly, installation and a minimum of fabrication and finishing to be done at the building. Assembled work shall be rigidly secured and permanently fastened together with concealed fasteners.
- 4. Afford Architect every facility for inspection of work at shop or mill at such times as the Architect may select.
- 5. As far as practicable, use concealed fastenings for joining and assembling the work. Where this is impossible, the means of securing shall be placed in inconspicuous places and methods of joining and assembling submitted for Architect's approval prior to fabrication.
- 6. Mill all finish wood accurately to detail, with clean cut moldings, profiles and lines, machined, sanded smooth, housed, jointed, blocked, put together in the best manner, with provision for swelling and shrinkage, and to assure the work remaining in place without warping, splitting or opening of joints.
- 7. Cut trim to dimensions and profiles shown, from solid stock.
- 8. Make all trim and the like in single lengths wherever possible; joints mitered, glued and splined. Continuous members shall have tight flush joints, doweled or splined and glued.
- 9. Make all joints hairline tight, fitted accurately and joined with hardwood splines or dowels, glued together, or by other method approved by Architect. Use screws, not nails, for fastenings.
- 10. Gluing shall, where practicable, be by the hot plate press method and glued surfaces shall be in close contact throughout. Glue stains on finished work will not be permitted.
- 11. Cover surface fastenings, where permitted, with matching wood plugs or wood putty. Finish exposed edges of plywood with matching solid stock. Lock miter external corners: tongue and groove internal corners to allow for contraction and expansion.

- 12. Machine sand with grain, finish with hand sanding, leave exposed surfaces free from machine or tool marks that will show through the finish.
- 13. Work which adjoins drywall, concrete, or other finish shall be fitted and scribed in a careful manner and ample allowance shall be given for cutting and scribing.
- 14. Erect work true to lines, levels and dimensions, square, aligned and plumb, securely and rigidly fastened in place.
- B. Cabinet Work: Provide all items of cabinet work indicated on drawings and as herein specified.
 - Tops, sides, backs, bottoms, dividers, shelves, fronts, doors and drawer fronts shall be
 of plywood or flakeboard core, with the specified wood veneer or plastic laminate as
 indicated on drawings.
 - 2. Drawer sides and backs shall be 1/2" thick solid clear selected white birch, suitable for clear finish. Drawer bottom shall be 3/8" thick plywood with clear selected white birch veneers, suitable for clear finish.
 - 3. Cabinet doors and drawers shall be flush mounted.
 - 4. Adjustable shelves in cabinets shall have grommets spaced 2" o.c.
 - 5. Fixed shelves shall be dadoed into side supports and glued.
 - 6. Shelves shall be 3/4" thick for spans up to 30"; for spans in excess of 30" to 48" shelves shall be 1" thick.
 - 7. All cabinets shall have closed top, sides, bottom, and back with veneers to match face work. Cabinets to fit accurately into indicated locations; scribe moldings permitted only where indicated.
 - 8. Countertops, counters, counter fronts, shelves, etc., indicated on drawings to have plastic laminate, shall have plastic laminate shop applied to 3/4" thick core, with plastic laminate backing sheet on underside or back of countertops, counters and shelves. Plastic laminate shall be pressure laminated to core with laminate at external corners. Provide concealed wood framing to support plastic laminate counters, securely fastened to wall and to underside of counters.
- Countertops shall be installed to support a minimum concentrated live load of 150 lbs. acting downward at mid span at outer edge of counter without causing deformation and damage.

3.10 WOOD BASES

- A. Provide plywood backing, toggle bolted to substrate, if substrate not suitable for securing wood base.
- B. Machine wood bases from specified wood, to profiles indicated on drawings.
- C. Set base level and plumb. Where indicated on drawings, face of wood base shall be flush

with wall above. Glue wood base to substrate or to plywood backing, and screw or nail wood base to substrate or to plywood backing with countersunk wood screws or with finishing nails, recess wood screw heads, and spackle with wood putty, set and spackle nails with wood putty. Do not nail or fasten wood base to floor. Ends of wood base shall be either splined or ship lapped.

D. Where no wood backing occurs, screw apply base at each stud with screw countersunk and wood putty applied and sanded smooth and flush with base.

3.11 PAINTING AND FINISHING

- A. General: All painting and finishing work of this Section shall be shop applied, unless otherwise noted, as specified below. All painting and finishing shall match approved samples. Field finish painting, where specified below, shall be by painting Subcontractor, as specified for in Painting Section.
- B. Schedule of Painting and Finishing
 - 1. Shop Primer On:
 - a. Ferrous metal work.
 - 2. Shop Natural Finish as specified in Paragraph 2.2-H of this Section on:
 - a. Wood trim and moldings noted to receive natural finish.
 - b. Wood shelving.
 - Paint Finish On:
 - a. Ferrous metal work provided as part of this Section.
- C. Back-Painting: All work of this Section in contact with concrete or masonry or other moisture areas and all concealed surfaces of cabinet and millwork, shall be back-painted with one (1) coat of oil-based paint prior to installation, shop applied where practicable.
- D. Field Touch-Up: Field touch-up shall be the responsibility of the installing Subcontractor, and shall include the filling and touch-up of exposed job made nail or screw holes, refinishing of raw surfaces resulting from job fitting, repair of job inflicted scratches and mars, and final cleaning up of the finished surfaces.
- E. Install abrasive strip for wood stair treads as indicated on drawings or as directed by Architect.

3.12 CLEAN UP AND PROTECTION

- A. Clean Up: At regular intervals during the course of the work, all debris and excess material shall be cleaned up and removed from the site. Upon completion of installation, clean all spaces of debris caused by woodwork installation.
- B. Protection: Protect all woodwork from marring, defacement of other damage until final completion and acceptance of the project by the Owner. Repair or replace all defective

units prior to final inspection as directed by the Architect. Any units that cannot be satisfactorily repaired in the opinion of the Architect shall be replaced with new units of same original design, at no additional cost to the Owner

END OF SECTION 06 40 23

SECTION 07 41 13 - METAL PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

- 1. Exposed-fastener, lap-seam metal panels.
- 2. Metal soffit panels.

B. Related Sections:

- 1. Division 05 Section "Cold-Formed Metal Framing" for cold-formed metal framing supporting metal panels.
- 2. Division 07 Section "Joint Sealants" for field-applied sealants not otherwise specified in this Section.

1.3 DEFINITIONS

A. Metal Panel Assembly: Metal panels, attachment system components, miscellaneous metal framing, thermal insulation, and accessories necessary for a complete system.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
- B. Shop Drawings: Show fabrication and installation layouts of metal panels; details of edge conditions, side-seam and endlap joints, panel profiles, corners, anchorages, trim, flashings, closures, and accessories; and special details. Distinguish between factory- and field-assembled work.
- C. Samples for Initial Selection: For each type of metal panel indicated with factory-applied color finishes.
 - 1. Include similar Samples of trim and accessories involving color selection.
- D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:

- 1. Metal **Soffit** Panels: 12 inches (300 mm) long by actual panel width. Include fasteners, closures, and other metal panel accessories.
- 2. Trim and Closures: 12 inches (300 mm) long. Include fasteners and other exposed accessories.
- E. Qualification Data: For qualified **Installer**.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each product.
- G. Field quality-control reports.
- H. Maintenance Data: For metal panels to include in maintenance manuals.
- I. Warranties: Samples of special warranties.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.
- B. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.
- C. Source Limitations: Obtain each type of metal panels from single source from single manufacturer.
- D. Fire-Resistance Ratings: Where indicated, provide metal panels identical to those of assemblies tested for fire resistance per ASTM E 119 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.
 - 2. Combustion Characteristics: ASTM E 136.
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
 - 1. Build mockup of typical **and soffit** as shown on Drawings; approximately **four panels** wide by full hall width, including attachments, and accessories.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, sheets metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.

- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Protect strippable protective covering on metal panels from exposure to sunlight and high humidity, except to extent necessary for period of metal panel installation.
- E. Protect foam-plastic insulation as follows:
 - 1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
 - 2. Protect against ignition at all times. Do not deliver foam-plastic insulation materials to Project site before installation time.
 - 3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

1.7 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit metal panel work to be performed according to manufacturer's written instructions and warranty requirements.
- B. Field Measurements: Verify actual dimensions of construction contiguous with metal panels by field measurements before fabrication.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace metal panel assemblies that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including rupturing, cracking, or puncturing.
 - b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 2. Warranty Period: **Two** years from date of Substantial Completion.
- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.

- c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
- 2. Finish Warranty Period: **Five** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 METAL SOFFIT PANELS

- A. General: Provide factory-formed metal soffit panels designed to be installed by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using concealed fasteners and factory-applied sealant in side laps. Include accessories required for weathertight installation.
- B. Metal Soffit Panels:
 - 1. Finish: To be approved by Owner and Architect
 - 2. Sealant: Factory applied within interlocking joint.
- C. Flush or Reveal Joint -Profile Metal Soffit Panels: **Solid** panels formed with vertical panel edges and **intermediate stiffening ribs symmetrically spaced** between panel edges; with flush joint between panels.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Basis-of-Design Product: Subject to compliance with requirements, provide **product** indicated on Drawings or comparable product by one of the following:
 - a. AEP-Span.
 - b. Architectural Building Components.
 - c. ATAS International, Inc.
 - d. Berridge Manufacturing Company.
 - e. CENTRIA Architectural Systems.
 - f. Copper Sales, Inc.
 - g. Dimensional Metals, Inc.
 - h. Englert, Inc.
 - i. Fabral.
 - j. IMETCO.
 - k. MBCI; a division of NCI Building Systems, L. P.
 - 1. McElroy Metal, Inc.
 - m. Merchant & Evans.
 - n. Metal-Fab Manufacturing, LLC.
 - o. Metal Sales Manufacturing Corporation.
 - p. Petersen Aluminum Corporation.
 - q. Ultra Seam Incorporated.
 - 3. Material: Zinc-coated (galvanized) steel sheet, 0.022-inch (0.56-mm) nominal thickness.
 - a. Exterior Finish: 2-coat fluoropolymer

- b. Color: To be approved by Owner and Architect.
- 4. Material: Aluminum-zinc alloy-coated steel sheet, **0.022-inch** (**0.56-mm**) nominal thickness.
 - a. Exterior Finish: 2-coat fluoropolymer
 - b. Color: To be approved by Owner and Architect.
- 5. Material: Aluminum sheet, 0.032 inch (0.81 mm) thick.
 - a. Exterior Finish: 2-coat fluoropolymer
 - b. Color: To be approved by Owner and Architect.
- 6. Sealant: Factory applied within interlocking joint.

2.2 FABRICATION

- A. Fabricate and finish metal panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.
- B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- C. Fabricate metal panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weathertight and minimize noise from movements within panel assembly.
- D. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.
 - 1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
 - 2. End Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
 - 3. End Seams for Other Than Aluminum: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
 - 4. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
 - 5. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
 - 6. Fabricate cleats and attachment devices of size and metal thickness recommended by SMACNA's "Architectural Sheet Metal Manual" or by metal panel manufacturer for application, but not less than thickness of metal being secured.

2.3 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
- B. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of substances harmful to insulation, including removing projections capable of interfering with attachment.

3.3 METAL SOFFIT PANEL INSTALLATION

- A. Install metal soffit panels to comply with requirements in this article.
- B. Metal Soffit Panels: Provide metal soffit panels full width of soffits. Install panels perpendicular to support framing.
 - 1. Flash and seal panels with weather closures where metal soffit panels meet walls and at perimeter of all openings.
- C. Metal Fascia Panels: Align bottom of panels and fasten with blind rivets, bolts, or self-tapping screws. Flash and seal panels with weather closures where fasciae meet soffits, along lower panel edges, and at perimeter of all openings.

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect metal panel installation, including accessories. Report results in writing.
- B. Remove and replace applications of metal panels where inspections indicate that they do not comply with specified requirements.
- C. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.5 CLEANING

- A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
- B. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074113

SECTION 07 42 43.1 – COMPOSITE WALL PANELS (RAINSCREEN)

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Phenolic wall cladding panels.
 - 2. Attachments and fasteners.

1.2 RELATED SECTIONS

- A. Division 01: Administrative, procedural and temporary work requirements.
- B. Division 05 Structural Metal Stud Framing
- C. Division 06 Rough Carpentry
- D. Division 06 Sheathing
- E. Division 07 Thermal Protection
- F. Division 07 Weather Barriers
- G. Division 07 Flashing and Sheet Metal

1.3 ACTION SUBMITTALS

- A. Shop Drawings: Include plans, elevations, and details, size and layout panels, flashing, rainscreen airflow, supports and attachments.
- B. Product Data: Technical data, physical properties and installation instructions for each component.
- C. Color Charts: Manufacturers standard color options.
- D. Samples: Submit manufacturers finished samples 12-inch x 12-inch in specified color
- E. Warranty:
 - 1. Manufacturer's warranty certificate.
 - 2. Installers written warranty statement.

1.4 INFORMATIONAL SUBMITTALS

A. Installer: Installation experience statement.

B. Testing and Evaluation Reports: Independent testing laboratory for the following for ASTM E84 and NFPA 285.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. Minimum of 10 years successful experience producing phenolic materials.
 - 2. Domestic factory assembly, shop fabrication and pre-finishing
- B. Installer Qualifications:
 - Minimum 2-years documented installation experience of specified materials.
- C. Single Source Responsibility:
 - 1. Materials from a single manufacturer for each component and warranty.
- D. Pre-Installation Conference: Convene to review the following:
 - 1. Areas of installation.
 - 2. Framing and rough carpentry.
 - 3. Connections to adjacent surfaces and transitions.
 - 4. Structural requirements and anchoring locations.

E. Mock-Up:

- 1. 5-foot x 5-foot mockup erected at site, to verify color, workmanship and installation details as determined by architect.
- 2. Complete assembly, color, sheen and model.

1.6 FIELD CONDITIONS

A. Do not install panels on wet or frozen substrate.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle materials following manufacturer instructions.
- B. Immediately upon delivery notify manufacturer of damaged or defective materials for replacement.
 - 1. Verify manufactures labels meet approved product name, color, texture and finish.
- C. Store factory sealed materials indoors, above grade and protected from sun, weather and materials that could cause staining or discoloration of finish.
 - 1. Maintain humidity levels less than 65 percent relative humidity prior to installation.

1.8 WARRANTY

- A. Manufacturer to warrant against material defects and manufacturing tolerances for a period of 10-years.
- B. Installer to warrant against installation defects for a period of **2** years. Repair or replace materials during warranty period at no cost to Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Fiberesin Industries, Inc. N48W37031 E. Wisconsin Avenue, Oconomowoc, WI: (262) 567- 4427 www.stonewoodpanels.com; email: info@fiberesin.com
- B. Substitutions: Not permitted. Refer to Division 01.

2.2 MATERIALS

- A. Phenolic Exterior Wall Cladding: Solid phenolic laminate panel with UV protective clear coat.
 - 1. Install Pattern: Stack bond
 - 2. Finish: Factory #60 matte
 - 3. Thickness: 3/8 inch (10mm)
 - 4. Panel Core: Phenolic resin treated layer, black and natural brown kraft paper.
 - 5. Decorative Layer: Melamine resin, proprietary pigmented and treated.
 - 6. Weather and UV Resistant Layer: 2-mil, proprietary layer combining pigment protection, Ultraviolet

light and weather resistant layer.

B. Physical Properties

- 1. Flexural Strength, ASTM D790
 - a. Machine Direction: 16,000 psi
 - b. Cross Direction: 12,000 psi
- 2. Flexural Modulus, ASTM D790
 - a. Machine Direction: 1,500,000 psi
 - b. Cross Direction: 1,100,000 psi
- 3. Tensile Modulus, ASTM D638
 - a. Machine Direction: 15,000 psi
 - b. Cross Direction: 10,000 psi
- 4. Fastening Strength, ASTM D1761:
 - a. 1,260 pound-force
- 5. Structural Performance: Withstand design wind load based on building code, but not less than 23psf with maximum L/180 tested to ASTM E330.
- 6. Fire Performance:
 - a. Flame Spread/Smoke Developed: Class A, tested to ASTM E84
 - c. Ignition Temperature: Greater than 650 degrees F (350 degrees C) above ambient, tested to

ASTM D1929.

- d. Extended Surface Burn: Max Flame Front less than 10 feet, tested to ASTM E2768
- e. When required for compliance with local building codes, wall assemblies shall not ignite when exposed to a radiant heat energy source, NFPA 268
- f. When required for compliance with local building codes, wall assemblies shall meet performance requirements of NFPA 285

- 7. Finish Performance:
 - a. Humidity Resistance: No cracking, checking, crazing, erosion, delamination, distress, tested to

ASTM D2247.

b. Salt Spray Resistance: No cracking, checking, crazing, Erosion, Delamination, or distress, tested to

ASTM B117.

c. Weather Exposure: Maximum gray scale change of 3-4 according to DIN EN 438-2 when tested to ASTM D2244 at accelerated – 3000 Hours in Atlas Type Weatherometer using cycle of 102 minutes light and 18 minutes diminished light and demineralized water.

2.3 FABRICATION

A. Panels: Solid phenolic impregnated kraft paper wall panels with no voids, air spaces or foamed insulation in the

core material.

B. Panel Dimensions: Field fabrication shall be allowed where necessary but, shall be kept to an absolute minimum.

All fabrication shall be done under controlled shop conditions when possible.

- C. Fabrication Tolerances: Manufacturer to provide shop fabrication and pre-finishing for a warranted finish.
 - 1. NEMA Testing Results
 - a. Dimensional Change, 3.11 test
 - 1. Length (Machine Direction): 0.25 percent
 - 2. Width (Cross Direction): 0.50 percent
 - b. Weight Per Unit Area:

1. Pounds/ square feet: 2.68

2. Kilograms/ square meter: **13.12**

3. Density: 86 pounds per cubic foot

2.4 ACCESSORIES

- A. Fasteners: Manufacturer approved austenitic stainless-steel fastener with bi-metal welded carbon steel point.
 - 1. Exposed fasteners in [standard stainless steel
- B. Attachment System: Manufacturer approved sub-frame system to support a cladding weight of up to 8 pounds per square foot, fabricated of 0.09-inches 6063 T5 extruded aluminum or 16-gauge G90 Galvanized steel.
 - 1. Vertical siding mounting system

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine materials, installation instructions, and review manufacturer's instructions on site.
- B. Verify panel style, color, and fasteners are approved by Architect.
- C. Verify substrates and adjacent surfaces are level and plumb for installation.
 - 1. Do not begin work until construction has progressed to allow installation of materials.
 - 2. Confirm sheathing is plumb and level, with no deflection greater than 1/4- inch in 20 feet.
 - 3. Verify manufacturers fastener spacing requirements.
 - 4. Verify proper hole diameter in panels per manufacturer's instructions.
- D. Proceed with work when construction has progressed to allow a warranted installation.
 - 1. Installation deems acceptance of work for a warranted installation.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions and Shop Drawings, maintaining required 1-inch ventilation spacing requirement.
- B. Fasten panels to an approved attachment system structurally supported by aluminum, galvanized steel or wood stud supported wall.
- C. Install panel square, edges clean and true to size.
 - 1. Cut panels to fit at perimeter and around penetrations with minimum 3/8-inch gap.
 - 2. Re-chamfer field cut edges.
- D. Do not install damaged, irregular or defective panels.

3.3 FIELD QUALITY CONTROL

- A. Inspect panel ventilation at top and bottom of wall for proper vertical air flow required for rainscreen systems.
- B. Comply with manufacturer's written installation instructions applicable to products and applications indicated.
- C. Verify installation, fasteners and connections with adjacent materials, and transitions have been completed in accordance with shop drawings.
- D. Installer is responsible for engineering the connection between the Stonewood system and the supporting wall.

3.4 ADJUSTING

A. Modify, adjust and replace panels not within manufacturer's tolerances and as required by Architect.

3.5 PROTECTION

A. Protect surface, corners and components from damage prior to Owner occupancy using temporary protection.

END OF SECTION

SECTION 07 42 43.2 – COMPOSITE WALL PANELS (FIBER-CEMENT)

Part I - General

1.1 SECTION INCLUDES:

A. Exterior, panelized fiber cement cladding system and accessories to complete a drained and back-ventilated rainscreen. Matching flashing, trim, secondary supports, and anchors.

1.2 RELATED SECTIONS

- A. Division 05 Structural Metal Stud Framing
- B. Division 06 Rough Carpentry
- C. Division 06 Sheathing
- D. Division 07 Thermal Protection
- E. Division 07 Weather Barriers
- F. Division 07 Flashing and Sheet Metal
- G. Division 07 Joint Sealants

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Product Data: Submit manufacturer's product description, storage and handling requirements, and installation instructions.
- C. Product Test Reports and Code Compliance: Documents demonstrating product compliance with local building code, such as test reports or Evaluation Reports from qualified, independent testing agencies.
- D. Manufacturer's Details: Submit drawings, including plans, sections, showing installation details that demonstrate product dimensions, edge/termination conditions/treatments, compression and control joints, corners, openings, and penetrations.
- E. Samples: Submit samples of each product type proposed for use.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. All fiber cement panels specified in this section must be supplied by a manufacturer with a minimum of 5 years of experience in fabricating and

supplying fiber cement cladding systems.

- 2. Provide technical and design support as needed regarding installation requirements and warranty compliance provisions.
- B. Installer Qualifications: All products listed in this section are to be installed by a single installer trained by manufacturer or representative.
- C. Mock-Up Wall: Provide a mock-up area as evaluation tool for product and installation workmanship. Mock-up may remain as part of the work. All work performed without mock-up approval by Architect is done at the contractor's risk.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Panels must be stored flat and kept dry before installation. A waterproof cover over panels and accessories should be used at all times prior to installation. Do not stack pallets more than two high. Refer to the information included on each pallet.
- B. If panels are exposed to water or water vapor prior to installation, allow to completely dry before installing. Failure to do so may result in panel shrinkage at ship lap joints, and such action may void warranty.
- C. Panels MUST be carried on edge. Do not carry or lift panels flat. Improper handling may cause cracking or panel damage.
- D. Direct contact between the panels and the ground should be avoided at all times. It is necessary to keep panels clean during installation process.

1.7 WARRANTY

- A. Provide manufacturer's 15-year warranty against manufactured defects in fiber cement panels. Additional 5-year extension available when refinished in year 14-15.
- B. Provide manufacturer's 15-year warranty against manufactured defects in panel finish.
- C. Application Warranty: Application limited warranty for 5 years.

PART II: PRODUCTS

2.1 MANUFACTURERS

- A. Basis of design Manufacturer: Nichiha Corporation
- B. Request for approval of equal or better product will be considered and approved by the

Owner and Architect prior to bidding.

- 1. Basis of Design Product: Nichiha Illumination.
 - a. Profile colors: To be approved by owner and architect.
 - b. Profile: Full
 - c. Accessory/Component Options:
 - i. Manufactured Corners with 3-1/2" returns.
 - ii. Aluminum trim options: Corner Key, Open Outside Corner, H-Mold,J-Mold, Compression Joint, Inside Corner
 - 1. Finish: Clear Anodized or Primed
 - iii. Essential Flashing System: Starter, Overhang.
 - 1. Finish: Matte black.
 - d. Dimensions AWP-1818: 455mm (17-7/8") (h) x 1,818 mm (71-9/16") (l).
 - e. Panel Thickness: 16 mm (5/8").
 - f. Finish: Matte, textured.
 - g. Weight: 35.27 lbs. per panel.
 - h. Coverage: 8.88 sq. ft. per panel.
 - i. Factory sealed on six [6] sides.
- C. Substitutions: Not permitted once approved.

2.2 MATERIALS

- A. Fiber cement panels manufactured from a pressed, stamped, and autoclaved mix of Portland cement, fly ash, silica, recycled rejects, and wood fiber bundles.
- B. Panel surface pre-finished and machine applied.
- C. Panels profiled along all four edges, such that both horizontal and vertical joints between the installed panels are ship-lapped.
- Factory-applied sealant gasket added to top and right panel edges; all joints contain a factory sealant.

2.3 PERFORMANCE REQUIREMENTS:

- A. Fiber Cement Cladding Must comply with ASTM C-1186, Type A, Grade II requirements:
 - 1. Wet Flexural Strength: Result: 1418 psi, Lower Limit: 1015 psi.
 - 2. Water Tightness: No water droplets observed on any specimen.
 - 3. Freeze-thaw: No damage or defects observed.

- 4. Warm Water: No evidence of cracking, delamination, swelling, or other defects observed.
- 5. Heat-Rain: No crazing, cracking, or other deleterious effects, surface or joint changes observed in any specimen.
- B. Mean Coefficient of Linear Thermal Expansion (ASTM E-228): Max 1.0*10^-5 in./in. F.
- C. Surface Burning (CAN-ULC S102/ASTM E-84): Flame Spread: 0, Smoke Developed: 0.
- D. Wind Load (ASTM E-330): Contact manufacturer for ultimate test pressure data corresponding to framing type, dimensions, fastener type, and attachment clips. Project engineer(s) must determine Zone 4 and 5 design pressures based on project specifics.
 - 1. Minimum lateral deflection: L/120.
- E. Water Penetration (ASTM E-331): No water leakage observed into wall cavity.
- F. Steady-State Heat Flux and Thermal Transmission Properties Test (ASTM C-518): 16mm thick panel thermal resistance R Value of 0.47.
- G. Fire Resistant (ASTM E-119): The wall assembly must successfully endure 60-minute fire exposure without developing excessive unexposed surface temperature or allowing flaming on the unexposed side of the assembly.
- H. Ignition Resistance (NFPA 268): No sustained flaming of panels, assembly when subjected to a minimum radiant heat flux of 12.5 kW/m2 \pm 5% in the presence of a pilot ignition source for a 20-minute period.
- I. Fire Propagation (NFPA 285): Wall assembly of AWP, clips and starter track, weather barrier system, ½" fiberglass mat gypsum sheathing, 16" O.C. 18 gauge steel studs, mineral wool in-cavity insulation, and interior 5/8" Type X gypsum met the acceptance criteria of NFPA 285.
- K. Drained and Back Ventilated Rainscreen (AAMA 509-14): System classifications: W1, V1.
- L. Florida Building Code Test Protocol HVHZ (TAS 202, 203): Design Pressure: 95 psf

2.4 INSTALLATION COMPONENTS

- A. Ultimate Clip System:
 - 1. Starter Track: FA 700 (10mm rainscreen) 3030mm (I) galvalume coated steel.
 - 2. Panel Clips: JEL 778 "Ultimate Clip II" (10mm rainscreen for 5/8" AWP) Zinc-Aluminum-Magnesium alloy coated steel.

- Joint Tab Attachments (included) used at all AWP-1818 panel to panel vertical joints.
- Corner Clips: JE 777C (10mm rainscreen for 5/8" AWP Manufactured Corners) --Zinc-Aluminum-Magnesium alloy coated steel.
- 4. Single Flange Sealant Backer FHK 1015 R (10mm) 6.5' (I) fluorine coated galvalume.
- 5. Double Flange Sealant Backer FH 1015 R (10mm) 10' (I) fluorine coated galvalume.
- 6. Corrugated Spacer FS 1005 (5mm), FS 1010 (10mm) 4' (I).
- B. Aluminum Trim: Prefinished aluminum prefabricated. Color to be approved by Architect.
- C. Essential Flashing System:
 - 1. Starter main segments (3030mm), inside corners, outside corners
 - 2. Overhang main segments (3030mm), inside corners, outside corners, joint clips
- D. Fasteners: Corrosion resistant Stainless Steel fasteners in high humidity and high-moisture regions.
- E. Flashing: Flash all areas specified in manufacturer's instructions. Use prefinished aluminum flashing.
- F. Sealant: Sealant shall comply with ASTM C920, Class 35.

PART III: EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions:
 - Fiber cement panels can be installed over braced wood, steel studs and sheathing including plywood, OSB, plastic foam (1" or less) or fiberboard sheathing. Fiber cement panels can also be installed over Structural Insulated Panels (SIP's), Concrete Masonry Units (CMU's) and Concrete Block Structures (CBS's) with furring strips, and Pre-Engineered Metal Construction. Insulated Concrete Forms (ICFs) require added measures. Consult with manufacturer.
 - 2. Allowable stud spacing: 16" o.c. maximum.
 - 3. A weather resistive barrier is required when installing fiber cement panels. Use

- an approved weather resistive barrier (WRB) as defined by the 2015 IBC or IRC. Refer to local building codes.
- Appropriate metal flashing should be used to prevent moisture penetration around all doors, windows, wall bottoms, material transitions and penetrations.
 Refer to local building codes for best practices.
- B. Examine site to ensure substrate conditions are within alignment tolerances for proper installation.
- C. Notify Architect of unsatisfactory preparation before proceeding. Do not begin installation until unacceptable conditions have been corrected.
- D. Do not install panels or components that appear to be damaged or defective. Do not install wet panels.

3.2 TOLERANCE

- A. Wall surface plane must be plumb and level within $+/-\frac{1}{4}$ inch in 20 feet in any direction.
 - 1. One layer of 5mm ($^{\sim}3/16$ ") spacer may be used as shim.

3.3 INSTALLATION

- A. General: Install products in accordance with the latest installation guidelines of the manufacturer and all applicable building codes and other laws, rules, regulations and ordinances. Review all manufacturer installation, maintenance instructions, and other applicable documents before installation.
 - Vertical Control/Expansion Joints are required with AWP-1818, for walls wider than 30 feet, within 2-12 feet of outside corners finished with metal trim and approximately every 30 feet thereafter.
 - 2. Horizontal/Compression Joints are required for multi-story installations of AWP. Locate joints at floor lines. Joints are flashed minimum ½" breaks. Do not caulk. Refer to installation guide(s).

B. Panel Cutting

- 1. Always cut fiber cement panels outside or in a well-ventilated area. Do not cut the products in an enclosed area.
- Always wear safety glasses and NIOSH/OSHA approved respirator whenever cutting, drilling, sawing, sanding or abrading the products. Refer to manufacturer SDS for more information.
- 3. Use a dust-reducing circular saw with a diamond-tipped or carbide-tipped blade.

- 4. Silica Dust Warning: Fiber cement products may contain some amounts of crystalline silica, a naturally occurring, potentially hazardous mineral when airborne in dust form.
- 5. Immediately clean dust from cut panels as it may bind to the finish.
- 6. Protect installed products until completion of project. Touch-up, repair or replace damaged products before Substantial Completion.

3.4 CLEANING AND MAINTENANCE

A. Review manufacturer guidelines for detailed care instructions.

END OF SECTION 07 42 43

SECTION 07541 - POLYVINYL-CHLORIDE (PVC) ROOFING

PART 2 - GENERAL

2.7 RELATED DOCUMENTS

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

2.8 SUMMARY

A. Section Includes:

- 1. Adhered polyvinyl-chloride (PVC) roofing system.
- 2. Preparation for reroofing or recover application.
- 3. SBS base sheet fully adhered.
- 4. Heavy vented base sheet mechanically fastened.

B. Related Requirements:

- 1. Section 07600 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
- 2. Section 07900 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

2.9 DEFINITIONS

A. Roofing Terminology: Definitions in ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

2.10 PREINSTALLATION MEETINGS

- A. Preliminary Roofing Conference: Before starting roof construction, conduct conference at Project site.
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, Roofing Installer, roofing system manufacturer's representative, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review substrate requirements for conditions and finishes, including and fastening.
 - 5. Review structural loading limitations of roof deck during and after roofing.
 - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.

- 7. Review governing regulations and requirements for insurance and certificates if applicable.
- 8. Review temporary protection requirements for roofing system during and after installation.
- 9. Review roof observation and repair procedures after roofing installation.
- 10. Review roof access, security, background checks, parking, and staging.
- B. Preinstallation Roofing Conference: Conduct conference at Project site.
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 - 5. Review structural loading limitations of roof deck during and after roofing.
 - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
 - 7. Review governing regulations and requirements for insurance and certificates if applicable.
 - 8. Review temporary protection requirements for roofing system during and after installation.
 - 9. Review roof observation and repair procedures after roofing installation.

2.11 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Green Submittals:
 - Product Data for adhesives and sealants used inside the weatherproofing system, documentation including printed statement of VOC content.
- C. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:
 - 1. Base flashings and membrane terminations.
 - 2. Roof plan showing orientation of roofing, fastening spacing, and patterns for mechanically fastened roofing.
- D. Samples for Verification: For the following products:
 - 1. Sheet roofing, PVC and modified bitumen base sheet of color required.
 - 2. Walkway pads or rolls, of color required.

2.12 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.
 - 1. Contractor approval for this specific project on manufacturer's letterhead form manufacturer's authorized representative for the specific project area.
- B. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - 1. Submit evidence of compliance with performance requirements.
- C. Product Test Reports: For components of roofing system, for tests performed by manufacturer and witnessed by a qualified testing agency.
- D. Research/Evaluation Reports: For components of roofing system, from ICC-ES.
- E. Field quality-control reports.
- F. Sample Warranties: For manufacturer's special 20 year NDL warranties and installer's sample 3 year warranty.

2.13 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing system to include in maintenance manuals.

2.14 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed, for roofing system identical to that used for this Project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty for this specific project.

2.15 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

2.16 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

2.17 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
 - 1. Special warranty includes membrane roofing, base flashings, adhesive and fasteners, roofing accessories, and other components of roofing system provided by manufacturers for this project.
 - 2. Warranty Period: 20 years from date of Substantial Completion.
- B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, and walkway products, for the following warranty period:
 - 1. Warranty Period: Three years from date of Substantial Completion.

PART 3 - PRODUCTS

3.1 MANUFACTURERS

A. Source Limitations: Obtain components including heavy nailed base temporary, base sheets/interply membrane for roofing system recommended and approved by membrane roofing manufacturer.

3.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.
 - 1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
 - 2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.

- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. FM Global Listing: Roofing, base flashings, and component materials shall comply with requirements in FM Global 4450 or FM Global 4470 as part of a built-up roofing system, and shall be listed in FM Global's "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global markings.
 - 1. Fire/Windstorm Classification: Class 1A-90.
 - 2. Hail-Resistance Rating: MH
- D. Solar Reflectance Index: Not less than 68 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.
- E. Energy Star Listing: Roofing system shall be listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for **low**-slope roof products.
- F. Energy Performance: Roofing system shall have an initial solar reflectance index of not less than 0.62 and an emissivity of not less than 0.60 when tested according to CRRC-1.
- G. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- H. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.3 SBS MODIFIED BITUMEN BASE SHEET MATERIAL

- A. Roofing membrane and flashing base sheet: ASTM D 6163, Grade, Type 1, glass fiber reinforced, SBS modified asphalt sheet, for application method specified.
 - 1. Basis of Design: JM DynaWeld Cap FR
 - 2. Soprema Elastophene 180
 - 3. Carlisle's Modified Base Sheet

2.4 PVC ROOFING

- A. PVC Sheet: ASTM D 4434/D 4434M, Type III, fabric reinforced containing KEE (Elvaloy) to reduce plasticized migration and fabric backed.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Basis-of-Design Product:
 - a. JM PVC Fleece Backed

- b. Soprema Sentinel 200 HFB
- c. Carlisle's FleeceBack PVC KEE
- 3. Thickness: 60 mils (1.524 mm), minimum.
- 4. Exposed Face Color: White

2.5 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.
 - 1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
 - 2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as PVC sheet.
- C. Bonding Adhesive: Manufacturer's standard.
- D. Slip Sheet: Manufacturer's standard, of thickness required for application.
- E. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
- F. Metal Battens: Manufacturer's standard, aluminum-zinc-alloy-coated steel sheet, or extruded aluminum bar approximately 1 inch wide by 0.05 inch (25 mm wide by 1.3 mm) thick, prepunched.
- G. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roofing to substrate, and acceptable to roofing system manufacturer.
- H. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.6 WALKWAYS

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads or rolls approximately 72 mils (1.83 mm) thick and acceptable to roofing system manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:
 - 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 - 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.3 RECOVER PREPARATION

- A. Prepare existing roof according to roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer and requirements in this section.
- B. Tear out failed/deteriorated base flashings, counterflashings, all pitch pans, pipe flashings, scuppers, vents and like components necessary for application of new membrane. Patch/repair penetrations/cut out of existing membrane with manufacturer's specified modified bitumen base sheet or liquid applied membrane flashing prior to recover with PVC membrane and flashing.
- C. Remove and replace wet, deteriorated or damaged roof insulation and decking as identified during tear off and by moisture test.
- D. Remove abandoned equipment curbs and penetrations. Install decking to match existing as directed by Owner's Representative.
- E. Raise, (disconnect by licensed craftsman) all HVAC units and other equipment supported by curbs to conform to the flashing membrane.
 - 1. Modify curbs as required to provide a minimum 10" base flashing height measured from the surface of the new membrane to the top of the flashing membrane.
 - 2. Nail top of flashing and install new metal counterflashing prior to reinstallation of unit.
 - 3. Perimeter nailers must be elevated to match elevation of new roof insulation.

- F. Immediately remove all debris from roof surface. Demolished roof system may not be stored on the roof surface.
- G. Install manufacturer approved modified bitumen intermediate membrane and flashing and remove all loose mineral granules and clean substrate membrane.
- H. Prime interply sheet as required to prepare for PVC single ply cap sheet application as required by PVC manufacturer.
- I. Proceed with installation only after unsatisfactory conditions have been corrected.

3.4 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions.
- B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.5 ADHERED ROOFING INSTALLATION

- A. Adhere roofing over area to receive roofing according to roofing system manufacturer's written instructions. Unroll roofing and allow to relax before retaining.
- B. Install sheet according to ASTM D 5036.
- C. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- D. Accurately align roofing, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- E. Bonding Adhesive: Apply to substrate and underside of roofing at rate required by manufacturer, and allow to partially dry before installing roofing. Do not apply to splice area of roofing.
- F. In addition to adhering, mechanically fasten roofing securely at terminations, penetrations, and perimeter of roofing.
- G. Apply roofing with side laps shingled with slope of roof deck where possible.
- H. Seams: Clean seam areas, overlap roofing, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's written instructions, to ensure a watertight seam installation.
- I. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet.
- J. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
- K. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.

L. Spread sealant bed over deck-drain flange at roof drains, and securely seal roofing in place with clamping ring.

3.6 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars with fasteners 8" O.C.

3.7 WALKWAY INSTALLATION

A. Flexible Walkways: Install walkway products in locations indicated. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and provide written inspection report and approval for warranty to architect and owner.
- B. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.
- C. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.9 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

4.1	WHEREAS the "Roofing Installer," has performed rooproject:	 of and	associated	work	("work")	 , -	ein called following
	Owner: <insert name="" of="" owner="">.</insert>						
	Address: <insert address="">.</insert>						
	Building Name/Type: <insert information="">.</insert>						
	Address: <insert address="">.</insert>						
	Area of Work: < Insert information>.						
	Acceptance Date:						
	Warranty Period: 3 years						
	Expiration Date:						

AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

This Warranty is made subject to the following terms and conditions:

Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:

- a. lightning;
- c. peak gust wind speed exceeding 72 mph
- d. fire:
- e. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
- f. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
- g. vapor condensation on bottom of roofing; and
- h. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.

When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.

Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.

During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.

During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.

This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

IN	WITNESS	THER	EOF,	this	instrument	has	been	duly	executed	this	 day	of
						_·						
Au	thorized S	ignature	e:									
Na	me:											
Tit	lo·											

END OF SECTION 07541

SECTION 07560 - REINFORCED LIQUID MEMBRANE ROOFING AND FLASHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This specification is for a two or three coat reinforced cold-applied liquid membrane system applied over approved substrates. The products listed are single component cold-applied liquid polyurethane/ bitumen resin. The system is reinforced with a fabric/ mesh reinforcement. The finish surfacing is achieved with ceramic granules embedded in the top layer of liquid membrane or by the application of a white finish coat.
- B. Related Sections:
 - 1. Section 07600 Flashing and Sheet Metal
- C. Product Data: For each type of product indicated. Include manufacturer's written instructions for evaluating, preparing, and treating substrate, technical data, and tested physical and performance properties of roofing.
- D. Shop Drawings: On a roof plan show locations and extent of reinforced liquid membrane roofing and flashing applications. Include typical sections, details, and attachments for substrate joints and cracks, flashing sheets, roof penetrations, vertical intersections, repairs and membrane terminations.
- E. Samples for Verification: For each of the following products:
 - 1. Provide two samples of fully cured flashing installation mock-up on 6" x 6" wood substrate.
- F. Qualification Data: Contractor must provide documentation from product manufacturer verifying contractor is an approved applicator.
- G. Material Safety Data Sheets: Provide copies to owner, building maintenance staff, and architect. Contractor to retain a copy of MSDS on site at all time
- H. Field quality-control reports.
- I. Maintenance Data: For roofing/ flashing system, include in maintenance manuals.
- J. Warranties:
 - 1. Submit four (4) copies of the Manufacturer's standard 10-Year Warranty
 - 2. Submit four (4) copies of Contractor's Guarantee covering all work for defects in workmanship and labor for a period of 5 years.

3. Maintenance Procedures: Four (4) copies of manufacturers' printed instructions for Owner's use regarding care and maintenance of roof.

1.3 QUALITY ASSURANCE

A. Submit certification that the materials to be used in the specification meet these specifications and are acceptable for use with the field membrane system and for the surfaces that they are to be applied.

B. Installation:

- 1. Unless otherwise indicated, the materials to be used in the specification are those specified and denote the type, quality, performance, ect. Required. All proposals shall be based upon the use of the specified material.
- 2. Install materials in accordance with the manufacturer's current published application procedures and the general recommendations of the National Roofing Contractor's Association.
- 3. It will be the contractor's responsibility to obtain and / or verify any necessary dimensions by visiting the job site, and the contractor shall be responsible for the correctness of the same. Any drawings supplied are for reference only.
- 4. Contractor shall plan and conduct the operations of the work so that each section started on one day is complete, details installed and thoroughly protected and in watertight condition before the close of work for that day.
- 5. Materials will be securely fastened in place in a watertight, neat and workmanlike manner. All workmen shall be thoroughly experienced in the particular class of work upon which employed. Work shall be performed in accordance with these specifications and shall meet the approval in the field of the Architect.
- 6. All waste materials, rubbish, etc., shall be removed from the Owner's premises as accumulated. Rubbish shall be carefully handled to reduce the spread of dust, and shall be deposited at an approved disposal site.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original containers with seals unbroken, labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
 - 1. Store all material in a manner, which meets all federal, state, and local requirements.
 - 2. KEEP OUT OF THE REACH OF CHILDREN.
- B. Store roofing/ flashing membrane materials in a cool dry area away from heat, direct sunlight, oxidizing agents, strong acids, and strong alkalis. Do not store material in temperatures below 32 degrees or above 85 degrees. Keep away from open fire, flame or any ignition source. Store in a well ventilated area.

1.5 WARRANTY

A. Membrane Flashing Guarantee: Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the manufacturer's five year labor and material warranty. The warranty shall be a term type, without deductibles or

- limitations on coverage amount, and shall be issued at no additional cost to the owner. This guarantee shall not exclude random areas of ponding from coverage.
- B. The contractor is to cover damages to the building resulting from damages from failure to prevent water penetration during construction.
- C. The contractor shall guarantee all work against defects in labor and workmanship for a period of two years from the date of final acceptance.

PART 2 - PRODUCTS

2.1 FLASHING/ ROOFING MEMBRANE

- A. Reinforced Liquid Membrane Roofing and Flashing
 - 1. Products: Subject to compliance with requirements:
 - a. PermaFlash Johns Manville
 - b. Parapro 123 Flashing Resin Siplast
 - c. Alsan Flashing Soprema

2.2 PRIMER

A. Apply primer if required by Flashing/ Roofing Liquid Applied Membrane manufacturer. Use only primers that are approved by the Flashing/ Roofing Liquid Applied Manufacturer.

2.3 REINFORCEMENT

A. A spun-laced non woven high performance polyester fabric reinforcement to form a monolithic, reinforced roofing membrane at all change of plane junctures, penetrations, curbs, projections, repairs, and seams as required by flashing/roofing membrane manufacturers.

2.4 FINISH COAT

A. Ready to use single component high-performance resin in available colors that can be used as a wearing/dress coat over the finished liquid applied flashing and to provide a desired color finish.

PART 3 - EXECUTION

3.1 SURFACE/ SUBSTRATE EXAMINATION/ PREPARATION

A. Surfaces must be structurally sound, dry, and clean; free from moisture, dirt, grease, oil, paint, or any other loose or existing waterproof coating. Remove all previous coatings, laitance on

- any other contamination which may affect the bond of the Fluid Applied Protected Membrane Roofing and Flashing. Gravel or debris between the substrate and plies is not acceptable.
- B. Mechanically remove all loose gravel, dirt, etc. by vacuum, mechanical broom, power washing, etc. For best results when power washing spray pressure should be in the range of 2500 3500 psi.
- C. If any existing coating or prior contaminants cannot be removed perform an adhesion test prior to the application of Fluid Applied Protected Membrane Roofing and Flashing to insure compatibility and the proper bond.
- D. Any deteriorated roofing membrane being coated should first be repaired using like membrane to the existing roof system. Any roof system with excess moisture in the insulation must have the wet areas removed and replaced. Consult Manufacturer regarding any moisture issue.
- E. All rust and contaminants need to be removed from metal to be flashed. Clean all metal to bright. Mechanical abrasion may be necessary to remove contaminants. Perform an adhesion test if there are any doubts. For application to Kynar or metals with similar finishes contact the manufacturer's technical department.
- F. Substrate shall have a moisture content as required to provide adhesion of the membrane to substrate. Determinations of bond strength and moisture content are the responsibility of the contractor and shall be performed periodically by the contractor throughout the course of work.
- G. For PVC piping use sandpaper or similar to rough up the surface before flashing. Priming may be necessary.

3.2 PRIMING

- A. Priming is not normally required on clean SBS modified bitumen, smooth BUR and most metals.
- B. Amount of primer needed is affected by surface roughness and porosity. The primer when applied should have a glossy appearance.
- C. Any aged roof, after substrate preparation, will require priming particularly where ponded water or residual dirt has been present.
- D. Primers should be allowed to dry for 6-12 hours depending on environmental conditions prior to the Reinforced Liquid Membrane Roofing and Flashing application. Primed substrates may only be exposed for a period of 24 hours prior to the application of Fluid Applied Protected Membrane Roofing or they must be re primed.

3.3 REPAIRS

A. Before application of the roofing membrane do all repairs using Reinforced Liquid Membrane Roofing and Flashing. Make sure that area to be repaired is clean, dry, and free of debris and is built up to the same level as the surrounding roof surface. As necessary prime area with Reinforced Liquid Membrane Roofing and Flashing primer and an even coat of Reinforced

Liquid Membrane Roofing and Flashing. Place fabric reinforcement in wet liquid and immediately apply a top coat of Reinforced Liquid Membrane Roofing and Flashing to ensure complete saturation of the fabric. Remove all voids, wrinkles, fish mouths, trapped air, etc. Base and top coats must extend a minimum of 2" past the perimeter of the repaired area. If the repair is to crack, split or similar a minimum reinforcement must be 4" wide.

3.4 FLASHING/ ROOFING MEMBRANE APPLICATION

A. For all flashings, penetrations, drains, metal edges, etc. Apply an even base coat of Reinforced Liquid Membrane Roofing and Flashing with a brush or roller. Embed fabric reinforcement in this layer and immediately apply a top coat to saturate the fabric. Cut the fabric reinforcement 4" wider than the split, seam, or transition in each direction. Ensure that polyester reinforcement is fully saturated and does not have voids, fish mouths, trapped air, or wrinkles. To the cured base coat apply the finish coat. Broadcast to excess ceramic granules into the finish coat. As an option in place of the granules, allow the finish coat of Reinforced Liquid Membrane Roofing and Flashing to cure 9 - 12 hours and then apply a coat of colored top coat.

3.5 FIELD APPLICATION

- A. Apply and even base coat of Reinforced Liquid Membrane Roofing and Flashing resin with a squeegee or roller over the entire roof surface. Allow this coat to cure 9 12 hours and then apply a finish coat on Reinforced Liquid Membrane Roofing and Flashing. Broadcast to excess ceramic granules into the finish coat. As an option in the place of the granules, allow the finish coat to cure 9 12 hours and then apply a coat of colored top coat. Allow colored top coat to cure 24 hours before trafficking.
- B. If the Reinforced Liquid Membrane Roofing and Flashing base coat is left exposed to the elements for more than seven days prior to the next application of the Reinforced Liquid Membrane Roofing and Flashing it must be primed at a rate approved by the manufacturer.

3.6 CLEANING AND PROTECTION

- A. Remove all used containers and wrapping from the site.
- B. Dispose in approved location and manor.
- C. Remove markings from any finished area.
- D. Repair any finished areas damaged by this application.
- E. All waste materials, rubbish, etc., shall be removed from the owner's premises as accumulated. Rubbish shall be carefully handled to reduce the spread of dust, and shall be deposited at an approved disposal site. At completion, all work areas shall be left broom clean and all contractor's equipment and materials removed from the site.

3.7 COMPLETION

- A. Upon completion of new installation (including all associated work), institute appropriate procedures for surveillance and protection of finished work during remainder of construction period. Protect all areas where coating has been installed.
- B. Notify the owner and the manufacturer when finished. Coordinate final inspection by Manufacturer. Complete all repairs or requests promptly. Comply with all paperwork and payment requirements necessary to acquire the specified warranty.

END OF SECTION 07560

SECTION 07600 - FLASHING AND SHEET METAL

PART 1 - GENERAL

RELATED DOCUMENTS:

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

DESCRIPTION OF WORK:

The Types of work specified in this section include the following:

Metal counterflashing; and base flashing.

Exposed metal trim.

Valley flashing.

Miscellaneous sheet metal accessories.

Plastic flashing.

JOB CONDITIONS:

<u>Coordinate work</u> of this section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of work and protection of materials and finishes.

PART 2 - PRODUCTS

FLASHING AND SHEET METAL MATERIALS:

Elastic Sheet Flashing:

Provide only flashings compatible with and acceptable to roofing system manufacturer.

<u>Copper</u>: ASTM B 370, cold-rolled except where soft temper is required for forming; 16 oz (0.0216" thick) except as otherwise indicated.

Miscellaneous Materials and Accessories:

<u>Solder</u>: For use with stainless steel, provide 60 - 40 tin/lead solder (ASTM B 32), with acid-chloride type flux, except use rosin flux over tinned surfaces.

Fasteners: Same metal as flashing/sheet metal or, other non-

corrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being

fastened.

<u>Epoxy Seam Sealer</u>: 2-part noncorrosive metal seam cementing compound, recommended by metal manufacturer for exterior/interior non-moving joints including riveted joints.

<u>Adhesives</u>: Type recommended by flashing sheet manufacturer for waterproof/weather-resistant seaming and adhesive application of flashing sheet.

Paper Slip Sheet: 5-lb rosin-sized building paper.

Polyethylene Underlayment: 6-mil carbonated polyethylene film; FS L-P-512.

<u>Reglets</u>: Metal or plastic units of type and profile indicated, compatible with flashing indicated, noncorrosive.

<u>Metal Accessories</u>: Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gage required for performance.

Roofing Cement: ASTM D 2822, asphaltic.

FABRICATED UNITS:

General Metal Fabrication: Shop-fabricate work to greatest extent possible. Comply with details shown, and with applicable requirements of SMACNA "Architectural Sheet Metal Manual" and other recognized industry practices. Fabricate for waterproof and weather-resistant performance; with expansion provisions for running work, sufficient to permanently prevent leakage, damage or deterioration of the work. Form work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material. Form exposed sheet metal work without excessive oil-canning, buckling and tool marks, true to line and levels indicated, with exposed edges folded back to form hems.

<u>Seams</u>: Fabricate non-moving seams in sheet metal with flat-lock seams. For metal other than aluminum, tin edges to be seamed, form seams, and solder. Form aluminum seams with epoxy seam sealer; rivet joints for additional strength where required.

<u>Expansion Provisions</u>: Where lapped or bayonet-type expansion provisions in work cannot be used, or would not be sufficiently water/weatherproof, form expansion joints of intermeshing hooked flanges, not less than 1" deep, filled with mastic sealant (concealed within joints).

<u>Sealant Joints</u>: Where movable, non-expansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.

<u>Form section square</u>, true and accurate in size, in maximum possible lengths and free of distortions and defects detrimental to appearance or performance. Hem exposed edges. (Allow for expansion at joints.)

<u>Separations</u>: Provide for separation of metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact, with bituminous coating or other permanent separation as

recommended by manufacturer/fabricator.

PART 3 - EXECUTION

INSTALLATION REQUIREMENTS:

<u>General</u>: Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations, and with SMACNA "Architectural Sheet Metal Manual". Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints and seams, which will be permanently watertight and weatherproof.

<u>Bed flanges</u> of work in a thick coat of bituminous roofing cement where required for waterproof performance.

<u>Install reglets</u> to receive counter-flashing in manner and by methods required.

<u>Install counterflashing</u> in reglets, either by snap-in seal arrangement, or by wedging in place for anchorage and filling reglet with mastic or elastomeric sealant.

<u>Install elastic flashing</u> without stretching. Install elastic flashing filler strips to provide for movement by forming loops or bellows in width of flashing. Locate filler strips to facilitate complete drainage of water from flashing. Seam flashing sheets with adhesive, and anchor edges as required by manufacturer.

CLEANING AND PROTECTION:

<u>Clean exposed metal</u> surfaces, removing substances, which might cause corrosion of metal or deterioration of finishes.

<u>Protection</u>: Installer shall advise Contractor of required procedures for surveillance and protection of flashings and sheet metal work during construction, to ensure that work will be without damage or deterioration, other than natural weathering, at time of substantial completion.

END OF SECTION 07600

SECTION 07700 - ROOF SPECIALTIES AND ACCESSORIES

<u>Standards</u>: Comply with SMACNA "Architectural Sheet Metal Manual" details for fabrication of units, including flanges and cap flashing to coordinate with type of roofing indicated. Comply with "NRCA Roofing and Waterproofing Manual" details for installation of units.

Roof Accessory Materials: Miscellaneous Units:

<u>Fasteners</u>: Same metal as metals being fastened, or nonmagnetic stainless steel or other noncorrosive metal as recommended by manufacturer. Match finish of exposed fasteners with finish of material being fastened.

<u>Roofing Cement</u>: FS SS-C-153, type which is compatible with roofing, containing <u>no</u> asbestos and normally free of sulfur.

Mastic Sealant: Polyisobutylene, nonhardening, nonskinning, nondrying, nonmigrating sealant.

Roof Drains:

General purpose type, cast iron with metal dome strainer, flashing collar, deck clamp. Wade W-3220; Jay R. Smith 1310; Josam 22010; Zurn 121 for sizes 2" through 4".

Pipe Penetration Flashings: Liquid applied reinforced polyurethane flashing by roofing manufacturer.

Pillow Block Pipestand: Model 24-R by Miro Industries, Inc.

<u>Flange Seals</u>: Except as otherwise indicated, set flanges of accessory units in a thick bed of roofing cement or mastic sealant, to form a seal.

<u>Anchor units</u> securely to supporting structure, except for small accessory items which are bedded and stripped into roofing support.

<u>Coordinate</u> installation with deck construction, vapor barrier (if any), insulation, roofing and flashing work, to provide waterproof and weatherproof installations, in accordance with Construction Details of NRCA Roofing and Waterproofing Manual.

Separate dissimilar metals by coating surfaces with bituminous coating or other permanent separation.

END OF SECTION 07700

SECTION 07900 - JOINT SEALERS

PART 1 - GENERAL

RELATED DOCUMENTS:

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

SUMMARY:

Extent of each form and type of joint sealer is indicated on drawings and schedules.

This Section includes joint sealers for the following locations:

Exterior joints in vertical surfaces and nontraffic horizontal surfaces as indicated below.

Silicone sealants:

Joints in stone coping and precast concrete/cast stone joints indicated.

Perimeter joints between wood and aluminum window frame, trim and masonry or concrete.

Joints between concrete, stucco, and masonry panels specifically indicated to be coated with elastomeric waterproof coating.

Joints between different materials listed above.

<u>Urethane sealants</u>:

Other joints indicated in contact with asphaltic or bituminous substrate.

<u>Related Sections</u>: The following sections contain requirements that relate to this section:

Special Coatings and Painting are specified in Division 9.

SYSTEM PERFORMANCES:

Provide joint sealers that have been produced and installed to establish and maintain watertight and airtight continuous seals.

SUBMITTALS:

The Bidder/Applicator of the sealant system specified in this section shall submit evidence of sealant manufacturer's approval of applicator for this specific project on manufacturer's letterhead, and copy of sample sealant warranty within four days of bid opening.

<u>Product Data</u> from manufacturers for each joint sealer product required, including instructions for joint preparation and joint sealer application.

<u>Certificates</u> from manufacturers of joint sealers attesting that their products comply with specification requirements and suitable for the use indicated.

<u>Compatibility and adhesion test reports</u> from elastomeric sealant manufacturer indicating that materials forming joint substrates and joint sealant backings have been tested for compatibility and adhesion with joint sealants. Include sealant manufacturer's interpretation of test results relative to sealant performance and recommendations for primers and substrate preparation needed to obtain adhesion.

Compatibility with elastomeric coating system manufacturer certification and test reports indicating that materials forming joint substrates and joint sealant backings have been tested for compatibility and adhesion with elastomeric coating system specified and submitted. Include elastomeric coating manufacturer's test results relative to coating performance and recommendations for primers and substrate preparation needed to obtain adhesion.

<u>Product test reports</u> for each type of joint sealers indicated, evidencing compliance with requirements specified.

<u>Preconstruction field test reports</u> indicating which products and joint preparation methods demonstrated acceptable adhesion to joint substrates.

QUALITY ASSURANCE:

<u>Single Source Responsibility for Joint Sealer Materials</u>: Obtain joint sealer materials from a single manufacturer for each different product required.

<u>Investigate materials</u> failing compatibility or adhesion tests and obtain joint sealer manufacturer's written recommendations for corrective measures, including use of specially formulated primers.

<u>Preconstruction Field Testing</u>: Prior to installation of joint sealants, field-test their adhesion to joint substrates as follows:

Locate test joints where indicated or, if not indicated, as directed by Architect.

Conduct field tests for each application indicated below:

Each type of elastomeric sealant and joint substrate indicated.

<u>Test Method</u>: Test joint sealers by hand pull method described below:

<u>Install joint sealants</u> in 5-feet joint lengths using same materials and methods for joint preparation and joint sealant installation required for completed Work. Allow sealants to cure fully before testing.

<u>Make knife cuts as follows</u>: A horizontal cut from one side of joint to the other followed by 2 vertical cuts approximately 2 inches long at side of joint and meeting horizontal cut at top of 2 inch cuts. Place a mark 1 inch from top of 2 inch piece.

<u>Use fingers to grasp</u> 2 inch piece of sealant just above 1 inch mark; pull firmly down at a 90 degree angle or more while holding a ruler along side of sealant. Pull sealant out of joint to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for 10 seconds.

<u>Report</u> whether or not sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate.

<u>Evaluation of Field Test Results</u>: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants which fail to adhere to joint substrates during testing.

<u>Inspection and approval</u> of joint preparation by Architect, Owner, and/or Manufacturer's Representative prior to application of new sealant.

<u>Test cuts</u> of completed joint sealant installation at 25 locations determined by the Architect, owner's Representative or Manufacturer's Representative to verify compliance.

<u>References:</u> 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.

ASTM D 4258-83 (1988) Standard Practice for Surface Cleaning Concrete for Coating.

ASTM D 4262-83 (1988) Test Method for pH of Chemically Cleaned Concrete Surfaces.

ASTM C-920, Type S, Grade NS, Class 25, Use T, NT, M, G, A, and O.

Federal Specification TT-S-001543 A for silicone building sealants.

Federal Specification TT-S-00230C for one-component building sealants.

DELIVERY, STORAGE, AND HANDLING:

<u>Deliver materials</u> to Project site in original unopened containers or bundles with labels informing about manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multicomponent materials.

<u>Store and handle materials</u> in compliance with manufacturers' recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

PROJECT CONDITIONS:

Environmental Conditions: Do not proceed with installation of joint sealers under the following conditions:

When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturer or below 40 deg F (4.4 deg C).

When joint substrates are wet due to rain, frost, condensation, or other causes.

<u>Joint Width Conditions</u>: Do not proceed with installation of joint sealers where joint widths are less than allowed by joint sealer manufacturer for application indicated.

<u>Joint Substrate Conditions</u>: Do not proceed with installation of joint sealers until contaminants capable of interfering with their adhesion are removed from joint substrates.

SPECIAL PROJECT SEALANT WARRANTIES

Special Project Warranties: Submit for verification at bid opening two copies of special 10 year "Sealant Guarantee" from Manufacturer, covering urethane sealant products of this section, to be issued in conjunction with the manufacturer's elastomeric coating warranty. Provide written warranties by the Contractor, and his authorized installer, agreeing to replace/repair defective materials and workmanship. Provide written warranty by the manufacturers of the sealant material agreeing to replace defective or failed materials within the specified warranty period. Repairs and replacements required because of events beyond Contractor's/Installer's/Manufacturer's control (and which exceed performance requirements) shall be completed by Contractor/Installer and paid for by the Owner.

Manufacturer's sealant warranty period is 20 years for silicone sealants. The manufacturer's sealant warranty period is 10 years for urethane sealants (to be issued in conjunction with manufacturer's elastomeric coating warranty). Warranties to be nonprorated and no penal sum.

The Contractor and Installer's warranty period is two years after date of substantial project completion with <u>no dollar limit and no penal sum</u>.

SEQUENCING AND SCHEDULING:

<u>Installation</u> of joint sealer with other products as recommended by manufacturer of sealant, and other products. Submit manufacturer's recommendation of sequence.

<u>Sequence schedule installation</u> of joint sealers as soon as possible following cut out of existing sealant, grinding and thoroughly cleaning joint, and inspection of joint preparation by Architect or Owner's Representative, unless otherwise indicated.

PART 2 - PRODUCTS

MATERIALS, GENERAL:

<u>Compatibility</u>: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

<u>Colors</u>: Provide color of exposed joint sealers indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.

ELASTOMERIC JOINT SEALANTS:

<u>Elastomeric Sealant Standard</u>: Provide manufacturer's standard neutral curing, elastomeric sealant of base polymer indicated which complies with requirements of Federal Specifications TT-S-00230C, Type II, Class A, and with ASTM C 920 requirements, including those referenced for Type, Grade, Class, and Uses.

<u>Single Part Neutral Curing Silicone Sealants</u> for concrete, aluminum and glass joints, and other joints specifically indicated; use NT: Type S, Grade NS, Class 25; and Uses NT, M, A, and O.

<u>Product</u>: Subject to compliance with the requirements, provide one of the following products:

Dow Corning 790 Silicone Sealant. Dow Corning 791 Silicone Sealant. Dow Corning 756 Silicone Sealant.

Minimum Performance Criteria:

Colors		Minimum 10 standard colors							
MIL-S-8802 Tack-Free Time, 50% RH, hours		1							
Curing Time RH @ 25 deg.C. (77 deg.F), days	7-14								
MIL-S-8802 Full Adhesion, days	14-21								
Flow, Sag or Slump, in 3-inch wide joint	None								
Working Time, minutes		10-20							
As Cured, after 7 days at 25 deg.C (77 deg.F) and 50% RH									
ASTM D 2240 Durometer Hardness, Shore A, points	15								
ASTM D 412 Ultimate Tensile Strength, max. elongation	100								
ASTM D 412 Elongation, percent maximum		1600							
MIL-S-8802 Peel Strength, lbs/in.	25								
ASTM C 1135 Tensile Adhesion									
With 25% extension		15							
With 50% extension	20								
TT-S-001543 Staining, after 14 days of 50% compression, at 158									
deg.F. on concrete, granite, limestone									
and brick		None							
Ozone Resistance		Good							
Weathering, after 6000 hours in Atlas									
Weatherometer	nange in hardness								
Joint Movement Capabilities, percent,									
Extension		+100							
Compression		-50							
Fire Endurance, hours		2							

One-Part Nonsag Urethane Sealants for Concrete, Stucco, Aluminum and other joints with one surface substrate (bond face) of asphaltic or bituminous material, unless indicated otherwise, Use NT: ASTM C-920, Type S; Grade NS; Class 25; and Uses NT, M, A, and, as applicable to joint substrates indicated, (Federal Specification TT-S-0023C, Type II, Class A).

<u>Products</u>: Subject to compliance with requirements, provide one of the following products manufactured by the elastomeric coating manufacturer.

One-Part Nonsag, low modulus, high performance, Urethane Sealant for Use NT:

Moorlastic Urethane Acrylic Sealant - 465, Benjamin Moore & Co. VIP 5780 Urethane Fortified Ter-Polymer Sealant, VIP/Lighthouse Products Sikaflex 15 LM; Sika

**** <u>Applicator</u> to verify sealant manufacturer will provide specified warranty and products will comply with performance criteria.****

MISCELLANEOUS MATERIALS:

<u>Primer</u>: Provide type recommended by joint sealer manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint sealer-substrate tests and field tests.

<u>Cleaners for Nonporous Surfaces</u>: Provide nonstaining, chemical cleaners of type which are acceptable to manufacturers of sealants and sealant backing materials, which are not harmful to substrates and adjacent nonporous materials, and which do not leave oily residues or otherwise have a detrimental effect on sealant adhesion or in-service performance.

<u>Masking Tape</u>: Provide nonstaining, nonabsorbent type compatible with joint sealants and to surfaces adjacent to joints.

PART 3 - EXECUTION

EXAMINATION:

<u>Examine joints indicated to receive joint sealers</u>, with Installer present, for compliance with requirements for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealer performance. Do not proceed with installation of joint sealers until unsatisfactory conditions have been corrected.

PREPARATION:

<u>Surface Cleaning of Joints</u>: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements:

Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; old joint sealers; oil; grease; waterproofing; water repellents; water; surface dirt; and frost.

Clean concrete, masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.

Remove laitance and form release agents from concrete.

Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile; and other nonporous surfaces by chemical cleaners or other means, which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.

<u>Joint Priming</u>: Prime joint substrates where indicated or where recommended by joint sealer manufacturer based on preconstruction joint sealer-substrate tests or prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.

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

INSTALLATION OF JOINT SEALERS:

<u>General</u>: Comply with joint sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.

<u>Elastomeric Sealant Installation Standard</u>: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications and conditions indicated.

<u>Installation of Sealant Backing</u>: Install sealant backings to comply with the following requirements:

Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealant relative to joint widths which allow optimum sealant movement capability.

Do not leave gaps between ends of joint fillers.

Do not stretch, twist, puncture, or tear joint fillers.

Remove absorbent joint fillers that have become wet prior to sealant application and replace with dry material.

Install bond breaker tape between sealants and joint fillers, compression seals or back of joints where required to prevent third-side adhesion of sealant to back of joint.

<u>Installation of Sealants</u>: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.

<u>Tooling of Nonsag Sealants</u>: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

<u>Provide concave joint configuration</u> per Figure 6A in ASTM C 1193, unless otherwise indicated.

Provide flush joint configuration per Figure 6B in ASTM C 1193, where indicated.

Use masking tape to protect adjacent surfaces of recessed tooled joints.

CLEANING:

<u>Clean off excess sealants</u> or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

PROTECTION:

<u>Protect joint sealers</u> during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

END OF SECTION 07900

SECTION 08 11 13 - STEEL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

- A. Extent of standard steel doors and frames is indicated and scheduled on drawings.
- B. Finish hardware is specified elsewhere in Division-8.
- C. Building in of anchors and grouting of frames in masonry construction is specified in Division 4.

1.3 QUALITY ASSURANCE:

- A. Provide doors and frames complying with Steel Door Institute "Recommended Specifications: Standard Steel Doors and Frames" (SDI-100) and as herein specified.
- B. <u>Fire-Rated Door Assemblies</u>: Where fire-rated door assemblies are indicated or required, provide fire-rated door and frame assemblies that comply with NFPA 80 "Standard for Fire Doors and Windows", and have been tested, listed, and labeled in accordance with ASTM E 152 "Standard Methods of Fire Tests of Door Assemblies" by a nationally recognized independent testing and inspection agency acceptable to authorities having jurisdiction.

1.4 **SUBMITTALS**:

- A. <u>Product Data</u>: Submit manufacturer's technical product data substantiating that products comply with requirements.
- B. <u>Shop Drawings</u>: Submit for fabrication and installation of steel doors and frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.
 - 1. Provide schedule of doors and frames using same reference numbers for details and openings as those on contract drawings.
 - 2. Indicate coordination of glazing frames and stops with glass and glazing requirements.
- C. <u>Label Construction Certification</u>: For door assemblies required to be fire-rated and exceeding sizes of tested assemblies, submit manufacturer's certification for that each door and frame assembly has been constructed to conform to design, materials and construction equivalent to requirements for labeled construction.

1.5 DELIVERY, STORAGE AND HANDLING:

- A. Deliver hollow metal work cartoned or crated to provide protection during transit and job storage. Provide additional sealed plastic wrapping for factory finished doors.
- B. Inspect hollow metal work upon delivery for damage. Minor damages may be repaired provided refinished items are equal in all respects to new work and acceptable to Architect; otherwise, remove and replace damaged items as directed.
- C. Store doors and frames at building site under cover. Place units on minimum 4" high wood blocking. Avoid use of non-vented plastic or canvas shelters which could create humidity chamber. If cardboard wrapper on door becomes wet, remove carton immediately. Provide 1/4" spaces between stacked doors to promote air circulation.

PART 2 - PRODUCTS

2.1 <u>ACCEPTABLE MANUFACTURERS</u>:

- A. <u>Acceptable Manufacturers</u>: Subject to compliance with requirements, manufacturers offering steel doors and frames which may be incorporated in the work include, but are not limited to, the following:
 - 1. Steel Doors and Frames, (General):
 - a. Allied Steel Products, Inc.
 - b. Amweld/Div. American Welding & Mfg. Co.
 - c. Ceco Corp.
 - d. Copco Door Co.
 - e. Curries Mfg., Inc.
 - f. Kewanee Corp.
 - g. Mesker Industries, Inc.
 - h. Steelcraft/Div. American Standard Co.
 - i. Trussbilt, Inc.
 - j. Republic Builders Products Corp./Subs. Republic Steel.

2.2 <u>MATERIALS</u>:

- A. <u>Hot-Rolled Steel Sheets and Strip</u>: Commercial quality carbon steel, pickled and oiled, complying with ASTM A 569 and ASTM A 568.
- B. <u>Cold-Rolled Steel Sheets</u>: Commercial quality carbon steel, complying with ASTM A 366 and ASTM A 568.
- C. <u>Galvanized Steel Sheets</u>: Zinc-coated carbon steel sheets of commercial quality, complying with ASTM A 526, with ASTM A 525, G60 zinc coating, mill phosphatized.
- D. Supports and Anchors: Fabricate of not less than 18 gage galvanized sheet steel.
- E. Inserts, Bolts and Fasteners: Manufacturer's standard units, except hot-dip galvanize

items to be built into exterior walls, complying with ASTM A 153, Class C or D as applicable.

F. Shop Applied Paint:

1. <u>Primer</u>: Rust-inhibitive enamel or paint, either air-drying or baking, suitable as a base for specified finish paints.

2.3 FABRICATION, GENERAL:

- A. Fabricate steel door and frame units to be rigid, neat in appearance and free from defects, warp or buckle. Wherever practicable, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory assembled before shipment, to assure proper assembly at project site. Comply with SDI-100 requirements as follows:
 - 1. Interior Doors: SDI-100, Grade II, heavy-duty, Model 1, minimum 18-gage faces.
 - 2. <u>Exterior Doors</u>: SDI-100, Grade III, extra heavy-duty, Model 2, minimum 16-gage faces.
- B. Fabricate exposed faces of doors and panels, including stiles and rails of nonflush units, from only cold-rolled steel.
- C. Fabricate frames, concealed stiffeners, reinforcement, edge channels, louvers and moldings from either cold-rolled or hot- rolled steel (at fabricator's option).
- D. Fabricate exterior doors, panels, and frames from galvanized sheet steel. Close top and bottom edges of exterior doors as integral part of door construction or by addition of minimum 16-gage inverted steel channels.
- E. <u>Exposed Fasteners</u>: Unless otherwise indicated, provide countersunk flat Phillips heads for exposed screws and bolts.
- F. <u>Finish Hardware Preparation</u>: Prepare doors and frames to receive mortised and concealed finish hardware in accordance with final Finish Hardware Schedule and templates provided by hardware supplier. Comply with applicable requirements of ANSI A115 series specifications for door and frame preparation for hardware.
- G. Reinforce doors and frames to receive surface-applied hardware. Drilling and tapping for surface-applied finish hardware may be done at project site.
- H. Locate finish hardware as indicated on final shop drawings or, if not indicated, in accordance with "Recommended Locations for Builder's Hardware", published by Door and Hardware Institute.

I. Shop Painting:

- 1. Clean, treat, and paint exposed surfaces of steel door and frame units, including galvanized surfaces.
- 2. Clean steel surfaces of mill scale, rust, oil, grease, dirt, and other foreign materials before application of paint.

J. Apply shop coat of prime paint of even consistency to provide a uniformly finished surface ready to receive finish paint.

2.4 STANDARD STEEL DOORS:

A. Provide metal doors of types and styles indicated on drawings or schedules.

B. Door Louvers:

1. Provide sightproof stationary louvers for interior doors where indicated, constructed of inverted V-shaped or Y-shaped blades formed of 24-gage cold-rolled steel set into 20-gage steel frame.

2.5 STANDARD STEEL FRAMES:

- A. Provide metal frames for doors, transoms, sidelights, borrowed lights, and other openings, of types and styles as shown on drawings and schedules. Conceal fastenings, unless otherwise indicated. Fabricate frames of minimum 16-gage cold-rolled furniture steel.
 - 1. Fabricate frames with metered corners, welded construction for exterior applications and interior masonry wall applications, knocked-down for field assembly at interior applications.
 - 2. Form exterior frames of hot dip galvanized steel.
- B. <u>Door Silencers</u>: Except on weatherstripped frames, drill stops to receive 3 silencers on strike jambs of single-swing frames and 2 silencers on heads of double-swing frames.
- C. <u>Plaster Guards</u>: Provide 26-gage steel plaster guards or mortar boxes, welded to frame, at back of finish hardware cutouts where mortar or other materials might obstruct hardware operation and to close off interior of openings.

PART 3 - EXECUTION

3.1 <u>INSTALLATION</u>:

- A. <u>General</u>: Install standard steel doors, frames, and accessories in accordance with final shop drawings, manufacturer's data, and as herein specified.
- B. <u>Placing Frames</u>: Comply with provisions of SDI-105 "Recommended Erection Instructions For Steel Frames", unless otherwise indicated.
 - Except for frames located at in-place concrete or masonry and at drywall installations, place frames prior to construction of enclosing walls and ceilings. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders leaving surfaces smooth and undamaged.
 - 2. In masonry construction, locate 3 wall anchors per jamb at hinge and strike levels.
 - 3. At in-place concrete or masonry construction, set frames and secure to adjacent construction with machine screws and masonry anchorage devices.
 - 4. Install fire-rated frames in accordance with NFPA Std. No. 80.
 - 5. In metal stud partitions, install at least 3 wall anchors per jamb at hinge and strike

levels. In open steel stud partitions, place studs in wall anchor notches and wire tie. In closed steel stud partitions, attach wall anchors to studs with tapping screws.

C. Door Installation:

- 1. Fit hollow metal doors accurately in frames, within clearances specified in SDI-100.
- 2. Place fire-rated doors with clearances as specified in NFPA Standard No. 80.

3.2 ADJUST AND CLEAN:

- A. <u>Prime Coat Touch-up</u>: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.
- B. <u>Protection Removal</u>: Immediately prior to final inspection, remove protective plastic wrappings from prefinished doors.
- C. <u>Final Adjustments</u>: Check and readjust operating finish hardware items, leaving steel doors and frames undamaged and incomplete and proper operating conditions.

END OF SECTION 08 11 13

SECTION 08 51 13 - ALUMINUM WINDOWS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes fixed aluminum-framed windows for exterior locations.
- B. Related Sections include the following:
 - Division 8 Section "Glass and Glazing".

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project Site
 - 1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 2. Review and discuss the finishing of aluminum windows that is required to be coordinated with the finishing of other aluminum work for color and finish matching.
 - 3. Review, discuss, and coordinate the interrelationship of aluminum windows with other exterior wall components. Include provisions for anchorage, flashing, sealing perimeters, and protecting finishes.
 - 4. Review and discuss the sequence of work required to construct a watertight and weathertight exterior building envelope.
 - 5. Inspect and discuss the condition of substrate and other preparatory work performed by other trades.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide aluminum windows capable of complying with performance requirements indicated, based on testing manufacturer's windows that are representative of those specified, and that are of minimum test size indicated below:
 - 1. Size indicated in schedules and on drawings.
- B. Structural Performance: Provide aluminum windows capable of withstanding the effects of the following loads, based on testing units representative of those indicated for Project that pass AAMA/WDMA 101/I.S.2/NAFS, Uniform Load Structural Test:

1. Design Wind Loads: Determine design wind loads applicable to Project from basic wind speed indicated in miles per hour at 33 feet above grade, according to ASCE 7, Section 6.5, "Method 2-Analytical Procedure," based on mean roof heights above grade indicated on Drawings.

a. Ultimate Wind Speed: 130 mph

b. Risk Category: IIIc. Exposure Category: C

2. Deflection: Design glass framing system to limit lateral deflections of glass edges to less than 1/175 of glass-edge length, at design pressure based on testing performed according to AAMA/WDMA 101/I.S.2/NAFS, Uniform Load Deflection Test or structural computations.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for aluminum windows.
- B. Shop Drawings: Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.
- C. Samples: For each exposed product and for each color specified, 6 inches in size.
- D. Samples for Initial Selection: For units with factory-applied color finishes.
 - 1. Include similar Samples of hardware and accessories involving color selection.
- E. Samples for Verification: For aluminum windows and components required, showing full range of color variations for finishes, and prepared on Samples of size indicated below:
 - 1. Exposed Finishes: 6 inches.
 - 2. Exposed Hardware: Full-size units.
- F. Product Schedule: For aluminum windows. Use same designations indicated on Drawings.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Manufacturer and Installer.
- B. Product Test Reports: For each type of aluminum window, for tests performed by a qualified testing agency.
- C. Field quality-control reports.

D. Sample Warranties: For manufacturer's warranties.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An installer acceptable to aluminum window manufacturer for installation of units required for this Project.
 - 1. Installer's responsibilities include providing professional engineering services needed to assume engineering responsibility.
 - 2. Engineering Responsibility: Preparation of data for aluminum windows, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project. Wind load calculations based on provided wind load zones.
- B. Manufacturer Qualifications: A manufacturer capable of fabricating aluminum windows that meet or exceed performance requirements indicated and of documenting this performance by inclusion in lists and by labels, test reports, and calculations.
- C. Source Limitations: Obtain aluminum windows through one source from a single manufacturer.
- D. Product Options: Information on Drawings and in Specifications establishes requirements for aluminum windows' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.
- E. Product Options: Drawings indicate size, profiles, and dimensional requirements of aluminum windows and are based on the specific system indicated. Refer to Division 1 Section "Product Requirements." Do not modify size and dimensional requirements.
 - 1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.
- F. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockup for type(s) of window(s) indicated, in location(s) shown on Drawings.
 - 2. Approval of mockup does not constitute approval of deviations from the Contract Documents contained in mockup unless Architect specifically approves such deviations in writing.

1.8 PROJECT CONDITIONS

A. Field Measurements: Verify aluminum window openings by field measurements before fabrication and indicate measurements on Shop Drawings.

1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish opening dimensions and proceed with fabricating aluminum windows without field measurements. Coordinate wall construction to ensure that actual opening dimensions correspond to established dimensions.

1.9 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace aluminum windows that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Failure to meet performance requirements.
 - b. Structural failures including excessive deflection, water leakage, condensation, and air infiltration.
 - c. Faulty operation of movable sash and hardware.
 - d. Deterioration of materials and finishes beyond normal weathering.
 - e. Failure of insulating glass.

2. Warranty Period:

- a. Window: 5 years from date of Substantial Completion.
- b. Glazing Units: 10 years from date of Substantial Completion.
- c. Aluminum Finish: 5 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- C. Basis-of-Design Product: Subject to compliance with requirements, provide Winco Series 1150, 2" fixed and casement windows or a comparable product by one of the following:
 - 1. EFCO Corporation.
 - 2. Columbia
 - 3. Quaker
- D. Other Manufacturers requesting approval to bid their product as an equal must submit the following information ten days prior to bid.
 - 1. A sample window, 2'-0" x 3'-0" single unit.

- 2. Test reports from an independent laboratory that certifies that the proposed product meets or exceeds the performance requirements of Section 1.4. Test reports shall be no more than 4 years old.
- 3. Proper Florida Product Approval Documentation.
- E. Glass and Glazing: All units shall be factory glazed.

2.2 MATERIALS

- A. Aluminum Extrusions: Extruded aluminum shall be 6063-T5 or T6 alloy and tempered.
- B. Fasteners: Aluminum, nonmagnetic stainless steel or other materials warranted by manufacturer to be noncorrosive and compatible with aluminum window members, trim, hardware, anchors, and other components.
 - 1. Exposed Fasteners: Unless unavoidable for applying hardware, do not use exposed fasteners. For application of hardware, use fasteners that match finish of member or hardware being fastened, as appropriate.
- C. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions; provide sufficient strength to withstand design pressure indicated.

D. Thermal Barrier:

- All exterior aluminum shall be separated from the interior aluminum by an integrally concealed, low-conductive structural thermal barrier in a manner that eliminates direct metal-to-metal contact.
- 2. Thermal barrier de-bridge space shall not be less than 3/16".
- 3. Thermal barrier shall be poured-in-place two-part polyurethane that has been in use on similar units for a period of not less than two years and has been tested to demonstrate:
 - a. Resistant to thermal conductance and condensation.
 - b. Adequate strength and security of glass retention.
- E. Hot Melt Silicone and Glazing Bead:
 - 1. Hot Melt Silicone shall conform to AAMA 800 specification.
 - 2. Glazing beads shall be extruded aluminum and shall be of sufficient strength to retain the glass.
- F. Sealant: For sealants required within fabricated windows, provide window manufacturer's standard, permanently elastic, nonshrinking, and nonmigrating type recommended by sealant manufacturer for joint size and movement.

2.3 WINDOW PERFORMANCE REQUIREMENTS

A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.

- 1. Window Certification: AMMA certified with label attached to each window.
- B. Coefficient (SHGC): NFRC 200 maximum whole-window SHGC of 0.40
- C. Visible Light Transmittance of no less than 70%

2.4 ALUMINUM WINDOWS

- A. Operating Types: Provide the following operating types in locations indicated on Drawings:
 - 1. Fixed and Casement
- B. Frames and Sashes: Aluminum extrusions complying with AAMA/WDMA/CSA 101/I.S.2/A440.
 - Thermally Improved Construction: Fabricate frames, sashes, and muntins with an integral, concealed, low-conductance thermal barrier located between exterior materials and window members exposed on interior side in a manner that eliminates direct metal-to-metal contact.
- C. Insulating-Glass Units: ASTM E 2190
 - 1. Glass: ASTM C 1036, Type 1, Class 1, q3. 1" insulated glass unit consisting of ¼" clear exterior, ½" air space and ¼" clear interior. Basis of Design PPG Solarban 60 Clear on Clear.
 - a. Acceptable Manfacturers:
 - 1) PPG
 - 2) Cardinal
 - 3) Guardian
 - 2. Lites: Two.
 - 3. Filling: Fill space between glass lites with air.
 - 4. Low-E Coating: 2 layers of pyrolytic on second surface.
- D. Fire Rated Insulating-Glass Units: ASTM E774, Class A.
 - 1. Glass: 1" insulated glass unit consisting of ¼" clear exterior, ½" air space and ¼" clear FireLite with premium finish (for installation into a 2 hour fire rated barrier).
 - 2. Lites: Two.
 - 3. Filling: Fill space between glass lites with air.
 - 4. Low-E Coating: 2 layers of pyrolytic on second surface.

2.5 ACCESSORIES

- A. Interior Trim: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.
- B. Panning Trim: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.

C. Receptor System: Two-piece, snap-together, thermally broken, extruded-aluminum receptor system that anchors windows in place.

2.6 FABRICATION

- A. Fabricate aluminum windows in sizes indicated. Include a complete system for assembling components and anchoring windows.
- B. Glaze aluminum windows in the factory.
- C. Weather strip each operable sash to provide weathertight installation.
- D. Weep Holes: Provide weep holes and internal passages to conduct infiltrating water to exterior.
- E. Provide water-shed members above side-hinged sashes and similar lines of natural water penetration.
- F. Mullions: Provide mullions and cover plates, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections, as indicated. Provide mullions and cover plates capable of withstanding design wind loads of window units.
- G. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation.

2.7 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.8 ALUMINUM FINISHES

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

- B. High-Performance Organic Finish (Two-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coating; Organic Coating: manufacturer's standard two-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 50 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2604 with coating and resin manufacturers' written instructions.
 - 1. Color and Gloss: Brushed aluminum

2.9 EXAMINATION

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.
- C. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

2.10 INSTALLATION

- A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.
- B. Install windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.
- C. Install windows and components to drain condensation, water penetrating joints, and moisture migrating within windows to the exterior.
- D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

2.11 FIELD QUALITY CONTROL

- A. Testing Agency: Owner/Architect will engage a qualified testing agency to perform tests and inspections.
 - 1. Testing and inspecting agency will interpret tests and state in each report whether tested work complies with or deviates from requirements.

- B. Testing Services: Testing and inspecting of installed windows shall take place as follows:
 - 1. Testing Methodology: Testing of windows for air infiltration and water resistance shall be performed according to AAMA 502.
 - 2. Air-Infiltration Testing:
 - a. Test Pressure: 6.24 psf in accordance with ASTM E 283
 - b. Allowable Air-Leakage Rate: 0.1 cfm per square foot of crack
 - 3. Water-Resistance Testing:
 - a. Test Pressure: 15 psf in accordance with ASSTM E 331 and ASTM E 547
 - b. Allowable Water Infiltration: No water penetration.
 - 4. Testing Extent: Three windows of each type as selected by Architect and a qualified independent testing and inspecting agency. Windows shall be tested after perimeter sealants have cured.
 - 5. Test Reports: Prepared according to AAMA 502.
- C. Remove and replace noncomplying windows and retest as specified above.
- D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- E. Prepare test and inspection reports.

2.12 ADJUSTING, CLEANING, AND PROTECTION

- A. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.
- B. Clean exposed surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
 - 1. Keep protective films and coverings in place until final cleaning.
- C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.
- D. Protect window surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written instructions.

END OF SECTION 08 51 13

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes items known commercially as finish or door hardware that are required for swing, sliding, and folding doors, except special types of unique hardware specified in the same sections as the doors and door frames on which they are installed.
- B. This Section includes the following:
 - 1. Hinges.
 - 2. Pivots.
 - 3. Lock and latch sets.
 - 4. Electric Strikes
 - 5. Flush Bolts.
 - 6.Exit devices.
 - 7. Push/pull units.
 - 8. Closers.
 - 9.Door Seals.
 - 10.Thresholds.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 8 Section "Standard Steel Doors and Frames" for silencers integral with hollow metal frames.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification sections.
- B. Product data including manufacturers' technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
- C. Final hardware schedule coordinated with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Final Hardware Schedule Content: Based on hardware indicated, organize schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:
 - a. Type, style, function, size, and finish of each hardware item.

- b. Name and manufacturer of each item.
- c. Fastenings and other pertinent information.
- d. Location of each hardware set cross referenced to indications on Drawings both on floor plans and in door and frame schedule.
- e. Explanation of all abbreviations, symbols, and codes contained in schedule.
- f. Mounting locations for hardware.
- g. Door and frame sizes and materials.
- h. Keying information.

1.4 QUALITY ASSURANCE

- A. Single Source Responsibility: Obtain each type of hardware (latch and lock sets, hinges, closers, etc.) from a single manufacturer.
- B. Fire-Rated Openings: Provide door hardware for fire-rated openings that complies with NFPA Standard No. 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by UL, Warnock Hersey, FM, or other testing and inspecting organization acceptable to authorities having jurisdiction for use on types and sizes of doors indicated in compliance with requirements of fire-rated door and door frame labels.

1.5 PRODUCT HANDLING

- A. Packaging of door hardware is responsibility of supplier. As material is received by hardware supplier from various manufacturers, sort and repackage in containers clearly marked with appropriate hardware set number to match set numbers of approved hardware schedule. Two or more identical sets may be packed in same container.
- B. Deliver individually packaged door hardware items promptly to place of installation (shop or Project site).
- C. Provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items that are not immediately replaceable so that completion of the Work will not be delayed by hardware losses both before and after installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
 - 1. Butts and Hinges:
 - a. Stanley Hardware, Div. Stanley Works, *Basis of Design.
 - b. Hager Hinge Co.
 - c. McKinney Products Co.

2. Pivots:

- a. Hager Hinge Co., *Basis of Design.
- b. Stanley Hardware, Div. Stanley Works
- c. Glynn-Johnson Corp.
- d. LCN, Div. Ingersoll-Rand Door Hardware Group.
- e. Norton Door Controls, Div. Yale Security Inc.
- f. Rixson-Firemark, Div. Yale Security Inc.
- 3. Exit/Panic Devices:
 - a. Corbin & Russwin Architectural Hardware, *Basis of Design.
 - b. Adams Rite Manufacturing Co.
 - c. Dor-O-Matic.
 - d. Monarch Hardware & Mfg. Co., Div Newman Tonks, Inc.
 - e. Precision Hardware, Inc.
 - f. Reed Exit Hardware, Div. Yale Security Inc.
 - g. Sargent Manufacturing Company.
 - h. Von Duprin, Div. Ingersoll-Rand Door Hardware Group.
 - i. Yale Security Inc.
- 4. Push/Pull Units:
 - a. Rockwood Manufacturing Company, *Basis of Design.
 - b. Baldwin Hardware Corp.
 - c. Brookline Industries, Div. Yale Security Inc.
 - d. Corbin & Russwin Architectural Hardware
 - e. Hager Hinge Co.
- 5. Lockset / Latchset:
 - a. Corbin-Russwin Architectural Hardware, *Basis of Design.
 - b. Yale Security Inc.
 - c. Cal Royal
- 6. Electric Strikes:
 - a. HES Inc. *Basis of Design.
 - b. Folger Adam
 - c. Von Duprin
- 7. Flush Bolts:
 - a. Hiawatha, Inc., *Basis of Design.
 - b. Rockwood Manufacturing Co.
 - c. H. B. Ives
- 8. Overhead Closers:
 - a. LCN
 - *Basis of Design DC 8000 Series*
 - b. Dorma Door Controls International.
 - c. LCN, Div. Ingersoll-Rand Door Hardware Group.
- 9. Kick, Mop, and Armor Plates:
 - a. Rockwood Manufacturing Co. *Basis of Design
 - b. Brookline Industries, Div. Yale Security Inc.
 - c. Corbin & Russwin Architectural Hardware, Div. Black & Decker Corp.
 - d. Hager Hinge Co.
 - e. Hiawatha, Inc.

- f. H. B. Ives, A Harrow Company.
- g. Baldwin Hardware Corp.
- 10. Astragal:
 - a. National Guard Products, Inc., *Basis of Design.
 - b. Hager Hinge Co.
 - c. Pemko Manufacturing Co., Inc.
- 11. Door Stripping and Seals:
 - a. National Guard Products, Inc., *Basis of Design.
 - b. Hager Hinge Co.
 - c. Pemko Manufacturing Co., Inc.
- 12. Thresholds:
 - a. National Guard Products, Inc., *Basis of Design.
 - b. Hager Hinge Co.
 - c. Pemko Manufacturing Co., Inc.

2.2 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated in the "Hardware Schedule" on the drawings in the door schedule. Products are identified by using hardware designation numbers of the following:
 - Manufacturer's Product Designations: The product designation and name of one manufacturer are listed for each hardware type required for the purpose of establishing minimum requirements. Provide either the product designated or, where more than one manufacturer is specified under the Article "Manufacturers" in Part 2 for each hardware type, the comparable product of one of the other manufacturers that complies with requirements.
 - 2. ANSI/BHMA designations used elsewhere in this Section or in schedules to describe hardware items or to define quality or function are derived from the following standards. Provide products complying with these standards and requirements specified elsewhere in this Section.
 - a. Butts and Hinges: ANSI/BHMA A156.1.
 - b. Bored and Preassembled Locks and Latches: ANSI/BHMA A156.2.
 - c. Exit Devices: ANSI/BHMA A156.3.
 - d. Door Controls Closers: ANSI/BHMA A156.4.
 - e. Auxiliary Locks and Associated Products: ANSI/BHMA A156.5.
 - f. Architectural Door Trim: ANSI/BHMA A156.6.
 - g. Template Hinge Dimensions: ANSI/BHMA A156.7.
 - h. Door Controls Overhead Holders: ANSI/BHMA A156.8.
 - i. Interconnected Locks and Latches: ANSI/BHMA A156.12.
 - j. Mortise Locks and Latches: ANSI/BHMA A156.13.
 - k. Sliding and Folding Door Hardware: ANSI/BHMA A156.14.
 - I. Closer Holder Release Devices: ANSI/BHMA A156.15.
 - m. Auxiliary Hardware: ANSI/BHMA A156.16.
 - n. Materials and Finishes: ANSI/BHMA A156.18.

2.3 MATERIALS AND FABRICATION

A. Door Hardware:

- 1. Quality Level: Vandal resistant commercial.
- 2. Locksets and Latchsets: Cylinder type.
- 3. Lock Cylinders: Integral.
- 4. Lock Cylinders: Interchangeable.
- 5. Keying: Owner's requirements.
- 6. Hinges and Butts: Full mortised type with nonremovable pins at exterior doors.
- 7. Closers, Door Control, and Exit Devices: High frequency.
- 8. Closers, Door Control, and Exit Devices: Barrier-free.
- 9. Pivots: Center-hung type.
- 10. Push/Pull Units: Through-bolted type.
- 11. Hardware Finishes: Satin stainless finish on exposed surfaces.

B. Auxiliary Materials:

- 1. Door Trim Units: Kickplates, edge trim, and mail drops, and related trim.
- 2. Stops and overhead door holders.
- 3. Sounstripping.
- 4. Weatherstripping and thresholds.
- 5. Card-operated opening devices.

2.4 HINGES, BUTTS, AND PIVOTS

- A. Templates: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- B. Screws: Provide Phillips flat-head screws complying with the following requirements:
 - 1. For metal doors and frames install machine screws into drilled and tapped holes.
 - 2. For wood doors and frames install wood screws.
 - 3. For fire-rated wood doors install #12 x 1-1/4-inch, threaded-to-the-head steel wood screws.
 - 4. Finish screw heads to match surface of hinges or pivots.
- C. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
 - 1. Out-Swing Exterior Doors: Nonremovable pins.
 - 2. Out-Swing Corridor Doors with Locks: Nonremovable pins.
 - 3. Interior Doors: Nonrising pins.
 - 4. Tips: Flat button and matching plug, finished to match leaves, except where hospital tip (HT) indicated.

- D. Number of Hinges: Provide number of hinges indicated but not less than 3 hinges per door leaf for doors 90 inches or less in height and one additional hinge for each 30 inches of additional height.
 - 1. Fire-Rated Doors: Not less than 3 hinges per door leaf for doors 86 inches or less in height with same rule for additional hinges.

2.5 LOCK CYLINDERS AND KEYING

- A. Standard System: Provide masterkey system to match Owner's exisiting buildings. Contractor to confirm keying system and hardware combatability with Owner's existing system prior to hardware submittals.
- B. Review the keying system with the Owner and provide the type required (master, grandmaster or great-grandmaster), either new or integrated with Owner's existing system.
- C. Equip locks with manufacturer's special 6-pin tumbler cylinder with construction masterkey feature that permits voiding of construction keys without cylinder removal.
- D. Equip locks with cylinders for interchangeable-core pin tumbler inserts. Furnish only temporary inserts for the construction period, and remove these when directed.
 - 1. Furnish final cores and keys for installation by Contractor after Substantial completion.
- E. Metals: Construct lock cylinder parts from brass or bronze, stainless steel, or nickel silver.
- F. Comply with Owner's instructions for masterkeying and, except as otherwise indicated, provide individual change key for each lock that is not designated to be keyed alike with a group of related locks.
 - 1. Permanently inscribe each key with number of lock that identifies cylinder manufacturer's key symbol, and notation, "DO NOT DUPLICATE."
- G. Key Material: Provide keys of nickel silver only.
- H. Key Quantity: Furnish 3 change keys for each lock, 5 master keys for each master system, and 5 grandmaster keys for each grandmaster system.
 - 1. Furnish one extra blank for each lock.
 - 2. Deliver keys to Owner.

2.6 LOCKS, LATCHES, AND BOLTS

- A. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finished to match hardware set, unless otherwise indicated.
 - 1. Provide flat lip strikes for locks with 3-piece, antifriction latchbolts as recommended by manufacturer.
 - 2. Provide recess type top strikes for bolts locking into head frames, unless otherwise indicated.

- 3. Provide dust-proof strikes for foot bolts, except where special threshold construction provides nonrecessed strike for bolt.
- 4. Provide roller type strikes where recommended by manufacturer of the latch and lock units.
- B. Lock Throw: Provide 5/8-inch minimum throw of latch on pairs of doors. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.
 - Provide 1/2-inch minimum throw of latch for other bored and preassembled types of locks and 3/4-inch minimum throw of latch for mortise locks. Provide 1-inch minimum throw for all dead bolts.
- C. Flush Bolt Heads: Minimum of 1/2-inch diameter rods of brass, bronze, or stainless steel with minimum 12-inch long rod for doors up to 84 inches in height. Provide longer rods as necessary for doors exceeding 84 inches in height.
- D. Exit Device Dogging: Except on fire-rated doors where closers are provided on doors equipped with exit devices, equip the units with keyed dogging device to keep the latch bolt retracted, when engaged.
- E. Rabbeted Doors: Where rabbeted door stiles are indicated, provide special rabbeted front on lock and latch units and bolts.

2.7 PUSH/PULL UNITS

A. Concealed Fasteners: Provide manufacturer's special concealed fastener system for installation, thru-bolted for matched pairs but not for single units.

2.8 CLOSERS AND DOOR CONTROL DEVICES

- A. Size of Units: Except as otherwise specifically indicated, comply with the manufacturer's recommendations for size of door control unit depending on size of door, exposure to weather, and anticipated frequency of use.
 - 1. Where parallel arms are indicated for closers, provide closer unit one size larger than recommended for use with standard arms.
 - 2. Provide parallel arms for all overhead closers, except as otherwise indicated.
- B. Access-Free Manual Closers: Where manual closers are indicated for doors required to be accessible to the physically handicapped, provide adjustable units complying with ANSI A117.1 provisions for door opening force and delayed action closing.
- C. Combination Door Closers and Holders: Provide units designed to hold door in open position under normal usage and to release and close door automatically under fire conditions. Incorporate an integral electromagnetic holder mechanism designed for use with UL listed fire detectors, provided with normally closed switching contacts.
 - 1. Provide integral smoke detector device in combination door closers and holders complying with UL 228.

D. Provide grey resilient parts for exposed bumpers.

2.9 DOOR TRIM UNITS

- A. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units consisting of either machine screws or self-tapping screws.
- B. Fabricate edge trim of stainless steel to fit door thickness in standard lengths or to match height of protection plates.
- C. Fabricate protection plates not more than 1-1/2 inches less than door width on hinge side and not more than 1/2 inch less than door width on pull side by height indicated.
 - 1. Metal Plates: Stainless steel, 0.050 inch (U.S. 18 gage).

2.10 WEATHERSTRIPPING AND SEALS

- A. General: Provide continuous weatherstripping on exterior doors and smoke, light, or sound seals on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.
- B. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strip is easily replaceable and readily available from stocks maintained by manufacturer.
- C. Weatherstripping at Jambs and Heads: Provide bumper-type resilient insert and metal retainer strips, surface applied unless shown as mortised or semimortised, and of following metal, finish, and resilient bumper material:
 - 1. Extruded aluminum with natural anodized finish, 0.062-inch minimum thickness of main walls and flanges.
 - 2. Extruded aluminum with color anodized finish as selected from manufacturer's standard color range, 0.062-inch minimum thickness of main walls and flanges.
 - 3. Sponge neoprene conforming to MIL R 6130, Class II (Closed Cell).
 - a. Grade A: 30 to 150 deg F, oil-resistant and self-extinguishing.
 - 4. Expanded neoprene: Cellular rubber conforming to ASTM D 1056 Type 2 (closed-cell); Class B (low-swell, oil-resistant); Grade 2 (compression-deflection of 5 9 psi); and self-extinguishing in following size:
 - a. $3/16 \times 5/8$ inch.
 - b. 1/4 x 3/4 inch.
 - c. 3/8 x 1-1/4 inches.
 - 5. Solid neoprene conforming to MIL R 6855, Class II, Grade 40.
 - a. Flexible, hollow bulb or loop insert.

2.11 THRESHOLDS

A. General: Except as otherwise indicated, provide standard metal threshold unit of type, size, and profile as shown on scheduled.

- B. Exterior Hinged or Pivoted Doors: Provide units not less than 4 inches wide, formed to accommodate change in floor elevation where indicated, fabricated to accommodate door hardware and to fit door frames, and as follows:
 - 1. For in-swinging doors provide units with interlocking lip and interior drain channel; include hook on bottom edge of door and drain pan.
 - 2. For out-swinging doors provide rabbeted type units with replaceable weatherstrip insert in stop.

2.12 HARDWARE FINISHES

- A. Match items to the manufacturer's standard color and texture finish for the latch and lock sets (or push-pull units if no latch or lock sets). New hardware to match existing finish.
- B. Provide finishes that match those established by BHMA or, if none established, match the Architect's sample.
- C. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
- D. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.
- E. The designations used in schedules and elsewhere to indicate hardware finishes are the industry-recognized standard commercial finishes, except as otherwise noted.
 - Rust-Resistant Finish: For iron and steel base metal required for exterior work and in areas shown as "High Humidity" areas (and also when designed with the suffix -RR), provide 0.2-mil thick copper coating on base metal before applying brass, bronze, nickel, or chromium plated finishes.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Mount hardware units at heights indicated in following applicable publications, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by Architect.
 - 1. "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.
- B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation or application of surface protection with finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrates involved.

- C. Set units level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- D. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

3.2 ADJUSTING, CLEANING, AND DEMONSTRATING

- A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made.
 - 1. Where door hardware is installed more than one month prior to acceptance or occupancy of a space or area, return to the installation during the week prior to acceptance or occupancy and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Instruct Owner's personnel in the proper adjustment and maintenance of door hardware and hardware finishes.

3.3 HARDWARE SCHEDULE

See drawings.

END SECTION 08 71 00

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

- A. Extent of glass and glazing work is indicated on drawings and schedules.
- B. Types of work in this section include glass and glazing for:
 - 1. Storefront/fixed window construction.
 - 2. Entrances and other doors, not indicated as "preglazed".

1.3 SYSTEM DESCRIPTION:

- A. Provide glass and glazing that has been produced, fabricated and installed to withstand normal thermal movement, wind loading and impact loading (where applicable), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glass and glazing materials and other defects in the work.
 - 1. Normal thermal movement is defined as that resulting from an ambient temperature range of 120 deg. F (67 deg. C) and from a consequent temperature range within glass and glass framing members of 180 deg. F (100 deg. C).
 - Deterioration of insulating glass is defined as failure of hermetic seal due to other causes than breakage which results in intrusion of dirt or moisture, internal condensation or fogging, deterioration of protected internal glass coating, if any, resulting from seal failure, and any other visual evidence of seal failure or performance.
 - 3. All glazing on the exterior of the building shall be hurricane/impact resistant glazing. Submit shop drawings and product information for approval.

1.4 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical data for each glazing material and fabricated glass product required, including installation and maintenance instructions.
- B. Samples: Submit, for verification purposes, 12" square samples of each type of glass indicated except for clear single pane units, and 12" long samples of each color required (except black) for each type of sealant or gasket exposed to view. Install sealant or gasket sample between two strips of material representative of adjoining framing system in color.
- C. Certificate: Submit certificates from respective manufacturers attesting that glass and glazing materials furnished for project comply with requirements.
 - Separate certification will not be required for glazing materials bearing manufacturer's permanent labels designating type and thickness of glass, provided labels represent a quality control program involving a recognized

certification agency or independent testing laboratory acceptable to authorities having jurisdiction.

D. Compatibility and Adhesion Test Report: Submit statement from sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants and interpreting test results relative to material performance, including recommendations for primers and substrate preparation needed to obtain adhesion.

1.5 QUALITY ASSURANCE:

- A. Glazing Standards: Comply with recommendations of Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual" except where more stringent requirements are indicated. Refer to those publications for definitions of glass and glazing terms not otherwise defined in this section or other referenced standards.
- B. Insulating Glass Certification Program: Provide insulating glass units permanently marked either on spacers or at least one component pane of units with appropriate certification label of inspecting and testing organization indicated below:
 - 1. Insulating Glass Certification Council (IGCC).
- C. Single Source Responsibility for Glass: To ensure consistent quality of appearance and performance, provide materials produced by a single manufacturer or fabricator for each kind and condition of glass indicated and composed of primary glass obtained from a single source for each type and class required.

1.6 DELIVERY, STORAGE, AND HANDLING:

A. Protect glass and glazing materials during delivery, storage and handling to comply with manufacturer's directions and as required to prevent edge damage to glass, and damage to glass and glazing materials from effects of moisture including condensation, of temperature changes, of direct exposure to sun, and from other causes.

1.7 PROJECT CONDITIONS:

A. Environmental Conditions: Do not proceed with glazing when ambient and substrate temperature conditions are outside the limits permitted by glazing material manufacturer or when joint substrates are wet due to rain, frost, condensation or other causes.

1.8 PERFORMANCE REQUIREMENTS:

- A. Delegated Design: Design glass, including comprehensive engineering analysis according to Florida Building Code 2010 by a qualified professional engineer, using the following design criteria:
 - Design Wind Pressures: Determine design wind pressures applicable to Project according to ASCE/SEI 7, based on heights above grade indicated on Drawings.

ii. Basic Wind Speed: 110 mphiii. Importance Factor: 1.15iv. Exposure Category: B

1.9 WARRANTY:

- A. General: Warranties shall be in addition to, and not a limitation of, other rights the Owner may have under the Contract Documents.
- B. Manufacturer's Special Project Warranty on Insulating Glass: Provide written warranty signed by manufacturer of insulating glass agreeing to furnish f.o.b. point of manufacture, freight allowed project site, within specified warranty period indicated below, replacements for those insulating glass units developing manufacturing defects. Manufacturing defects are defined as failure or hermetic seal of air space (beyond that due to glass breakage) as evidenced by intrusion of dirt or moisture, internal condensation or fogging, deterioration of protected internal glass coatings, if any, and other visual indications of seal failure or performance; provided the manufacturer's instructions for handling, installing, protecting and maintaining units have been complied with during the warranty period.
 - 1. Warranty Period: Manufacturer's standard but not less than 10 years after date of substantial completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include; but are not limited to, the following:
 - 1. Manufacturers of Heat-Treated Coated and Insulating Glass:
 - a. AFG Industries, Inc.
 - b. Cardinal IG.
 - c. Oldcastle Building Envelope
 - d. Falconer Glass Industries.
 - e. Ford Glass Division.
 - f. Guardian Industries Corp.
 - g. Hordis Brothers, Inc.
 - h. PPG Industries, Inc.
 - i. Spectrum Glass Prod. Div., H. H. Robertson Co.
 - j. Viracon, Inc.

2.2 GLASS PRODUCTS, GENERAL:

- A. Primary Glass Standard: Provide primary glass which complies with ASTM C 1036 requirements, including those indicated by reference to type, class, quality, and, if applicable, form, finish, mesh and pattern.
- B. Heat-Treated Glass Standard: Provide heat-treated glass which complies with ASTM C 1048 requirements, including those indicated by reference to kind, condition, type, quality, class, and, if applicable, form, finish, and pattern.
- C. Sizes: Fabricate glass to sizes required for glazing openings indicated, with edge clearances and tolerances complying with recommendations of glass manufacturer. Provide thicknesses indicated or, if not otherwise indicated, as recommended by glass

manufacturer for application indicated.

2.3 PRIMARY GLASS PRODUCTS:

- A. Tinted Float Glass: Type I (transparent glass, flat), Class 2 (tinted heat absorbing and light reducing), Quality q3 (glazing select), and as follows:
 - Exterior lite ¼" PPG Solarbronze, ½" air space, Interior lite ¼" PPG Solarban 60 on Clear Low E
 - Refer to requirements for sealed insulating glass units for performance characteristics of assembled units composed of tinted glass, coated or uncoated, relative to visible light transmittance, U-values, shading coefficient and visible reflectance.

2.4 HEAT-TREATED GLASS PRODUCTS:

- A. Manufacturing Process: Manufacture heat-treated glass as follows:
 - 1. By vertical (tong-held) or horizontal (roller hearth) process, at manufacturer's option, except provide horizontal process where indicated as "tongless" or "free of tong marks".
- B. Coated Tinted Heat-Treated Float Glass: Condition C (other coated glass), Type I (transparent glass, flat), Class 2 (tinted heat absorbing and light reducing), Quality q3 (glazing select), with coating type and performance characteristics complying with requirements specified under coated glass products; kind as indicated below:
 - 1. Kind FT (fully tempered) where indicated.

2.5 SEALED INSULATING GLASS UNITS:

- A. General: Provide preassembled units consisting of organically sealed panes of glass enclosing a hermetically sealed dehydrated air space and complying with ASTM E 774 for performance classification indicated as well as with other requirements specified for glass characteristics, air space, sealing system, sealant, spacer material, corner design and desiccant.
 - 1. For properties of individual glass panes making up units, refer to product requirements specified elsewhere in this section applicable to types, classes, kinds and conditions of glass products indicated.
 - 2. Provide heat-treated panes of kind and at locations where recommended by manufacturer for application indicated and tempered where indicated or where safety glass is designated or required.
 - 3. Performance characteristics designated for coated insulating glass are nominal values based on manufacturer's published test data for units with 1/4" thick panes of glass and 1/2" thick air space.
 - 4. Performance Classification per ASTM E 774: Class A.
 - 5. Thickness of Each Pane: 3/16" minimum.
 - 6. Air Space Thickness: 10/16".
 - 7. Sealing System: Manufacturer's standard.
 - 8. Spacer Material: Manufacturer's standard metal.
 - 9. Desiccant: Manufacturer's standard; either molecular sieve or silica gel or blend of both.

10. Corner Construction: Manufacturer's standard corner construction.

2.6 ELASTOMERIC GLAZING SEALANTS AND PREFORMED GLAZING TAPES:

- A. General: Provide products of type indicated and complying with the following requirements:
 - Compatibility: Select glazing sealants and tapes of proven compatibility with other materials with which they will come into contact, including glass products, seals of insulating glass units, and glazing channel substrates, under conditions of installation and service, as demonstrated by testing and field experience.
 - 2. Suitability: Comply with recommendations of sealant and glass manufacturers for selection of glazing sealants and tapes which have performance characteristics suitable for applications indicated and conditions at time of installation.
 - 3. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated which complies with ASTM C 920 requirements, including those for Type, Grade, Class and Uses.
 - 4. Colors: Provide color of exposed sealants indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.
- B. Two-Part Polysulfide Glazing Sealant: Type M; Grade NS; Class 25; Uses NT, M, G, A, and, as applicable to uses indicated, O.
- C. One-Part Non-Acid-Curing Silicone Glazing Sealant: Type S; Grade NS, Class 25; Uses NT, G, A, and, as applicable to uses indicated, O; and complying with the following requirements for modulus and additional joint movement capability.
 - 1. Medium Modulus: Tensile strength of not less than 45 nor more than 75 psi at 100 percent elongation when tested per ASTM D 412 after 14 days at 77 deg. F (20 deg. C) and 50 percent relative humidity.
 - 2. Additional capability, when tested per ASMT C 719 for adhesion and cohesion under maximum cyclic movement, to withstand the following percentage increase and decrease of joint width, as measured at time of application, and remain in compliance with other requirements of ASTM C 920.
 - a. 40 percent.
- D. Preformed Butyl-Polyisobutylene Glazing Tape: Provide manufacturer's standard solvent-free butyl-polyisobutylene formulation with a solids content of 100 percent; complying with AAMA A 804.1; in extruded tape form; non-staining and non-migrating in contact with nonporous surfaces; packaged on rolls with a release paper on one side; with or without continuous spacer rod as recommended by manufacturers of tape and glass for application indicated.
- E. Available Products: Subject to compliance with requirements, glazing sealants which may be incorporated in the work include, but are not limited to, the following:
 - 1. Two-Part Polysulfide Glazing Sealant:
 - a. "Chem-Calk 200"; Bostik Construction Products Div.
 - b. "Synthacalk GC-5"; Pecora Corp.
 - 2. One-Part Non-Acid Curing Medium-Modulus Silicone Glazing Sealant:
 - a. "Dow Corning 795"; Dow Corning Corp.
 - b. "Silpruf"; General Electric Corp.
 - c. "Gesil"; General Electric Corp.
 - d. "Spectrum 2"; Tremco, Inc.
 - 3. One-Part Non-Acid Curing Low-Modulus Silicone Glazing Sealant:

- a. "Chem-Calk 1000"; Bostik Construction Products Div.
- b. "Dow Corning 790"; Dow Corning Corp.
- c. "864"; Pecora Corp.
- d. "Omniseal"; Sonneborn Building Products Div., Rexnord Chemical Products Inc.
- e. "Spectrum 1"; Tremco, Inc.
- 4. Preformed Butyl-Polyisobutylene Glazing Tape Without Spacer Rod:
 - a. "Chem-Tape 40"; Bostik Construction Products Div.
 - b. "Extru-Seal"; Pecora Corp.
 - c. "PTI 303" Glazing Tape; Protective Treatments, Inc.
 - d. "Tremco 440 Tape"; Tremco Inc.
- 5. Preformed Butyl-Polyisobutylene Glazing Tape With Spacer Rod:
 - a. "Chem-Tape 60"; Bostik Construction Products Div.
 - b. "Shim-Seal"; Pecora Corp.
 - c. "PTI 303" Shim Tape; Protective Treatments, Inc.
 - d. "Pre-shimmed Tremco 440 Tape"; Tremco Inc.

2.7 GLAZING GASKETS:

- A. Lock-Strip Gaskets: Neoprene extrusions of size and shape indicated, fabricated into frames with molded corner units and zipper lock strips, complying with ASTM C 542; black.
- B. Dense Elastomeric Compression Seal Gaskets: Molded or extruded gaskets of material indicated below, complying with ASTM C 864, of profile and hardness required to maintain watertight seal:
 - 1. Neoprene.
 - 2. EPDM.
 - 3. Thermoplastic polyolefin rubber.
 - 4. Any material indicated above.
- C. Cellular Elastomeric Preformed Gaskets: Extruded or molded closed cell, integral-skinned neoprene of profile and hardness required to maintain watertight seal; complying with ASTM C 509, Type II; black.
- D. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:
 - 1. Manufacturers of Lock-Strip Gaskets:
 - a. Cadillac Rubber & Plastics, Inc.
 - b. Maloney Precision Products Co.
 - c. The Standard Products Co.
 - 2. Manufacturers of Preformed Gaskets:
 - a. D. S. Brown Co.
 - b. Maloney Precision Products Co.
 - c. Tremco.

2.8 MISCELLANEOUS GLAZING MATERIALS:

- A. Compatibility: Provide materials with proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.

- C. Setting Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.
- D. Spacers: Neoprene, EPDM or silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for application indicated.
- E. Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.

PART 3 - EXECUTION

3.1 EXAMINATION:

A. Require Glazier to inspect work of glass framing erector for compliance with manufacturing and installation tolerances, including those for size, squareness, offsets at corners; for presence and functioning of weep system; for existence of minimum required face or edge clearances; and for effective sealing of joinery. Obtain Glazier's written report listing conditions detrimental to performance of glazing work. Do not allow glazing work to proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION:

A. Clean glazing channels and other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrates. Remove lacquer from metal surfaces where elastomeric sealants are indicated for use.

3.3 GLAZING, GENERAL:

- A. Comply with combined printed recommendations of glass manufacturers, of manufacturers of sealants, gaskets and other glazing materials, except where more stringent requirements are indicated, including those of referenced glazing standards.
- B. Glazing channel dimensions as indicated in details are intended to provide for necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by job conditions at time of installation.
- C. Protect glass from edge damage during handling and installation; use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar. Rotate glass with flares or bevels along one horizontal edge which would occur in vicinity of setting blocks so that these are located at top of opening. Remove from project and dispose of glass units with edge damage or other imperfections of kind that, when installed, weakens glass and impairs performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.

3.4 GLAZING:

- A. Install setting blocks of proper size in sill rabbet, located one quarter of glass width from each corner, but with edge nearest corner not closer than 6" from corner, unless otherwise required. Set blocks in thin course of sealant which is acceptable for heel bead use.
- B. Provide spacers inside and out, of correct size and spacing to preserve required face clearances, for glass sizes larger than 50 united inches (length plus height), except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8" minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.
- C. Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.
- D. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
- E. Provide compressible filler rods or equivalent back-up material, as recommended by sealant and glass manufacturers, to prevent sealant from extruding into glass channel weep systems and from adhering to joints back surface as well as to control depth of sealant for optimum performance, unless otherwise indicated.
- F. Force sealants into glazing channels to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.
- G. Tool exposed surfaces of sealants to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.
- H. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage to ensure that gasket will not "walk" out when installation is subjected to movement.
- Miter cut wedge-shaped gaskets at corners and install gaskets in manner recommended by gasket manufacturer to prevent pull away at corners; seal corner joints and butt joints with sealant recommended by gasket manufacturer.
- J. Lock-Strip Gasket Glazing: Comply with ASTM C 716 and gasket manufacturer's printed recommendations. Provide supplementary wet seal and weep system unless otherwise indicated.

3.5 PROTECTION AND CLEANING:

- A. Protect exterior glass from breakage immediately upon installation by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove immediately by method recommended by glass manufacturer.
- C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less often than once a month, for build-up of dirt, scum, alkali deposits or staining. When examination reveals presence of these forms of residue, remove by method recommended by glass manufacturer.
- D. Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.
- E. Wash glass on both faces not more than 4 days prior to date scheduled for inspections

intended to establish date of substantial completion in each area of project. Wash glass by method recommended by glass manufacturer.

END OF SECTION 08 80 00

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submit Product Data.
- B. Where STC-rated assemblies are required, provide materials and construction identical to assemblies whose STC ratings were determined according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.
- C. Where fire-resistance-rated assemblies are required, provide materials and construction identical to assemblies tested according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 METAL FRAMING AND SUPPORTS

- A. Steel framing for 1-hour fire rated partitions and non-rated partitions complying with ASTM C 645.
 - 1. Studs and Runners: Clark Deitrich cold-formed galvanized steel C-studs in conformance with ASTM C-645, or equal. Contractor to verify maximum framing height of new stud wall and verify that the new wall is within the limiting heights, with a L/240, for the ProSTUD20 at 16" o.c. If not, verify that the ProSTUD20 at 12" o.c. is within the limiting heights and adjust framing as needed.
 - a. Web Depth: 3 5/8"
 - b. Flange Length: 1 1/4 inches 125 flange
 - c. Designation: ProSTUD 20 (20 ga. drywall stud), 65 ksi
 - d. Minimum thickness: 0.019 inches
 - e. Minimum design thickness: 0.020 inches
 - 2. Bracing: Provide cold rolled channel bracing at a maximum of 48" o.c., unless manufacturer provides a letter in writing that the assembly will meet all design criteria without lateral bracing.
 - 3. Hot-dip galvanized coating complying with ASTM A 653, G40 (ASTM A 653M, Z90) for framing members attached to and within 10 feet (3 m) of exterior walls.

2.2 GYPSUM BOARD

A. Interior gypsum board products in maximum lengths available to minimize end-to-end butt joints: ASTM C 36, in thickness and type indicated, with manufacturer's standard edges.

1. Basis of Design: USG sheetrock brand gypsum panels by USG Corporation for wall applications

B. Hi-Impact Gypsum Board

- 1. Basis of Design: Products of National Gypsum Company; Gold Bond Hi-Impact XP Gypsum Board.
 - a. Performance Criteria Wall Assembly STC
 - b. Panel Physical Characteristics
 - 1. Core: Fire-resistance rated gypsum core, with additives to enhance mold/mildew resistance, surface indentation resistance, impact resistance and moisture and mold resistant
 - 2. Surface paper: Abrasion resistant, 100 percent recycled content moisture/mold/mildew resistant paper on front, back and long edges
 - 3. Embedded fiberglass mesh
 - 4. Long Edges: Tapered
 - 5. Overall thickness: 5/8 inch
 - 6. Panel complies with Type X requirements of ASTM C 1396
 - 7. Surface Abrasion Resistance: Classification Level 3 in accordance with ASTM C 1629
 - 8. Indentation Resistance: Classification Level 1 in accordance with ASTM C 1629.
 - Soft Body Impact Resistance: Classification Level 3 in accordance with ASTM C 1629
 - 10. Hard Body Impact Resistance: Classification Level 3 in accordance with ASTM C 1629.
 - 11. Mold/Mildew Resistance: 10 when tested in accordance with ASTM C 1629.
- C. Fire rated type 'x' gypsum board products in maximum lengths available to minimize end-to-end butt joints: In thickness and type indicated in UL Detail U-419.

2.3 ACCESSORIES

- A. Accessories for Interior Installation: Cornerbead, edge trim, and control joints complying with ASTM C 1047, formed from steel sheet zinc coated by hot-dip process or rolled zinc or plastic.
- B. Aluminum Accessories: Extruded-aluminum accessories indicated with manufacturer's standard corrosion-resistant primer.
- C. Gypsum Board Joint Treatment Materials: Comply with ASTM C 475. Paper reinforcing tape and setting-type compounds.
- D. Miscellaneous Materials: Auxiliary materials for gypsum board construction that comply with referenced standards.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install steel framing to comply with ASTM C 754 and with ASTM C 840 requirements that apply to framing installation.
 - 1. Isolate steel framing from building structure, except at floor, to prevent structural movement from transferring loading to partitions.
 - 2. Where studs are installed directly against exterior walls, install asphalt felt strips or foam gaskets between studs and wall.
- B. Install and finish gypsum panels to comply with ASTM C 840 and GA-216.
 - 1. Isolate the perimeter of non-load-bearing gypsum board partitions where they abut structural elements, except floors, by providing a 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide space between gypsum board and the structure. Trim edges with U-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
 - 2. Where STC-rated gypsum board assemblies are required, comply with ASTM C 919 for location of edge trim and closing off sound-flanking paths around or through gypsum board assemblies.
 - 3. Install cementitious backer units to comply with ANSI A108.11.
 - 4. Single-Layer Fastening Methods: Fasten gypsum panels to supports with screws.
 - 5. Multilayer Fastening Methods: Fasten base layers and face layer separately to supports with screws.
- C. Finishing Gypsum Board Assemblies: Level 4 finish, unless otherwise indicated.

END OF SECTION 09 21 16

SECTION 09 30 00 -TILING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Porcelain tile.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product data for each type of product specified.
- C. Shop drawings indicating tile patterns and locations and widths of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.
 - 1. Locate precisely each joint and crack in tile substrates by measuring, record measurements on shop drawings, and coordinate them with tile joint locations, in consultation with Architect.
- D. Samples for initial selection purposes in form of manufacturer's color charts consisting of actual tiles or sections of tile showing full range of colors, textures, and patterns available for each type and composition of tile indicated. Include samples of grout and accessories involving color selection.
- E. Samples for verification purposes of each item listed below, prepared on samples of size and construction indicated, products involve color and texture variations, in sets showing full range of variations expected.
- F. Qualification data for firms and persons specified in "Quality Assurance" article to demonstrate their capabilities and experience. Include list of completed projects with project names, addresses, names of Architects and Owners, plus other information specified.

1.4 OUALITY ASSURANCE

- A. Single-Source Responsibility for Tile: Obtain each color, grade, finish, type, composition, and variety of tile from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.
- B. Single-Source Responsibility for Setting and Grouting Materials: Obtain ingredients of a uniform quality from one manufacturer for each cementitious and admixture component and from one source or producer for each aggregate.
- C. Installer Qualifications: Engage an experienced Installer who has successfully completed tile installations similar in material, design, and extent to that indicated for Project.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement of ANSI A137.1 for labeling sealed tile packages.
- B. Prevent damage or contamination to materials by water, freezing, foreign matter, and other causes.
- C. Handle tile with temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If despite these precautions coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

1.6 PROJECT CONDITIONS

- A. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturer's printed recommendations.
- B. Vent temporary heaters to exterior to prevent damage to tile work from carbon dioxide buildup.
- C. Maintain temperatures at 50 deg F (10 deg C) or more in tiled areas during installation and for 7 days after completion, unless higher temperatures are required by referenced installation standard or manufacturer's instructions.

1.7 EXTRA MATERIALS

- A. Deliver extra materials to Owner. Furnish extra materials that match products installed as described below, packaged with protective covering for storage and identified with labels clearly describing contents.
 - 1. Tile and Trim Units: Furnish quantity of full-size units equal to 2 percent of amount installed, for each type, composition, color, pattern, and size.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide products by one of the following:
 - 1. Porcelain Floor and Wall Tile:
 - a. Crossville
 - b. Dal-Tile
 - 2. Water-Cleanable Tile Setting Epoxy Adhesives:
 - a. American Olean Tile Co., Inc.
 - b. Atlas Minerals & Chemicals, Inc.
 - c. Summitville Tiles, Inc.
 - 3. Chemical-Resistant, Water-Cleanable Tile Grouting Epoxies:
 - a. American Olean Tile Co., Inc.
 - b. Atlas Minerals & Chemicals, Inc.
 - c. Bostik Construction Products Div.
 - d. C-Cure Chemical Co.
 - e. L & M Mfg. Inc.

- f. Mapei Corp.
- g. Summitville Tiles, Inc.
- 4. Modified Epoxy Emulsion Mortars and Grouts:
 - a. Boiardi Products Corp.
 - b. Bostik Construction Products Div.
 - c. Custom Building Products
 - d. C-Cure Chemical Co.
 - e. L&M Mfg. Inc.
 - f. Summitville Tiles, Inc.
- 5. Manufacturers of Chemical-Resistant Joint Sealants:
 - a. Atlas Minerals & Chemicals Inc.
 - b. Pennwalt Corp.

2.2 PRODUCTS - GENERAL

- A. ANSI Standard for Ceramic Tile: Comply with ANSI A137.1 "American National Standard Specifications for Ceramic Tile" for types, compositions, and grades of tile indicated.
 - 1. Furnish tile complying with "Standard Grade" requirements unless otherwise indicated.
- B. ANSI Standard for Tile Installation Materials: Comply with ANSI standard referenced with products and materials indicated for setting and grouting.
- C. Coefficient of friction of wearing surfaces: Dry values of more than .70. Wet values of more than .60.
- D. Colors, Textures, and Patterns: Where manufacturer's standard products are indicated for tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, provide specific products or materials complying with the following requirements:
 - 1. Match color, texture, and pattern indicated by reference to manufacturer's standard designations for these characteristics.
 - 2. Provide selections made by Architect from manufacturer's full range of standard colors, textures, and patterns for products of type indicated.
 - 3. Provide tile trim and accessories that match color and finish of adjoining flat tile.
- E. Factory Blending: For tile exhibiting color variations within the ranges selected during sample submittals, blend tile in factory and package accordingly so that tile units taken from one package show the same range in colors as those taken from other packages and match approved samples.
 - Where tile is indicated for installation in swimming pools, on exteriors or in wet areas, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies that this type of mounting is suitable for these kinds of uses and has been successfully used on other projects.
- F. Factory-Applied Temporary Protective Coating: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating them with a continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces.

2.3 TILE PRODUCTS

- A. Porcelain Floor Tile: Provide the following:
 - 1. Basis of Design: Crossville, Cross-Sheen

- 2. Coefficient of Friction of wearing surfaces: Dry value of more than.7; Wet values of more than .60.
- 3. Moisture Absorption: Less than 3.0%.
- 4. Nominal Facial Dimensions: 1"x1", 2"x2", and 12" by 12" square.
- 5. Nominal Thickness: 3/8 inch.
- 6. Face: Square.
- 7. Color: As specified in construction drawings, sheet A000.
- B. Trim Units: Provide tile trim units to match characteristics of adjoining wall tile and to comply with following requirements:
 - 1. Size: As indicated, coordinated with sizes and coursing of adjoining flat tile where applicable.

2.4 SETTING MATERIALS

- A. Portland Cement Mortar Installation Materials: Provide materials complying with ANSI A108.1.
- B. Chemical-Resistant, Water-Cleanable Ceramic Tile Setting and Grouting Epoxy: ANSI A118.3.

2.5 GROUTING MATERIALS

A. Chemical-Resistant Epoxy Grout: ANSI A118.3, color as selected by Architect from full range of standard colors.

2.6 ELASTOMERIC SEALANTS

- A. General: Provide manufacturer's standard chemically curing, elastomeric sealants of base polymer indicated that comply with requirements of Division 7 Section "Joint Sealers," including ASTM C 920 as referenced by Type, Grade, Class, and Uses.
- B. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints unless otherwise indicated.
- C. One-Part Mildew-Resistant Silicone Sealant: Type S; Grade NS; Class 25; Uses NT, G, A, and as applicable to nonporous joint substrates indicated, O; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and temperature extremes.
- D. Products: Subject to compliance with requirements, provide one of the following:
 - 1. One-Part Mildew-Resistant Silicone Sealant:
 - a. "Dow Corning 786"; Dow Corning Corp.
 - b. "SCS 1702"; General Electric Co.
 - c. "Rhodorsil 6B White"; Rhone-Poulenc Inc.

2.7 MISCELLANEOUS MATERIALS

- A. Temporary Protective Coating: Provide product indicated below that is formulated to protect exposed surfaces of tile against adherence of mortar and grout, is compatible with tile and mortar/grout products, and is easily removable after grouting is completed without damaging grout or tile.
 - 1. Petroleum paraffin wax, fully refined, tasteless, odorless, containing at least 0.5 percent oil with a melting point of 120 deg F (49 deg C) to 140 deg F (60 deg C) per

ASTM D 87.

2.8 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with requirements of referenced standards and manufacturers including those for accurate proportioning of materials, water, or additive content; type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other procedures needed to produce mortars and grouts of uniform quality with optimum performance characteristics for application indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and areas where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
 - 1. Verify that substrates for setting tile are firm, dry, clean, and free from oil or waxy films and curing compounds.
 - 2. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed before installing tile.
- B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Blending: For tile exhibiting color variations within the ranges selected during sample submittals, verify that tile has been blended in factory and packaged accordingly so that tile units taken from one package show the same range in colors as those taken from other packages and match approved samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.
- B. Field-Applied Temporary Protective Coating: Where indicated under tile type or needed to prevent adhesion or staining of exposed tile surfaces by grout, protect exposed surfaces of tile against adherence of mortar and grout by precoating them with a continuous film of temporary protective coating indicated below, taking care not to coat unexposed tile surfaces:
 - 1. Petroleum paraffin wax or grout release.

3.3 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standard: Comply with parts of ANSI 108 series of tile installation standards included under "American National Standard Specifications for the Installation of Ceramic Tile" that apply to type of setting and grouting materials and methods indicated.
- B. TCA Installation Guidelines: TCA "Handbook for Ceramic Tile Installation"; comply with TCA installation methods indicated.
- C. Extend tile work into recesses and under or behind equipment and fixtures to form a complete covering without interruptions except as otherwise shown. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

- D. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so that plates, collars, or covers overlap tile.
- E. Jointing Pattern: Unless otherwise shown, lay tile in grid pattern. Align joints when adjoining tiles on floor, base, walls, and trim are same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths unless otherwise shown.
 - 1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so that extent of each sheet is not apparent in finished work.
- F. Lay out tile wainscots to next full tile beyond dimensions indicated.
- G. Expansion Joints: Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and tile. Do not saw cut joints after installation of tiles.
 - 1. Locate joints in tile surfaces directly above joints in concrete substrates.
 - 2. Prepare joints and apply sealants to comply with requirements of Division 7 Section "Joint Sealers."
- H. Grout tile to comply with the requirements of the following installation standards:
 - 1. For chemical-resistant epoxy grouts, comply with ANSI A108.6.

3.4 FLOOR INSTALLATION METHODS

- A. Ceramic Floor Tile: Install tile to comply with requirements indicated below for setting-bed method, TCA installation method related to type of subfloor construction, and grout type:
 - 1. Portland Cement Mortar: ANSI A108.1.
 - a. Bond Coat: Portland cement paste or dust coat on plastic bed or the following thin-set mortar on cured bed, ANSI A108.5, at Contractor's option:
 - 1) Latex-portland cement mortar.
 - b. Concrete Subfloor, Interior: TCA F114 (with chemical-resistant resin grout).
 - c. Grout: Chemical-resistant epoxy.
 - 2. Chemical-Resistant Epoxy Mortar and Grout: ANSI A108.6.
 - a. Concrete Subfloor, Interior: TCA F131.
 - b. Concrete Subfloor, Interior: TCA F132 (over mortar bed).
- B. Marble Thresholds: Install marble thresholds at locations indicated, or where porcelain tile abutts another floor finish; set in same type of setting bed as abutting field tile unless otherwise indicated.
 - 1. Set thresholds in latex-portland cement mortar for locations where mortar bed would otherwise be exposed above adjacent nontile floor finish.

3.5 WALL TILE INSTALLATION METHODS

- A. Install types of tile designated for wall application to comply with requirements indicated below for setting-bed methods, TCA installation methods related to subsurface wall conditions, and grout types:
 - 1. Masonry or Concrete, Interior: TCA W211 (bonded).
- B. Chemical Resistant Epoxy mortar and grout ANSI A1086.
- C. Water Cleanable tile setting epoxy adhesives.
- D. Modified epoxy emulsion mortars and grouts.

3.6 CLEANING AND PROTECTION

- A. Cleaning: Upon completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
 - 1. Remove latex-portland cement grout residue from tile as soon as possible.
 - 2. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's printed instructions, but no sooner than 14 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.
 - 3. Remove temporary protective coating by method recommended by coating manufacturer that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent it from clogging drains.
- B. Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken, unbonded, and otherwise defective tile work.
- C. Provide final protection and maintain conditions in a manner acceptable to manufacturer and installer that ensures that tile is without damage or deterioration at time of Substantial Completion.
 - When recommended by tile manufacturer, apply a protective coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.
 - 2. Prohibit foot and wheel traffic from tiled floors for at least 7 days after grouting is completed.
- D. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

END OF SECTION 09 30 00

SECTION 09 51 23 - ACOUSTICAL TILE CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

- A. Extent of each type of acoustical ceiling is shown and scheduled on drawings.
- B. Types of acoustical ceilings specified in this section include the following:
 - 1. Acoustical panel ceilings, exposed suspension.

1.3 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical data for each type of acoustical ceiling unit and suspension system required.
- B. Coordination Drawings: Submit reflected ceiling plans, prepared by Installer for installation purposes, drawn accurately to scale and coordinated with related mechanical, electrical and other work above, penetrating, or connected to acoustical ceiling. Show ceiling suspension members, method of anchorage to building structure of hangers, size and location of initial access modules for acoustical tile ceilings (if any), and ceiling-mounted work including light fixtures, diffusers, grilles, and special moldings.
 - 1. Scale: 1/8" = 1'-0".
- C. Samples for Verification Purposes: Submit the following:
 - 1. 6" square samples of each acoustical panel type, pattern and color.
 - 2. Set of 12" long samples of exposed runners and moldings for each color and system type required.
- D. Certificates: Submit certificates from manufacturers of acoustical ceiling units and suspension systems attesting that their products comply with specification requirements.

1.4 QUALITY ASSURANCE:

- A. Fire Performance Characteristics: Provide acoustical ceiling components that are identical to those tested for the following fire performance characteristics, according to ASTM test method indicated, by UL or other testing and inspecting agency acceptable to authorities having jurisdiction. Identify acoustical ceiling components with appropriate marking of applicable testing and inspecting agency.
 - 1. Surface Burning Characteristics: As follows, tested per ASTM E 84.
 - a. Flame Spread: 25 or less.
 - b. Smoke Developed: 50 or less.

B. Coordination of Work: Coordinate layout and installation of acoustical ceiling units and suspension system components with other work supported by, or penetrating through, ceilings, including light fixtures, HVAC equipment, fire-suppression system components (if any), and partition system (if any).

1.5 DELIVERY, STORAGE AND HANDLING:

- A. Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination or other causes.
- B. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical ceiling units carefully to avoid chipping edges or damaging units in any way.

1.6 PROJECT CONDITIONS:

A. Space Enclosure: Do not install interior acoustical ceilings until space is enclosed, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient conditions of temperature and humidity will be continuously maintained at values near those indicated for final occupancy.

1.7 EXTRA MATERIALS:

- A. Deliver extra materials to Owner. Furnish extra materials described below matching products installed, packaged with protective covering for storage and identified with appropriate labels.
 - 1. Acoustical Ceiling Units: Furnish quantity of full size units equal to 2.0% of amount installed.

PART 2 - PRODUCTS

2.1 ACOUSTICAL CEILING UNITS, GENERAL:

- A. Standard for Acoustical Ceiling Units: Provide manufacturer's standard units of configuration indicated which are prepared for mounting method designated and which comply with FS SS-S-118 requirements, including those indicated by reference to type, form, pattern, grade (NRC or NIC' as applicable), light reflectance coefficient (LR), edge detail, and joint detail (if any).
- B. Sound Attenuation Performance: Provide acoustical ceiling units with ratings for ceiling sound transmission class (STC) of range indicated as determined according to AMA 1-II "Ceiling Sound Transmission Test by Two-Room Method" with ceilings continuous at partitions and supported by a metal suspension system of type appropriate for ceiling unit of configuration indicated (concealed for tile, exposed for panels).

C. Colors, Textures, and Patterns: Provide products to match appearance characteristics indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors, surface textures, and patterns available for acoustical ceiling units and exposed metal suspension system members of quality designated.

2.2 ACOUSTICAL PANELS:

- A. Mineral Fiber Composition Panels Water Formed, with Acoustical Transparent Membrane and Acrylic Latex painted finish: Provide Type IV, Form 2 Pattern E per ASTM E 1264 and complying with the following requirements:
 - 1. Panel characteristics as follows:
 - a. Standard of Design: Armstrong "School Zone Fine Fissured" #1713.
 - b. Fire Resistance: Class A (UL listed)
 - c. Sag Resistance: HumiGuard Plus
 - d. Anti-microbial: BioBlock+
 - e. Color/Light Reflectance: White/LR 0.85 (per ASTM 1477).
 - f. Acoustics: NRC .70
 - g. CAC: 35
 - h. Size: 24" x 24" x 5/8" unless otherwise indicated.
 - i. Edge Detail: Square lay-in.
 - 2. Panel characteristics as follows (Kitchen):
 - a. Standard of Design: USG "Clean Room ClimaPlus" #56099.
 - b. Fire Resistance: Class A (UL listed)
 - c. Sag Resistance
 - d. Anti-microbial
 - e. Washable
 - f. Color/Light Reflectance: White/LR 0.79 (per ASTM 1477).
 - g. CAC: 35
 - h. Size: 24" x 24" x 5/8" unless otherwise indicated.
 - i. Edge Detail: Square lay-in.

2.3 METAL SUSPENSION SYSTEMS, GENERAL:

- A. Standard for Metal Suspension Systems: Provide metal suspension systems of type, structural classification and finish indicated which comply with applicable ASTM C 635 requirements for service.
- B. Finishes and Colors: Provide manufacturer's environmental performance factory- applied finish for type of system indicated. For exposed suspension members and accessories with painted finish, provide color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's full range of standard colors.
- C. Attachment Devices: Size for 5 times design load indicated in ASTM C 635, Table 1, Direct Hung.

- D. Hanger Wire: Galvanized carbon steel wire, ASTM A 641, soft temper, pre-stretched, Class 1 coating, sized so that stress at 3-times hanger design load (ASTM C 635, Table 1, Direct Hung), will be less than yield stress of wire, but provide not less than 12 gage.
- E. Edge Moldings and Trim: Metal or extruded plastic of types and profiles indicated or, if not indicated, provide manufacturer's standard molding for edges and penetrations of ceiling which fits with type of edge detail and suspension system indicated.
 - 1. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.
- F. Hold-Down Clips for Non-Fire-Rated Ceilings: For interior ceilings composed of lay-in panels weighing less than 1 lb. per sq. ft., provide hold-down clips spaced 2'-0" o.c. on all cross tees.

2.4 EXPOSED METAL DIRECT-HUNG SUSPENSION SYSTEMS:

- A. Non-Fire-Resistance-Rated Double Web Steel Suspension System: Manufacturer's standard system roll-formed from prefinished cold-rolled, hot dipped galvanized steel sheet with 15/16" wide aluminum cap exposed faces on structural members; other characteristics as follows:
 - 1. Basis of Design: USG Donn, DX/DXL
 - 2. Structural Classification: Intermediate-Duty System.
 - 3. Finish: Flat White
 - 4. Manufacturers of Non-Fire-Resistance-Rated Double Web Steel Suspension Systems:
 - a. Armstrong
 - b. Chicago Metallic Corporation.
 - c. Donn Corporation.
 - d. Eastern Products Div., Armstrong World Industries, Inc.
 - e. National Rolling Mills, Inc.

2.5 MISCELLANEOUS MATERIALS:

- A. Acoustical Sealant: Resilient, non-staining, non-shrinking, non-hardening, non-skinning, non-drying, non-sag sealant intended for interior sealing of concealed construction joints.
 - 1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
 - a. BA-98; Pecora Corp.
 - b. Tremco Acoustical Sealant; Tremco.

PART 3 - EXECUTION

3.1 PREPARATION:

A. Coordination: Furnish layouts for inserts, clips, or other supports required to be installed by other trades for support of acoustical ceilings.

B. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less-than-half width units at borders, and comply with reflected ceiling plans wherever possible.

3.2 INSTALLATION:

- A. General: Install materials in accordance with manufacturer's printed instructions, and to comply with governing regulations, fire-resistance rating requirements as indicated, and CISCA standards applicable to work.
- B. Arrange acoustical units and orient directionally-patterned units (if any) in manner shown by reflected ceiling plans.
 - 1. Install tile with pattern running in alternating directions to form "checkerboard" layout.
- C. Install suspension systems to comply with ASTM C 636, with hangers supported only from building structural members. Locate hangers not less than 6" from each end and spaced 4'-0" along each carrying channel or direct-hung runner, unless otherwise indicated, leveling to tolerance of 1/8" in 12'-0".
 - 1. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eye-screws, or other devices which are secure and appropriate for substrate, and which will not deteriorate or fail with age or elevated temperatures.
 - Install hangers plumb and free from contact with insulation or other objects within ceiling plenum which are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal force by bracing, countersplaying or other equally effective means.
- D. Install edge moldings of type indicated at perimeter of acoustical ceiling area and at locations where necessary to conceal edges of acoustical units.
 - 1. Sealant Bed: Apply continuous ribbon of acoustical sealant, concealed on back of vertical leg before installing moldings.
 - 2. Screw-attach moldings to substrate at intervals not over 16" o.c. and not more than 3" from ends, leveling with ceiling suspension system to tolerance of 1/8" in 12'-0". Miter corners accurately and connect securely.
- E. Install acoustical panels in coordination with suspension system, with edges concealed by support of suspension members. Scribe and cut panels to fit accurately at borders and at penetrations.
 - 1. Install hold-down clips in areas indicated, and in areas where required by governing regulations or for fire-resistance ratings; space as recommended by panel manufacturer, unless otherwise indicated or required.

3.3 CLEANING:

A. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members; comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09 51 23

SECTION 09 65 00 - RESILIENT FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY

A. Section includes:

- 1. Vinyl composition floor tile.
- 2. Vinyl base and accessories.

1.3 DESCRIPTION OF WORK:

A. Extent of resilient flooring and accessories is shown on drawings and in schedules. All vinyl base shall be 6" high base.

1.4 QUALITY ASSURANCE:

- A. Manufacturer: Provide each type of resilient flooring and accessories as produced by a single manufacturer, including recommended primers, adhesives, sealants, and leveling compounds.
- B. Vinyl Flooring Installer's Qualifications: Engage Installer who has not less than five years experience in the installation of vinyl composition tile, who is recognized by the flooring manufacturer, and who has performed installations of the same scale in the past three years.

1.5 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical data for each type of resilient flooring and accessory.
- B. Samples for Initial Selection Purposes: Submit manufacturer's standard color charts in form of actual sections of resilient flooring, including accessories, showing full range of colors and patterns available, for each type of resilient flooring required.
- C. Samples for Verification Purposes: Submit the following samples of each type, color, and pattern of resilient flooring required, showing full-range of color and pattern variations.
 - 1. Full size tile samples.
 - 2. 12" long samples of resilient flooring accessories.

- 3. Other materials as requested.
- D. Maintenance Instructions: Submit 2 copies of manufacturer's recommended maintenance practices for each type of resilient flooring and accessory required.

1.6 PROJECT CONDITIONS:

- A. Maintain minimum temperature of 65 deg F (18 deg C) in spaces to receive resilient flooring for at least 48 hours prior to installation, during installation, and for not less than 48 hours after installation. Store resilient flooring materials in spaces where they will be installed for at least 48 hours before beginning installation. Subsequently, maintain minimum temperature of 55 deg F (13 deg C) in areas where work is completed.
- B. Install resilient flooring and accessories after other finishing operations, including painting, have been completed. Do not install resilient flooring over concrete slabs until the latter have been cured and are sufficiently dry to achieve bond with adhesive as determined by resilient flooring manufacturer's recommended bond and moisture test.

PART 2 - PRODUCTS

2.1 VINYL COMPOSITION FLOOR TILE:

- A. Products: Subject to compliance requirements, provide the following:
 - 1. Tile Standard: ASTM F 1006, Class 2, through-pattern tile.
 - 2. Wearing Surface: Smooth.
 - 3. Thickness: 1/8" Through-pattern.
 - 4. Size: 12 inch x 12 inch.
 - 5. Color and Patterns: See Finish schedule on drawings or CM & Owner approved.

2.2 LUXURY VINYL FLOOR` TILE:

- A. Products: Subject to compliance requirements, provide the following:
 - 1. Tile Standard: ASTM F 1700.
 - 2. Wearing Surface: Smooth.
 - 3. Thickness: .125".
 - 4. Size: 12 inch x 12 inch.
 - Color and Patterns: See Finish schedule on drawings or CM & Owner approved.

2.3 ACCESSORIES:

- A. Wall Base: Provide base complying with FS SS-W-40; Type I rubber with matching end stops and preformed or molded corner units, and as follows:
 - 1. See Finish Schedule

- B. Resilient Edge Strips: 1/8" thick, homogeneous rubber composition, tapered or bullnose edge, color to match flooring, or as selected by Architect from standard colors available; not less than 1" wide.
- C. Adhesives (Cements): Waterproof, stabilized type as recommended by flooring manufacturer to suit material and substrate conditions.
- D. Concrete Slab Primer: Non-staining type as recommended by flooring manufacturer.
- E. Leveling and Patching Compounds: Latex type as recommended by flooring manufacturer.
- F. Acceptable Manufacturers of rubber base and accessories:
 - 1. Johnsonite
 - 2. Armstrong
 - 3. Roppe
 - 4. Mercer

PART 3 - EXECUTION

3.1 INSPECTION:

- A. Require Installer to inspect subfloor surfaces to determine that they are satisfactory. A satisfactory subfloor surface is defined as one that is smooth and free from cracks, holes, ridges, coatings preventing adhesive bond, and other defects impairing performance or appearance.
- B. Perform bond and moisture tests on concrete subfloors to determine if surfaces are sufficiently cured and dry as well as to ascertain presence of curing compounds.
- C. Do not allow resilient flooring work to proceed until subfloor surfaces are satisfactory.

3.2 PREPARATION:

- A. Prepare subfloor surfaces as follows:
 - 1. Use leveling and patching compounds as recommended by resilient flooring manufacturer for filling small cracks, holes and depressions in subfloors.
 - 2. Remove coatings from subfloor surfaces that would prevent adhesive bond, including curing compounds incompatible with resilient flooring adhesives, paint, oils, waxes and sealers.
- B. Vacuum surfaces to be covered, and inspect subfloor.
- C. Apply concrete slab primer, if recommended by flooring manufacturer, prior to application of adhesive. Apply in compliance with manufacturer's directions.

3.3 INSTALLATION GENERAL:

- A. Install resilient flooring using method indicated in strict compliance with manufacturer's printed instructions. Extend resilient flooring into toe spaces, door reveals, and into closets and similar openings.
- B. Scribe, cut, and fit resilient flooring to permanent fixtures, built-in furniture and cabinets, pipes, outlets and permanent columns, walls and partitions.
- C. Maintain reference markers, holes, or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other non-permanent marking device.
- D. Install resilient flooring on covers for telephone and electrical ducts, and similar items occurring within finished floor areas. Maintain overall continuity of color and pattern with pieces of flooring installed on these covers. Tightly cement edges to perimeter of floor around covers and to covers.
- E. Tightly cement resilient flooring to subbase without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections. Hand roll resilient flooring at perimeter of each covered area to assure adhesion.

3.4 INSTALLATION OF TILE FLOORS:

- A. Lay tile from center marks established with principal walls, discounting minor offsets, so that tile at opposite edges of room area of equal width. Adjust as necessary to avoid use of cut widths less than 1/2 tile at room perimeters. Lay tile square to room axis, unless otherwise shown.
- B. Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged if so numbered. Cut tile neatly around all fixtures. Broken, cracked, chipped, or deformed tiles are not acceptable.
- C. Adhere tile flooring to substrates using full spread of adhesive applied in compliance with flooring manufacturer's directions.

3.5 INSTALLATION OF ACCESSORIES:

- A. Apply wall base to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is required. Install base in lengths as longs as practicable, with preformed corner units, or fabricated from base materials with mitered or coped inside corners. Tightly bond base to substrate throughout length of each piece, with continuous contact at horizontal and vertical surfaces.
 - 1. On masonry surfaces, or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.
- B. Place resilient edge strips tightly butted to flooring and secure with adhesive. Install edging strips at edges of flooring which would otherwise be exposed.

3.6 CLEANING AND PROTECTION:

- A. Perform following operations immediately upon completion of resilient flooring:
 - 1. Sweep or vacuum floor thoroughly.
 - 2. Do not wash floor until time period recommended by resilient flooring manufacturer has elapsed to allow resilient flooring to become well-sealed in adhesive.
 - 3. Damp-mop floor being careful to remove black marks and excessive soil.
 - 4. Remove any excess adhesive or other surface blemishes, using appropriate cleaner recommended by resilient flooring manufacturers.
- B. Protect flooring against damage during construction period to comply with resilient flooring manufacturer's directions.
- C. Clean resilient flooring not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Clean resilient flooring by method recommended by resilient flooring manufacturer.
 - 1. Apply floor wax after cleaning and prior to accepting by Owner.

END OF SECTION 09 65 00

SECTION 09 67 00 - FLUID APPLIED FLOORING SYSTEM

Part 1: General

1.01 System Description

- A. Roller-applied 100% solids, penetrating epoxy primer followed by a roller-applied, 100% solids epoxy basecoat with a broadcast of 40-100 mesh silica sand and sealed with grout coat of 100% solids epoxy to achieve a 1/16" (1.59 mm) thick, heavy-duty floor system. Optional urethane topcoats may be applied for additional chemical and abrasion resistance.
- B. This system shall be applied to the prepared substrate(s) as defined by the plans strictly in accordance with the manufacturer's recommendations.

1.02 Submittals

A. Product Data

1. Current edition of manufacturer's product literature including physical data, chemical resistance, surface preparation, and application instructions.

B. Samples

1. A hard sample of the proposed system shall be submitted to represent the finished system.

C. Warranty

- 1. Manufacturer's standard warranty
- 2. Applicator's standard warranty

1.03 Quality Assurance

A. Qualifications

- 1. The manufacturer shall have a minimum of ten (10) years' experience in the production, sales, and technical support of polymer-based floor coatings.
- 2. The applicator shall have a minimum of three (3) years' documented experience in the application of polymer floor coatings to concrete floors.
- Proposed suppliers shall provide certification that they have ten (10) years' experience in the
 production of polymer floor coatings and be required to meet all provisions of this specification
 as well as provide evidence for compatibility between components to the satisfaction of the
 Architect.

B. Pre-Bid Conference

1. A pre-bid conference should be held between prospective applicators and the Architect to review surface preparation, application, clean-up procedures, and design issues.

C. Packing and Shipping

1. All materials are to be delivered to the job site in the manufacturer's original packaging. The product code and other identification marks should be clearly marked and visible.

D. Storage and Protection

- 1. All material is to be stored in a cool, dry place out of the direct sunlight and away from any ignition sources. The applicator should refer to the manufacturer's literature and material safety data sheets for more information.
- 2. Material Safety Data Sheets are to be kept on site and made readily available for all personnel.

3. Keep containers sealed and ready for use.

1.04 Project Conditions

A. Environmental Requirements

- Optimum air and substrate temperature for product application is between 55° F (13° C) and 95° F (35° C). For temperatures outside of this range, consult the manufacturer for product application suggestions.
- 2. Verify the work environment is properly equipped with vapor barriers and perimeter drains.
- 3. Maintain proper lighting throughout the work environment; the lighting should be comparable to the final lighting level of the space.
- 4. Store and dispose of any waste in accordance with regulations of local authorities.

B. Safety Requirements

- 1. "No Smoking" signs shall be posted throughout the work area prior to application.
- 2. The owner shall be responsible for removing any foodstuffs from the work area.
- 3. Open flames, spark producing tools/items, and ignition sources shall be removed from the work area prior to application.
- 4. Only work-related personnel shall be allowed within the work area.

1.05 Warranty

A. Coordination

1. The manufacturer offers a full, one-year warranty against defects in materials. Warranties concerning the installation of the material are solely the responsibility of the applicator.

Part 2: Products

2.01 Manufacturers

- A. Florock Polymer Flooring
- B. Plexi-Chemie, Inc.
- C. Key Resin Co.
- D. NeoGuard
- E. Laticrete International, Inc.
- F. Rust-Oleum
- G. Sherwin Williams

2.02 Materials

A. Primer

1. The primer shall be a 100% reactive, epoxy-based, penetrating primer that exhibits chemical resistance.

B. Basecoats

1. The basecoat shall consist of a tough, impact-resistant epoxy coating in thickness capable of accepting aggregate.

C. Broadcast

1. Broadcast 40-100 mesh silica sand into the wet basecoat, such as Weldron 410.

D. Grout Coat(s)

1. Grout with a two-component, 100% solids epoxy grout coat. Apply a second grout coat if no optional finish coats are to be applied.

E. Optional Topcoat(s)

1. Apply 1 to 2 topcoat(s) of a manufacturer approved high performance, color-stable urethane, exhibiting excellent chemical and abrasion resistant properties.

2.03 Properties

A. The coating system should meet the following physical properties:

Cured System Properties

Chemical Properties	
Compressive Strength, ASTM C695	13,500 psi
Tensile Strength, ASTM D2370	8,000 psi
Flexural Strength, ASTM C580	4,300 psi
Flexural SP Modulus of Elasticity, ASTM C580	2.0 x 10E6 psi
Bond Strength, ACI Committee #503,	
pgs. 1139-1141, ASTM D454	>400 psi
Hardness, Shore D, ASTM D2240	85-90
Impact Resistance, ASTM D4541	> 160 in/lb
Indentation, MIL-D-3134F	No Indentation
Abrasion Resistance, ASTM D4060, CS-17 Wheel, 1000 gm. load, 1000 cycles	0.06 gm. max weight loss
Water Absorption, ASTM C413	0.01%
Heat Resistance Limitation	140° F/60° C
Coefficient of Friction, ASTM D2047 Rough/ Medium/ Smooth	0.9/ 0.8/ 0.6
Flammability, ASTM D635	Self-Extinguishing

Part 3: Execution

3.01 Inspection

A. General

Examine the areas and conditions where epoxy flooring is to be installed and notify the
Architect of conditions detrimental to the proper and timely completion of the work. Do not
proceed with the work until unsatisfactory conditions have been corrected by the contractor in
a manner acceptable to the Architect.

3.02 Preparation

A. General

1. Consult the manufacturer's recommendations for concrete substrate preparation before proceeding.

B. Patching and Joint Preparation

1. Before application, the floor shall be examined for spalls, pitting, holes, cracks, non-functional joints, etc. These must be treated after preparation and before application. For functional or expansion joints, these shall be treated with 100% solids elastomeric resin having a minimum

elongation of 150%.

C. Concrete Surfaces

1. Shot-blast, diamond grind or power scarify as required to obtain clean, open porous concrete. Remove sufficient material to provide a sound surface, free of laitance, glaze, efflorescence, and any bond-inhibiting curing compounds or form release agents. Remove grease, oil, and other penetrating contaminants. Repair damaged and deteriorated concrete to acceptable condition; leave surface free of dust, dirt, laitance, and efflorescence.

D. Materials

1. Mix components when required, and prepare materials according to flooring system manufacturer's instructions.

3.03 Application

A. General

- 1. The system shall be installed in the order described below:
 - a. Substrate Preparation
 - b. Priming
 - c. Basecoat and Broadcast Applications
 - d. Grout Coat Applications
 - e. Optional Topcoat Applications
- 2. Concrete surfaces on grade shall have been constructed with a vapor barrier to protect against the effects of vapor transmission and possible delamination of the system. Refer to manufacturer's concrete preparation instructions for additional recommendations.
- 3. The surface should be dry prior to application of any of the aforementioned steps. Furthermore, the substrate shall always be kept clean, dry, and free of any contaminants.
- 4. The handling and mixture of any material associated with the installation of the system shall be in accordance with the manufacturer's recommendations and approved by the Architect.
- 5. The system shall follow the contours of the substrate unless otherwise specified by the Architect.
- 6. A neat finish with well defined boundaries and straight edges shall be provided by the applicator.

B. Priming

- 1. All areas considered for the application shall be primed with the manufacturer's primer to seal and penetrate the substrate in preparation for applying the basecoat and grout coat.
- 2. Porous concrete substrates may require additional applications of primer.

C. Basecoat & Broadcast

- The basecoat shall consist of the manufacturer's approved epoxy resin with a broadcast of approved silica sand to resurface the floor, seal the surface, and give the floor impact and chemical resistance.
- 2. Slip-resistant properties are provided through the broadcast of silica sand into the basecoat application.

D. Grout Coat(s)

1. The grout coat(s) shall be consistent with the manufacturer's recommended epoxy grout coat for the system.

E. Optional Topcoat(s)

- 1. Optional topcoat(s) shall be consistent with the manufacturer's recommendation for the system.
- 2. No traffic or equipment shall be permitted on the floor during the curing period.

3.04 Field Quality Control

- A. Tests & Inspection
 - 1. The following tests shall be performed by the applicator and recorded during application to submit to the Architect:
 - a. Temperature during installation
 - 1. Air
 - 2. Substrate
 - 3. Dew Point
- 3.05 Cleaning
 - A. Disposal
 - 1. Properly remove and dispose of any excess materials.

END OF SECTION 096700

SECTION 09 90 00 - PAINTING AND COATING

1.1 GENERAL

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions and division 1 Specification sections, apply to the work specified in this section.
- B. Submittals: In addition to manufacturer's data, application instructions, and label analysis for each coating material, submit samples for Architect's review of color and texture only.
- C. Description of Work: Painting and finishing of exterior ferrous metal items and surfaces, and existing surfaces indicated in the drawings, damaged and/or patched as a result of work of this contract.
 - 1. Paint exposed surfaces indicated.
- D. Work Not Included: Unless otherwise indicated, shop priming of ferrous metal items and fabricated components are included under their respective trades. Prefinished items are not included, unless otherwise indicated. Finished metals such as anodized aluminum, stainless steel, bronze and similar metals will not be painted, unless otherwise indicated. Do not paint any moving parts of operating units, or over any equipment identification, performance rating, name or nomenclature plates or code-required labels.
- E. Delivery and Storage: Deliver materials to job site in new, original, and unopened containers bearing manufacturer's name, trade name, and label analysis. Store where indicated in accordance with manufacturer's instructions.
- F. Job Conditions: Do not apply paint in snow, rain, fog or mist or when relative humidity exceeds 86%. Do not apply paint to damp or wet surfaces.
- G. Protection: Protect existing materials and work of other trades. Correct any painting related damages by cleaning, repairing or replacing, and refinishing, as directed by Architect.
- H. Coordination: Provide finish coats which are compatible with prime paints used. Provide barrier coats over incompatible primers where required.
- I. Surface Preparation: Perform preparation and cleaning procedures in strict accordance with coating manufacturer's instructions for each substrate condition.
 - Remove hardware and accessories, machined surfaces, plates and similar items in place and not to be finish-painted or provide surface-applied protection. Reinstall removed items and remove protective coverings at completion of work.
- J. Ferrous Metal Surfaces: Clean ungalvanized ferrous metal surfaces; remove oil, grease, dirt, loose mill scale and other foreign substances. Use solvent or mechanical cleaning methods that comply with the recommendations of the Steel Structures Painting Council.

- Clean and prepare surface profile in accordance with applicable SSPC specifications: SSPC-SP 2 Hand Tool Cleaning, SSPC-SP 3 Power Tool Cleaning, SSPC-SP 6 Commercial Blast Cleaning, SSPC-SP 7 Brush off Blast Cleaning, SSPC-SP10 Near-White Blast Cleaning, and SSPC-SP11 Power Tool Cleaning to Bare Metal.
 - a. Minimum degree of surface preparation for each coating system shall be as indicated in the schedule by the applicable SSPC specification number and in the drawings.
 - b. Where no SSPC specification number is indicated, prepare surfaces in accordance with SSPC-SP 2 Hand Tool Cleaning, or SSPC-SP 3 Power Tool Cleaning.
- 2. Before hand or power tool cleaning, remove visible oil, grease, soluble welding residue, and salts by SSPC-SP 1 Solvent Cleaning. After hand or power tool cleaning, reclean surfaces if necessary.
- K. Material Preparation: Mix, prepare and store painting and finishing materials in accordance with manufacturer's directions.
- L. Application: Apply painting and finishing materials in accordance with manufacturer's directions. Use applicators, and techniques best suited for materials and surfaces to which applied.
 - 1. Apply additional coats when undercoats, or other conditions show through final paint coat, until paint film is of uniform finish, color and appearance.
 - 2. All painting over existing painted areas shall be a minimum 2 coat application with a total new film thickness of not less than 1.5 mils.
 - 3. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces.
 - 4. Apply each material at not less than manufacturer's recommended spreading rate.
- M. Completed Work: Match existing adjacent surfaces for color, texture and coverage. Remove, refinish or repaint work not in compliance with specified requirements.

2.1 EXTERIOR PAINT SYSTEMS:

- A. Provide the following paint systems for the various substrates, as indicated.
- B. Coating System: Premium Acrylic Architectural Coating
 - 1. Area: Previously painted steel, rooftop equipment, metal coping and exposed steel surfaces (unless otherwise noted).
 - 2. Surface Preparation:
 - a. NACE RP-01-72 Water blasting and hand sanding SSPC-SP 2 Hand Tool Cleaning
 - b. SSPC-SP 1 Solvent Cleaning or Power Wash
 - c. SSPC-SP 2 Hand Tool Cleaning/Hand Sanding
 - d. SSPC-SP 3 Power Tool Cleaning Rusted Areas

- C. Primer, Industrial, Rust Inhibitive: Phenolic Mod Alkyd Primer (spot prime rusted areas)
 Minimum DFT 3, Maximum DFT 5:
 - 1. Sherwin Williams: Kem Kromik Universal Metal Primer B50Z Series.
 - 2. PPG: 282 Universal Primer
- D. Coat 1 Waterborne Acrylic: Minimum DFT 3, Maximum DFT 5
 - 1. Sherwin Williams: DTM Acrylic Primer/Finish B66W1.
 - 2. PPG: Porter Guard DTM Acrylic Gloss Enamel PP2909
- E. Coat 2 Waterborne Acrylic: Minimum DFT 3, Maximum DFT 5
 - 1. Sherwin Williams: DTM Acrylic Primer/Finish B66W1.
 - 2. PPG: Porter Guard DTM Acrylic Gloss Enamel PP2909

END OF SECTION 09 90 00

SECTION 09 91 23 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes surface preparation and field painting of the following:
 - 1. Exposed interior items and surfaces. All interior masonry shall have a block filler, primer and paint finish. Contractor shall apply a primer and paint to all new interior surfaces unless noted otherwise. Paint existing walls, doors, trim in work area of renovation and addition.
 - 2. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
- B. Paint exposed surfaces, except where the paint schedules indicate that a surface or material is not to be painted or is to remain natural. If the paint schedules do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. If the schedules do not indicate color or finish, the Architect will select from standard colors and finishes available.
 - Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
 - 1. Prefinished items include the following factory-finished components:
 - a. Architectural woodwork and casework.
 - b. Finished mechanical and electrical equipment.
 - c. Light fixtures.
 - Distribution cabinets.
 - 2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
 - a. Furred areas.
 - b. Ceiling plenums.
 - c. Pipe spaces.
 - d. Duct shafts.
 - e. Elevator shafts.
 - 3. Finished metal surfaces include the following:
 - a. Anodized aluminum.
 - b. Stainless steel.
 - c. Chromium plate.

- d. Copper.
- e. Bronze and brass.
- 4. Operating parts include moving parts of operating equipment and the following:
 - Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.
 - d. Motor and fan shafts.
- 5. Labels: Do not paint over Underwriters Laboratories (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.
- D. Related Sections include the following:
 - 1. Division 8 Section "Steel Doors and Frames" for shop priming steel doors and frames.
 - 2. Division 9 Section "Gypsum Board Assemblies" for surface preparation for gypsum board.

1.3 Definitions

- A. General: Standard coating terms defined in ASTM D 16 apply to this Section.
 - 1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
 - 2. Eggshell refers to low-sheen finish with a gloss range between 5 and 20 when measured at a 60-degree meter.
 - 3. Satin refers to low-sheen finish with a gloss range between 15 and 35 when measured at a 60-degree meter.
 - 4. Semigloss refers to medium-sheen finish with a gloss range between 30 and 65 when measured at a 60-degree meter.
 - 5. Full gloss refers to high-sheen finish with a gloss range more than 65 when measured at a 60-degree meter.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions. Include block fillers and primers.
 - 1. Material List: Provide an inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 - 2. Manufacturer's Information: Provide manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material proposed for use.
 - 3. Certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).
- B. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated.
 - 1. After color selection, the Architect will furnish color chips for surfaces to be coated.
- C. Samples for Verification: Of each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.

- 1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
- 2. Provide a list of materials and applications for each coat of each sample. Label each sample for location and application.
- D. Qualification Data: For firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

1.5 CLOSEOUT SUBMITTALS

 Coating Maintenance Manual: Provide coating maintenance manual including area summary with finish schedule, area detail designating location where each product/color/finish was used, product data pages, material safety data sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra paint materials from the same production run as the materials applied in the quantities described below. Package paint materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to the Owner.
 - 1. Quantity: Furnish the Owner with extra paint materials in the quantities indicated below:
 - a. 1 gal. (7.57 L) of each color applied.

1.7 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent to that indicated for this Project with a record of successful in-service performance.
- B. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.
- C. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 9 sq. ft.
 - b. Other Items: Architect will designate items or areas required.
 - 2. Final approval of color selections will be based on mockups.

- a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
- 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Handling: Deliver products to Project site in an undamaged condition in manufacturer's original sealed containers, complete with labels and instructions for handling, storing, unpacking, protecting, and installing. Packaging shall bear the manufacturer's label with the following information:
 - 1. Product name and type (description).
 - 2. Batch date.
 - 3. Color name & number.
 - 4. VOC content.
 - 5. Environmental handling requirements.
 - 6. Surface preparation requirements.
 - 7. Application instructions.
- B. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.
 - 3. Protect from freezing. Keep storage area neat and orderly. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

1.9 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
- C. Lead Paint: It is not expected that lead paint will be encountered in the Work.
 - 1. If suspected lead paint is encountered, do not disturb; immediately notify Architect and Owner.
- D. Lead Paint: If suspected lead paint is present in buildings and structures to be painted. A report on the presence of lead paint should be sent to Architect for review and approval.
 - 1. Do not disturb lead paint or items suspected of containing hazardous materials except under procedures specified.

2. Perform preparation for painting of substrates known to include lead paint in accordance with EPA Renovation, Repair and Painting Rule and additional requirements of authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work included, but are not limited to, products listed in the paint schedules.
- B. Manufacturers Name: The following manufactures are referred to in the paint schedule by use of shortened versions of their names; products indicated or comparable product from one of the following:
 - 1. Sherwin-Williams Co. (S-W).
 - 2. PPG Industries, Inc. (PPG).
 - 3. Benjamin Moore & Co. (Moore).
- C. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.
- D. Source Limitations: Obtain paint materials from single source from single listed manufacturer.
 - 1. Manufacturer's designations listed on a separate color schedule are for color reference only and do not indicate prior approval.

2.2 PAINT, GENERAL

A. Material Compatibility:

- Provide materials for use within each paint system that are compatible with one another
 and substrates indicated, under conditions of service and application as demonstrated by
 manufacturer, based on testing and field experience.
- 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. VOC Content: For field applications that are inside the weatherproofing system, paints and coatings shall provide materials that comply with VOC limits of authorities having jurisdiction and for interior paints and coatings applied at Project site, the following VOC limits exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

- 1. Flat Paints and Coatings: 50 g/L.
- 2. Nonflat Paints and Coatings: 150 g/L.
- 3. Primers, Sealers, and Undercoaters: 200 g/L.
- 4. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
- 5. Floor Coatings: 100 g/L.
- 6. Shellacs, Clear: 730 g/L.
- 7. Shellacs, Pigmented: 550 g/L.
- C. Low-Emitting Materials: Interior paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small Scale Environmental Chambers."
- D. Colors: As indicated in a Construction Document Finish schedule.

2.3 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
 - 1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 - 2. Testing agency will perform tests for compliance with product requirements.
 - 3. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with the Applicator present, under which painting will be performed for compliance with paint application requirements.
 - 1. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
 - 2. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify the Architect about anticipated problems using the materials specified over substrates primed by others.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.
- B. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before surface preparation and painting.
 - After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- C. Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease before cleaning.
 - 1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- D. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
 - 1. Provide barrier coats over incompatible primers or remove and reprime.
 - Cementitious Materials: Prepare concrete, concrete masonry block, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
 - a. Use abrasive blast-cleaning methods if recommended by paint manufacturer.
 - b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces where moisture content exceeds that permitted in manufacturer's written instructions.
 - c. Clean concrete floors to be painted with a 5 percent solution of muriatic acid or other etching cleaner. Flush the floor with clean water to remove acid, neutralize with ammonia, rinse, allow to dry, and vacuum before painting.
 - 3. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with the Steel Structures Painting Council's (SSPC) recommendations.

- a. Blast steel surfaces clean as recommended by paint system manufacturer and according to requirements of SSPC-SP 10.
- b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
- c. Touch up bare areas and shop-applied prime coats that have been damaged. Wirebrush, clean with solvents recommended by paint manufacturer, and touch up with the same primer as the shop coat.
- 4. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.
- E. Materials Preparation: Mix and prepare paint materials according to manufacturer's written instructions.
 - 1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 - 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
 - 3. Use only thinners approved by paint manufacturer and only within recommended limits.
- F. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Paint colors, surface treatments, and finishes are indicated in the schedules.
 - 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 - 3. Provide finish coats that are compatible with primers used.
 - 4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, covers for finned-tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.

- 5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
- 6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
- 7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
- 8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
- 9. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
- 10. Sand lightly between each succeeding enamel or varnish coat.
- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
 - 1. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 - 2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 - 3. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
 - 1. Brushes: Use brushes best suited for the type of material applied. Use brush of appropriate size for the surface or item being painted.
 - 2. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
 - 3. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.

- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and in occupied spaces.
- F. Mechanical items to be painted include, but are not limited to, the following:
 - 1. Piping, pipe hangers, and supports.
 - 2. Motors and mechanical equipment.
 - 3. Accessory items.
- G. Electrical items to be painted include, but are not limited to, the following:
 - 1. Conduit and fittings.
 - 2. Switchgear.
 - 3. Panelboards.
- H. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.
- I. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn through or other defects due to insufficient sealing.
- J. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- K. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.
- L. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

- B. The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary during the period when paint is being applied:
 - 1. The Owner may engage the services of an independent testing agency to sample the paint material being used. Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.
 - 2. The Owner may direct the Contractor to stop painting if test results show material being used does not comply with specified requirements. The Contractor shall remove noncomplying paint from the site, pay for testing, and repaint surfaces previously coated with the rejected paint. If necessary, the Contractor may be required to remove rejected paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.
- E. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.

3.6 INTERIOR PAINTING SCHEDULE

- A. Gypsum Board: Provide the following finish systems over interior gypsum board surfaces exposed to view: Two finish coats over primer.
 - 1. Primer: Latex-based, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).
 - a. Moore: Regal First Coat Interior Latex Primer & Underbody #216.
 - b. PPG: 17-10 Quick-Drying Interior Latex Primer-Sealer.
 - c. S-W: ProMar 200 Interior Latex Wall Primer 328W200.
 - 2. Satin Acrylic Finish: 2 finish coats over a primer.
 - a. First and Second Coats: Satin, acrylic-latex-based, interior paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.5 mils (0.064 mm).
 - 1) Moore: Regal Wall Satin #215.
 - 2) PPG: 80 Line Wallhide Interior Wall Flat Latex Paint.
 - 3) S-W: ProMar 200 Latex Eg-Shel B20-200 Series

- 3. Semigloss (Restrooms Only), Acrylic-Enamel Finish: 2 finish coats over a primer.
 - 1) Trim to be gloss finish.
- B. Ferrous Metal: Provide the following finish systems over ferrous metal:
 - 1. Semigloss, Acrylic-Enamel Finish: One finish coat over an enamel undercoater and a primer.
 - a. Primer: Quick-drying, rust-inhibitive, alkyd-based or epoxy-metal primer, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.5 mils (0.038 mm).
 - 1) Moore: IronClad Retardo Rust-Inhibitive Paint #163.
 - 2) PPG: 6-208 Speedhide Interior/Exterior Rust Inhibitive Steel Primer.
 - 3) S-W: Kem Kromik Universal Metal Primer B50 Series
 - b. Undercoat: Alkyd, interior enamel undercoat or semigloss, acrylic-latex, interior enamel, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.3 mils (0.033 mm).
 - 1) Moore: Moore's Alkyd Enamel Underbody #217.
 - 2) PPG: 6-6 Speedhide Interior Quick-Drying Enamel Undercoater.
 - 3) S-W: ProMar 200 Latex Semi-Gloss B21-200 Series
 - c. Finish Coat: Semigloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.3 mils (0.033 mm).
 - 1) Moore: Moore's Regal AquaGlo Vinyl-Acrylic Latex Enamel #333.
 - 2) PPG: 88-110 Satinhide Interior Enamel Wall & Trim Lo-Lustre SemiGloss Latex.
 - 3) S-W: ProMar 200 Latex Semi-Gloss B21-200 Series
- B. Concrete Flooring: Provide the following finish systems, equivalent or better:
 - 1. Semigloss, Epoxy floor finish

Finish Coat: Semigloss epoxy applied at spreading rate recommended by the manufacturer.

1) PPG (Basis of Design): MegaSeal SL

END OF SECTION 09 91 23

SECTION 10 44 16 - FIRE EXTINGUISHERS, AND ACCESSORIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS:

- A. Submit Product Data.
- B. Provide two fire extinguishers approved and listed with UL or FM, and bearing UL or FM markings, for the type, rating, and classification of extinguisher.

PART 2 - PRODUCTS

2.1 FIRE EXTINGUISHERS AND CABINETS:

- A. Fire Extinguishers: Multipurpose dry-chemical type, with UL rating of 3A40BC, minimum 10lb.
- B. UL approved pull open, non-locking, semi-recessed cabinets with a flat, shelf bottom shall be provided for each new fire extinguisher.
- C. PART 3 EXECUTION

3.1 INSTALLATION:

- A. Install cabinets and brackets at heights indicated or, if not indicated, at heights to comply with applicable regulations of authorities having jurisdiction.
- B. Identify bracket-mounted extinguishers with "FIRE EXTINGUISHER" in red letter decals applied to wall surface. Letter size, style, and location as selected by Architect.

END OF SECTION 10 44 16

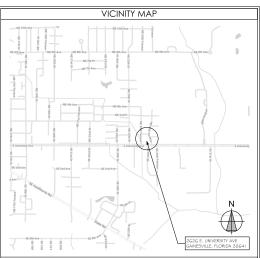






TRAINING CENTER REPAIRS AND RENOVATIONS

GAINESVILLE HOUSING AUTHORITY GAINESVILLE, FLORIDA



AERIAL PHOTO



SCOPE OF WORK

BRIEFLY AND WITHOUT FORCE AND EFFECT UPON THE CONTRACT DOCUMENTS, THE WORK OF THE CONTRACT CAN BE

THE WORK INCLUDES REMOVING AND INSTALLING NEW FLOORING, WALLS, CEILINGS, AND ROOFING SYSTEM, REMOVING PLUMBING FIXTURES, LIGHTING FIXTURES, ELECTRICAL/TELECOMMUNICATION RECEPTACLES, AND MECHANICAL EQUIPMENT.

ADDITIVE ALTERNATE I: BASED ON LOCAL PERMITING REQUIREMENTS, CONTRACTOR TO PROVIDE PRICING TO. REMOVE INDICATED FORTION OF EXISTING BLOCK WALL AND DOOR, PROTECT ADJACENT SURFACES TO REMAIN. INSTALL NEW WALL TYPE B'I-C' PROM THE DESTINE WALL LOCATION, AS INDICATED.

ADDITIVE ALTERNATE 2: THE WORK INCLUDES INSTALLING THE SAME REQUIRED MECHANICAL AND ELECTRICAL COMPONENTS FOR THE AIR CONDITIONING SYSTEM IN MULTIPLIPROSE ROOM I INTO MULTIPLIPROSE ROOM 2. AND MULTIPLIPROSE ROOM 3.

DRAWING INDEX

POO I PLUMBING NOTES, LEGEND, & SHEET INDEX PIO I FLOOR PLAN - PLUMBING - DRAIN & VENT P20 I FLOOR PLAN - PLUMBING - PRESSURE

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MGOT HVAC SCHEDULES

BUILDING DATA

OCCUPANCY: CONSTRUCTION TYPE: TYPE V-B, UNPROTECTED, UNSPRINKLED, SINGLE STORY

5.064 SF / 150 GROSS SF = 33.8 TOTAL OCCUPANCY = 33 OCCUPANT5

BUILDING AND FIRE CODES

FLORIDA ACCESSIBILITY CODE (FAC), 7TH EDITION (2020) FLORIDA EXISTING BUILDING CODE (FBC-EB), 7TH EDITION (2020)

FLORIDA FUEL GAS CODE (FBC-FG), 7TH EDITION (2020) FLORIDA MECHANICAL CODE (FBC-M), 7TH EDITION (2020) FLORIDA PLUMBING CODE (FBC-P), 7TH EDITION (2020)

FLORIDA FLUMBING CODE (FBC-F), 7TH EDITION (2020)
HATIONAL ELECTRICAL CODE (NEC), 2017 EDITION
ASCE STANDARD 7-16 (STRUCTURAL WIND LOAD CRITERIA)
UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS)

FLORIDA PROJUDITA PREDUVAL: CONTRACTOR SHALL MARE AVAILABLE TO THE BUILDING INSPECTOR DOCUMENTATION NECESSARY TO VERIFY THAT ALL EXTERIOR ENVELOPE COMPONENTS REQUIRING PRODUCT APPROVAL PER PS 553,642 ARE IN COMPUNANCE WITH PRODUCT APPROVAL INSTALLATION REQUIREMENTS.

GENERAL NOTES

- 1. THE DISTING PLANS ARE FOR INFORMATIONAL PURPOSES ONLY. IF THE CONTRACTOR IS MANUEL TO INTERFER.
 THE CONTRACT DICLIMENTS, HE IS RESPONSIBLE FOR REQUESTING CARRICATION. IN WITHING TO THE
 ARCHITECT. IF THE CONTRACTOR PROCEEDS WITH ANY WORK SEPONE OBTAINING CLARIFICATION, HE SHALL BE
 HELD RESPONSIBLE FOR ALL DEPICKACES ASSOCIATED THESE WITHING.
- 2. BEFORE SUBMITTING FOR THE WORK, EACH BIDDER WILL BE HELD TO HAVE PERFORMED THEIR DUE DILIGENCE AND SATISFIED HIMSELF AS TO THE EXISTING CONDITIONS UNDER WHICH HE WILL BE OBLIGED TO OPERATE AND COMPLETE THE WORK UNDER THIS CONTRACT. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY IN THIS CONNECTION ON BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CLEAR EXIT WAYS. WHERE AN EXIT MUST BE TEMPORARILY BLOCKED, CONTRACTOR SHALL PROVIDE THE REQUIRED BARRICADE AND DIRECTIONAL SIGNS FOR TEMPORARY ENTING AND SAFETY.
- NORMAL OPERATIONS OF THE REMAINING FACILITY SHALL CONTINUE DURING DEMOLITION AND CONSTRUCTION. II IS THE RESPONSIBILITY OF THE CORNEATOR TO COORDINATE AND SECURIONE DEMOLITION AND CONSTRUCTION TO MINIMAZE INTERSULFICIONS TO ROMAL OPERATIONS OF THE FACILITY.
- 6 ALL PROPOSED INTERRUPTIONS TO OPERATIONS AND EQUIPMENT SHALL BE REVIEWED WITH AND APPROVED BY
- CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A COMPLETELY DETAILED CONSTRUCTION SCHEDULE AND PLAN PRIOR TO PRE-CONSTRUCTION CONFERENCE.
- CONTRACTOR SHALL BE RESTRICTED TO AREAS SPECIFIED BY OWNER FOR ON SITE STORAGE OF CONSTRUCTION
 MATERIALS, COMPARTMENT TRAILERS OR SIMILAR PROTECTIVE STORAGE FACULTIES MAY BE UTILIZED ON SITE TO
 SECURE ALL EQUIPMENT AND ITEMS REMOVED DURING PROJECT WORK. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND SECURITY OF ALL FOLIPMENT AND ITEMS REMOVED.
- 9. CONTRACTOR MAY UTILIZE AVAILABLE ELECTRICAL POWER AND WATER UTILITIES AT PROJECT JOB SITE.
- IO, DUE TO THE NATURE OF THE FACILITY, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE SPECIAL SECURITY MEASURES AT THE JOBSITE. ALL TOOLS, MATERIALS, EQUIPMENT, ETC. SHALL BE SECURED. SECURITY PROCEDURES WILL BE REVIEWED AT THE PRE-CONSTRUCTION CONFERENCE.
- II. ALL WORK SHALL COMPLY WITH APPLICABLE OSHA AND E.P.A. REGULATIONS AND GUIDELINES.

- 15. CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE EXISTING SURFACES AND SHALL BE RESPONSIBLE FOR RETURNING DAMAGED AREAS (MATERIALS, FINISHES, LANDSCAPE, ETC.) TO THEIR ORIGINAL CONDITION. ALL DISTURBED AREAS OF SOLIT OB ESOODED. ALL PLANTING REPLACEMENT TO BE GUARANTEED FOR ONE YEAR.
- I.G. CONTRACTOR SHALL ERECT ALL SAFEGUARDS TO PROTECT AREAS ADJACENT TO BUILDING SITES. INSTALL SILT FENCING AS REQUIRED TO CONTAIN CONSTRUCTION RUNOFF. REMOVE DEBRIS FROM JOB SITE DAILY AND ADHER TO BUNKDOMBRITAL REGULATION.

DISCLAIMER

THESE DRAWINGS AND SPECIFICATIONS ARE THE CONFIDENTIAL AND PROPRIETARY PROPERTY OF MILD ARCHITECTS AND

ELECTRONIC DISTRIBUTION OF THESE DOCUMENTS IS NOT AUTHORIZED, UNLESS SPECIFICALLY APPROVED BY PROJECT ARCHITECT IN WRITING.





RENOVATIONS AND REPAIRS GAINESVILLE HOUSING CENTER GAINESVILLE, **TRAINING**

PERMIT SET

08/11/2023

บารเกม

TITLE SHEET

G100

ROOM NAME	FLOORING	BASE	WALL FINISH				CEILING		
	PLOOKING		NORTH	SOUTH	EAST	WEST	HEIGHT	FINISH	REMARKS:
ADA RESTROOM	F3	B3	PI	PI	PI	PI	8'-0"	CI	
BREAK ROOM	F2	B2	PI	PI	PI	PI	8'-0"	CI	
BREEZEWAY	FI	BI	PT	PI	PI	PT	10'-0"	C3	
CONFERENCE ROOM	F2	B2	PI	PI	PI	PI	8'-0"	CI	
ELECTRICAL ROOM	EX	B4	PI	PI	PI	PI	10'-4"	C2	
HALLWAY	F2	82	PT	PI	PI	PT	8'-0"	CI	
JANITORIAL CLOSET	FI	BI	PI	PI	PI	PI	10'-4"	C2	
MULTIPURPOSE ROOM I	FI	BI	PI	PI	PI	PI	10'-4"	C2	
MULTIPURPOSE ROOM 2	FI	BI	PT	PI	PI	PT	10'-4"	C2	
MULTIPURPOSE ROOM 3	FI	BI	PI	PI	PI	PI	10'-4"	C2	
OFFICE	F2	B2	PI	PI	PI	PI	8-0"	CI	
RESTROOM	F3	83	PT	PI	PI	PT	8'-0"	CI	
STORAGE I	EX	B4	PI	PI	PI	PI	10'-4"	C2	
STORAGE 2	FI	Bi	PI	PI	PI	PI	10-4"	C3	

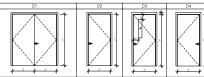
FINISH SCHEDULE (1 (A000)

ID QUAN. WIDTH		HEIGHT	DC	OR	FRAME			HARDWARE	GLAZING	REMARKS		
ID GOAN.	GOAN.	WIDIH		MATERIAL	FINISH	TYPE	MATERIAL	FINISH	HARDWARE	GLAZING	KENDAKA	
DI	3	6'	7'	KD	P2	KD	5T	P2	HI	-	HEAD-4/A502 JAMB-3/A502 SILL-5/A502	
D2	1	3'	7'	KD	P2	KD	ST	P2	H2		HEAD-4/A502 JAMB-3/A502 SILL-5/A502	
D3	1	3'	7'	HM	P2	WL	ST	P2	H2	G2	HEAD-G/A502 JAMB-G/A502(SIM) SILL-G/A502	
D4	1	3'	7'	KD	P2	WL	5T	P2	H5		HEAD-6/A502 JAMB-6/A502(5IM) 5ILL-6/A502	
XI	- 4	3'	7'	EX	P2	EX	EX	P2	H3		EXISTING DOOR	
X2	4	3'	7'	EX	P2	EX	EX	P2	H4	-	EXISTING DOOR	
X3	1	3'	7'	EX	P2	EX	EX	P2	H5		EXISTING DOOR	
X4	2	3'	7'	EX	P2	EX	EX	P2	H6		EXISTING DOOR	

DOOR SCHEDULE

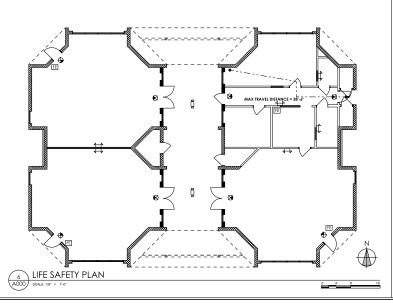
ID	QUAN.	WIDTH	HEIGHT	SILL HT	TYPE	ACCESSORIES	FINISH	GLAZING	MANUFACTURER	REMARKS
WI	3	3'-4"	8'-8"	0"	WL.	-	P2	GI	COLUMBIA	HEAD-7/A502 JAMB-7/A502 SILL-7/A502
W2	6	2'	7'	0"	KD	-	P2	G2	COLUMBIA	HEAD-1/A502 JAMB-3/A502 SILL-2/A502
W3	2	3'-4"	7'	0"	KD	-	P2	G2	COLUMBIA	HEAD-1/A502 JAMB-3/A502 SILL-2/A502

WINDOW SCHEDULE



4 DOOR ELEVATION





FINISH SCHEDULE NOTES

FLOOR
F1 - EPOXY POLYMER RESIN
F2 - LUXURY VINYL TILE (LVT)
F3 - CERAMIC TILE
EX - EXISTING FLOORING

CELLING

C1 - ACCUPATION. CEILING TILE (ACT) SIZE 24" X 24"

C2 - DXISTING TECTUM (P1) AND EXPOSED STEEL BAR JOISTS (P2)

C3 - METAL PANEL SOFFIT

WALL BASE
BI - EPOXY FLOORWALL SYSTEM
B2 - VIRYL BASE
B3 - CERAMIC TILE
B4 - NONE

- DOORS
 HM HOLLOW METAL P2
 WL WELDED FRAME P2
 KD KNOCK DOWN FRAME P2
 ST STEEL P2
 EX EXISTING

PAINTS
P1 - SHERWIN WILLIAMS - PRO INDUSTRIAL ACRYLIC
P2 - SHERWIN WILLIAMS - DTM

MILLWORK

LAMINATE - (TO BE APPROVED BY OWNER)

SOLID SURFACES - (TO BE APPROVED BY OWNER)

HARDWARE SCHEDULE

- HI LEVER HANDLE, ENTRY LOCKSET, 6 HINGES, DOOR STOP, KICKPLATES, WEATHER STRIPPING, SILENCER, FLUSH BOLT
- H2 LEVER HANDLE, CLOSER, ENTRY LOCKSET, 3 HINGES, DOOR STOP, KICKPLATES, WEATHER STRIPPING, SILENCER
- H3 LEVER HANDLE, ENTRY LOCKSET, PANIC HARDWARE, 3 HINGES, DOOR STOP, KICKPLATES, WEATHER STRIPPING, SILENCERS
- H4 LEVER HANDLE, STOREROOM LOCKSET, 3 HINGES, SILENCERS
- HS LEVER HANDLE, CLOSER, PRIVACY LOCKSET, 3 HINGES, DOOR STOP, KICKPLATES, SILENCERS
- HG LEVER HANDLE, CLOSER, OFFICE LOCKSET, 3 HINGES, SILENCERS

NOTE: ITIELD VERIFY ALL DOOR AND WINDOW DIMENSIONS PRIOR TO ORDERING. NOTIFY ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS.

DOOR NOTES

- I. EXISTING DOORS TO REMAIN. REPAIR ANY DAMAGE TO DOOR AND FRAME.
- 2. NEW 45 MINUTE DOOR AND FRAME TO MATCH EXISTING

WINDOW NOTES

G I - I" INSULATED LOW E

G2 - VIEW LIGHT, G" X 30" (TYP.), 1/4" CLEAR TEMPERED GLASS

LIFE SAFETY PLAN KEY AND NOTES



-- TRAVEL DISTANCE

EXIT SIGN

☐ ☐ EMERGENCY LIGHTING FE FIRE EXTINGUISHER

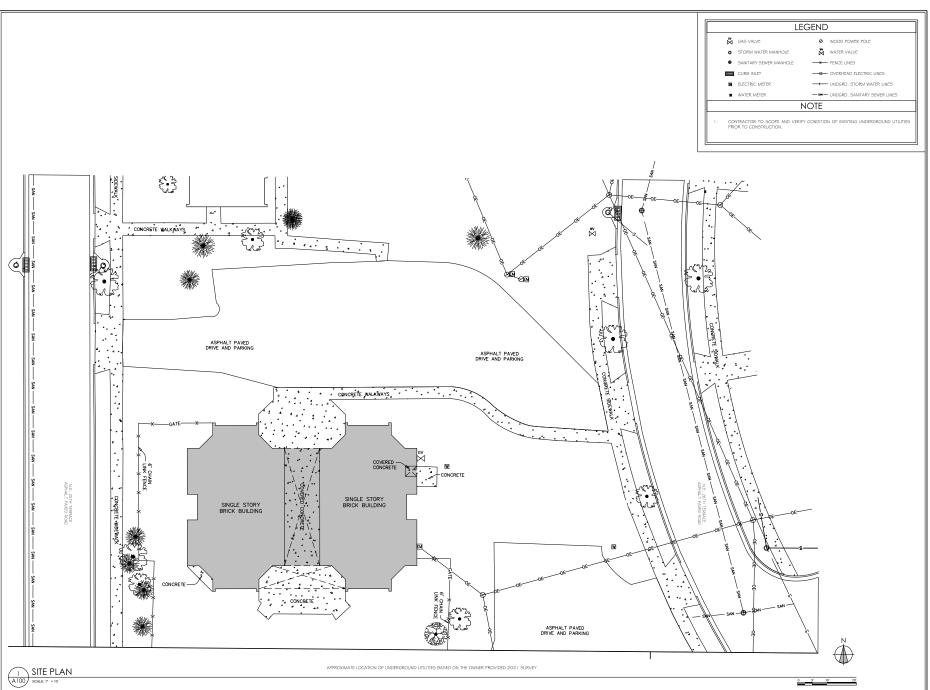
CONSULTANTS





CENTER REPAIRS AND RENOVATIONS GAINESVILLE HOUSING AUTHORITY GAINESVILLE, FLORIDA TRAINING (

PERMIT SET 08/11/2023 VISION SCHEDULES, NOTES AND LIFE SAFETY



CONSULTANTS

Digitally signed by Jerry A Scott Date: 2023.08.14 16:38:47 -04'00'



TRAINING CENTER REPAIRS AND RENOVATIONS GAINESVILLE HOUSING AUTHORITY GAINESVILLE, FLORIDA

PERMIT SET

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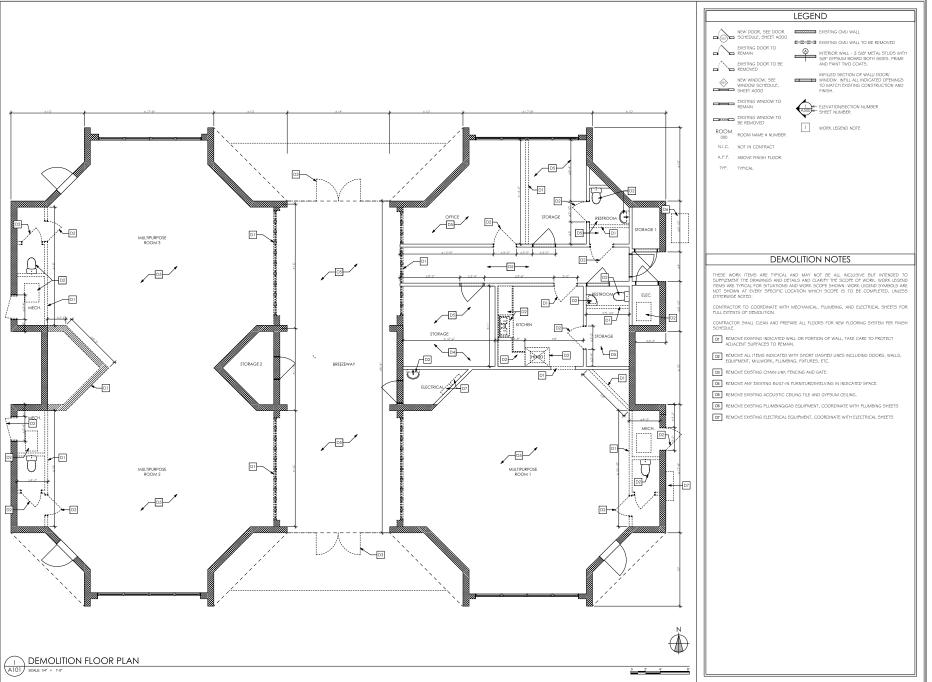
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APPROVED JS.

REVISION LE.

SUITE BLANL

SITE PLAN



CONSULTANTS

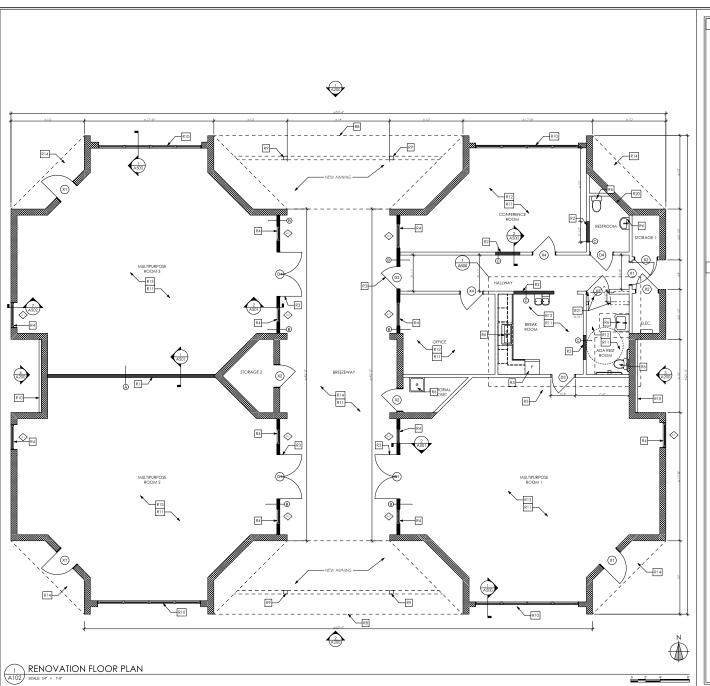


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TRAINING CENTER REPAIRS AND RENOVATIONS GAINESVILLE HOUSING AUTHORITY GAINESVILLE, FLORIDA

PERMIT SET

DEMOLITION FLOOR PLAN





WALL TYPE 'C' - CMU INFILLED SECTION OF WALLY DOOR; WINDOW. INFILL ALL IMPLICATED OFENINGS TO MATCH EXISTING CONSTRUCTION AND PINISM. (DETAIL 2/A500)

ROOM NAME & NUMBER

ROOM

SIM. A.F.F. ABOVE FINISH FLOOR

TYP. TYPICAL

ELEVATION/SECTION NUMBER

SHEET NUMBER

1 WORK LEGEND NOTE

RENOVATION NOTES

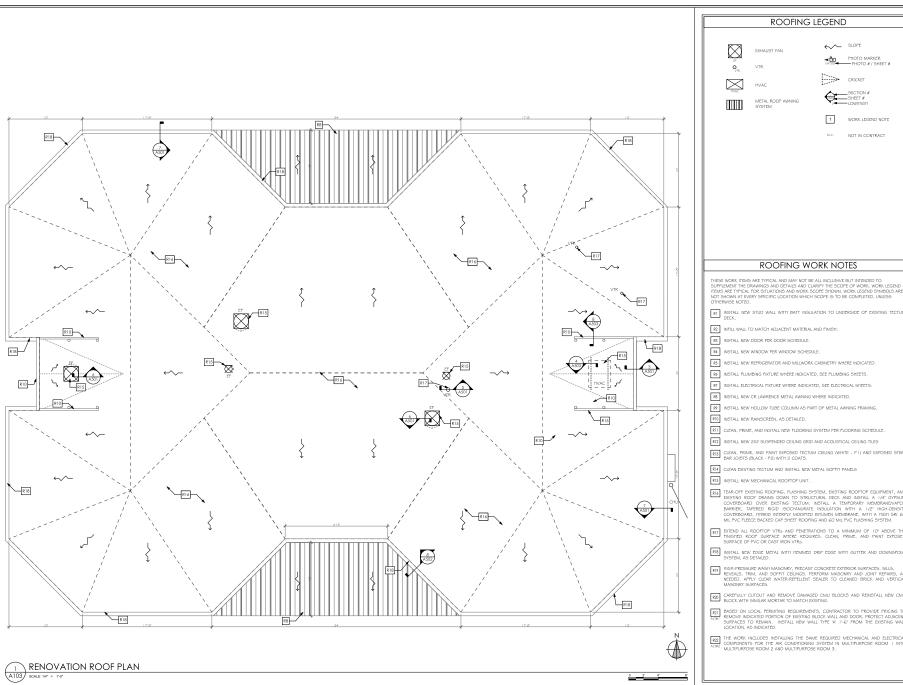
THESE WORK ITEMS ARE TYPICAL AND MAY NOT BE ALL INCLUSIVE BUT INTENDED TO SUPPLEMENT THE DRAWNISS AND DETAILS AND CLARIFY THE SOOPE OF WORK, WORK LEGEND THEMS ARE TYPICAL FOR SITUATIONS AND WORK SCOPE SHOWN, WORK LEGEND SYMBOLIS ARE NOT SHOWN AT EVERY SPECIFIC LOCATION WHICH SCOPE IS TO BE COMPLETED, UNLESS

- RI INSTALL NEW STUD WALL WITH BATT INSULATION TO UNDERSIDE OF EXISTING TECTUM DECK.
- R2 INFILL WALL TO MATCH ADJACENT MATERIAL AND FINISH.
- R4
- R5
- R6 NSTALL PLUMBING FIXTURE WHERE INDICATED, SEE PLUMBING SHEETS.
- NSTALL ELECTRICAL FIXTURE WHERE INDICATED. SEE ELECTRICAL SHEETS
- R8 NSTALL NEW CR LAWRENCE METAL AWNING WHERE INDICATED
- R9 INSTALL NEW HOLLOW TUBE COLUMN AS PART OF METAL AWNING FRAMING
- R10 INSTALL NEW RAINSCREEN, AS DETAILED.
- R11 CLEAN, PRIME, AND INSTALL NEW FLOORING SYSTEM PER FLOORING SCHEDULE
- R12 INSTALL NEW 2X2 SUSPENDED CEILING GRID AND ACQUISTICAL CEILING TILES
- R13 CLEAN, PRIME, AND PAINT EXPOSED TECTUM CEILING (WHITE P1) AND EXPOSED STEEL BAR JOISTS (BLACK P2) WITH 2 COATS.
- R14 CLEAN EXISTING TECTUM AND INSTALL NEW METAL SOFFIT PANELS
- R15 INSTALL NEW MECHANICAL ROOFTOP UNIT.
- TAIL TOW-OFF DISTING SCOPING, FLASHING SYSTEM, DISTING ROOFFOF EQUIPMENT, AND DISTING ROOF PRANS DOWN TO STRUCTURE LOCK AND INSTITUL A 1/M GYSTAM COVERDOARD OVER EMSTING TECTUM, RISTALL A TEMPORARY MEMBRANIZATOR DANKE, TATREED RIGID FOCOMENEAT INSTITULATION WITH A 1/2" HIGH-ORDERY COVERDOARD, INTERIO INTERIO TECTUM DISTINUEN MEMBRANIC, WITH A HIGH SIG OM ML IVO TECTE DISCIDLATE STORY MAD AND THE STORY MAD AND THE STORY MAD AND THE STORY MAD THE STORY MAD AND THE STORY MAD THE STORY MAD AND THE
- EXTEND ALL ROOFTOP VTRS AND PENETRATIONS TO A MINIMUM OF 10" ABOVE THE FINISHED ROOF SURFACE WHERE REQUIRES, CLEAN, PRIME, AND PAINT EXPOSED SURFACE OF PVC OR CAST IRON VTRS.
- RIB INSTALL NEW EDGE METAL WITH HEMMED DRIP EDGE WITH GUTTER AND DOWNSPOUT SYSTEM, AS DETAILED.
- TIP HIGH-FRESSURE WASH MASONRY, FRECAST CONCRETE EXTERIOR SURFACES, SILLS, REVEAUS, TRIM, AND SOFFIT CEUNCS, PERFORM MASONRY AND JOINT REPAIRS, AS NEEDED. APILY CLEAR WATER-REPELLENT SEALER TO CLEANED BRICK AND VERTICAL MASONRY SURFACES.
- CAREFULLY CUTOUT AND REMOVE DAMAGED CMU BLOCKS AND REINSTALL NEW CMU BLOCK WITH SIMILAR MORTAR TO MATCH EXISTING.
- [22] BASED ON LOCAL PERMITTING REQUIREMENTS, CONTRACTOR TO PROVIDE PRICING TO ACTIF REMOVE INDICATED PORTION OF EXISTING BLOCK WALL AND DOOR, PROTECT ADJACENT SURPACES TO REMAIN. INSTALL NEW WALL TYPE 'A' 1'-6' FROM THE EXISTING WALL LOCATION, AS INDICATED.
- R22 THE WORK INCLUDES INSTALLING THE SAME REQUIRED MECHANICAL AND ELECTRICAL COMPONENTS FOR THE ARE CONDITIONING SYSTEM IN MULTIPURPOSE ROOM I INTO MULTIPURPOSE ROOM 3.



CENTER REPAIRS AND RENOVATIONS AUTHORITY GAINESVILLE HOUSING GAINESVILLE, FLORIDA **TRAINING**

PERMIT SET 08/11/2023 RENOVATION FLOOR



ROOFING LEGEND

O_{VTR}



PHOTO MARKER
PHOTO # / SHEET #





METAL ROOF AWNING SYSTEM



1 WORK LEGEND NOTE

NOT IN CONTRACT



signed by Jerry A



CENTER REPAIRS AND RENOVATIONS

RI INSTALL NEW STUD WALL WITH BATT INSULATION TO UNDERSIDE OF EXISTING TECTUM DECK.

ROOFING WORK NOTES

R2 INFILL WALL TO MATCH ADJACENT MATERIAL AND FINISH.

INSTALL NEW DOOR PER DOOR SCHEDULE.

INSTALL PLUMBING FIXTURE WHERE INDICATED, SEE PLUMBING SHEETS.

NSTALL ELECTRICAL FIXTURE WHERE INDICATED, SEE ELECTRICAL SHEETS

INSTALL NEW CR LAWRENCE METAL AWNING WHERE INDICATED.

INSTALL NEW HOLLOW TUBE COLUMN AS PART OF METAL AWNING FRAMING.

R10 INSTALL NEW RAINSCREEN, AS DETAILED.

R11 CLEAN, PRIME, AND INSTALL NEW FLOORING SYSTEM PER FLOORING SCHEDULE

R12 INSTALL NEW 2X2 SUSPENDED CEILING GRID AND ACOUSTICAL CEILING TILES

RI3 CLEAN, PRIME, AND PAINT EXPOSED TECTUM CEILING (WHITE - P.I.) AND EXPOSED STEEL BAR JOISTS (BLACK - P2) WITH 2 COATS.

R14 CLEAN EXISTING TECTUM AND INSTALL NEW METAL SOPPIT PANELS

R15 INSTALL NEW MECHANICAL ROOFTOP UNIT.

TAIL TOW-OFF DISTING SCOPING, FLASHING SYSTEM, DISTING ROOFFOF EQUIPMENT, AND DISTING ROOF PRANS DOWN TO STRUCTURE LOCK AND INSTITUL A 1/M GYSTAM COVERDOARD OVER EMSTING TECTUM, RISTALL A TEMPORARY MEMBRANIZATOR DANKE, TATREED RIGID FOCOMENTAR INSTITULATION WITH A 1/2" HIGH-ORDERY COVERDOARD, INTERIO INTERIO PROTECT BITUMEN MEMBRANIC, WITH A HIGH SIG OM ML IVEN ELECTE DIACIDE CAPIET STORMER AND SOM INFORMATION SYSTEM.

RIT DITEND ALL ROOFFOF VIEW AND PENETRATIONS TO A MINIMUM OF 10° ABOVE THE MUSTED ROOF SURFACE WHERE REQUIRES. CLEAN, FRIME, AND PAINT DYPOSED SURFACE OF PWC OR CAST IRON VIEW.

RIB INSTALL NEW EDGE METAL WITH HEMMED DRIP EDGE WITH GUTTER AND DOWNSPOUT SYSTEM, AS DETAILED.

[17] HIGH-FRESSURE WASH MASONRY, FRICAST CONCRETE EXTERIOR SURFACES, SILLS, REVEALS, TRIM, AND SCHETT CELLINGS, PERFORM MASONRY AND JOINT RETAINS, AS NEEDED. APPLY CLEAR WATER-REPELLENT SEALER TO CLEAVED BRICK AND VERTICAL MASONRY SURFACES.

(RXXX) CAREFULLY CUTOUT AND REMOVE DAMAGED CMU BLOCKS AND REINSTALL NEW CMU BLOCK WITH SIMILAR MORTAR TO MATCH EXISTING.

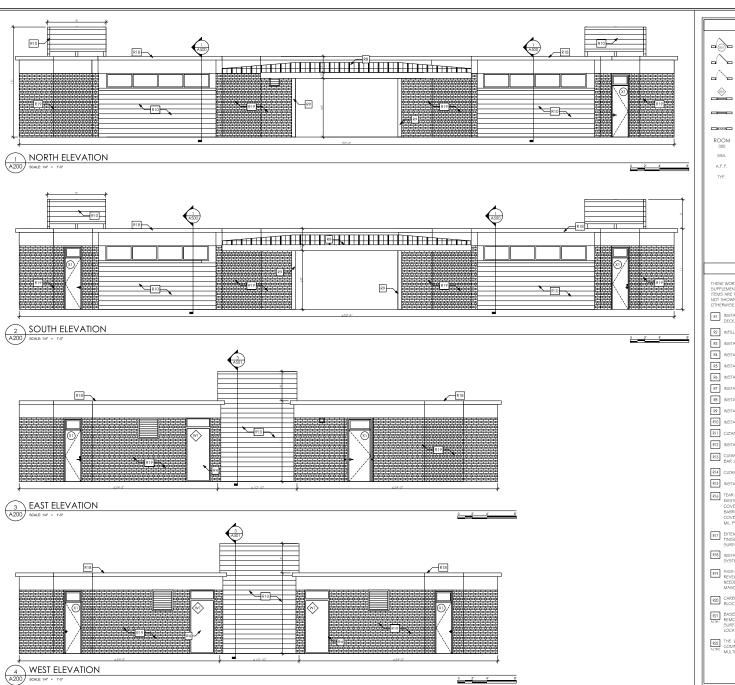
[22] BASED ON LOCAL PERMITING REQUIREMENTS, CONTRACTOR TO PROVIDE PRICING TO REMOVE DIDCATED PORTION OF EXISTING BLOCK WALL AND DOOR, PROTECT ADJACENT SUFFACES TO REMAIN. INSTALL NEW WALL TYPE 'X '1-G' FROM THE EXISTING WALL LOCATION, AS INDICATED.

R22 THE WORK INCLUDES INSTALLING THE SAME REQUIRED MECHANICAL AND ELECTRICAL COMPONENTS FOR THE ARE CONDITIONING SYSTEM IN MULTIPURPOSE ROOM | INTO MULTIPURPOSE ROOM 2 AND MULTIPURPOSE ROOM 3.

Gainesville housing authority Gainesville, florida **TRAINING**

PERMIT SET 08/11/2023

RENOVATION ROOF PLAN







THESE WORK ITEMS ARE TYPICAL AND MAY NOT BE ALL INCLUSIVE BUT INTENDED TO SUPPLEMENT THE DRAWNISS AND DETAILS AND CLARIFY THE SOOPE OF WORK, WORK LEGEND THEMS ARE TYPICAL FOR SITUATIONS AND WORK SCOPE SHOWN, WORK LEGEND SYMBOLS ARE NOT SHOWN AT EVERY SPECIFIC LOGATION WHICH SCOPE IS TO BE COMPLETED, UNLESS

 $\fbox{R1}$ install new stud wall with Batt insulation to underside of existing tectum deck.

R2 INFILL WALL TO MATCH ADJACENT MATERIAL AND FINISH.

INSTALL NEW DOOR PER DOOR SCHEDULE

NSTALL NEW REPRIGERATOR AND MILLWORK CABINETRY WHERE INDICATED

INSTALL PLUMBING FIXTURE WHERE INDICATED, SEE PLUMBING SHEETS.

INSTALL ELECTRICAL FIXTURE WHERE INDICATED. SEE ELECTRICAL SHEETS

INSTALL NEW CR LAWRENCE METAL AWNING WHERE INDICATED.

INSTALL NEW HOLLOW TUBE COLUMN AS PART OF METAL AWNING FRAMING.

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R13 CLEAN, PRIME, AND PAINT EXPOSED TECTUM CEILING (WHITE - P1) AND EXPOSED STEEL BAR JOISTS (BLACK - P2) WITH 2 COATS.

R14 CLEAN EXISTING TECTUM AND INSTALL NEW METAL SOPPIT PANELS

R15 INSTALL NEW MECHANICAL ROOFTOP UNIT.

TIG. TEAR-OFF DISTING EXCHING, FLASHING, SYSTEM, DISTING ROOTFOR EQUITABLY, AND DISTING ROOF DRAWED DOWN TO STRUCTURE USER, AND INSTITUL A 1/M OFFSEM COVERDOARD OVER EXISTING TECTUM, RISTALL A TEMPORARY MEMBRANEVAROR DARRIER, TAPPEED ROOF DROOFMANKER INSULATION WITH A 1/2" HIGH-ORD-RIV COVERDOARD, HYBRID INTERFLY MODIFIED BITUMEN MEMBRANE, WITH A HIGH SIG LOW. MIL INC. FLEED MACED CAPITE ROOFMEM AND COM IN INFO. TRANSING SYSTEM.

RIT EXTEND ALL ROOPTOP VTRS AND PENETRATIONS TO A MINIMUM OF 10' ABOVE THE MUSTED ROOF SURFACE WHERE REQUIRES. CLEAN, PRIME, AND PAINT EXPOSED SURFACE OF PVC OR CAST IRON VTRS.

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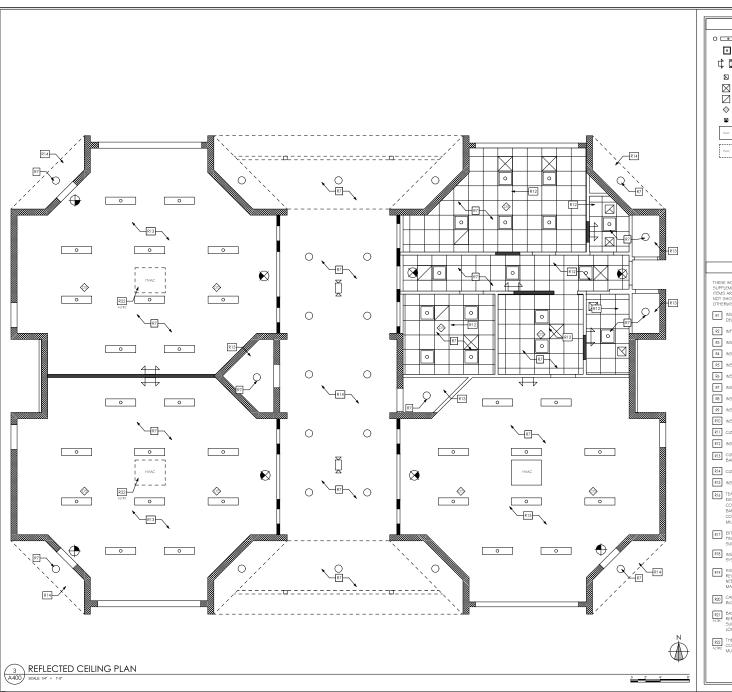
R22 THE WORK INCLUDES INSTALLING THE SAME REQUIRED MECHANICAL AND ELECTRICAL COMPONENTS FOR THE AIR CONDITIONING SYSTEM IN MULTIPURPOSE ROOM I INTO MULTIPURPOSE ROOM 2 AND MULTIPURPOSE ROOM 3.





RENOVATIONS AUTHORITY AND REPAIRS GAINESVILLE HOUSING GAINESVILLE, FLORIDA CENTER **TRAINING**

PERMIT SET 08/11/2023 VISION EXTERIOR ELEVATIONS A200





RENOVATION NOTES

THESE WORK ITEMS ARE TYPICAL AND MAY NOT BE ALL INCLUSIVE BUT INTENDED TO SUPPLEMENT THE DRAWNISS AND DITAILS AND CLARPY THE SOOPE OF WORK, WORK LEGEND THEMS ARE TYPICAL POR STILLATIONS AND WORK SCOPE SHOWN, WORK LEGEND SYMBOLS ARE NOT SHOWN AT EVERY SPECIFIC LOCATION WHICH SCOPE IS TO BE COMPLETED, UNLESS OTHERWISE NOTED.

- $$\mathbb{R}1$$ install new stud wall with Batt insulation to underside of existing tectum deck.
- R2 INFILL WALL TO MATCH ADJACENT MATERIAL AND FINISH.
- R3 INSTALL NEW DOOR PER DOOR SCHEDULE.
- R4 INSTALL NEW WINDOW PER WINDOW SCHEDU
- RS INSTALL NEW REFRIGERATOR AND MILLWORK CABINETRY WHERE INDICATED
- | INSTALL PLUMBING FIXTURE WHERE INDICATED, SEE PLUMBING SHEETS.
 | INSTALL ELECTRICAL PIXTURE WHERE INDICATED, SEE ELECTRICAL SHEETS.
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- 88 INSTALL NEW CR LAWRENCE METAL AWNING WHERE INDICATED.
- INSTALL NEW HOLLOW TUBE COLUMN AS PART OF METAL AWNING FRAMING.
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- R11 CLEAN, PRIME, AND INSTALL NEW FLOORING SYSTEM PER FLOORING SCHEDULE.
- R12 INSTALL NEW 2X2 SUSPENDED CEILING GRID AND ACOUSTICAL CEILING TILES
- RI3 CLEAN, PRIME, AND PAINT EXPOSED TECTUM CEILING (WHITE P.I.) AND EXPOSED STEEL BAR JOISTS (BLACK P2) WITH 2 COATS.
- R14 CLEAN EXISTING TECTUM AND INSTALL NEW METAL SOPPIT PANELS
- R15 INSTALL NEW MECHANICAL ROOFTOP UNIT.
- TAIL TOW-OFF DISTING SCOPING, FLASHING SYSTEM, DISTING ROOFFOF EQUIPMENT, AND DISTING ROOF PERMIS DOWN TO STRUCTURE LOCK AND INSTITUL A 1/M OFFSEM DISTING FOR SYSTEM STATES AND STATES AND
- EXTEND ALL ROOFTOP VTRs AND PENETRATIONS TO A MINIMUM OF 10" ABOVE THE FINISHED ROOF SURFACE WHERE REQUIRES, CLEAN, PRIME, AND PAINT EXPOSED SURFACE OF PVC OR CAST IRON VTRs.
- RIB INSTALL NEW EDGE METAL WITH HEMMED DRIP EDGE WITH GUTTER AND DOWNSPOUT SYSTEM, AS DETAILED.
- RTP HIGH-PRESGURE WASH MASONRY, PRECAST CONCRETE DITERIOR SURFACES, SILLS, REVEALS, TRIM, AND SOFFIT CEILINGS, PERFORM MASONRY AND JOINT REPAIRS, AS NEEDED. APPLY CLEAR WATER-REPELIENT SEALER TO CLEANED BRICK AND VERTICAL MASONRY SURFACES.
- CAREFULLY CUTOUT AND REMOVE DAMAGED CMU BLOCKS AND REINSTALL NEW CMU BLOCK WITH SIMILAR MORTAR TO MATCH EXISTING.
- [22] BASED ON LOCAL PERMITHIG REQUIREMENTS, CONTRACTOR TO PROVIDE PRICING TO REMOVE NOICATED PORTION OF EVISTING BLOCK WALL AND DOOR, PROTECT ADJACENT SUFFACES TO REMAIN. INSTALL NEW WALL TYPE A 11-6" FROM THE EXISTING WALL LOCATION, AS INDICATED.
- R22 THE WORK INCLUDES INSTALLING THE SAME REQUIRED MECHANICAL AND ELECTRICAL COMPONENTS FOR THE AIR CONDITIONING SYSTEM IN MULTIPURPOSE ROOM I INTO MULTIPURPOSE ROOM 2 AND MULTIPURPOSE ROOM.

CONSULTANTS





training center repairs and renovations gainesville housing authority gainesville, florida

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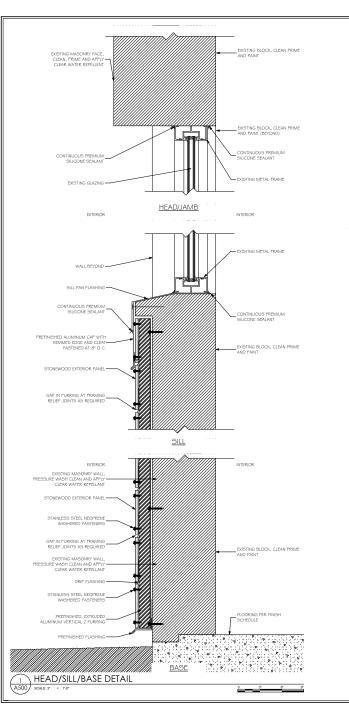
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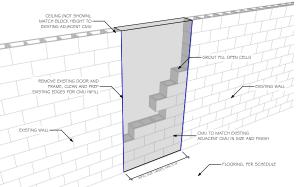
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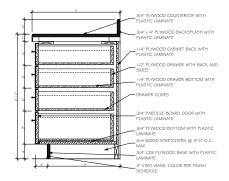


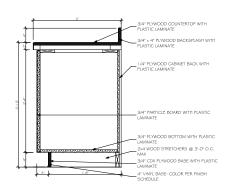


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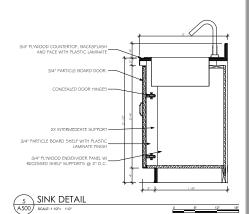
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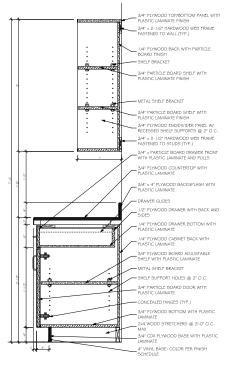




4 FALSE FRONT CABINET DETAIL
A500 SOME 1/07's 1/07



* NOTE: UPPER CABINETS AND DRAWERS ARE NOT INCLUDED IN AU, CASES. SUBSTITUTE DETAIL 7/ASOS WHERE DRAWERS ARE NOT NEEDED. SEE ELEVATIONS IN SPECIFIC LOCATIONS FOR REFERENCE.





CONSULTANTS





training center repairs and renovations Gainesville housing authority Gainesville, florida

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PROJ. NO. 160222

DATE 06H 1/02/3

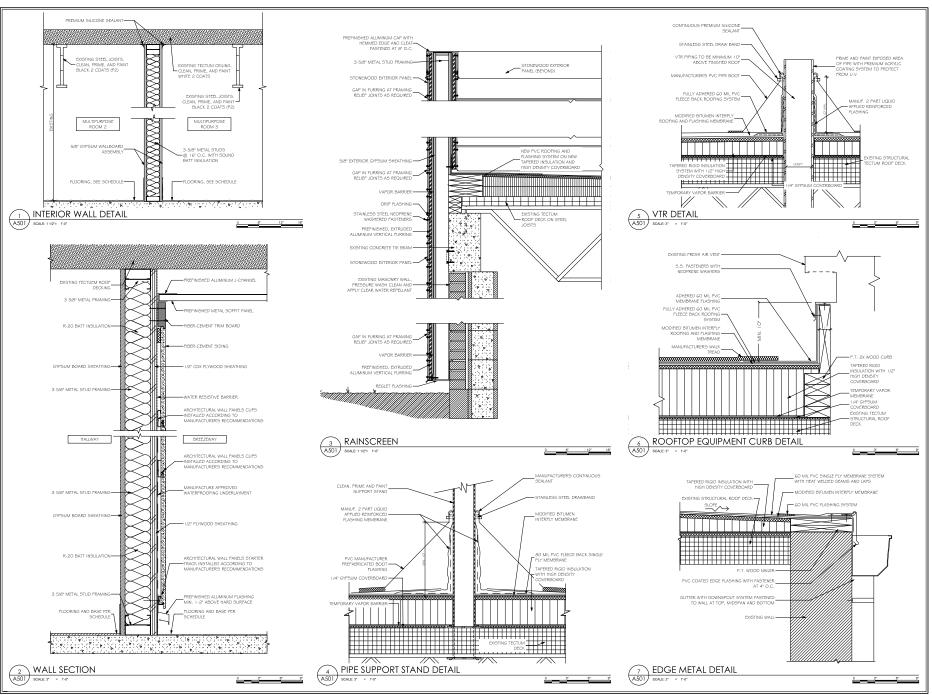
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REVISION DATE

DETAILS



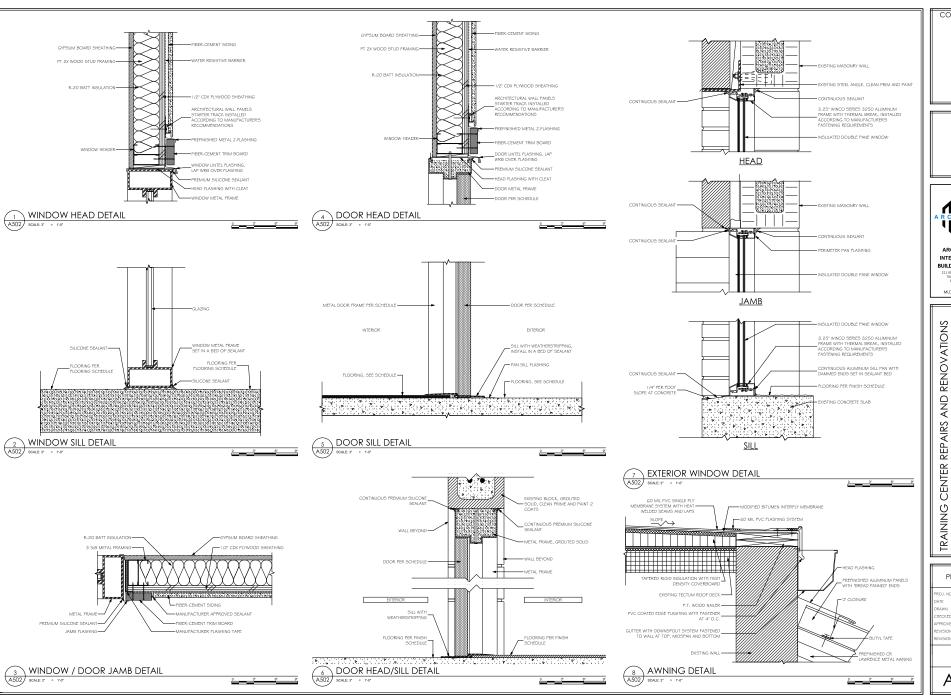
CONSULTANT

Digitally signed by Jerry A Scott Date: 2023.08.14 16:36:35 -04'00'



TRAINING CENTER REPAIRS AND RENOVATIONS GAINESVILLE HOUSING AUTHORITY GAINESVILLE, FLORIDA

A501



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training center repairs and renovatio Gainesville housing authority Gainesville, florida

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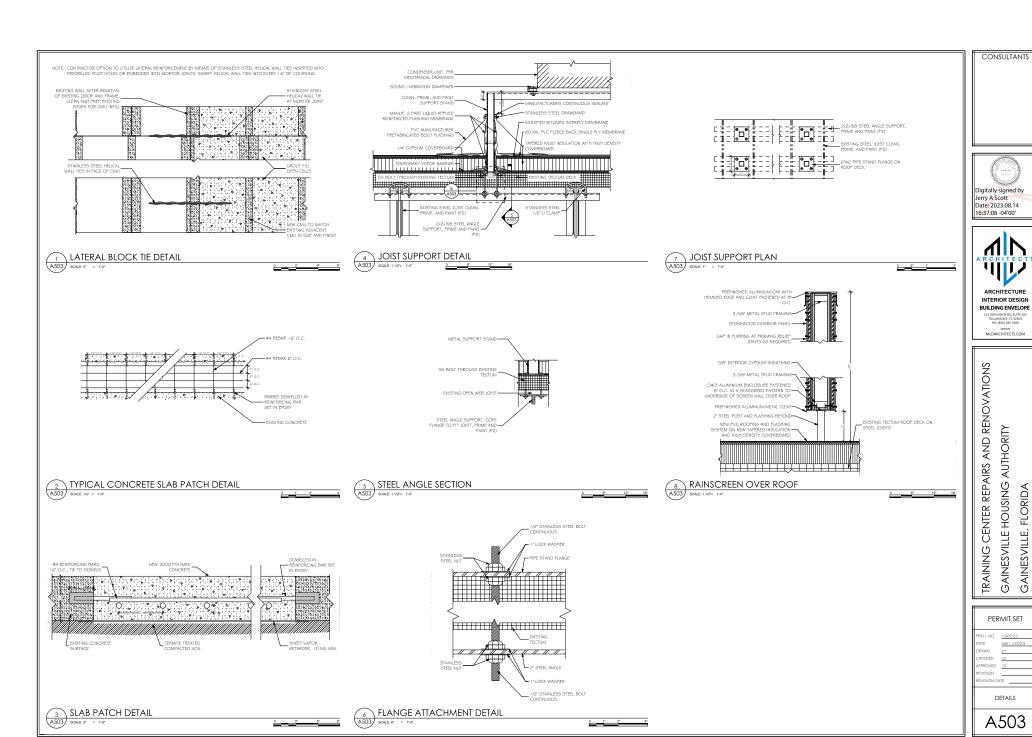
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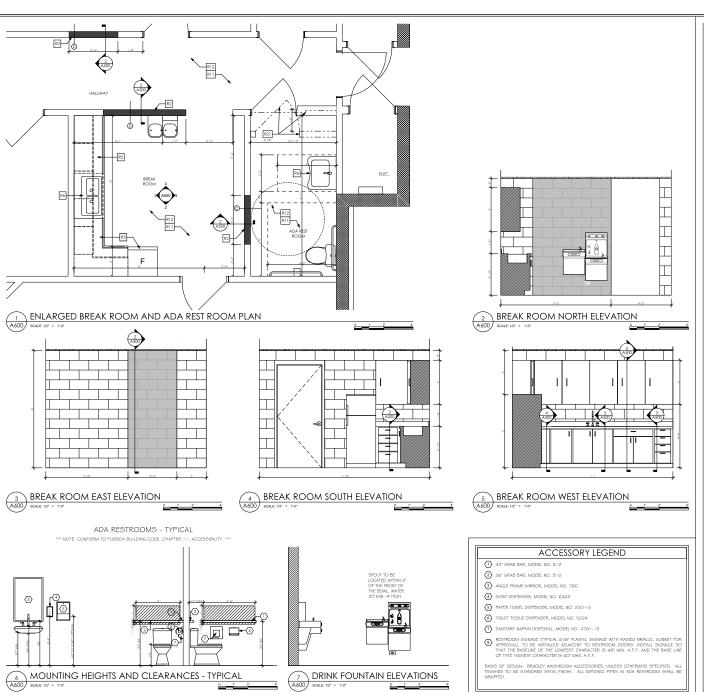
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REVISION DATE

DETAILS

A502





(A600)

SCALE: 1/2" = 1'-0"

LEGEND

NEW DOOR, SEE DOOR SCHEDULE, SHEET ACCO EXISTING DOOR TO REMAIN

NEW WINDOW, SEE WINDOW SCHEDULE, SHEET A000

ROOM

SIM.

EXISTING DOOR TO BE **`□** REMOVED

ROOM NAME & NUMBER

A.F.F. ABOVE FINISH FLOOR

TYP TYPICAL

EXISTING EXTERIOR MASONRY WALL □ □ □ □ EXISTING WALL SYSTEM TO BE REMOVED.



WALL TYPE 'A' - 3 5/8' METAL STUDS WITH BATT INSULATION AND 5/8' GYPSUM BOARD BOTH SIDES, PRIME AND PAINT TWO COATS, (DETAIL 1/4501)



WALL TYPE 'B' - 3 5/8' METAL STUDS WITH 5/8' GYPSUM BOARD INTERIOR SIDE, I/2' COX PLYWOOD AND PIBER-CEMENT SYSTEM ON EXTERIOR SIDE, PRIME AND PAINT TWO COATS GYPSUM BOARD, (DETAIL 2/ASO.)



WALL TYPE 'C' - CMU INFILLED SECTION OF WALLY DOORY WINDOW. INFILL ALL INDICATED OPENINGS TO MATCH EXISTING CONSTRUCTION AND PINISH. (DETAIL 2/4500)



ELEVATION/SECTION NUMBER SHEET NUMBER







THESE WORK ITEMS ARE TYPICAL AND MAY NOT BE ALL INCLUSIVE BUT INTENDED TO SUPPLEMENT THE DRAWNISS AND DETAILS AND CLARIFY THE SOOPE OF WORK, WORK LEGEND THEMS ARE TYPICAL FOR SITUATIONS AND WORK SCOPE SHOWN, WORK LEGEND SYMBOLIS ARE NOT SHOWN AT EVERY SPECIFIC LOCATION WHICH SCOPE IS TO BE COMPLETED, UNLESS OTHERWISE NOTED.

- RI INSTALL NEW STUD WALL WITH BATT INSULATION TO UNDERSIDE OF EXISTING TECTUM DECK.
- R2 INFILL WALL TO MATCH ADJACENT MATERIAL AND FINISH.
- INSTALL NEW DOOR PER DOOR SCHEDULE
- R4
- R5 NSTALL NEW REPRIGERATOR AND MILLWORK CABINETRY WHERE INDICATED
- R6 INSTALL PLUMBING FIXTURE WHERE INDICATED, SEE PLUMBING SHEETS.
- R7 NSTALL ELECTRICAL FIXTURE WHERE INDICATED, SEE ELECTRICAL SHEETS
- R8 INSTALL NEW CR LAWRENCE METAL AWNING WHERE INDICATED
- INSTALL NEW HOLLOW TUBE COLUMN AS PART OF METAL AWNING FRAMING.
- R10 INSTALL NEW RAINSCREEN, AS DETAILED.
- R11 CLEAN, PRIME, AND INSTALL NEW FLOORING SYSTEM PER FLOORING SCHEDULE
- R12 INSTALL NEW 2X2 SUSPENDED CEILING GRID AND ACOUSTICAL CEILING TILES
- R13 CLEAN, PRIME, AND PAINT EXPOSED TECTUM CEILING (WHITE P1) AND EXPOSED STEEL BAR JOISTS (BLACK P2) WITH 2 COATS.
- R14 CLEAN EXISTING TECTUM AND INSTALL NEW METAL SOFFIT PANELS
- R15 INSTALL NEW MECHANICAL ROOFTOP UNIT.
- TICAR-OFF EXISTING ROOFING, FLASHING SYSTEM, EXISTING ROOFTOP EQUIPMENT, AND DISTING ROOF DRAINS DOWN TO STRUCTURAL DECK AND INSTALL A 1-MY GYSTAM COVERDAND OVER EXISTING TECTUM. MISTALL A TEMPORARY MEMBRANEWAPOR BARRIER, TAFFEED RIGID SOCKMANEATE INSULATION WITH A 1/2* HIGH-DENSITY COVERDARD, HYRRID INTERPY MOOFITED BUTLANE MEMBRANE, WITH A HIGH SHE MIL PVC FLEEGE BACKED CAP SHEET ROOFING AND 60 MIL PVC FLASHING SYSTEM.
- RIT EXTEND ALL ROOPTOP VTRS AND PENETRATIONS TO A MINIMUM OF 10' ABOVE THE MUSTED ROOF SURFACE WHERE REQUIRES. CLEAN, PRIME, AND PAINT EXPOSED SURFACE OF PVC OR CAST IRON VTRS.
- RIB INSTALL NEW EDGE METAL WITH HEMMED DRIP EDGE WITH GUTTER AND DOWNSPOUT SYSTEM, AS DETAILED.
- TIP HIGH-FRESSURE WASH MASONRY, FRECAST CONCRETE EXTERIOR SURFACES, SILLS, REVEAUS, TRIM, AND SOFFIT CEUNCS, PERFORM MASONRY AND JOINT REPAIRS, AS NEEDED. APILY CLEAR WATER-REPELLENT SEALER TO CLEANED BRICK AND VERTICAL MASONRY SURFACES.
- CAREFULLY CUTOUT AND REMOVE DAMAGED CMU BLOCKS AND REINSTALL NEW CMU BLOCK WITH SIMILAR MORTAR TO MATCH EXISTING.
- [22] BASED ON LOCAL PERMITING REQUIREMENTS, CONTRACTOR TO PROVIDE PRICING TO REMOVE DIDCATED PORTION OF EXISTING BLOCK WALL AND DOOR, PROTECT ADJACENT SUFFACES TO REMAIN. INSTALL NEW WALL TYPE 'N 1'-G' FROM THE EXISTING WALL LOCATION, AS INDICATED.
- R22 THE WORK INCLUDES INSTALLING THE SAME REQUIRED MECHANICAL AND ELECTRICAL ALTRE COMPONENTS FOR THE AIR CONDITIONING SYSTEM IN MULTIPURPOSE ROOM I INTO MULTIPURPOSE ROOM 2 AND MULTIPURPOSE ROOM 1





RENOVATIONS AUTHORITY AND REPAIRS GAINESVILLE HOUSING FLORIDA CENTER GAINESVILLE, **TRAINING**

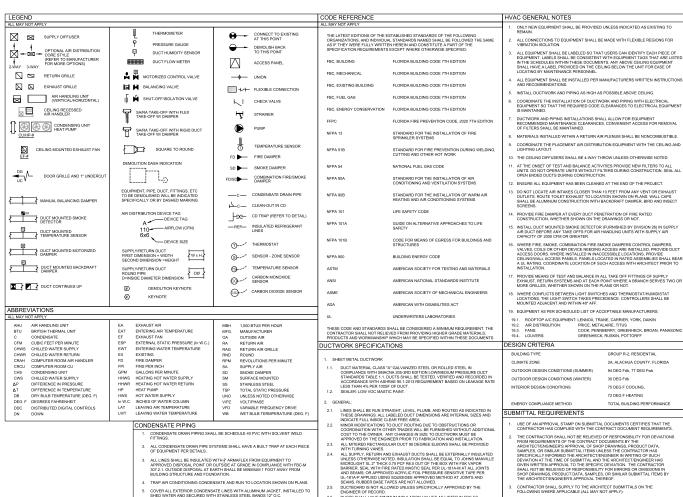
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 COVER ALL EXTERIOR CONDENSATE LINES WITH ALUMINUM JACKET, INSTALLED TO SHED WATER AND SECURED WITH STAINLESS STEEL BANDS 12" O.C. DUCTS SHALL HAVE MINIMUM INSULATION VALUES AS LISTED IN FBC-EC 403.2.9.1.

DUCT TO AIR TERMINALS SHALL BE LIMITED IN LENGTH AS SHOWN IN DETAILS.
SHALL BE UL LISTED AS A CLASS 1 AIR DUCT COMPLYING WITH UL STANDARD
181. NFPA 90A 8 90B AND HAVE A FLAME SPREAD RATING OF ROYT OVER 25 AND A

SMOKE DEVELOPMENT RATING NOT OVER 50.

SMALL HAVE A POSITIVE OFFERATION SPESSING OF 10° MINIMUM. FLEXIBLE DUCT
SHALL HAVE BEEN TESTED FOR AMAXIMUM INTERNAL, OPERATING
TEMPERATURE OF 2007 HORGET CONTINUOUS OPERATION.

THE STATE OF THE STATE

LEXIBLE DUCTWORK SHALL BE INSTALLED AS STRAIGHT AS POSSIBLE, AND SHALL BE ROUTED AND SUPPORTED WITHOUT FORMING CRIMPS OR OTHER AIR

FLOW RESTRICTIONS.

PROVIDE SQUARE TO ROUND ADAPTERS OR BOOTS TO CONNECT TO AIR DEVICE
NECK WHERE REQUIRED. FLEXIBLE DUCT SHALL HAVE A FULL 10-YEAR

WARPANT, MERCHANGES AND A CPE CORE PERMANENTLY BONDED TO A COATED SPRING STEEL WIRE HELIX (MIN. 041 THIOK).
SHALL BE THERRIBLEX TYPE MAR, FLORAMSTER TYPE MIN OR EQUAL
SHALL BE SUPPORTED SO THAT HORIZONTA, RUIS ARE STRAIGHT AND
SHALL BE SUPPORTED SO THAT HORIZONTA, RUIS ARE STRAIGHT AND
HITCHIS SHALD BERRIS. SHEFF MERCHANDLES SHALL BE PROVIDED AT ALL
HADDES FOR A COMPRESSION OF THE SHALL AND COST HE DUTS AND
EXCESSIVE COMPRESSION OF THE SHALLATION.

LOPMENT RATING NOT OVER 50.

2.6. IF OTHERWISE UNSPECIFIED, TERMINATE CONDENSATE INTO STORM CONNECTION OR ARCHITECT-APPROVED GRAVEL OR GREEN PATCH AT LEAST 12' AWAY FROM

7. CONDENSATE DRAIN SIZING (PER FBC-M TABLE 307.2.2)

LIP TO 20 TONS 2* DIAMETER 21 TO 40 TONS 1" DIAMETER 41 TO 90 TONS 1±" DIAMETER 91 TO 125 TONS 18" DIAMETER 126 TO 250 TONS 2" DIAMETER 251 AND ABOVE SIZED BASED ON ACTUAL FLOW

ENERGY SYSTEMS - THERMOSTATS

BUILDING

HEATING AND COOLING TO EACH ZONE MUST BE CONTROLLED INDIVIDUALLY BY A THERMOSTAT CONTROL. AT LEAST ONE HUMBITY CONTROL DEVICE SHALL ALSO BE PROVIDED FOR EACH HUMBITY CONTROL SYSTEM.

THERMOSTATIC CONTROLS THAT CONTROL BOTH HEATING AND COOLING SHALL HAVE A DEADBAND OF 5°F MINIMUM WHERE WHICH THE SUPPLY OF HEATING AND COOLING ENERGY OT THE ZONE IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A

ACCIONANCE WITH BE CHAPTER, CAGG 2.4.

ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURERS WRITTEN INSTRUCTIONS

COORDINATE THE INSTALLATION OF DUCTWORK AND PIPING WITH ELECTRICAL EQUIPMENT SO THAT THE REQUIRED CODE CLEARANCES TO ELECTRICAL EQUIPMENT

B. MATERIALS INSTALLED WITHIN A RETURN AIR PLENUM SHALL BE NONCOMBUSTIBLE.

16. WHERE FIRE, SMOKE, COMBINATION FIRE SMOKE DAMPERS CONTROL DAMPERS VALVES, COILS OR OTHER DEVICE NEEDING ACCESS ARE INSTALLED, PROVIDE DUCT ACCESS DOORS. WHERE INSTALLED IN INACCESSIBLE LOCATIONS, PROVIDE CELLINGWALL ACCESS PAPILES, PANELS LOCATION IN RATEO ASSEMBLIES SHALL BEAR

PROVIDE MEANS OF TEST AND BALANCE IN ALL TAKE OFF FITTINGS OF SUPPLY EXHAUST, RETURN SYSTEMS AND AT EACH POINT WHERE A BRANCH SERVES TWO OR MORE GRILLES, WHETHER SHOWN ON THE PLANS OR NOT.

18. WHERE CONFLICTS BETWEEN LIGHT SWITCHES AND THERMOSTAT/HUMIDISTA

LOCATIONS, THE LIGHT SWITCH TAKES PRECEDENCE. CONTROLLERS SHALL BE MOUNTED ADJACENT AND WITHIN 48" AFF.

19. EQUIPMENT AS PER SCHEDULED LIST OF ACCEPTABLE MANUFACTURERS

GROUP R-2. RESIDENTIAL 2A. ALACHUA COUNTY, FLORIDA

TOTAL BUILDING PERFORMANCE

CONTRACTOR SHALL SUPPLY TO THE ARCHITECT SUBMITTALS ON THE FOLLOWING WHERE APPLICABLE (ALL MAY NOT APPLY):

AIR CONDITIONING EQUIPMENT

AIR CONDITIONING EQUIPMENT

1. INCLUDING PERFORMANCE DATA AT LISTED ENTERING CONDITIONS
DUCTWORK MATERIALS AND CONSTRUCTION METHODS

DUCT FITTINGS

INSULATION MATERIALS DUCT ACCESSORIES AND SPECIALITIES

LOUVERS

PIPING
CONTROLS
ROOF EQUIPMENT AND MOUNTING
AIR DISTRIBUTION TERMINAL DEVICES
FANS

GENERAL NOTES

THE ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR ANY MISUSE AND/OR MISREPRESENTATION OF THIS SET OF DOCUMENTS.

THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THE USE OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL MAKE THEMSELVES AWARE OF PROJECT CONDITIONS AND OWNER REQUIREMENTS PROT OF PROCUMENTO OF EQUIREMENT AND SERVICES. CHANGES IN PROJECT COST WILL NOT BE GRANTED DUE TO FIELD CONFLICTS AND OR PROJECT CONDITIONS.

THE SET OF DRAWNINGS AND SPECIFICATIONS SHALL NOT BE CONSIDERED A SET OF CONSTIDERED AS ET OF CONSIDERED AS EACH DURE AS EMBOSSED AND THE SHA AUTHENTICATION CODE MAYS TE EVERIFIED ON LECTRONS COPPES.

CONFLICTS BETWEEN THIS SET OF DRAWINGS AND THE CONTRACT SPECIFICATIONS SHALL BE RESOLVED BY THE ENGINEER OF RECORD. THE CONTRACTOR DOES NOT HAVE THE AUTHORITY TO INTERPRET CONFLICTS AND RESOLVE ISSUES WITHOUT WRITTEN DI

ANY CONFLICTS IN THE FIELD OR WITHIN THESE DOCUMENTS SHALL BE RECORDED AND PROVIDED TO THE ENGINEER OF RECORD ON THE CONTRACTOR'S STANDARD LETTERHEAD. WRITTEN DIRECTION RESOLVING CONFLICT VIII.L BE ISSUED BY THE ENGINEER OF RECORD.

PRIOR TO INSTALLATION, COORDINATE AND ADJUST THE FINAL LOCATION OF ALL WALL MOUNTED DEVICES AND EQUIPMENT WITH ALL CASEWORK, SHELVING OR OTHER WALL MOUNTED PURNISHINGS.

PLANS ARE DIAGRAMMATIC IN NATURE AND INTENDED TO SHOW THE GENERAL SCOPE OF THE WORK TO BE PERFORMED, REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL DIMENSIONS.

DUE TO THE SMALL SCALE OF THE DRAWINGS, AND TO UNFORESEEN JOB CONDITIONS, ALL REQUIRED OFFSETS. TRANSITIONS AND FITTINGS MAY NOT BE SHOWN BUT SHALL BE PROVIDED AT NO ADDITIONAL COST.

 THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND EXISTING EQUIPMENT TO ENGURE THE EQUIPMENT SPECIFIED WILL WORK FOR THE SPACES PROVIDED. FIRMAL DIMENSIONS OF SYSTEMS SHOWN ON THESE PLANS SHALL BE COORDINATED IN THE FIELD. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR PROVIDING OFFSETS AND TRANSITIONS TO FIT IN SPACES PROVIDED AND AT NO COST TO THE OWNER

10. THE CONTRACTOR IS RESPONSIBLE FOR ANY SPECIAL REQUIREMENTS INVOLVED IN INSTALLING EQUIPMENT IN THE BUILDING, DISMANTLING AND REASSEMBLING OF ANY EQUIPMENT SHALL BE DONE AS REQUIRED TO BRING INTO THE BUILDING AND EQUIPMENT ROOMS.

. ALL WORK PERFORMED AS PART OF THIS PROJECT SHALL BE PERFORMED BY EXPERIENCED TRADESMEN WHO ARE TRAINED, EXPERIENCED, AND SKILLED IN THE TASKS INCIDENTAL TO THE PROJECT.

12. ALL WORK SHALL COMPLY WITH APPLICABLE OSHA AND EPS REGULATIONS AND GUIDFLINES

13. THE CONTRACTOR PERFORMING WORK ON THIS PROJECT WILL BE RESPONSIBLE FOR REGULARLY CLEANING THE WORK AREA OF ANY DEBRIS ASSOCIATED WITH I WORK BEING PERFORMED. THE SITE SHALL BE CLEAN OF ALL CONSTRUCTION DEBRIS AT THE COMPLETION OF THE JOB, BEFORE FINAL PAYMENT IS MADE.

14. REASONABLE PRECAUTIONS SHALL BE MADE FOR SAFETY AND HEALTH INCLUDING BUT NOT LIMITED TO WARNING SIGNS, SAFETY PRECAUTIONS, AND BARRICADES FOR PEDESTRIANS.

COORDINATE ALL DEMOLITION, CLEANING, AND CONSTRUCTION WORK. CONTRACTOR SHALL PROVIDE OWNER A FULL CONSTRUCTION SCHEDULE.

 CONTRACTOR SHALL BE HELD TO PROVIDED SCHEDULE. THEY SHALL BE RESPONSIBLE FOR PROVIDING SUFFICIENT MANPOWER AND EQUIPMENT TO COMPLETE THE WORK IN THE TIME INDICATED.

17. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND SECURITY OF ALL EQUIPMENT AND MATERIALS. THE LOCATION OF STORAGE SHALL BE RESTRICTED SPECIFICALLY TO THE AREA ALLOTTED BY THE OWNER.

ALL ITEMS INSTALLED UNDER THE SCOPE OF THIS PROJECT SHALL BE NEW, CLEAN, AND FREE OF DEFECTS.

19. IF DRAWING CHANGES ARE NEEDED FOR INSPECTION DUE TO FIELD CHANGES MADE BY THE CONTRACTOR WITHOUT PRIOR APPROVAL OF THE ENGINEER AND AGREED LPON TERMS, THEN THE COSTRACTOR SHALL PAY HOURLY RATES TO THE ENGINEER OF RECORD FOR MAKING NECESSARY CHANGES.

SUPPORTS, HANGERS, WIRING, AND PIPING SHALL BE INSTALLED IN A NEAT FASHION AND IN AN ORDERLY APPEARANCE.

ALL ROOF EQUIPMENT SHALL BE SECURED TO STRUCTURE TO RESIST A 130 MPH WIND LOAD.

PROTECT THE ROOF FROM DAMAGE WHENEVER ANY WORK ON THE ROOF IS REQUIRED.

23. CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL PARTITIONS LABELED WITH A SPECIAL LISTING ON THE ARCHITECTURAL PLANS. THIS INCLUDES FIRE, SMOKE ACOUSTICAL AND OTHER UL WALL OR CEILING ASSEMBLIES. 24 STRUCTURAL PENETRATIONS INCLUDING BUT NOT LIMITED TO WALL FLOOR OR

AND REINFORCING APPROVED BY STRUCTURAL ENGINEER SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

CONTRACTOR SHALL GUARANTEE THE WORK AND MATERIALS FOR PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. THIS GUARANTEE SHALL BE IN ADDITION TO THE WARRANTIES PROVIDED BY THE MATERIAL SUPPLIES AND MANUFACTURERS.

26. VALUE ENGINEERING OR CHANGES TO PLANS MUST BE APPROVED BY THE ENGINEER OF RECORD AND RESUBMITTED THROUGH THE BUILDING DEPARTMENT PRIOR TO BEING INSTALLED.

SHEET TITLE SHEET NUMBER

SHEET INDEX

M001 - HVAC NOTES & SHEET INDEX M501 - HVAC DETAILS

M601 - HVAC SCHEDULES

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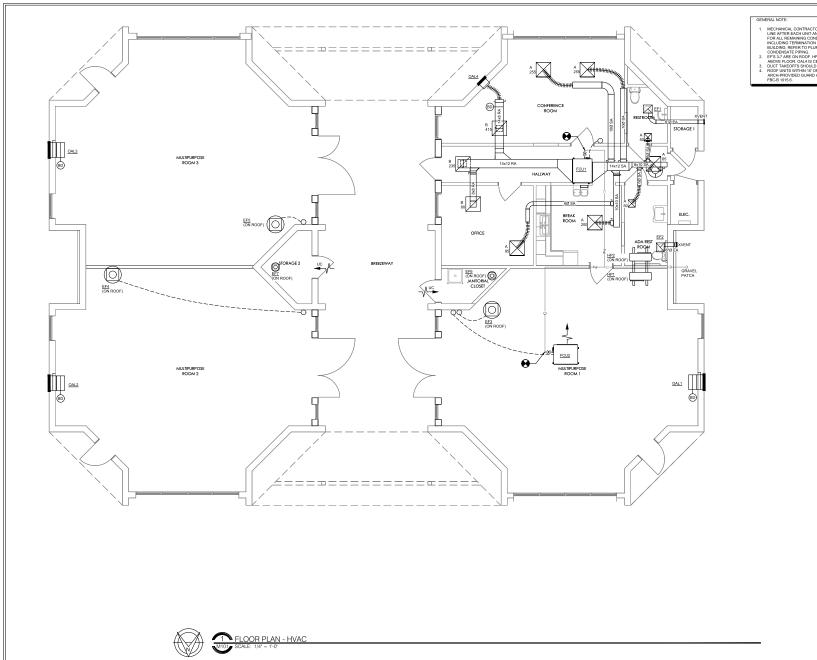
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HVAC NOTES & SHEET INDEX

M001



NECOLAND LE

MECHANICAL CONTRACTOR RESPONSIBLE FOR FIRST 12" OF CONDENSATE
LINE AFFER EACH VIAFT AND FIRME PLUMBING CONTRACTOR RESPONSIBLE
INCLUDING TERRINATION OVER RECHE AFFCH AT LESS 12" AND F FROM
BUILDING RECEPT TO FLUMBING PLANS FOR PLUMBING CONTRACTOR
BUILDING RECEPT TO FLUMBING PLANS FOR PLUMBING CONTRACTOR
FOR THE PROPERTY OF THE PLANS FOR PLUMBING CONTRACTOR
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RECORD FLOOR FLOOR



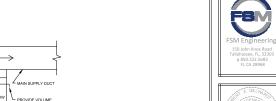
CONSULTANTS



TRAINING CENTER REPAIRS AND RENOVATIONS GAINSEVILLE HOUSING AUTHORITY GAINESVILLE, FLORIDA

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M101



REMOVABLE COVER FOR ACCESS TO FAN

- ROOF CONSTRUCTION

- EXHAUST DUCTWORK



CONSULTANTS



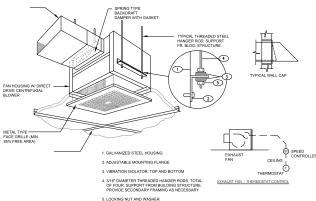


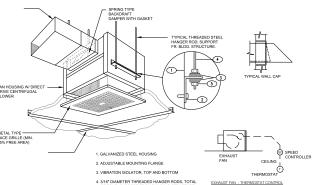
TRAINING CENTER REPAIRS AND RENOVATIONS AUTHORITY GAINSEVILLE HOUSING FLORIDA GAINESVILLE,

PERMIT SET 160222 REGII

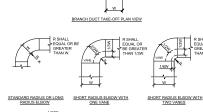
HVAC DETAILS

M501





DUCT HANGER DETAILS



NOTE:

MOTOR

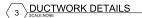
BIRDSCREEN

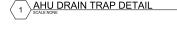
THERMAL &= ACOUSTICAL INSULATION

SPONGE RUBBER PAD (VIB. ISOL.)

1/4 W OR 4*

- THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
- 2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED. SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.





WHERE Y = STATIC PRESSURE IN PAN

NOTE

STYLO PIPE MAY BE USED ONLY IF APPROVED BY LOCAL VALAND IS

NOTIONS AND DOES NOT PASS THROUGH HATED BARRIERS.

DELECTION THIS TO THE USED WHEN TWO DESIMILAR METALS ARE TO

BE CONNECTED.

TERMINATE AT CODE ALLOWED GREEN SPACE INTO GRAVEL PIT IMMINUM

12" FROM BUILDING.

2" PLUS X

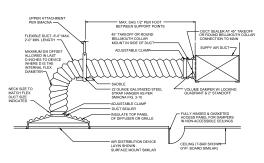
DRAIN LINE SHALL BE AT LEAST THE SAME SIZE AS THE NIPPLE ON THE DRAIN PAN PIPING SHALL BE RIGID COPPER TYPE L OR TYPE M UNLESS NOTE BELOW IS MET

UNIT TYPE

DRAW THRU

BLOW THRU

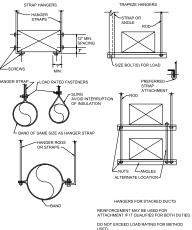




4 FLEXIBLE DUCT TAKEOFF DETAIL

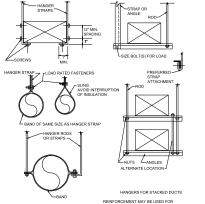
- 1. FLEXIBLE DUCTS SHALL BE ONE PIECE AND SHALL NOT BE SPLICED TOGETHER
- EXTEND FLEXIBLE DUCT INSULATION TO DUCTIDIFFUSER PANEL INSULATION AND SEAL WITH MASTIC.
- FLEXIBLE AIR DUCT SHALL NOT EXCEED 8 FT. WHEN EXTENDED . ELBOW RADIUS SIZED FOR NO LESS THAN R / D = 1.0 .
- 4. FLEXIBLE AIR DUCT SHALL NOT BE LESS THAN 5 FEET FOR ACOUSTICAL PURPOSES





ROOF MOUNTED EXHAUST FAN DETAIL 6

NOTE: ALL ROOF MOUNTED EQUIPMENT (FANS)
MUST ADHERE TO CURRENT HURRICANE CODES REGARDING ROOF TIE:IN
AND WIND RESISTANCE. MOUNT FAN ON THE CURB AS PER MANUFACTURER
RECOMMENDED FASTENING.



				١	/ENTILATIO	N SCHED	ULE				
					F	CU-2					
Zone No. Name	Zone Area, A _c (ff ^c)	Zone Population, P _x (People)	System Population, Ps (People)	Primary Zone Airflow Rate, V _{pc} (CFM)	People Outdoor Airflow Rate, R _p (CFM/Person)		Rp*Pz (CFM)		Zone Outdoor Airflow Rate, Vcc (CFM)	Primary Outdoor Air Fraction, Z _p	Corrected Zone Outdoor Airflov Rate (CFM)
MULTI- PURPOSE RM	880	34	17	1100	5	0.06	170	223	279	0.25	177
	880		17								
Max Totals	880		17	1100					279		173
Totals					V RATE, V _{er} (CF		1/0	223	172		173
Notes: Ventilation calcul Equation 4-1: V _b	ations ar	e formatted t					scriptio	ns of the stated w			ships.
Equation 4-2: V _{cc}	= V _{te} /E	2						Zone E	ffectiveness, E ₂ :	0.8	
Ceiling or floor so The System Outo The System Outo	loor Air I	ntake Flow R	ate for single-	zone systems	shall be the Zone	Outdoor Air Ra	ate, per	FBC 403.3.1.1.2	.1.		tiveness Values
Equation 4-5: Z _p	= V _{ce} /V _p	2							Max Z _p :	0.25	
Refer to Table 40	3.3.1.1.	2.3.2 for Z _p a	nd E, relation	ships.				System Ventilatio	n Efficiency, E _x :	0.8	
Equation 4-6: V _{cc}	, = D*ΣF	, Pz + ΣR ₄ */	l.			Uncor	rected	Outdoor Air Intake	Flow Rate, Vou:	138	
Equation 4-7: D	P ₉ /ΣP ₂							Syster	n Population, Ps:	17	
Equation 4-8: Vot	= V _o /E,							Occup	ent Diversity, D:	0.50	

Occupant Diversity, D: 0.19

Zone/System	Supply Air	Return Air	Outside Air	Makeup Air	Exhaust Air
FCU1	970	730	160	0	150
Totals (CFM)	970	730	160	0	150
AIR BALANCE(CURRENT D	ESIGN): Outs	ide Air -Ex	haust Air		10
POSITIVE PRESSURE (CUF	RENT DESIG	3N): Air Ba	lance/Supply	/ Air	1%
ZONE	2 PRESS	SURIZA	TION CH	ART	
Zone/System	Supply Air	Return Air	Outside Air	Makeup Air	Exhaust Air
FCU2	1100	1100	180	0	
Totals (CFM)	1100	1100	180	0	
AIR BALANCE(CURRENT D	ESIGN): Outs	ide Air -Ex	haust Air		180
POSITIVE PRESSURE (CUF	RENT DESIG	3N): Air Ba	lance/Supply	/ Air	16%
ZONE	3 PRESS	SURIZA	TION CH	ART	
Zone/System	Supply Air	Return Air	Outside Air	Makeup Air	Exhaust Air
EF	0	0	3000	0	3000
Totals (CFM)	0	0	3000	0	3000
AIR BALANCE(CURRENT D					
	RENT DESIG	3N): Air Ba	lance/Supply	/ Air	0%
POSITIVE PRESSURE (CUR	O-CITE DECI-				
POSITIVE PRESSURE (CUR	4 PRESS	SURIZA	TION CH	ART	
POSITIVE PRESSURE (CUF ZONE Zone/System	4 PRESS	Return Air	Outside Air	Makeup Air	Exhaust Air
POSITIVE PRESSURE (CUF ZONE	4 PRESS				Exhaust Air 3000

TAG	MODEL	TONS	LBS	HP	SA	OA.	MCA	IN	EAT	LAT	TOTAL	SENSIBLE	HEATING
IAG	MODEL	IUNS	LBS	mP	CFM	CFM	MUM	ESP	DB/WB	DB/WB	(MBH)	(MBH)	(MBH)
CU1	FBQ36PVJU	3	102	0.7	970	160	2.4	0.2	77/65	59/58	36	27.2	40
CU2	FBQ36PVJU	3	102	0.7	1100	180	2.4	0.2	77/65	59/58	36.0	27.2	40
REMAI	RKS												
. BAS	IS OF DESIGN	DAIKIN	ŧ.										
. IND	OOR UNIT POW	ERED E	BY OL	TDO	OR UNIT								
. FAC	TORY INSTALL	ED CON	IDEN:	SATE	PUMP A	AND F	LOAT	SWIT	CH.				
. PRO	VIDE MADOKA	THERN	(OST/	T WI	TH DRY	MOD	E.						
. EXT	ERNAL 2 INCH	MERV1:	3 FILT	ERR	ACK.								
, MEC	CHANICAL CON	TRACTO	OR RE	SPO	4SIBLE	FOR F	IRST	12" 0	F COND	AND PTF	AP. PLU	MBPING CO	NTRACTOR
RESPO	ONSIBLE FOR C	COND FE	ROME	TRA	TO GR	AVEL	PATO	H 12*	FROM E	UILDING	į.		
										1			

FAN COIL UNIT SCHEDULE

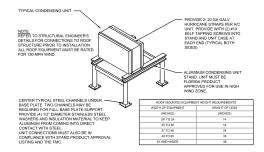
	H	IEAT I	PUMF	SCH	IED	ULE					
	GEN	ERAL D	ATA			ELEC					
TAG	MODEL	TONS	REF	SEER	LBS	RLA	MCA	MOCP	V/PZ		
HP1	RZQ369VJU9	3	R410A	17.5	283	18.6	27	30	230/1		
HP2	RZQ369VJU9	3	R410A	17.5	283	18.6	27	30	230/1		
REM	ARKS										
1. BA	SIS OF DESIGN	: DAIKII	N.								
2. IN	VERTER COMPR	ESSOR									
3. EL	ECTRONIC EXP	ANSION	VALVE								
4. RC	OF TIE DOWN I	OR 130	MPH W	INDS.							
5. SI	NGLE POINT CO	NNECTI	ON AND	DISCO	ONNE	CT.					
6. CC	DRROSIVE RESI	STANT (CONDE	ISING L	JNIT.						

TAG	MFG	MODEL	AIRFLOW (CFM)	NECK SIZE	FACE SIZE	DETAILS									
			0-90	6"	12x12	TYPE	4-WAY CONE	*Marganian control							
А	PRICE	SCD	91-200	8"	24x24	MOUNTING	LAY-IN OR SURFACE MOUNTED	10							
		201-300	10"	24x24	COLOR	WHITE	7								
						MATERIAL	ALUMINUM								
		80	80	≣ 80	RICE 80					0-450	10x10	24x24	TYPE	EGGRATE	
В	B PRICE								MOUNTING	LAY-IN OR SURFACE MOUNTED					
						COLOR	WHITE	1							
						MATERIAL	ALUMINUM	1800							
						NOTES	GRID CORE								

					FAN S	CHE	יטע	LE			
TAG	MFG.	MODEL	EA CFM	IN SP	DRIVE	HP	LBS	CONNECTION	FEI	V/PZ	REMARKS
EF1-2	COOK	GC-128	75	0.2	DIRECT	0	10	6Ø	3.22	115/1	1-2
EF3-5	COOK	165 ABEC	3000	0.2	BELT	0.3	50	32x32	1.57	115/1	3
EF6-7	COOK	70C10DM	50	0.2	DIRECT	0.01	15	12x12	1.35	230/1	4
REMAI	RKS:										
1. RES	TROOM	1 CEILING E	XHAUS	ST FA	N OPER	4OITA	IIS T	O BE TIED TO F	ROON	LIGHT	SWITCH
2. TER	MINATE	WITH EXT	ERIOR	WA	LL XVEN	F.					
3. ROO	F EXH	AUST FAN 4	8 5 SI	ALL	OPERA1	E WI	TH RO	OOM THERMOS	TAT. I	EF3 SH	ALL
		TIMER SW									
4. ROO	F EXH	AUST FAN I	S TO O	PER	ATE WHE	EN LIC	HTS	WITCH IS ACT	VATE	D. INS	TALL WITH

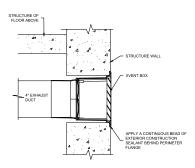
EAN COLLEGE III E

		LOU	VER S	SCHEDU	_E	
TAG	MFG.	MODEL	VOL (CFM)	FACE SIZE (INCH)	FREE AREA%	SP (INWC)
OAL1-3	RUSKIN	EME6325	3000	36x36	33	0.08
OAL4	RUSKIN	EME6325	160	14x14	12	0.07
REMARK	KS:					
PROVID	E BACKE	RAFT AND	MANU	AL DAMPER.		
BALANC	E OAL1 I	OR 150 CF	M FRE	E AIR. ALL C	THERS F	ULL OPEN



Equation 4-8: V_{ct} = V_{oy}/E,





2 XVENT BOX INSTALLATION DETAIL







TRAINING CENTER REPAIRS AND RENOVATIONS GAINSEVILLE HOUSING AUTHORITY GAINESVILLE, FLORIDA

PER	RMIT SET
PROJ. NO.	160222
DATE	08/11/2023
DRAWN	CC, KW
CHECKED	BK.
APPROVED	REGII
REVISION	
REVISION DA	NTE
HVAC	SCHEDULES

M601

ELECTRICAL SPECIFICATIONS

SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

- 1. ELETTRO-A. COMPONENTS, DEVICES, AND AVESSORES. LISTED NO LABELED AS DEFRED IN NEW TA, CARRILLE LOG AT LESSING ASSETS ACCEPTANCE IN ADMINISTRATION ASSESSMENT, AND AMERIES FOR INTERIOR DEC. 2. IDANIFICATION EXECUTIONS, LIST THOSE PROSPERIOR OF YARD ALL, INFO. 3. COLORED AMERISE MARKING TAPE FOR RACKINS, WIRES, AND CARLESS SELF-AMERISE WITH, TAPE, IN ICES STIMAN IN NOW HER 97 3 MILES THAN IN CAR.
- COLORD MUSIS WINNERS FAR FOR MICHINES, MICHIGAN SINCE, MO CHORD
 MICHIGAN SINCE AND MICHIGAN SINCE SINCE OF 3 MICHIGAN (25
 MICHINES FOR CONCUCTIONS WINN OR WINN-COUNT, SEEF-AUGUSTA,
 MICHINESS FOR CONCUCTIONS WINN OR WINN-COUNT, SEEF-AUGUSTA,
 MICHINESS FOR CONCUCTION MICHINESS AND EXTENSIVE DISBANUMS
 STOOL WELLAMSE PLASTIC LAMBACE PROPERTY DISBANUMS HORSES FOR SINCE SINCE AND MICHINESS FOR MICHINESS
 STOOL WELLAMSE PLASTIC LAMBACE PROPERTY DISBANUM HORSES FOR MICHINESS
 FOR WINN-COUNTY SINCE AND MICHINESS FOR MICHINESS FOR MICHINESS
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SECTION 16060 - GROUNDING AND BONDING

- EQUIPMENT GROUNDING CONDUCTORS: COMPLY WITH NIPA 70, ARTICLE 250, FOR TYPES, SZES, AND QUANTIES OF EQUIPMENT GROUNDING CONDUCTORS, UNLESS SPECIFIC TYPES, LARGER SZES, OR MORE CONDUCTORS THAN REQUIRED BY NIPA 70 ARE INDICATED.
- INSTALL INSULATED FOURNEST GROUNDING CONDUCTORS IN ALL FEFDERS.
- INSTALL INSTALLED CONFINENT GOLDWING CONDUCTIONS IN ALL FELLORS AND BRANCH CONDUCTIONS SHALL BE COPPER, COMPLY WITH DIVISION 16 SECTION 'CONDUCTIONS AND CHEES' AND ASSIB B. AS APPLICABLE. ECUMPAINT GOLDWING CONDUCTIONS. INSULATION WITH GREEN-COLORED INSULATION.
 GROUNDING ELECTRODE CONDUCTIONS: STRAINED COPPER CARLE.
 UNDERFERCING CONDUCTIONS: STRAINED COPPER CARLE.

- INDICATED.

 CONNECTORS: COMPLY WITH IEEE 837 AND UL 467; LISTED FOR USE FOR SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND CONNECTED
- SPECIFIC PIPES, SIZS, AND COMENTAINS OF CONDUCTORS AND COMPRICIAL TIMES.

 IN RACEARYS, USE INSULATED EQUIPMENT ORGUNIONIC COMBUTORS.

 EDITHERMIN-RALDED COMECTIONS. USE FOR CONNECTIONS TO STRUCTURAL.

 STEEL AND FOR UNDERSKORMOD COMECTIONS.

 GROUNDING COUNTERON. FOUR EACH ONE SHRITEST AND STRAIGHTEST PATHS POSSIBLE, UNILSS OTHERWIS MICHAEL MICHAEL AND OSSTRUCTION ACCESS OR PALAMOD COMPLECTIONS WITHER THE SUBJECTION DISTRICTIONS MICHAEL THE SUBJECTION DISTRICTIONS AND STRAIGHTEST PATHS POSSIBLE, UNILSS OTHERWIS MICHAEL THE SUBJECTION DISTRICTIONS AND STRAIGHTEST PATHS OF THE SUBJECTION DISTRICTION OF THE SUBJECTION DISTRICTIONS AND STRAIGHTEST PATHS OF THE SUBJECTION DISTRICTIONS AND STRAIGHT PATHS OF THE SUBJECTION DISTRICTION DISTRI
- DAMAGE.

 BONDING STRAPS AND JUMPERS: INSTALL SO VIBRATION BY EQUIPMENT
 MOUNTED ON VIBRATION ISOLATION HANGERS OR SUPPORTS IS NOT TRANSMITTED
 TO RIGIDLY MOUNTED EQUIPMENT 11.

SECTION 16120 - CONDUCTORS AND CABLES

- CIRCH 1927 CONDUCTORS AND CARLES

 CONDUCTOR METALL. COPPER CONTRY NOW WITH HEMA ME, 5 OR 7: SOLD

 CONDUCTOR FOR NO. 10 AND AND SMALLES, STRANGED FOR NO. 8 AND AND

 CONDUCTOR FOR NO. 10 AND AND SMALLES, STRANGED FOR NO. 8 AND AND

 CONDUCTOR SOLATION TYPES. THE THEN-THINN COMPLYING WITH HEMA ME S

 FOR THE CONTRY SMALL BE FERMITTED IN CONCEALED LOCATIONS, METALE

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 CONCEAL CONCEINED IN CREMINES, WALLS, AND PARTITIONS:

 THE HINN-THINN, SNOWLED CONCEINED IN CREMINES, AND PARTITIONS:

 OF MAIN AND PARTITIONS OF THE CONTROL COURTON OF UNCENTRY WHERE

 CONCEAL CREEKS AND RECEIVEN'S IN PRINCED WALLS, CREMINES, AND FLOORS.

 OR MAIN AND PARTITIONS AND CONTROL OF UNCENTRY WHERE

 THE PRINCE HAVE AND PROVIDED HEALT AND CAPACITES SHALL BE INSTALLED IN

 MINISTALON. DO NOT DICTED MAIN FACTORIST SECONDENDE MAINMAIN PARLING

 THE PRINCE SHALL PRESSER WALLD AND CAREES SHALL BE INSTALLED IN

 MAIN SPLICES AND THES THAT HE COMPATIBLE WITH CONDUCTOR MATERIAL AND

 THAT PRESSES COUNLAIDT OF BETTER MECHANICAL STRENGTH AND INSLATION

 MINISTAL TO THE STATE AND COMPATIBLE WITH CONDUCTOR MATERIAL AND

 THAT PRESSES COUNLAIDT OF BETTER MECHANICAL STRENGTH AND INSLATION

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SECTION 16130 - RACEWAYS AND BOXES

- PERMANENENTLY LABEL ALL RACEWAYS AND JUNCTION/PULL BOX COVERS TO INDICATE PANEL/CIRCUIT NUMBERS CONTAINED.
 UNLESS OTHERWISE NOTED, PROVIDE NEMA I ENCLOSURES IN INDOOR LOCATIONS,
 NEMA 3R ENCLOSURES IN OUTDOOR LOCATIONS.

- MANNA DE CHALOGRES AN OUTUBER COUNTY OF THE APPRILED. RING OF THE APPRILED RING OF THE APPRIL
- OTHERWISE INDICATED.
 CONCEAL COMDUIT AND EMT WITHIN FINISHED WALLS, CELLINGS, AND FLOORS.
 INSTALL EXPOSED RACEBAYS PARALLEL OR AT RIGHT ANGLES TO NEARBY
 SURFACES OR STRUCTURAL MEMBERS AND FOLLOW SURFACE CONTOURS AS MUCH
 AS POSSIBLE.
- AF POSSEE. SHOULDING RESERVE AND LIVEN SERVE CURTURE SERVE CONTINUES SERVE CONTINUES SERVE CURTURE SERVE CURTURE SERVE CURTURE SERVE CURTURE SERVE COROLIT SEAS FROM MACH TO CULL LOCATIONS, SOLO AS DIMBANES OF ENTERGEATED SEAS AND WERE COROLIT SEAS OF SERVE S

SECTION 16140 - WIRING DEVICES

- STRAIGHT-BLADE-TYPE RECEPTACLES: COMPLY WITH NEMA NO 1, NEMA NO 6, DOCC W-C-996Q, AND UL 498. STRAIGHT-BLADE AND LOOKING RECEPTACLES: PERVY-DUTY GRADE.

 2. GFO RECEPTACLES: STRAIGHT BLADE, HEAVY-DUTY GRADE, WITH INTEGRAL NEMA NO 8, CONFORMENTION 5-708 DUPLEX RECEPTACLE: COMPLYING WITH UL 498 AND
- UL 943. Single- and double-pole switches: comply with DSCC W-C-896F and UL

- REQUIRED BY NFPA 70.
 INSTALL DEVICES AND ASSEMBLIES LEVEL, PLUMB, AND SQUARE WITH BUILDING
- LINES.
 ARRANGEMENT OF DEVICES. UNLESS OTHERWISE RIDICATED, MOUNT FLUSH, WITH LONG DIMENSION VERTICAL. GROUP PAUMENT SMITCHES UNDER SINGLE, RELIGIOUS MALE RIVERS OF THE PERSONNEL OF THE PROPERTY OF THE PROPERTY OF THE LECTRICAL GROUTERY HAS BEEN PROPERTY OF THE LECTRICAL GROUTERY. AND OF THE LECTRICAL GROUTERY HAS BEEN PROPERTY OF THE LICTRICAL GROUTERY HAS BEEN PROPERTY OF THE LECTRICAL GROUTERY HAS BEEN PROPERTY OF THE LICTRICAL GROUTERY HAS BEEN PROPERTY O
- WITH REQUIREMENTS.
 TEST GFCI OPERATION WITH BOTH LOCAL AND REMOTE FAULT SIMULATIONS
 ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

SECTION 16410 - ENGLOSED SWITCHES

- ENCLOSED SWITCHES SHALL BE MANUFACTURED BY SQUARE-D, CUTLER-HAMMER, GE. OR SIEMENS.

- GE, OR SIJENIS.

 ALL ENGLOSED SMITCHES SHALL BE LOCKABLE.
 MOUNT INOVIOUAL WALL-WONTING SMITCHES WITH TOPS AT UNFORM HEIGHT,
 UNLESS OTHERWIS PROCATED.
 ENGLOSED SMITCHES SHALL BE UL LISTED FOR THE APPLICATION USED;
 ENGLOSED SMITCHES SHALL BE UNLEAR WATER WITH OVERFAMEN.
 MOTRE STAFFERS SHALL BE NEAR—PARTED, WITH OVERFAMEN SIZED PER LOAD.
 CORPORNIATE OU. UNTAKE WITH CONTINUE WITH OVERFAMEN SIZED PER LOAD.

SECTION 16442 - PANELBOARDS

- CIRCH MEMO, 2 PARKEDOMES SHALL BE MANEFACTURED BY SQUARE-O, OUTLE-HAMBER, OR, OR SEADES, OUTLE-HAMBER, OR OFFICER SERVICE CONCURTOR OUTLE-CONCURTOR CONCURTOR STATES, OUTLE-CONCURTOR CONCURTOR STORMAN CONCURTOR CONTURBE AND TO RESERVE STAME FORCE AND CONCURTOR CONCURTO

- WOUT TO O'T THAN 74 HOUSE (1800 MM) ABOVE RINDER FLOWER, WALLESS

 OFFICIENCE ROCKLING WHITEFUT DESTROYS OF GROW. WOUTH REGISSED

 FAMELINGER BY THE FROM IS MATCHED STORY OF GROW. WOUTH FAMEL

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SECTION 16511 - INTERIOR LIGHTING

- LIGHTING FIXTURES: PER FIXTURE SCHEDULE ON PROJECT PLANS.
- UCHINIA PRIVILES PER PRIVILE SOMEDULE ON PROLECT PLANS.
 WHERE EDIT SIONS ARE USED, THEY PAULL ELEB-THEY.
 PRIVILES: SET LEHLE, PLUIAB, AND SOUARE WITH CELIMOS AND WALLS. INSTALL
 LAWE'S BLOCK PRIVILE.
 FOR EMERGENCY LIGHTHIN FRUITES, PROVICE UNSWITCHED HOT COMPUTED AS
 PROVICE ALL BUCCHOCKS, SUPPORTS, STEMS, ROUGH-INS, TRIMS, HARDIWARE,
 LAWES, SIGNERS, AND BULLASTS FOR A COMPLETE AND TRANSTOLLE.

Lighting Fixture Schedule

TYPE	DESCRIPTION	MNFR/SUPPLIER	MODEL#	LAMPS	NOTES
A	2X2 LED FLAT PANEL	DAY-BRITE OR EQUAL	258P3040L8CS-2-UNV-DIM	33W LED	3500K
В	4FT LED NARROW INDUSTRIAL FIXTURE	H.E. WILLIAMS OR EQUAL	GLN-4-L63-840-WG11-VBY- 2-DIM-UNV	42.3W LED	
E1	WHITE THERMOPLASTIC LED EXSIT LIGHT	CHLORIDE OR EQUAL	VERWEM	WITHUNIT	
EM	EMERGENCY BATTERY UNIT	CHLORIDE OR EQUAL	CLU2-N-W	WITHUNIT	MOUNT 7'-6" AFF
F1	7' LED SLIM SURRFACE DOWN LIGHT	LIGHTOLIER OR EQUAL	S7R-840-10-W-Z10U	14.4W LED	
F2	10" LED SLIM SURFACE DOWNLIGHT	LIGHTOLIER OR EQUAL	\$10R-840-22-W-Z10U	23.2W LED	
G	-FIXTURE NOT USED-				
Н	LED WALL PACK	STONCO OR EQUAL	WP-100-SCT-G2-10-BZ	70W LED	MOUNT 7'-6" AFF

- 1. VERIFY ALL CELLING FINISHES, FIXTURE TRIMS, AND VOLTAGES PRIOR TO ORDERING AND PROVIDE AS REQUIRED.
- FIXTURES SHOWN ARE BASIS OF DESIGN. FIXTURES OF SMILLAR STYLE, PERFORMANCE, AND ELECTRICAL CHARACTERISTICS THAT ARE ACCEPTABLE TO THE OWNER AND ENGINEER WILL BE ALLOWED.
- 3 PROVIDE ALL LOW-VOLTAGE WIRING AS REQUIRED, FOR DIMMING AND CONTROLS
- PROVIDE LAMPS/BALLASTS/DRIVERS WITH ALL FIXTURES.
- PROVIDE ALL BOXES, BACKBOXES, SUPPORTS, FEEDS, TRIMS, STEMS, ROUGH-INS AND BLOCKING AS MAY BE REQUIRED FOR INSTALLATION
- PROVIDE FIRE RATED BOXES OR OTHER MEANS TO MAINTAIN RATED CEILINGS WHERE RECESSED FIXTURES ARE USED

CODES AND STANDARDS

NATIONAL ELECTRICAL CODE (NEC), 2017 EDITION

NFPA 72 NATIONAL FIRE ALARM CODE, 2016 EDITION FLORIDA FIRE PREVENTION CODE, SEVENTH EDITION,

FLORIDA BUILDING CODE, SEVENTH EDITION

ENERGY CONSERVATION REQUIREMENTS:

- WITHIN 30 DAYS OF SUBSTANTIAL COMPLETION, CONTRACTOR SHALL PROVIDE RECORD DRAWINGS, OPERATING MANUAL, AND MAINTENANCE MANUALS TO THE
- PRODUCTIONNESS, OPERATING WANNELL, AND JAMITERMANE MANUALS TO THE BRILDING ORDER.

 RECORD DAMMES SHALL INCLUDE: A SHIGE-THE DUARFAM OF THE BRILDING ELECTRICAL EXPENSION AND DESCRIPTION STORMAN OF THE ORDER OF THE SHOCK PLANS RECEASED COUNTING THE ORDER OF THE ORDER ORD

- CONTRACTOR SHALL REQUIRE TO THE ADMINISTRATION AND AN ADMINISTRATION OF CHAPTER STREET, ASSOCIATION AND AN ADMINISTRATION AND ADMINISTRATION AND ADMINISTRATION AND ADDINANCES FOR ALL OCCUPANCY SERVICES FILE ACCEPTANCE RESULTS.

 ONTINGA AND PRODUCEMENT OF THE ADMINISTRATION AND ADMINISTRATION ADMINISTRATION AND ADMINISTRATION ADMINISTRATION AND ADMINISTRATION ADMINISTRATION AND ADMINISTRATION AND ADMINISTRATION ADMINISTRATION ADMINISTRATION AND ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRAT

- SPECIFICO CONTRACTOR SHALL PROGRAM AND ADJUST ALL CONTRICATOR SHEEDED TO ADHEVE PREVIOUNCE. THAT IS SATISFACTION TO THE OWNERS. AS REPERTED TO ADHEVE PREVIOUNCE. THAT IS SATISFACTION TO THE OWNER. THAT IS THE OWNER OF THE OWNER. THAT IS THE OWNER OWNERST, ADJUSTED, PROGRAMMED AND IN PROCESS AND ADJUSTED ADJUSTED. THE OWNERST, ADJUSTED, PROGRAMMED AND IN PROCESS AND ADJUSTED ADJUSTED AND ADJUSTED AND ADJUSTED ADJUSTED AND ADJUSTED ADJUSTED AND ADJUSTED AND ADJUSTED AND ADJUSTED AND ADJUSTED AND ADJUSTED AND ADJUSTED ADJUSTED AND ADJUSTED AND ADJUSTED AND ADJUSTED AND ADJUSTED AND ADJUSTED AND ADJUSTED ADJUSTED AND ADJUSTED AND ADJUSTED AND ADJUSTED ADJUSTED ADJUSTED ADJUSTED AND ADJUSTED ADJUSTED AND ADJUSTED ADJUSTED ADJUST HE LEST HEQUIPARMY, NUICALE THAT THE LEST MAS PASSED OR MAS "YOU THE TEST HEAD PROPERTY HAS BEEN AS PASSED OR MAS "YOU THE CHORNOUS PROPERTY HAS BEEN AND LECTIONSCO, DEPOY SHALL BE PROMOTED TO THE ENGINEER FOR REVIEW AND APPROVAL PROPE TO SUSSTAINTIA, CONFICTION, DOUBLINGS THEFT WHICH THAT HAS A PROPERTY HAS A PROPERTY HAD LEST HEAD LEST HAVE A PROMOTED TO THE PROMOTED TO CONCERNATION SECTION CASE ARE TO BE PROVIDED TO THE BUILDING OWNER WITHIN SO AND THE REPORT HE DESTRUCTION SECTION CASE OF THE PROPERTY HE RESERVED TO COORDINATE.

ELECTRICAL LEGEND

⊡ 2 Y 2 LIGHT FIXTURE 4FT LIGHTING FIXTURE. STRIP LIGHT. **(D)** RECESSED CAN LIGHT FIXTURE.

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AFF

GND

SURFACE MOUNTED DOWN LIGHT FIXTURE. WALL-MOUNTED LIGHTING FIXTURE.

LED EXIT SIGN WITH INTEGRAL BATTERY AND INVERTER. PROVIDE UNSWITCHED HOT LED EXIT LIGHT, SAME AS ABOVE, WALL MOUNTED

WALL-MOUNTED EMERGENCY LIGHTING FIXTURE, WITH INTEGRAL BATTERY. PROVIDE UNSWITCHED HOT CONDUCTOR.

SAME AS ABOVE, CEILING MOUNTED. 120V/20A QUET-TYPE SNAP SWITCH, SWITCHES SHALL BE MOUNTED 44" A.F.F.

UNLESS NOTED OTHERWISE.
"3" INDICATES 3-WAY SWITCH. LIGHTING CONTROL DIMMER (SLIDE-TYPE, WITH PRESET). COORDINATE TYPE WITH LIGHTING FIXTURES TO BE CONTROLLED. PROVIDE LOW-VOLTAGE WRING AS REQUIRED FOR 0-10V DIMMABLE FIXTURES, VERIFY FINISH WITH ARCHITECT, MOUNT 44" A.F.F.

WALL-SWITCH WITH OCCUPANCY SENSOR; MOUNT 44" A.F.F., UNLESS NOTED OTHERWISE. WATTSTOPPER #PW-301, OR APPROVED EQUAL. ROOM OCCUPANCY SENSOR (LOW-VOLTAGE). UNLESS NOTED OTHERWISE, CEILING MOUNTED WATTSTOPPER (DT-300, OR APPROVED EQUAL, PROVIDE ROOM CONTROLLER(S) (482-250) AS REQUIRED.

2 CHANNEL 24 HOUR /7 DAY PROGRAMMABLE ASTRONOMICAL TIME CLOCK (WITH BATTERY BACKUP) AS MANUFACTURED BY TORK OR APPROVED EQUAL. PROVIDE CONTACTOR(S) AS REQUIRED TO SERVE ALL CIRCUITS SHOWN.

20A /120V DUPLEX RECEPTACLE, MOUNT AT 18" A.F.F. LINLESS NOTED OTHERWISE "R" INDICATES REFRIGERATOR OUTLET
"W" INDICATES WASHER OUTLET

20A/120V DUPLEX RECEPTACLE. MOUNT AT 44" A.F.F., UNLESS NOTED OTHERWISE. 120V/20A QUAD RECEPTACLE. NEW RECEPTACLES SHALL BE MOUNTED 18" A.F.F., INN FSS NOTED OTHERWISE.

120V/20A DUPLEX RECEPTACLE, WITH INTEGRAL GFI PROTECTION.
RECEPTACLES SHALL BE MOUNTED 18" A.F.F., UNLESS NOTED OTHERWISE.
"MP" INDICATES CAST-ALUMINUM WEATHERPROOF IN USE COVER.

120V/20A DUPLEX RECEPTACLE, WITH INTEGRAL GFI PROTECTION.
RECEPTACLES SHALL BE MOUNTED 44" A.F.F. UNLESS NOTED OTHERWISE. MULTI POLE SPECIALTY RECEPTACLE, ALL SPECIAL OUTLET TYPES SHALL BE VERIFIED WITH EQUIPMENT PRIOR TO ORDERING.

"D" INDICATES DRYER OUTLET

DUAL-SERVICE RECESSED FLOORBOX, WITH DOUBLE DUPLEX AND FLUSH COVER. CONTRACTOR TO VERIFY EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN. PROVIDE (1) 1-1/4" C. (COMMS) TO ABOVE ACCESSIBLE CELLING MOUNTED CORD/REEL RECEPTACLE. COORDINATE EACH LOCATION WITH OWNER PRIOR TO ROUGH-IN.

ENCLOSED SAFETY SWITCH NON-FUSED, RATING AND CIRCUITING AS INDICATED ON THE PLANS, FIELD-LOCATE TO ASSURE 36" FRONT CLEARANCE.

ENCLOSED SAFETY SWITCH FUSED, RATING AND CIRCUITING AS INDICATED ON THE PLAN FIELD-LOCATE TO ASSURE 36" FRONT CLEARANCE.

ELECTRICAL PANEL, SEE RISER PANEL SCHEDULES.

CROUIT CONDUCTORS IN CONDUIT OR CABLE. MINNIUM CONDUCTOR SIZE SHALL BE #12 AMG. 120V CROUIT HOMERURS LONGER THAN 100°T SHALL BE #10 AMG, MINMIUM. PROVIDE DEDICATED GREEN EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEMEYS. MC CABLE ALLOWED IN CONCRALED LOCATIONS, WHERE ALLOWED BY CODE.

CONDUCTORS IN CONDUIT, CONCEALED IN WALLS, CEILING, OR BELOW GRADE. HOMERUN TO PANEL INDICATED. CEILING-MOUNTED EXHAUST FAN, COORDINATE WITH MECHANICAL.

DUCT MOUNTED SMOKE DETECTOR, WITH SHUTDOWN RELAY AND REMOTE INDICATOR. POWER FROM UNSWITCHED LIGHTING CIRCUIT.

COMMUNICATIONS OUTLET, MOUNTED 18" A.F.F. UNLESS NOTED OTHERWISE. PROVIDE RECESSED DEVICE BOX, WITH 1" EMT (NYLON BUSHING) TO COMMUNICATIONS BACKBOARD (CBB). COMMUNICATIONS OUTLET, MOUNTED ABOVE WORK SURFACE (44" A.F.F. UNLESS NOTED OTHERWISE). PROVIDE RECESSED DEVICE BOX, WITH 1" EMT (NYLON BUSHING) TO COMMUNICATIONS BACKBOARD (CBB).

COMMUNICATIONS OUTLET SMILAR TO ABOVE MOUNTED UP HICH (6"-6"AFF) FOR TELEVISIONS. PROVIDE DOUBLE-CAMIC BOX FOR ALL TV LOCATIONS, COORDINATE EACH LOCATION WITH ARCHITECTURAL DRAWNINGS AND ELEVATIONS PRIOR TO ROUGH-IN, MOUN ADJACENT RECEPTRACE AT SMAR HEIGHT.

2'x 4' COMMUNICATIONS BACKBOARD, 3/4" PLYWOOD PAINTED WITH 2 COATS FIRE

ABBREVIATIONS ABOVE FINISHED FLOOR.

CONDUIT. GROUND. WEATHERPROOF CONSULTANTS

James M. Lomb, State of Florida, Prafessional Engineer, License No. 50888. This Hern hos been digitally signed and activate the Lomb on the date indicated here. Privised copies of this document are net considered signed and secled and the signature must be verified on any electronic copies.



RENOVATIONS AUTHORITY AND REPAIRS HOUSING CENTER Ш GAINSEVILI TRAINING

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GAINESVILL

PERMIT SET OL NO 08/11/2023 MRC ecken. PROVED ISION

LEGEND NOTES & SCHEDULE

E001

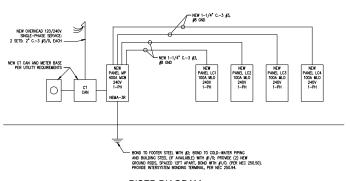
						PANE						
		100A MLO					LOAD CI	ENTER TY	PE PA	NE	L	
		120/240V, 1-PHA	SE, 3-V	VIRE								
	LOCATION:											
		22,000 AIC										
	TYPE:	NEMA-1, SURFA	CE									
						K	/A		1			
CKT	DESCRIPTION	ON	BKR	Р	LOAD	A	В	LOAD	BKR	Р	DESCRIPTION	CK
1	REC-M.PUR	POSE 2 WASH	20	1	1.00	3.40		2.40	30	2	REC-M.PURPOSE 2 DRYER	2
3	REC-M.PUR	POSE 2 WASH	20	1	1.00		3.40	2.40				4
5	REC-M.PUR	POSE 2 REF	20	1	1.00	5.80		4.80	50	2	REC-M PURPOSE 2 RANGE	6
7	REC-M.PUR	POSE 2 REF	20	1	1.00		5.80	4.80				8
9	REC-M.PUR	POSE 2 MISC	20	1	1.00	1.00					SPACE	10
11	REC-M.PUR	POSE 2 MISC	20	1	1.00		1.00				SPACE	12
13	REC-M.PUR	POSE 2 GEN	20	1	0.90	0.90					SPACE	14
15	SPARE		20	1			0.00				SPACE	16
17	SPARE		20	1		0.00					SPACE	18
19	SPARE		20	1			0.00				SPACE	20
21	SPARE		20	1		0.00					SPACE	22
23	SPARE		20	1			0.00				SPACE	24
						11.10	10.20					
	TOTAL CON	NECTED LOAD ((VA)			21 30	KVA	88.8	AMPS			
			,.									

	MAIN: 100A MLO					LOAD C	ENTER TY	PE PA	NE	L	
	SERVICE: 120/240V, 1-PHA	SE, 3-\	VIR								
	LOCATION: SEE PLAN										
	RATING: 22,000 AIC										
	TYPE: NEMA-1, SURFA	CE									
			_		K				_		_
	DESCRIPTION	BKR		LOAD	A	В	LOAD	BKR		DESCRIPTION	C
	REC-M.PURPOSE 1 WASH	20	1	1.00	3.40		2.40	30	2	REC-M.PURPOSE 1 DRYER	L
3	REC-M.PURPOSE 1 WASH	20	1	1.00		3.40	2.40				L
	REC-M.PURPOSE 1 REF	20	1	1.00	5.80		4.80	50	2	REC-M.PURPOSE 1 RANGE	L
7	REC+M.PURPOSE 1 REF	20	1	1.00		5.80	4.80				L
9	REC-M.PURPOSE 1 MISC	20	1	1.00	1.00					SPACE	Г
	REC-M.PURPOSE 1 MISC	20	1	1.00		1.00				SPACE	Γ
13	REC-M.PURPOSE 1 GEN	20	1	0.90	0.90					SPACE	Γ
15	SPARE	20	1			0.00				SPACE	Г
17	SPARE	20	1		0.00				П	SPACE	Γ
19	SPARE	20	1			0.00				SPACE	Γ
21	SPARE	20	1		0.00					SPACE	Т
23	SPARE	20	1			0.00			П	SPACE	Г
					11,10	10.20					
							-				
	TOTAL CONNECTED LOAD (I	KVA):			21.30	KVA	88.8	AMPS			

	SERVICE: 120/240V, 1-F LOCATION: SEE PLAN RATING: 35,000 AIC TYPE: NEMA-3R, SU		VIIK	=	PROTECTION DEVICE AT PANEL (80KA PER MODE, MIN.)							
			К	/A		1						
CKT	DESCRIPTION	BKR	Р	LOAD	A	В	LOAD	BKR	Р	DESCRIPTION	CH	
1	PANEL LC1	100	2		12.72		1.62	20	2	HP1/FCU1	2	
3				10.20		11.82	1.62		П		4	
	PANEL LC2	100	2		12.72		1.62	20	2	HP2/FCU2	6	
7				10.20		11.82	1.62		П		8	
9	PANEL LC3	100	2	11.10	11.46		0.36	15	1	EF-3 MULTIPURPOSE RM 1	10	
11				10.20		10.56	0.36	15	1	EF-4 MULTIPURPOSE RM 2	12	
13	PANEL LC4	100	2	7.29	7.65		0.36	15	1	EF-5 MULTIPURPOSE RM 3	14	
15				5.82		8.82	3.00	* 25	2	EWH BREAK RM	16	
	EWH RESTRM	* 25	2	3.00	6.00		3.00		П		18	
19				3.00		6.00	3.00	* 25	2	EWH JANITOR	20	
	EWH RESTRM	* 25	2	3.00	6.00		3.00				22	
23				3.00		3.00				SPACE	24	
25	SPACE				0.00				П	SPACE	26	
	SPACE					0.00				SPACE	28	
29	SPACE				0.00					SPACE	30	
	SPACE					0.00				SPACE	32	
33	SPACE				0.00				П	SPACE	34	
35	SPACE					0.00			П	SPACE	36	
37	SPACE				0.00					SPACE	38	
39	SPACE					0.00		60	2	SURGE PROT DVC	40	
	SPACE				0.00						42	
	* BREAKER SHALL BE LO TOTAL CONNECTED LOA	F*	56.55 108.57	52.02 KVA	452.4	AMPS	;					

					PANEI	L: LC4					
	MAIN: 100A MLO					LOAD C	ENTER T	PE PA	NE	L	
	SERVICE: 120/240V, 1-P	HASE, 3-V	VIRI	E							
	LOCATION: SEE PLAN										
	RATING: 22,000 AIC										
	TYPE: NEMA-1, SUR	FACE									
								,			
			_			/A			_		
	DESCRIPTION	BKR		LOAD	Α	В	LOAD	BKR		DESCRIPTION	CKT
1	LTS-WEST SIDE	20	1	1.00	2.20		1.20	20G		REC-BREAKRM REF	2
3	LTS-EAST SIDE	20	1	0.86		1.66	0.80	20		REC-BREAKRM EWC	4
5	LTS-EXTERIOR	20	1	0.57	1.57		1.00	20		REC-BREAKRM	6
7	TIMIE CLOCK (TC)	20	1	0.10		1.10	1.00	20	1	REC-BREAKRM	8
9	REC-COMMS	20	1	0.36	1.36		1.00	20	1	REC-BREAKRM	10
11	REC-RESTRMS, ETC.	20	1	0.90		1.26	0.36	20	1	REC-EXTERIOR	12
13	REC-CONF	20	1	0.72	1,44		0.72	20	1	REC-EXTERIOR	14
15	REC-CONF	20	1	0.90		1.26	0.36	20	1	REC-ROOF	16
17	REC-OFFICE	20	1	0.72	0.72			20	1	SPARE	18
19	REC-JAN, ETC.	20	1	0.54		0.54		20	1	SPARE	20
21	SPARE	20	1		0.00			20	1	SPARE	22
23	SPARE	20	1			0.00		20	1	SPARE	24
25	SPARE	20	1		0.00			20	1	SPARE	26
27	SPARE	20	1			0.00		20	1	SPARE	28
29	SPARE	20	1		0.00			20	1	SPARE	30
	20G = 20A/1P GFCI BREA	KER	_		7.29	5.82					
	TOTAL CONNECTED LOA	D (KVA):			13.11	KVA	54.6	AMPS			

					PANEI	L: LC3							
	MAIN: 100A MLO LOAD CENTER TYPE PANEL												
	SERVICE: 120/240V, 1-PHA	SE, 3-V	VIR										
	LOCATION: SEE PLAN												
	RATING: 22,000 AIC												
	TYPE: NEMA-1, SURFAI	CE											
					K)	VA.		1					
CKT	DESCRIPTION	BKR	Р	LOAD	A	В	LOAD	BKR	Р	DESCRIPTION	СК		
1	REC-M.PURPOSE 3 WASH	20	1	1.00	3.40		2.40	30	2	REC-M.PURPOSE 3 DRYER	2		
3	REC-M.PURPOSE 3 WASH	20	1	1.00		3.40	2.40				4		
5	REC-M.PURPOSE 3 REF	20	1	1.00	5.80		4.80	50	2	REC-M.PURPOSE 3 RANGE	6		
7	REC-M.PURPOSE 3 REF	20	1	1.00		5.80	4.80				8		
9	REC-M.PURPOSE 3 MISC	20	1	1.00	1.00					SPACE	10		
11	REC-M.PURPOSE 3 MISC	20	1	1.00		1.00				SPACE	12		
13	REC-M.PURPOSE 3 GEN	20	1	0.90	0.90					SPACE	14		
15	SPARE	20	1			0.00				SPACE	16		
17	SPARE	20	1		0.00					SPACE	18		
19	SPARE	20	1			0.00				SPACE	20		
21	SPARE	20	1		0.00					SPACE	22		
23	SPARE	20	1			0.00				SPACE	24		
					11.10	10.20							
	TOTAL CONNECTED LOAD (21.30	KVA	88.8	AMPS	,						



SERVICE DEMAND LOAD:

1970. - JOHN & HOPT
LORING: 2004 & 1025
LORI

NOTE: NOTE THAN MANNO LARES ARE REQUIRED ON ALL COMPUTED TO SERVICE THAN THE SERVICE OF THE SERV

RISER DIAGRAM

CONSULTANTS

APPLIED RESEARCH AND DESIGN
NOS 5 RAME STONE ROAD
TALLAHOSSIE FL 2000
RL CARRIES
ANDES M. LAMS, FEBRIOR
Tet \$500 686-034 - Fount jumpigant-ungand processing and processi

nes M. Lomb, State of Florida, fessional Engineer, License No. 52688. In Item has been digitally signed and lead by Jonnes M. Lomb on the date cated here. Priviled copies of that waters are not considered signed and the ord the signature must be verified



Training center repairs and renovations Gainseville housing authority Gainesville, florida

RISER DIAGRAM & SCHEDULES

E002

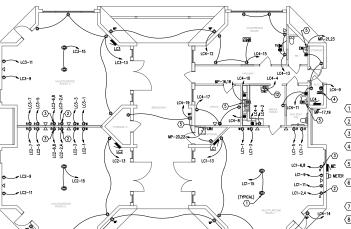
TRAINING CENTER REPAIRS AND RENOVATIONS

AUTHORITY

1. SEE ARCHITECTURAL PLANS FOR EXTENT OF DEMOLITION.

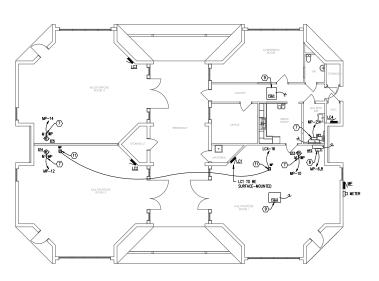
WHERE EQUIPMENT OR FIXTURES ARE TO BE REMOVED, REMOVE ALL ASSOCIATED DISCONNECTS, WIRING, RACEWAY BACK TO NEXT DEVICE TO REMAIN.

REMOVE ALL EXISTING UNUSED RACEWAY, CABLING, BOXES, DEVICES, AND FIXTURES LOCATED ABOVE THE CEILING IN THE AREA OF RENOVATION.



FLOOR PLAN - POWER & SYSTEMS

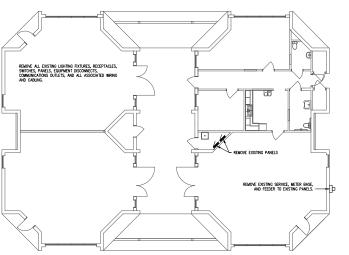
SCALE: 1/8" = 1" - 0"



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EQUIPMENT - ELECTRICAL SCALE: 1/8" = 1" - 0"

FLOOR PLAN - LIGHTING



DEMOLITION - ELECTRICAL

SCALE: 1/8" = 1' - 0"

GENERAL NOTES:

- 1. PROVIDE POWER PACKS AS REQUIRED FOR OCCUPANCY SENSORS.
- ALL WALL MOUNTED OCCUPANCY SENSORS ARE MANUAL ON/AUTOMATIC OFF.
- PROVIDE ALL LOW VOLTAGE CONTROL CABLING FOR LIGHTING, PLENUM RATED.
- 4. PROVIDE SEPARATE NEUTRAL FOR EACH 120V BRANCH CIRCUIT
- 5. HVAC EQUIPMENT IS BASED ON INFORMATION PROVIDED AT THE TIME OF DESIGN. CONTRACTOR SHALL VERIFY FINAL EQUIPMENT SELECTIONS AND REQUIREMENTS, (INCLUDING ROUND)—IN CADATION, ELEVATIONS, COMMECTION REQUIREMENTS, DISCON

WORK NOTES:

- 1) CEILING MOUNT RECEPTACLE TO ACCOMMODATE CEILING MOUNTED PLUG/CORD REEL WITH 20A DUPLEX, PROVIDE REELCRAFT #L 4525 123 7BC CORD REEL.
- 2) PROWDE 30A, 250V DRYER RECEPTACLE WITH 3/4" C.-2 #10, #10 GND, TO PANEL, VERRY NEMA CONFIGURATION WITH OWNER PRIOR TO ROUGH-IN.
- 3 PROVIDE 50A, 250V RANGE RECEPTACLE WITH 3/4" C.-2 #10, #10 GND, TO PANEL, VERRY NEMA CONFIGURATION WITH OWNER PRIOR TO ROUGH-IN.
- 4 PRODUCE 24 44 3/4*TLY/MOOD BACKGOARD AS INDICATED PART MIT 2
 COATS OF FIRE REFLASANT PART, PROVIDE COPPER RICUAD BAR
 COMMETED TO BUILDING STSTEM GROUND WITH \$4 ACCOUNTED TO BUILDING STSTEM GROUND WITH \$4 ACCOUNTED TO B
- 2 CHANE 24 HOUR/7 DAY PROGRAMMABLE ASTRONOMICAL TIME
 CLOCK (WITH BATTERY BLOCKIP) AS MANUFACTIMED BY TORK OR
 APPROVED EQUIL. PROVIDECONTACTOR(S) AS REQUIRED TO SERVE ALL
 CRICUITS SHOWN.
- EF-3, 4 & 5; 115V, PROVIDE WEATHERPROOF 20A MOTOR RATED SNAP SWITCH FOR DISCONNECT MEANS WITH 1/2" C.-2 #12, #12 GND, TO PANEL
- HP1 & HP2, OUTDOOR UNIT; PROVIDE NEW 30A/2P 240V N.F. NEMA-3R SAFE SWITCH, WITH 3/4" C.-2 #10, #10 GND, TO PANEL. PROVIDE POMER/CONTROL CABLING PER MANUFACTURER'S REQUIREMENTS TO INDOOR UNIT.
- (9) FOUL & FOUZ, INDOOR UNIT; PROVIDE POWER/CONTROL CABLING PER MANUFACTURER'S REQUIRELMSTS FROM OUTDOOR UNIT PROVIDE 2017/29 SMICH AT REDOOR UNIT (VOX SHOWN) FOR DESCONMENT MEANS, PROVIDE RECEPTIAGE (NOT SHOW) FOR COMB
- (10) EF-6, & 7; 115V, PROVIDE 20A MOTOR RATED SNAP SWITCH MEANS WITH 1/2" C.-2 #12, #12 GND, TO PANEL.
- 11) PROWDE ROOF MOUNTED WEATHERPROOF GFCI RECEPTACLE WITHIN 25 FEET (ROOF MOUNTED HVAC EQUIPMENT AS REQUIRED FOR MAINTENANCE.
- (12) EWC, IF RECEPTACLE IS ACCESSIBLE PROVIDE AS INDICATED, IF EQUIPMENT COVERS THE RECEPTACLE MAKING IT INACCESSIBLE PROVIDE A STANDARD 20A DUPLEX RECEPTACLE, WITH GFCI BREAKER AT PANEL.

GENERAL DEMOLITION NOTES:

- 4. CONTRACTOR SHALL DISPOSE OF MATERIAL REMOVED AND NOT REUSED AT THE DISCRETION OF THE OWNER.

PERMIT SET

GAINSEVILLE HOUSING

FLORIDA

GAINESVILLE,

PROVED

FLOOR PLANS -ELECTRICAL

E101

DI LIMBINO I FOEND		LADDI	DELUATIONO	LOODE DESERVATION (A)	L MAY NOT ADDIVE
PLUMBING LEGEND			REVIATIONS	CODE REFERENCE (AL	L MAY NOT APPLY) ESTABLISHED STANDARDS OF THE FOLLOWING
120 HOT WATER SUPPLY	—DHW	AAV	AIR ADMITTANCE VALVE ABOVE FINISHED FLOOR	ORGANIZATIONS, AND INDIVIDU	AL STANDARDS NAMED SHALL BE FOLLOWED THE
HOT WATER RETURN		AHAP	AS HIGH AS POSSIBLE		WRITTEN HEREIN AND CONSTITUTE A PART OF THE S EXCEPT WHERE OTHERWISE SPECIFIED:
COLD WATER SUPPLY		BFP	BACK FLOW PREVENTOR	SPECIFICATION REQUIREMENT	S EXCEPT WHERE OTHERWISE SPECIFIED:
SANITARY	SAN	BF	BELOW FLOOR	FBC, BUILDING	FLORIDA BUILDING CODE 7TH EDITION
KITCHEN GREASE SANITARY	GW	BFF	BELOW FINISHED FLOOR		
STORM	st	BG BOD	BELOW GRADE BASIS OF DESIGN	FBC, PLUMBING	FLORIDA BUILDING CODE 7TH EDITION
STORM OVERFLOW	——OF——	C BOD	CONDENSATE		
VENT PIPING	VENT	100	CLEAN OUT	FBC, EXISTING BUILDING	FLORIDA BUILDING CODE 7TH EDITION
CONDENSATE	c	CWV	COMBINATION WASTE AND VENT	FBC, FUEL GAS	FLORIDA BUILDING CODE 7TH EDITION
ELBOW, TURNED DOWN	DN 0	DCW	DOMESTIC COLD WATER	FBC, FUEL GAS	FLORIDA BOILDING CODE / IN EDITION
ELBOW, TURNED UP	UP O	DHW	DOMESTIC HOT WATER	FBC, ENERGY CONSERVATION	FLORIDA BUILDING CODE 7TH EDITION
ELBOW, 90°	f	DN FCO	DOWN	Too, Exertor concernation	TEGRISH GOLDING GOOD THE ESTIMAT
CONNECTION, TOP	— -	EWC	EXTERIOR CLEANOUT ELECTRIC WATER COOLER	FFPC	FLORIDA FIRE PREVENTION CODE, 2020 7TH
CONNECTION, BOTTEM		EWH	ELECTRIC WATER HEATER		EDITION
CONNECTION, SIDE		EX	EXISTING	NFPA 54	NATIONAL FUEL GAS CODE
CAP, AIR AND WATER TIGHT	E	FC	FLOW CONTROL VALVE	NEPA 34	NATIONAL FUEL GAS CODE
VENT TRHOUGH ROOF	VTRO——	FCO	FLOOR CLEANOUT	NFPA 101	LIFE SAFETY CODE
RECIRCULATION PUMP	₽ RCP-#	FD	FLOOR DRAIN		
CHECK VALVE / BACKFLOW PREVEN	TOR (N)	GWH	GAS WATER HEATER	NFPA 101A	GUIDE ON ALTERNATIVE APPROACHES TO LIFE
BALL VALVE	ó	HB HD	HOSE BIBB HUB DRAIN		SAFETY
FLOW CONTROL VALVE	•	HWR	HOT WATER RETURN	NFPA 101B	CODE FOR MEANS OF EGRESS FOR BUILDINGS
WATER METER	F	IE.	INVERT ELEVATION	NEFA IOID	AND STRUCTURES
PRESSURE REGULATOR	0	IM	ICE MAKER VALVE BOX		
SOLENOID SHUTOFF VALVE	- A	IRP	IN-LINE RECIRCULATION PUMP	NFPA 900	BUILDING ENERGY CODE
HOSE BIBB WITH VACUUM BREAKER		L MS	LAVATORY MOP SINK		
AIR ADMITTANCE VALVE (BOD: STUD		MS PE	PLUMBING FIXTURE	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
UNION		SAN	SANITARY WASTE		
WALL CLEANOUT	wco llo-	SH	SHOWER	ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
FLOOR CLEANOUT	FCO ® —	sĸ	STAINLESS STEEL SINK		
FLOOR DRAIN	E-	TYP	TYPICAL	ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEER:
FLOOR SINK		TMV	THERMOSTATIC MIXING VALVE		
EXISTING SYSTEM PIPING	EX ###	LIR	UNLESS NOTED OTHERWISE URINAL	ADA	AMERICAN WITH DISABILITIES ACT
TO BE DEMOLISHED	'/////XX#W//////	VTR	VENT THROUGH ROOF	Lu	UNDERWRITERS LABORATORIES
DEMOLITION KEYNOTE	177777777777777777777777777777777777777	wc	WATER CLOSET	"	O DE CONTRETE DE DE CONTRETE D
RENOVATION KEYNOTE	(A)	wco	WALL CLEAN OUT	THESE CODE AND STANDARDS	SHALL BE CONSIDERED A MINIMUM REQUIREMENT.
CONNECT TO EXISTING	Ä	WH	WALL HYDRANT		RELIEVED FROM PROVIDING HIGHER GRADE ORKMANSHIP WHICH MAY BE SPECIFIED WITHIN
	<u> </u>	WHA	WATER HAMMER ARRESTER	THESE DOCUMENTS	ORRMANSHIP WHICH MAT BE SPECIFIED WITHIN
LIMITS OF DEMOLITION	<u> </u>	XT	FREEZE PROOF WALL HYDRANT EXPANSION TANK	EXTERIOR CLEANOUT	SCHEDULE
ACCESS PANEL		- 1^'	EXPANSION TANK		TYPE JR SMITH M#:
MIN. INVERT ELEVATION	₩			ONE WAY	4233L
	ALL MAY NOT APPLY			(CAST IRON BODY, BRONZE PLUG, CAST IRON TOP	
0	CONDENSATE PIPING			TAPER THREAD)	
	 CONDENSATE DRAIN PIPING SHALL BE SO FITTINGS. 	HEDULE 4	40 PVC WITH SOLVENT WELD	TWO WAY	4233L
	 ALL CONDENSATE DRAIN PIPE SYSTEMS OF EQUIPMENT PER DETAILS. 	SHALL HA	VE A BUILT TRAP AT EACH PIECE	(CAST IRON BODY, BRONZE PLUG, CAST IRON TOP TAPER THREAD)	76,00,00
	 ALL LINES SHALL BE INSULATED WITH \$\frac{1}{2}^2\) APPROVED DISPOSAL POINT OR OUTSIDE 307.2.1. OUTSIDE DISPOSAL AT EARTH SH 	AT GRAD	E IN COMPLIANCE WITH FBC-M	WATER HAMMER ARRI	
	BUILDING STRUCTURE AND FOUNDATION 4. TRAP AIR CONDITIONING CONDENSATE A	ND RUN T	O LOCATION SHOWN ON PLANS	JR SMITH M#: 5005 501	
	5. COVER ALL EXTERIOR CONDENSATE LINE	S WITH A	LUMINUM JACKET, INSTALLED TO	SUBMITTAL REQUIREM	MENTS
	SHED WATER AND SECURED WITH STAIN	ess s fel	EL BANUS 12" U.C.	1 LISE OF AN APPROVAL STA	MP ON SURMITTAL DOCUMENTS CERTIFIES THAT

IF OTHERWISE UNSPECIFIED, TERMINATE CONDENSATE INTO STORM CONNECTION, OR ARCHITECT-APPROVED GRAVEL OR GREEN PATCH AT LEAST 12" AWAY FROM BUILDING.

1" DIAMETER

14 * DIAMETER

1∮° DIAMETER

2" DIAMETER

CONDENSATE DRAIN SIZING (PER FBC-M TABLE 307.2.2)

251 AND ABOVE SIZED BASED ON ACTUAL FLOW

UP TO 20 TONS

21 TO 40 TONS

41 TO 90 TONS

91 TO 125 TONS

126 TO 250 TONS

DRANT	EXTERIOR	CLEAN	OUT SC	HEDULE			
			TYPE		JR S	MITH M#:	
	ONE WAY				4233	L	
	(CAST IRON BC PLUG, CAST IR TAPER THREAL	ON TOP	ZE.				
)							
IECE	TWO WAY (CAST IRON BO PLUG, CAST IR TAPER THREAL	ON TOP	ZE		4233	L.	
-м	WATER HA	MMER	ARREST	OR SCH	IEDULE		
	FIXTURE UNITS JR SMITH M#:	1-11 5005	12-32 5010	33-60 5020	61-113 5030	114-154 5040	155-330 5050

USE OF AN APPROVAL STAMP ON SUBMITTAL DOCUMENTS CERTIFIES THAT THE CONTRACTOR HAS COMPLIED WITH THE CONTRACT DOCUMENT

THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR DEVANDORS FROM ENGINEERING TO FE CONTRACTOR COMMENTS BY THE DEVANDORS FROM THE CONTRACTOR COMMENTS BY THE CONTRACTOR COMMENT OF THE CONTRACTOR HAS SAMPLES, OR SIMILAR SIGNATION, THE CONTRACTOR HAS SAMPLES, OR SIMILAR SIGNATION, THE CONTRACTOR HAS DEVELOPED AND THE ACCORDING THE ACCORDING THE ACCORDING THE ACCORDING THE ACCORDING THE ACCORDING TO SAMPLES OF SIMILAR SIGNATION TO SERVICE OF SENSOR SIGNATION TO SENSOR SIGNATION SENSOR SIGNATION TO SENSOR SIGNAT

CONTRACTOR SHALL SUPPLY TO THE ARCHITECT SUBMITTALS ON THE FOLLOWING WHERE APPLICABLE (ALL MAY NOT APPLY):

SHEET INDEX

TITLE

P601 - PLUMBING SCHEDULES

P001 - PLUMBING NOTES, LEGEND, & SHEET INDEX

P101 - FLOOR PLAN - PLUMBING - DRAIN & VENT

P101 - PLOOR PLAN - PLUMBING - DRAIN & VE P102 - FLOOR PLAN - PLUMBING - PRESSURE P501 - PLUMBING DETAILS

SHEET#

 FOR NON-CIRCULATING STORAGE WATER TANKS HEAT TRAPS MUST BE INSTALLED ON THE SUPPLY AND DISCHARGE PIPING ASSOCIATED WITH THE EQUIPMENT. WATER-HEATING EQUIPMENT AND HOT WATER STORAGE TANKS SHALL MEET THE REQUIREMENTS OUTLINED IN FBC CHAPTER 4, TABLE CAU 2 AND THE EFFICIENCY SHALL BE VERRIED THROUGH DATA FURNISHED BY THE MANUFACTURER THROUGH CHETRICATION UNDER AN APPROVED CERTIFICATION PROGRAM. ALL HOT WATER SUPPLY PIPING IN THE HOT WATER SYSTEM SHALL BE INSULATED WITH MINIMUM 1IN OF INSULATION HAVING A CONDUCTIVITY OF 0.27 (BTU / IN / H X FT*2 X °F).

PLUMBING GENERAL NOTES

FLECTRICAL CONTRACTOR

ENERGY SYSTEMS - WATER HEATING

LOCATIONS OF ANY WASTE AND SUPPLY PIPING SHOWN ARE ONLY APPROXIMATE. THE PLUMBING CONTRACTOR SHALL VERIFY THESE LOCATIONS BEFORE PROCEEDING WITH WORK. ALL PLUMBING PIPE SHALL BE RUN IN STRAIGHT, SQUARE, AND LEVEL. NO SAGGING OF PLUMBING PIPING SHALL BE ACCEPTED.

4. VENT PIPING SHOWN ON FLOOR PLAN IS ONLY INDICATIVE EXCEPT FOR VTR LOCATIONS.

5. CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT CONNECTIONS OF DISSIMILAR METALS VALVES AND FITTINGS SHALL BE OF THE SAME SIZE AS THE LINE IN WHICH THEY ARE INSTALLED

ALL DRAINAGE PIPING 3° AND LARGER SHALL HAVE A MINIMUM SLOPE OF $\frac{1}{8}$ ° PER FOOT, PIPING 2-1/2° AND SMALLER SHALL HAVE A MINIMUM SLOPE OF $\frac{1}{8}$ ° PER FOOT UNLESS OTHERWISE NOTED.

ALL WATER SANITARY WASTE, VENT AND SUPPLY PIPING SHALL BE INSTALLED AS CLOSE TO PLANS AS POSSIBLE WITH NO CHANGE IN SIZING.

SEE ARCHITECTURAL DRAWINGS FOR EXACT PLUMBING FIXTURE LOCATIONS, MOUNTING HEIGHTS, DIMENSIONS AND ADDITIONAL REQUIREMENTS NOT COVERED ON THESE DRAWINGS.

PIPING SHALL NOT BE RUN ABOVE ELECTRICAL OR SERVER EQUIPMENT, COORDINATE WITH FIELD CONDITIONS.

10. DO NOT PENETRATE WALL FOOTINGS AS REQUIRED TO CLEAR PLUMBING SERVICES. WHERE ABSOLUTELY NECESSARY, ALL PIPES PENETRATING BEARING WALL OR FOOTING MUST BE SLEEVED AND IN A LOCATION APPROVED BY THE STRUCTURAL ENDINEED.

CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SUPPORTING DEVICES OR ALL FIXTURES INCLUDED IN THESE CONTRACT DOCUMENTS.

12. WALL BRACKETS, HANGERS, SUPPORTS, ETC. SHALL BE PROVIDED WHERE REQUIRED IN ACCORDANCE WITH THE BEST STANDARD PRACTICE OF THE TEAD AND AS PER CODE. ADDITIONAL SUPPORTS SHALL BE PROVIDED TO TRANSMIT LOADS TO THE MAIN STRUCTURE WHERE REQUIRED, CPUP OPPING SUPPORTS SHALL BESTO'ON CENTER FOR 7 THRU! T AND 4 OF ON CENTER FOR 1-12" AND LARGER ALL EXPOSED SUPPORTS SHALL BEH OT DIPPED GALVANIZED OF PERENALS REPORCEDE UNISTITY TYPE INCLUDING HARDWISE.

13. POWER WIRING, PANELS, TRANSFORMERS, DISCONNECT, SWITCHES FOR PLUMBING EQUIPMENT SHALL BE

. INSTALL ACCESS PANELS (MINIMUM 18x18) WHERE EQUIPMENT REQUIRING ACCESS RESIDES ABOVE AN INACCESSIBLE CEILING TYPE.

ALL CONCEALED VALVES, WATER HAMMER ARRESTORS, CLEANOUTS, ETC., CONCEALED IN WALLS SHALL BE PROVIDED WITH AN ACCESS PANEL, ZURN MODEL ZN-1460 OR APPROVED EQUAL.

ALL CONCEALED PIPING IN CHASE AREAS SHALL BE SUPPORTED WITH A PIPING SUPPORT SYSTEM, SUMNER POSIFIX, STAKFIX AND CHANNEL OR APPROVED EQUAL.

PURGE, CLEAN, DISINFECT & TEST WATER PIPING SYSTEMS. SUBMIT REPORT & WATER SAMPLES TO A.H.J. USE PROCEDURE PRESCRIBED BY A.H.J., OR IF METHOD NOT PRESCRIBED USE AWWA C651 OR AWWA C652

SERVICE WATER HEATING EQUIPMENT SHALL ALLOW LAVATORY OUTLET TEMPERATURES IN PUBLIC FACILITY RESTROOMS SHALL BE LIMITED TO 110°F, CONTROL BY TMV.

18. CONTRACTOR SHALL INSTALL WATER HAMMER ARRESTORS AT ALL QUICK CLOSING VALVES. REFER TO FPC

POWIER WINING, PANELS, TRANSFORMERS, DISCONNECT, SWITCHES FOR PEUDISHING EUDIPMENT STALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. ALL CONTROL WIRING, RELYS, AND PASS SHALL BE PROVIDED AND INSTALLED BY THE PLUMBING CONTRACTOR. ALL MOTOR STARTERS REQUIRED FO ANY PLUMBING EQUIPMENT SHALL BE FURNISHED BY THE PLUMBING CONTRACTOR AND INSTALLED BY THE ANY PLUMBING EQUIPMENT SHALL BE FURNISHED BY THE PLUMBING CONTRACTOR AND INSTALLED BY THE THE PROVIDED AND THE PROVINCE OF THE PROVINCE OF THE PLUMBING CONTRACTOR AND INSTALLED BY THE THE PROVINCE OF THE PUMBING CONTRACTOR AND INSTALLED BY THE PUMBING CONTRACTOR AND INSTALLED B

POTABLE WATER

ALL POTABLE WATER PIPING SHALL BE DISINFECTED IN ACCORDANCE WITH THE PLUMBING CODE AND VERIFIED BY WRITTEN REPORT FROM THE STATE BOARD OF HEALTH. ALL PLUMBING PIPING SHALL BE CONCEALED IN FLOORS, WALLS, OR ABOVE CEILINGS AS APPLICABLE EXCEPT AT IMMEDIATE FIXTURE.

PROVIDE HANGERS FOR SUPPLY PIPING AT A MAXIMUM SPACING OF 3 FEET.

PROVIDE WATER HAMMER ARRESTORS AT EACH FIXTURE, QUICK CLOSING VALVE, OR BATTERY OF FIXTURES WHERE REQUIRED AND PER FBC-P 694.9. ARRESTORS SHALL BE FACTORY FABRICATED, SIZED PER PLUMBING AND RAINAGE INSTITUTE STANDARD PD JI WHY-DI AIR CHAMBERS SHALL NOT BE CONSIDERED AN EQUAL TO WATER HAMMER ARRESTORS AS SPECIFIED.

BALL VALVES ∯ THRU 2" SHALL BE TWO PEICE - 800 WOG, TEFLON SEATS, ANSI 316 STAINLESS STEEL BALL AND STEM (EXTENSION STEM ON INSULATED HOT WATER AND TEMPERED HOT WATER), BRONZE BODY WITH THREADED

DIRING COMSTRUCTION ALL PRESSURE PPPING SYSTEMS SHALL RECEIVE A HYDROSTATIC TEST OF 1-12 TIMES THE OPERATING PRESSURE FOR A PERIOD ON NOT LESS THAN BEGING 19 HOURS, NO LEMAGE WIGHT DURING THE TEST PROBLED SHALLOWED, NOTIFY THE AGMENTED AND RESIDENCE OF RECORD SHALLOWING SHALLOWING COM-TON THE PROBLEM SHALLOWED SHALLOW SHA ALL PRESSURE PIPING SHALL BE INSTALLED ABOVE CEILING AND IN WALLS UNLESS NOTED OTHERWISI

e DELOWIGRADE

PIPING SHALL BE COATED WITH HEAVY TROWEL GRADE LION OIL CO. NOKORODE SEALKOTE OR APPROVED

8.2. UNDERGROUND SERVICE PIPING SHALL BE COPPER TUBING.

PIPING SPECIFICATIONS

9.1. ABOVE GRADE DOMESTIC COLD WATER SUPPLY PIPING SHALL BE HIGH IMPACT CPVC WITH SOLVENT WELD FITTINGS

TTINGS.
PROVIDE TRANSITION FITTINGS AS REQUIRED TO INSTALL VALVES, FIXTURE STOPS, EQUIPMENT AND OTHER COMPONENTS.
ALL PIPES AND FITTINGS SHALL CONFORM TO ASTM 1784.

PIPING LOCATED IN RETURN AIR PLENUMS SHALL BE TYPE L HARD COPPER TUBE OR CPVC WITH 1" THICK FIRE WRAP INSULATION SEALED TO PROVIDE FS/SD=25/50.

9.3. EXPOSED PIPING SHALL BE TYPE L HARD COPPER TUBE PAINTED TO MATCH ADJACENT ARCHITECTURAL SURFACE.

10.1. INSULATE COLD WATER SUPPLY PIPING IN EXTERIOR WALLS AND ATTIC AS WELL AS ALL HOT WATER WITH 1* INCOLOCK PRE-SLIT, PRE-GLUED INSULATION. INSULATE FITTINGS WITH MITERED CUT PIECES OF IMCOLOCK, 10.2. THERE SHALL BE NO EXPOSED HOT WATER SUPPLY PIPING EXCEPT WITHIN MECHANICAL OR EQUIPMENT ROOMS.

 PIPING UNDER HANDICAPPED LAVATORIES SHALL BE INSULATED PER AMERICANS WITH DISABILITIES ACT WITH FACTORY FABRICATED SEAMLESS MICROBIAL PVC RESIN INSULATION. EXPOSED PIPING

11.1. ALL EXPOSED PIPING SHALL BE COORDINATED WITH OTHER ABOVE-CEILING SYSTEMS AND ROUTED TO AVOID CONFLICTS EVEN IF ITS ROUTING IS DIFFERENT THAN THAT WHICH IS SHOWN ON THESE PLANS.

ALL EXPOSED PIPING SHALL BE INSTALLED NEAT AND ORDERLY. PAINT TO MATCH ADJACENT ARCHITECTURAL SURFACE OR AS DIRECTED BY ARCHITECT.

GENERAL NOTES

- THE ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR ANY MISUSE AND/OR MISREPRESENTATION OF THIS SET OF DOCUMENTS.
- THE CONTRACTOR ASSUMES RESPONSIBILITY FOR THE USE OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL MAKE THEMSELF AWARE OF PROJECT CONDITIONS AND OWNER REQUIREME PRIOR TO PROCUREMENT OF EQUIPMENT AND SERVICES, CHANGES IN PROJECT COST WILL NOT BE GRANTED DUE TO FIELD CONFLICTS AND OR PROJECT CONDITIONS.
- THIS SET OF DRAWINGS AND SPECIFICATIONS SHALL NOT BE CONSIDERED A SET OF CONSTRUCTION DOCUMENTS UNLESS A SIGNATURE AND DATE ARE AFFIXED TO THE DRAWINGS AND SPECIFICATIONS BY THE ENGINEER OF RESPONSIBLE CHARGE OF THE GOVERN DISCIPLINE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SALED UNLESS EMBOSSED AND THE SHA AUTHENTICATION CODE MUST BE VERIFIED ON ELECTRONIC COPIES.
- CONFLICTS BETWEEN THIS SET OF DRAWINGS AND THE CONTRACT SPECIFICATIONS SHALL BE RESOLVED BY THE ENGINEER OF RECORD. THE CONTRACTOR DOES NOT HAVE THE AUTHORITY TO INTERPRET CONFLICTS AND RESOLVE ISSUES WITHOUT WRITTEN DIRECTION FROM THE ENGINEER OF RECORD.
- 5. ANY CONFLICTS IN THE FIELD OR WITHIN THESE DOCUMENTS SHALL BE RECORDED AND PROVIDED TO THE ENGINEER OF RECORD ON THE CONTRACTOR'S STANDARD LETTERHEAD, WRITTEN DIRECTION RESOLVING CONFLICT WILL BE ISSUED BY THE ENGINEER OF RECORD.
- PRIOR TO INSTALLATION, COORDINATE AND ADJUST THE FINAL LOCATION OF ALL WALL MOUNTED DEVICES AND EQUIPMENT WITH ALL CASEWORK, SHELVING OR OTHER WALL MOUNTED FURNISHINGS.
- PLANS ARE DIAGRAMMATIC IN NATURE AND INTENDED TO SHOW THE GENERAL SCOPE OF THE WORK TO BE PERFORMED. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL DIMENSIONS.
- DUE TO THE SMALL SCALE OF THE DRAWINGS, AND TO UNFORESEEN JOB CONDITIONS, ALL REQUIRED OFFSETS, TRANSITIONS AND FITTINGS MAY NOT BE SHOWN BUT SHALL BE PROVIDED AT NO ADDITIONAL
- THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND EXISTING EQUIPMENT TO ENSURE THE EQUIPMENT SPECIFIED WILL WORK FOR THE SPACES PROVIDED. FIRM, DIMENSIONS OF SYSTEMS SHOWN ON THESE PLANS SHALL BE COORDINATED IN THE FILE. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR PROVIDING OFFSETS AND TRANSITIONS TO FIT IN SPACES PROVIDED AND AT NO COST TO THE OWNER.
- 10. THE CONTRACTOR IS RESPONSIBLE FOR ANY SPECIAL REQUIREMENTS INVOLVED IN INSTALLING EQUIPMENT IN THE BUILDING, DISMANTLING AND REASSEMBLING OF ANY EQUIPMENT SHALL BE DONE AS REQUIRED TO BRING EQUIPMENT INTO THE BUILDING AND EQUIPMENT ROOMS.
- ALL WORK PERFORMED AS PART OF THIS PROJECT SHALL BE PERFORMED BY EXPERIENCED TRADESMEN, TRAINED, EXPERIENCED, AND SKILLED IN THE TASKS INCIDENTAL TO THE PROJECT.
- 12. ALL WORK SHALL COMPLY WITH APPLICABLE OSHA AND EPS REGULATIONS AND GUIDELINES
- 13. THE CONTRACTOR PERFORMING WORK ON THIS PROJECT WILL BE RESPONSIBLE FOR REGULAR CLEANING THE WORK AREA OF ANY DEBRIS ASSOCIATED WITH THE WORK BEING PERFORMED. THE SITE SHALL BE CLEAN OF ALL CONSTRUCTION DEBRIS AT THE COMPLETION OF THE JOB, BEFORE FINAL PAYMENT IS MADE.
- REASONABLE PRECAUTIONS SHALL BE MADE FOR SAFETY AND HEALTH INCLUDING BUT NOT LIMITED TO WARNING SIGNS, SAFETY PRECAUTIONS AND BARRICADES FOR PEDESTRIANS.
- COORDINATE ALL DEMOLITION, CLEANING AND CONSTRUCTION WORK. CONTRACTOR SHALL PROVIDE OWNER A FULL CONSTRUCTION SCHEDULE.
- CONTRACTOR SHALL BE HELD TO PROVIDED SCHEDULE. THEY SHALL BE RESPONSIBLE FOR PROVIDING SUFFICIENT MANPOWER AND EQUIPMENT TO COMPLETE THE WORK IN THE TIME INDICATED.
- 17. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND SECURITY OF ALL EQUIPMENT AND MATERIALS, THE LOCATION OF STORAGE SHALL BE RESTRICTED SPECIFICALLY TO THE AREA ALLOTTED BY
- 18. ALL ITEMS INSTALLED UNDER THE SCOPE OF THIS PROJECT SHALL BE NEW, CLEAN, AND FREE OF DEFECTS.
- 19. IF DRAWING CHANGES ARE NEEDED FOR INSPECTION DUE TO FIELD CHANGES MADE BY THE CONTRACTOR WITHOUT PRIOR APPROVAL OF THE ENGINEER AND AGREED UPON TERMS THE CONTRACTOR SHALL PAY HOURLY PATES TO THE ENGINEER OF RECORD FOR MAKING MCESSARY CHANGES.
- 20. SUPPORTS, HANGERS, WIRING, AND PIPING SHALL BE INSTALLED IN A NEAT AND ORDERLY APPEARANCE
- 21. ALL ROOF EQUIPMENT SHALL BE SECURED TO STRUCTURE TO RESIST A 130 MPH WIND LOAD.
- 22. PROTECT THE ROOF FROM DAMAGE WHENEVER ANY WORK ON THE ROOF IS REQUIRED.
- 24. STRUCTURAL PENETRATIONS INCLUDING BUT NOT LIMITED TO WALL, FLOOR OR BEAM SHALL BE APPROVED BY THE STRUCTURAL ENGINEER, ALL BEAM SLEEVES AND REIN-PROCING APPROVED BY STRUCTURAL ENGINEER SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
- 25. CONTRACTOR SHALL GUARANTEE THE WORK AND MATERIALS FOR PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. THIS GUARANTEE SHALL BE IN ADDITION TO THE WARRANTIES PROVIDED BY THE MATERIAL SUPPLIES AND MANUFACTURERS.
- VALUE ENGINEERING OR CHANGES TO PLANS MUST BE APPROVED BY THE ENGINEER OF RECORD AND RESUBMITTED THROUGH THE BUILDING DEPARTMENT PRIOR TO BEING INSTALLED.

SANITARY WASTE AND VENT

- GRAVITY FLOW SYSTEMS HAVE SPACE PRIORITY FOR SLOPING PIPES.
- SLOPING PIPES SHALL BE STARTED AT THE HIGHEST POINT POSSIBLE.
- ALL SOIL, WASTE, AND VENT PIPING SHALL BE TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE AND LOCAL PERMITTING AUTHORITIES REQUIREMENTS.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL FLOOR DRAIN AND WATER SUPPLY LOCATIONS BEFORE POURING
- SANITARY AND VENT PIPING SHALL BE COLLECTED AND TERMINATED AT A POINT SHOWN ON THE DRAWINGS.
- INVERT SHOWN ON PLANS IS AN ESTIMATE OF MINIMUM INVERT CALCULATED USING ENGINEERING ESTIMATES OF SLOPE ITTIMO DIMENSIONS AND OTHER PACTORS THAT TAM YOUT MATCH HE PACT HELD CONDITIONS DUE THIND DIMENSIONS AND OTHER PACTORS THAT TAM YOUT MATCH HE PACT HELD CONDITIONS DUE TO MATCH HE PACT HELD CONDITIONS THAT HE PACT HE
- WHEN REQUIRED BY CODE PLUMBING CONTRACTOR SHALL PROVIDE AND INSTALL AN AIR GAP SERVING INDIVIDUAL FIXTURES, DEVICES, OR APPLIANCES
- ALL SANITARY WASTE LINES SHALL BE INSTALLED UNDER THE FLOOR SLAB, UNLESS OTHERWISE NOTED. VENT PIPING SHALL BE INSTALLED ABOVE CEILING AND IN WALLS UNLESS NOTED OTHERWISE.
- FLOOR DRAIN TRAPS SHALL BE DEEP SEAL (MIN. 4"). FURNISH AND INSTALL TRAP PRIMERS, WHERE INDICATED, OR IF LOCAL CODES REQUIRE THEM. VERIFY AND INCLUDE IN BID.
- SIZE AND LOCATION OF CLEANOUTS SHALL BE IN ACCORDANCE WITH FLORIDA PLUMBING CODE AND ALL JURISDICTIONAL REGULATIONS.
- PIPING SPECIFICATIONS
- DOMESTIC WASTE, AND VENT PIPING SHALL BE SCHEDULE 40 PVC/DWV PIPE WITH SOLVENT WELD DRAINAGE FITTINGS CONFORMING TO ASTM D-2665.
- VENT PIPING SHALL BE MINIMUM OF 2". UNLESS NOTED OTHERWIS
- 11.3 PIPING INSTALLED WITHIN A RETURN AIR PLENUM SHALL BE CAST IRON WITH HUB AND SPIGOT FITTINGS OR PVC PIPING WITH 1/2" THICK FIRE WRAP INSULATION SEALED TO PROVIDE FS/SD=25/50.

- 12.1. ALL EXPOSED PIPMS SHALL BE CONSONATED WITH OTHER ABOVE-CEU NO SYSTEMS AND ROUTED TO AVOID CONSULTED SHEW IT IS NOTHING IS DIFFERSINT THAN WHAT IS SHOWN ON THESE THAN SHALL SHALL EXPOSED PIPMS SHALL BE INSTALLED NEAT AND ORDERLY. PAINT TO MATCH ADJACENT ARCHITECTURAL SURFACE OR AS DIRECTED BY ARCHITECTURAL SURFACE OR AS DIRECTED BY ARCHITECTURAL.



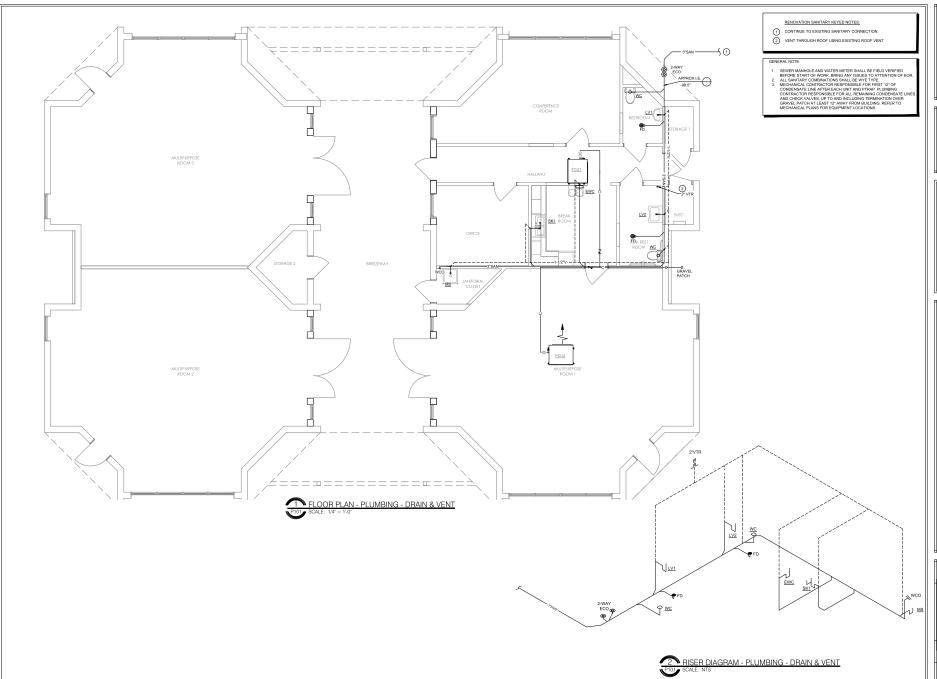




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PERMIT SET 160222 RAWN CC, KW HECKED REGII PLUMBING NOTES. LEGEND, & SHEET

INDEX P001









Training Center Repairs and Renovations Gainseville Housing Authority Gainesville, Florida

PERMIT SET

PROJ. NO. 160222

DATE OPH 1/2023

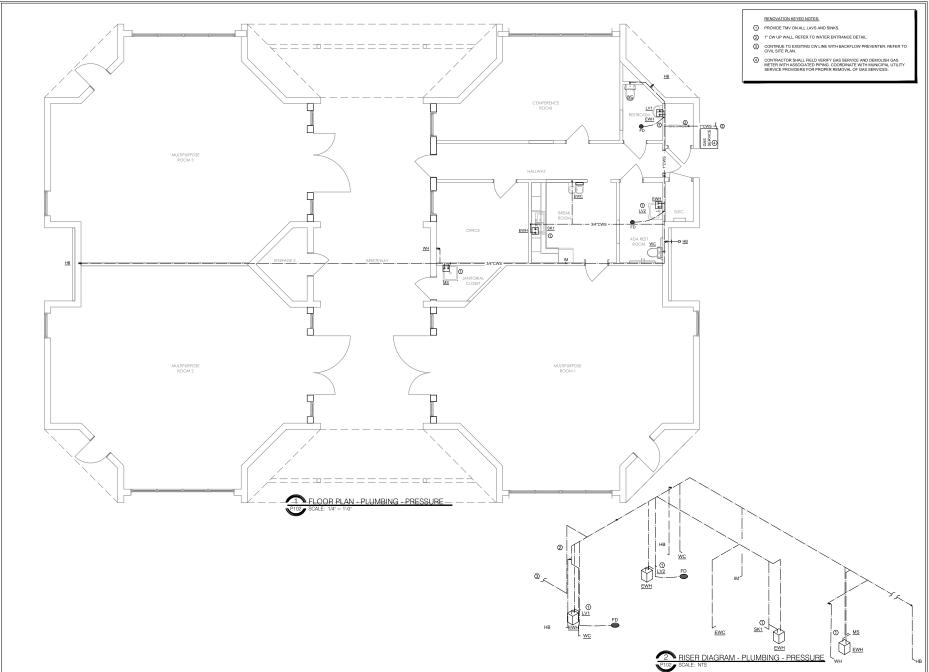
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Training Center Repairs and Renovations Gainseville Housing Authority Gainesville, Florida

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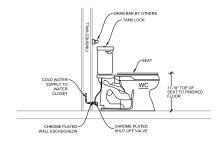
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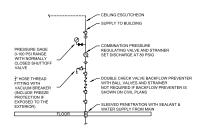
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ROOS PLAN - PULMBING PRESSURE

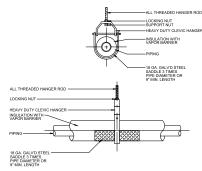
1 INSTANTANEOUS ELECTRIC WATER HEATER DETAIL



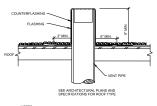
HANDICAPPED ACCESSIBLE WATER CLOSET



7 WATER SERVICE ENTRANCE DETAIL



PIPE HANGERS



NOTES:

1. FLASHING AND COUNTERFLASHING FURNISHED BY PLUMBING CONTRACTOR AND INSTALLED BY ROOFING CONTRACTOR.

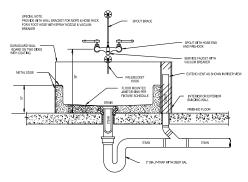
2. PAINT VENT TO MATCH ROOF.

5 VENT THROUGH ROOF DETAIL

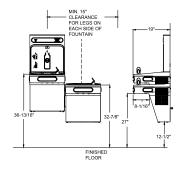


- 1 FLOOR OR WALL ASSEMBLY = MIN. 4" THICK CONCRETE.
- PLASTIC PIPE 4" DIAM. (OR SMALLER) SCH. 40 PVC PIPE FOR USE IN CLOSED OF VENTED PIPING SYSTEMS, WITH A MAX. ANNULAR SPACE OF 1/4".
- 3 2 HOUR FIRE RATED STOPS WRAP STRIPS, TIGHTLY WRAPPED 6 TIMES AROUND PIPE.
- STEEL RESTRICTING COLLAR.
- MIN 1" THICK SEALANT APPLIED WITHIN ANNULUS, FLUSH WITH BOTTOM OF FLOOR OR BOTH SURFACES OF WALL IN FLOORS, APPLY AN ADDITIONAL, "THICKNESS SEALANT WITHIN ANNULUS FLUSH WITH TOP SURFACE OF FLOOR.

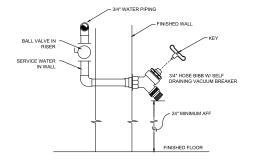
8 FLOOR PENTRATIONS



JANITOR MOP SINK DETAIL SCALE:NONE



WALL HUNG ADA DRINKING FOUNTAIN WITH BOTTLE FILL SCALE-NONE



9 HOSE BIBB DETAIL







TRAINING CENTER REPAIRS AND RENOVATIONS GAINSEVILLE HOUSING AUTHORITY GAINESVILLE, FLORIDA

P501

			LUMBING FIXTURE SCHEDULE				
TYPE ELECTRIC WATER COOLER	EWC	MFG/MODEL ELKAY/ LZSTLDDWSLK	FIXTURE DESCRIPTION DUAL-HEIGHT ADA ELECTRIC WATER COOLER WITH FILTERED WATER BOTTLE FILL STATION INSTALL PER ADA REQUIREMENTS. INSTALL WITH CONCEALED WALL CAPRIER, MLP200. INSTALL ELECTRICAL, DOMESTIC, AND SANITARY CONCECTIONS PER MONIFACTURER'S INSTRUCTIONS, POWERED BY WALL CUTLETS.	1/2"	-	SAN 2'	PICTURE
INSTANT ELECTRIC WATER HEATER	EWH	STIEBEL ELTRON/ DHC- E-4/6-2 TREND	14'85'85 POINT-OF-USE TANKLESS WATER. MINIMUM ACTU-XHTON FLOW SET AT 0.284 (GPM, 240V, 3.8KW & 6KW HEATERS (LOW/HIGH) WITH 15 825 AMPS (LOW HIGH). MINIMUM RECOMMENDED CIRCUIT BREAKER SIZE 20 & 25 AMPS (LOW/ HIGH), 1/2" WATER CONNECTIONS, UP TO 0.5 GPM AT 60 TEMP RISE.	1/2"	1/2*	-	
LAVATORY - ACCESSIBLE	LV1	KOHLER/K- 12638-L-0	20' x 27' WALL-MOUNTED CONCEALED ARM CARRIER WHEELCHAIR BATHROOM SINK WITH SINGLE FALOET HOLE AND LEFT-HAND SOAP DISPENSER HOLE. ADA-COMPLIANT WHEN INSTALLED WITH K-13885 OFFSET DRAIN. USES FALUET K-45900-4-CP	1/2"	1/2"	1 1/2"	I
LAVATORY - PUBLIC	LV2	KOHLER/K- 1728-0	WALL-MOUNTED ARM CARRIER ARM BATHROOM SINK WITH 4" CENTERSET FAUCET HOLES. USES FAUCET K-27388-4-CP	1/2"	1/2"	2"	The same
MOP SINK	MS	REGENCY/600 SM16206	20°X16°X6" MOP BASIN; FLOOR MOUNTED; 16- GAUGE TYPE 304 STAINLESS STEEL; 31'Z' DORAN BASKET, ROUNDED CORNERS. USES FAUCET: 600°FMS96	3/4"	3/4"	3*	1
SINK	SK1		TOP-MOUNT STAINLESS STEEL DOUBLE- EQUAL KITCHEN SINK WITH A FAUCET HOLES. USES FAUCET: K-10446-CP				162
WATER CLOSET	wc	AMERICAN STANDARD/21 68.100	WATER CLOSET, ADA, FLOOR MOUNT, FLUSH TANK, VITREOUS CHINA, SIPHON JET FLUSHING ACTION ELONGATED RIM, MIN. 17" RIM HEIGHT, A.F.F. AND A 12" ROUGH IN.	1"		3*	7

		FI>	TURE	UNIT	CALC	ULATION	S				
		COLD V	/ATER	HOT W.	ATER	COMBINE	D CW & HW	WASTE	FIXTURE	WATER	
FIXTURE TYPE	QUANTITY	FU	CW	FU	HW	COMBINED	TOTAL FU	FU	TOTAL FU	GPM	
		EACH	FU	EACH	FU	FU - EACH	IOIAL FU	EACH	:ACH	GFM	
DRINKING FOUNTAIN	1	0.25	0.25	0		0.30	0.25	0.50	0.5		
FLOOR DRAINS	2	0.00		0		0.00		2.00	4		
KITCHEN SINK - PRIVATE	- 1	1.00	- 1	- 1	- 1	1.40	1.4	2.00	2		
AVATORY - PUBLIC	2	1.50	3	1.5	3	2.00	4	1.00	2		
SERVICE SINK	1	2.25	2.25	2.25	2.25	3.00	3	2.00	2		
WATER CLOSET -	2	5.00	10	0		5.00	10	4.00	8		
PUBLIC - FLUSH TANK		- 4	5.00	10			5.00	10	4.00	۰	
TOTALS			16.5		6.25		18.65		18.5	19.2	
			CW		HW		COMBINED		WASTE	WATER	
			FU		FU		FU		FU	GPM	
BUILDING SERVICE PIPING											
TYPE	FU	SIZE									
CW SERVICE	19	1 1/4"									

SEWAGE

CONTRACTOR SHALL FIELD VERIFY, BRING ANY ISSUES TO ATTENTION OF EOR.

19 4*







Training center repairs and renovations Gainseville housing authority Gainesville, florida

PERMIT SET

PROJ. NO. 160222

DATE ON 1/2023

DATE ON 1/2023

OFFICED BL

REVISION DATE

PLUMBING

SCHEDULES

P601