

**Palm Terrace Assisted Living Facility (ALF)
Miscellaneous Renovations**

Solicitation No. FY23-IFB-03

Issue Date: **Friday, May 15, 2023**
Pre-Bid Conference: **Tuesday, May 23, 2023 @ 10:00 AM (EST)**
Deadline for questions: **Thursday, June 1, 2023 @ 5:00 PM (EST)**
Submission Deadline: **Tuesday, June 13, 2023 @ 2:00 PM (EST)**

Board of Commissioners:

James A. Cloar, Chairperson
Bemetra Salter-Liggins, Vice-Chairperson
Ben Dachepalli
Lorena Hardwick
Sul Hemani
Parker A. Homans



**Mrs. Tina Washington-Jones, Director of Contracting
Purchasing & Contracting Office
5301 W. Cypress Street
Tampa, FL 33607
Phone: (813) 341-9101 ext. 3500**

Leroy Moore
Senior Vice President/COO

Jerome D. Ryans
President/CEO

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INVITATION FOR BID

Bid No. **FY23-IFB-03**

Date Issued: **5/15/2023**

The Housing Authority of the City of Tampa (the “Authority”) will receive sealed bids for **Palm Terrace Assisted Living Facility (ALF) Miscellaneous Renovations located at 5121 E. Serena Street, Tampa, FL 33617 until 2:00 p.m.** (prevailing Tampa, Florida time), on **Tuesday, June 13, 2023.** All bids are to be submitted and addressed with bid #FY23-IFB-03, Attn: Tina Washington, Contracting Officer, Tampa Housing Authority, 5301 West Cypress Street, Tampa, Florida, 33607. Bids may be submitted to the 1st Floor front desk receptionist, who will date, and time stamp the bid package. All bids will be publicly opened and read aloud. Bids received after the above stated time may not be considered.

Qualified Contractors may pick up copies of the bidding documents by visiting THA’s website at <http://www.thafl.com/Departments/Contract-n-Procurement/Default.aspx> or by submitting an email request to bidderquestions@thafl.com.

The Authority will hold a Pre-Bid Conference on **Tuesday, May 23, 2023, at 10:00 A.M.** in the Conference Room located on the first floor of 5301 W. Cypress St. A site visit will follow immediately after the pre-bid conference, if requested.

All questions concerning the bid documents, requiring additional information, or clarification shall be submitted in writing to THA via e-mail at bidderquestions@thafl.com. All questions will be accepted until **Thursday, June 1, 2023 at 5:00 PM** and responded to in writing with addendum(s) issued to all prospective bidders by visiting the THA’s website at <http://www.thafl.com/Departments/Contract-n-Procurement/Default.aspx>.

A Bid Guarantee in the amount of 5% of the total base bid must accompany each bid that exceeds \$150,000. Bid guarantee shall be a Bid Bond secured by a surety company authorized to do business in the State of Florida and listed in the latest Department of Treasury Circular 570 published in the Federal Register; or as permitted by state law, a certified check, bank draft, or U.S. Government Bond at per value. If bid security is not submitted the Authority will reject the bid. All Bid Guarantees must be made payable to the Housing Authority of the City Tampa. Personal checks will not be accepted. In addition, a Non-Collusive Affidavit must be supplied with each bid that exceeds \$25,000.

For all contracts that exceed \$150,000, the successful bidder will be required to furnish and pay for the satisfactory Performance and Payment bonding in the amount of 100% of the contract price. The successful bidder will be required to furnish certificates of insurance in accordance with the General Conditions and Special Conditions.

Attention is called to the fact that not less than the minimum of salaries and wages, as set forth in the specifications must be paid on this project (Davis-Bacon Wages for local area –

Tampa). The Contractor must ensure that employees and applicants for employment are not discriminated against because of race, color, creed, gender, disability, or national origin. The successful bidder will be required to present a certification of Affidavit Action Compliance.

In accordance with Department of Housing and Urban Development (HUD) regulations, the Authority is required to establish a goal of awarding at least 20 percent of the dollar value of construction contracts to Minority Business Enterprises (MBEs) or General Contractors with MBE participation. In accordance therewith, prime contractors are required to meet or exceed this 20% MBE participation goal by the time of bid.

In accordance with Section 3 of the U. S. Department of Housing and Urban Development Act of 1968, the Authority requires all construction Contractors, to the greatest extent feasible, to provide training, contracting and employment opportunities to low-income residents residing in the Authority's public housing communities.

The Authority intends to award a contract on the basis of the lowest and most responsive responsible TOTAL base bid and in a single Contract for all work to be performed in the above referenced project.

No bid shall be withdrawn for a period of sixty (60) days subsequent to the opening of without the prior written consent of the Authority.

Bidders shall carefully examine the documents and construction site to obtain first-hand knowledge of existing conditions. Contractors will not be given an extra payment for conditions that can be determined by examining the site and documents.

The Authority reserves the right to waive irregularities and to reject any or all bids. Failure to submit a bid properly may result in rejection of the Bid.

Documents to be submitted with Bid

- Complete Bid Form, Section 00 41 00.
- Complete Representation, Certifications and Other Statements of Bidders (HUD 5369A) Section 00 45 00.
- Complete Statement of Bidder's Qualifications, Section 00 45 13.
- Complete Section 3 & MBE Compliance Certification Form Section 00 62 39.
- Complete Non-Collusive Affidavit, Section 00 45 19.
- Complete Bid Bond (for bids over \$25,000.00), Section 00 43 13.

- Sworn Statement Under Section 287.133(3)(A), Florida Statutes, On Public Entity Crimes

Questions regarding this solicitation may be directed to the Authority by e-mailing bidderquestions@thafl.com.

THE HOUSING AUTHORITY OF THE CITY OF TAMPA IS AN EQUAL OPPORTUNITY EMPLOYER, BY ORDER OF JEROME D. RYANS, PRESIDENT/CEO.

END OF INVITATION TO BID



Instructions to Bidders for Contracts
Public and Indian Housing Programs

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Table with 2 columns: Clause and Page. Lists clauses 1 through 12 and their corresponding page numbers.

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 non-responsible 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 at designate the official or location where a protest may be served on:

Ms. Tina Washington, Contracting Officer
THA Purchasing & Contracting Office
5301 West Cypress Street
Tampa, Florida 33607

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

8. Contract Award

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

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

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

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

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

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



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

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

All bids must be accompanied by a negotiable bid guarantee which shall not be less than five percent (5%) of the amount of the bid. The bid guarantee may be a certified check, bank draft, U.S. Government

Bonds at par value or a bid bond secured by a surety company acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. In the case where the work under the contract will be performed on an Indian reservation area, the bid guarantee may also be an irrevocable Letter of Credit (see provision 10, Assurance of Completion, below). Certified checks and bank drafts must be made payable to the order of the PHA/IHA. The bid guarantee shall insure the execution of the contract and the furnishing of a method of assurance of completion by the successful bidder as required by the solicitation. Failure to submit a bid guarantee with the bid shall result in the rejection of the bid. Bid guarantees submitted by unsuccessful bidders will be returned as soon as practicable after bid opening.

10. Assurance of Completion

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

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

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

(3) a 20 percent cash escrow;

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

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

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

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

the date of the bond. The effective date of the bond shall be on or after the execution date of the contract.

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

11. Preconstruction Conference (applicable to construction contracts)

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

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

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

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

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



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recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs.

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

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

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

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

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

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

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

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

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

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

require the Contractor to reject any bid or proposal by a subcontractor that fails to include the statement.

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

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

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

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

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

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

END OF HUD FORM 5369

PALM TERRACE ASSISTED LIVING FACILITY
MISCELLANEOUS RENOVATION

BRIEF SCOPE OF WORK

The Contractor shall furnish all necessary labor, materials, equipment, and supervision to accomplish work as identified herein at the Palm Terrace Assisted Living Facility. All requirements necessary to accomplish the items set forth below shall be considered part of this scope of work. **This project consists of several work activities delineated as enclosed, indoor, privacy, inground pool and spa removal and closure, sauna and steam room removal and conversion to a storage room, renovation of inground pool and spa area to indoor recreation activity space, revitalize landscape with drip irrigation system throughout, porcelain tile replacement at the entrance vestibule, existing lobby and sub-section of the hallway and dining hall, repair sprinkler line and replace sprinkler heads, exterior painting of building and common area interior spaces, tree removals and trimming, site lighting restoration and replacements, renovate rear courtyard for outdoor activities including a mini community garden and the central gazebo, permitting, as built drawings and any other required work activity to support the fulfillment of the scope of work. Provide layout drawings delineating the proposed work to the Contracting Officer for approval prior to proceeding with work.**

CONTRACT AUTHORITY

A. The **Contracting Officer (CO)** has responsibility for the administration of this contract. In accordance with the terms of the contract, the Contracting Officer is authorized to act on behalf of the Housing Authority to amend and modify the contract terms, conditions, requirements, specifications, details and/or delivery schedules. Nonetheless, the CO may delegate certain other responsibilities to authorized representatives of the Housing Authority.

B. The **Contracting Officer's Representative (COR)** as designated by the Contracting Officer shall assume the construction contract management and administration of the project. The CO uses COR are the primary Government representatives for the administration of the contract. The COR does not have the authority to modify the contract unless authorized by the Contracting Officer.

PROJECT ADDRESS: Palm Terrace Assisted Living Facility
5121 East Serena Drive, Tampa, FL 33617

ATTACHMENTS: EXHIBIT "A" - Site Plan (Driveway)
EXHIBIT "B" - FDOT Specifications and Standard Plans
EXHIBIT "C" - Entrance Lobby, Hallway and Dining Hall Location
EXHIBIT "D" - Three Season Seating/Recreation Area Location
EXHIBIT "E" - Tiles by Crossville Inc.
EXHIBIT "F" - Exterior Repaint Specification by Sherwin-Williams
EXHIBIT "G" - Pathway Location

DETAILED SCOPE OF WORK**Division 1 - General Requirements**

- 1. All Bidders Submitting a Bid for this Project are required to make Site Visit prior to submitting a bid.**
2. Contractor shall provide quality assurance in strict accordance with **current Codes** as well as terms, conditions, special Contract requirements, specifications, attachments, and exhibits contained in the General Conditions of Contract.
3. Contractor shall visit the site and perform a thorough site inspection for all applicable work. The contractor shall inspect the site to become familiar with the existing conditions relating to the work to be performed including difficulties and restrictions to the work under contract. The contractor shall notify the CO/COR of any conditions that prevent the suitable completion of these requirements. All work shall be performed in accordance with the terms of the contract.
4. Verification of existing conditions.
 - a. It shall be the Contractor's sole responsibility to verify existing conditions for each individual work item before submitting a bid. The Contractor shall be satisfied that there are no discrepancies between actual conditions and the Final Scope of work as issued. Before ordering materials/products, the Contractor shall verify related conditions to insure proper installation. Notify THA immediately of any hidden condition discovered which might affect the progress of work.
5. Contractor shall secure and pay for all permits, fees, and licenses necessary for the proper execution and completion of the work.
- 6. The work shall be done during regular THA working hours Monday through Friday 08:00 am - 05:00 pm. The Contractor may be authorized to work weekends or evenings on as requested basis.**
7. Contractor shall pull magnets around job area daily to pick up any loose nails or staples.
8. Contractor shall always provide a clean work site, including designated storage areas, free from accumulation of waste materials. Construction materials shall be stored in trailer and not in the building, unless previously authorized by THA. In any case, construction materials shall not block circulation or create obstacles.
9. Contractor shall provide trash dumpster(s) to accommodate proper disposal of demolished materials and related debris. (Provide proper disposal in accordance with waste management).
10. All electrical outlets in all areas are to be tested and properly grounded. The contractor is to notify Tampa Housing Authority about damage findings.
11. When new products are to be installed to replace existing old products, remove, and dispose of old products. Perform cutting and patching or other manufacturer pre-installation requirements as specified in manufacturer's installation manual. Install new products as specified in manufacturer's installation manual. Prepare and paint adjacent walls affected by the installation of new products.
12. Contractor shall prepare and submit to the Project Manager, three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work during the pre-construction meeting.

13. Contractor must always maintain their construction schedule. If the Contractor fails to maintain this construction schedule, he/she will be charged with liquidated damages.
14. Contractor shall maintain documentation of construction to ascertain compliance with the General Requirements of the Contract.
15. Contractor must give residents a minimum of **48 hours advance notice** prior to commencing any work.
16. Contractor to ensure that any spillage or over spray that may get on the floor, windows, cabinets, appliances and on the property is cleaned at the end of every workday.
17. All current applicable OSHA rules and regulations must always be followed at. Security of work site area will be the responsibility of the Contractor.
18. The Contractor shall procure all permits; schedule all inspections with the appropriate Government Agency that has jurisdiction over the THA property. The Contractor is responsible for all re-inspections fees caused by the failure to pass inspections.
19. The Contractor shall ensure that all his employees and the subcontractors scheduled to do work at “Palm Terrace Assisted Living Facility” wear their company shirt with visible company and employee name or employee company name tags.
20. Contractor shall perform a professional final clean-up of the building site at the end of the project.
21. To schedule a site visit, Contractor shall contact **Contracting Officer/COREpresentative**.
22. All materials specified are subject to approved equivalent material. Tampa Housing Authority maintains the right to approve or disapprove a material substitute. Any unapproved material substitute will be at the Contractor’s expense and loss.

Division 2 – Areas of Work

I. INDOOR, INGROUND PRIVACY POOL AND SPA REMOVAL

General compliance requirements for the existing indoor, inground privacy swimming pool and Spa demolition:

- The Contractor shall obtain required permit by submitting a Building Permit Application to the local Building Department.
- The Contractor shall submit a drawing plan showing dimensions from pool and spa perimeters to all structures and property lines according to the official property survey.
- The Contractor shall submit for plan check for possible shoring requirements according to OSHA safety guidelines and protect surrounding area to assure demolition is not in conflict with adjacent structures.

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- The Contractor shall remove from pool and spa areas all materials including concrete, steel, coping, decking, plumbing, and electrical conduit. All existing plumbing, electrical and gas lines serving the pool or spa and related equipment shall be disconnected, capped, and made safe at the source.
 - Pool and Spa water shall be free of debris and contamination and shall be drained into the sanitary sewer, not into the storm drainage system. The drainage shall be per requirements and guidelines outlined in the policy and procedure from the Stormwater Management Division of the Transportation and Public Works Department.
 - The Contractor shall properly dispose demolition debris, identify the type of haul-off materials and the location's acceptance by the refuge site that is handling that type of disposal.
 - The Contractor shall be mindful for compliance to call for in-progress inspection.
 - The void left by the demolition of the pool and spa shall be compacted with clean fill at 6-inch lifts to final grade. Provide an on-site geotechnical Inspector that is qualified to perform observations and verification of proper compaction.
 - Supply from geotechnical Engineer a final sign-off compaction report including final grade and slope for surface elevation match to the surrounding. All fills shall be compacted to a minimum of 90% relative compaction or as otherwise directed by the project Geotechnical Engineer. All fills shall be tested by a certified and City approved testing agency.
 - A final inspection report will be required.

II. SAUNA AND STEAM ROOM REMOVAL

- Follow the procedures for the removal of the pool and spa and properly dispose of the equipment associated with the sauna and steam room. The Contractor shall remove from the sauna and steam room all materials including wood sitting and siding, steel, plumbing, and electrical conduits. All existing plumbing, electrical and any other utility lines serving the sauna and steam rooms, or related equipment shall be disconnected, capped, and made safe at the source.

III. INDOOR PRIVACY SEATING ROOM

With the removal of the existing pool, spa, sauna and steam room equipment, the Contractor will proceed with the complete renovation of the space. The space renovation will allow for a new use activity of the indoor, private sitting room. The renovation will involve the repair and replacement of damaged drywall and ceiling systems. Replace the entire missing ceiling sections with new drywall while utilizing the existing galvanized metal furring channels. Remove and Replace Sprinkler Heads with Code Compliant new sprinkler heads. Install 20 new weather resistant recessed can lights (Aspect LED 5.2" Recessed Light with 12 LED/12 W or approved equal) and outdoor 8 ceiling fans (Aeration FR3 Series or approved equal). Remove and replace electrical wiring as needed. Remove existing doors at the sauna and steam room. Unify the spaces and convert to a storage facility with a new metal door and frame to match existing. Remove and replace 3-panel sliding glass door. Preserve the 2 glass block walls and replace the drywall around the glass block. Remove all screens and install new screens with anodized aluminum frames. Provide at least 2 entry doors in screened walls. Provide a new 4 feet wide pathway connecting the new "Three Season Seating/Recreation Area" to the gazebo in the Interior Courtyard. Refer to Exhibit "G" for location of new Pathway. Pathway to be constructed with Belgrade interlocking

Eco-Holland Smooth Surface Permeable Concrete Pavers (or approved equal), set on tamped gravel and sand with concrete curb guards on each side of pathway.

At the end of Project, Contractor shall deliver work in a “broom clean” condition and shall scrape all drywall mud from floors and leave same in a “broom clean” condition. All debris is to be placed in designated areas and properly disposed of.

- a) All Framing, Drywall, Taping, and Ceiling work required shall be completed in compliance with the applicable building code and blend seamlessly with the existing finished walls.
- b) Supply all labor, material & equipment to complete the Drywall including any required Steel Stud.
- c) Enforce any precautionary measures required to ensure your work is safe and protected.
- d) Provide the proper number of qualified personnel to manage your scope.
- e) Provide warranties & installation guarantees upon completion of contract - **Two-year Contractor Workmanship Warranty.**
- f) Provide all required protection and if applicable covering of any previous work completed.
- g) Provide all required shop drawings within 1 calendar week of contract issuance.
- h) Keep the site clean from all garbage and debris caused by your scope of work.
- i) The contractor is responsible for the daily removal of debris caused by its' scope of work.
- j) The contractor is responsible for all the temporary power required to complete its work (generator system).
- k) Any deviation, or sub-contracting to other firms is prohibited without written approval from the Contracting Officer.
- l) Throughout the course of contract completion, it is the responsibility of the contractor to address all deviations from this scope of work immediately and prior to proceeding with work.
- m) Supply and install all expansion/control joints as may be needed to comply with the governing code, taking into consideration all industry standards.
- n) Supply and install drywall ceilings as per the scope of work.
- o) Install all door frames within applicable wall systems. This includes pressed steel door frames in drywall partitions and sliding door frames.
- p) For rated wall assemblies, include fire stop insulation, and fire stop caulking, to seal top and all penetrations, to comply with the applicable code.
- q) Provide for all walls including steel stud, drywall, insulation, and finish taping, mud, and sanding ready for finish paint. All switch plates, outlet in the areas, etc. shall be removed prior to work commencing if within 5' of area being corrected.

- r) As required, repair all drywall/plaster identified as existing and required to remain, as per the mandatory walkthrough site visit(s)
- s) Supply and install steel studs, furring channels, etc., where required on existing walls as per wall assembly details.
- t) Supply and install access panels as required at partitions and ceilings as per code and noted existing conditions per the mandatory walkthrough site visit(s).
- u) Contractor to provide adequate and timely notice before closing in wall systems for inspections.
- v) Supply and install all steel stud, rough carpentry, and drywall work associated with the new entrances per the scope of work.
- w) Supply and install all steel studs, Z-bars, insulation, vapor barrier, interior drywall, exterior sheathing, and associated accessories at opening infills as per the scope of work and mandatory walkthrough site visit(s).

INSTALLATION

1. All interior drywall installed shall be 1/2" or 5/8" per local code requirements. All ceiling boards in the sitting area to be 5/8" Type "X" Gypsum board, Sag-resistant. Drywall boards installed at the indoor sitting room space shall be 1/2" per local code requirements. All installations shall be performed in accordance with the building codes. All gypsum board shall be as manufactured by U.S. Gypsum, Gold Bond, or equal as approved.
2. All gypsum board shall be nailed or screwed with a full nailing pattern and finished in accordance with the manufacturer's recommendations. This shall apply to both ceiling and wall installation. Maximum nail spacing at ends (edges in vertical application) within the nailing field shall be screwed or nailed with one (1) nail space 6 inches O.C. at each support. The minimum nail edge distance shall be 3/8". This shall apply to both ceiling and wall installation. Drywall shims shall be used only where necessary. Openings cut for outlets, switches, etc., shall be of a tolerance that can be covered adequately with normal switch plates and covers without additional taping or caulking. Drywall shall not be installed without proper backing. All nailing should comply with all counties, state, city and manufacturer's specifications.
 - a. All exterior corners on drywall shall be covered with non-corrosive metal corner bead and covered with an acceptable installation of joint compound. All corner beads shall be fastened per manufacturer specifications (Max 8" spacing). All interior corners greater than 90 degrees will have flex bead installed.
 - b. Drywall and metal corner beads shall extend to the sub-floor of all drywalled door openings. All other drywalls shall extend from the ceiling to within 1/2" of the floor. Drywalls shall finish tight to window frames.
 - c. Install a corner bead fitting neatly over the corner and secured with nails / screws, spacing the features approximately 15cm (6") on centers and driving through the drywall into the forming or furring member. Corner bead to be checked by level.

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- d. After the corner place has been secured into position, treat the corner with joint compound and reinforcing tape as specified for joints, feathering the joint compound out from 20cm to 25cm (8" to 10") on each side of the corner.
- e. Ceiling boards shall be installed prior to wallboards.
- f. Apply embedding compound to drywall wallboard joints and fastener heads in a thin uniform layer. Spread the compound not less than 75mm (3") wide at joints, center the reinforcing tape in the joint, compound over the tape. After this treatment has dried; apply a second coat of embedding compound to joints and fastener heads, spreading in a thin uniform coat to not less than 15cm (6") wide at joints, and feather edged. When thoroughly dry, sandpaper eliminates ridges and high points.
- g. After embedding the compound is thoroughly dry and has been completely sanded, apply a coat of finishing compound to all joints and fastener heads. Feather the finishing compound to not less than 25cm (12") wide. When thoroughly dry, sandpaper obtains uniformly smooth surfaces, taking all necessary care to not scuff the paper surface of the wallboard.
- h. Drywall screws shall be per code. See drywall shear wall requirement. All joints and inside corners shall be taped with the standard 3-coat system.
- i. Nails and screws to be of approved type and size and spacing as per building code. Nails should be properly "dimpled" or set without breaking outer paper covering.
- j. Drywall over windows, doors or other openings shall not break within 8" of outside edges. All joints are to be staggered. Use screws of a length not to interfere with door operation.
- k. All nails' holes shall be spotted and filled with 3 coats. Concealed joints and nail depressions shall receive a full three-coat application of vinyl joint compound, taped and bedded, and shall be touched-up in any areas that is needed.
- l. All walls and ceilings shall be evenly sanded prior to painting. All finished ceilings and / or walls shall be free of visible joints and/or other defects. All nailing to meet FHAIVA and City/County/State requirements.

IV. CONCRETE DRIVEWAY REPAIR/REPLACEMENT

1. Demolition

- a. The Contractor is responsible for assuring all underground utilities are properly marked and
- b. located.
- c. Concrete to be removed shall be saw cut a minimum of three inches through the joint of
- d. the adjacent slab
- e. Demolition shall be done in manner to avoid damage to the slabs that are to
- f. remain in place.
- g. Contractor shall take care to avoid damage and spalling of adjacent slabs due to inefficient demolition methods. Damage to existing slabs caused by the contractor shall be repaired and/or replaced at no additional cost to the Housing Authority.
- h. v. The Contractor shall avoid damage to existing structures and vegetation at private property.
- i. Contractor shall employ measures to protect existing concrete pads to remain, from
- j. staining or damage caused by machinery including Portland stains from over-pour and screeding, staining from sawcut residue, etc.

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- k. The Contractor is responsible for pedestrian and traffic control throughout all phases of the project as delineated in the scope of work and should coordinate their activity through building management personnel.
 - l. All removed (demolition) concrete shall be removed from the Palm Terrace premises on the day that it is performed. The Contractor shall not store demolition spoil on site.
- 2. The Contractor shall assure acceptable subgrade**
- a. The Contractor shall remove any sub-standard existing subgrade up to 2 inches.
 - b. Subgrade shall be compacted to 95% at optimum moisture content for site specific existing subbase. Prior to concrete placement, the Contractor shall schedule subbase inspection with the City.
 - c. Base shall be prepped to provide for a 6" concrete slab on grade. The Contractor should assume up to 10% of subgrade will need repair. Grading, leveling, and elevation fill are not considered part of the 10%, but usual to existing concrete slab replacement.
- 3. Concrete Placement/Finishing**
- a. The Contractor shall perform all work in compliance with the terms of the contract and applicable building codes.
 - b. Replace all removed concrete with an approved concrete mix design that incorporates the following:
 - No less than 4,000psi @ 28 days
 - 15% Fly Ash.
 - Mix shall be a 4" slump +- 1"
 - Mix design should employ a minimum 5% Air entrainment
 - Approved plasticizers may be used
 - The Contractor will not be allowed to "re temper" concrete by adding water.
 - The temperature during placement shall be 70 +/- 20 degrees F
 - The Contractor shall use welded wire mesh.
- 4. Saw cut Joints**
- a. Joints shall be saw cut at the earliest practical point to avoid raveling and not to exceed 24 hours
 - b. Joints shall be ¼ inch wide by a depth no less than ¼ of the installed pad depth.
 - c. Early entry (soft cut) saws may be used.
- 5. Cure Concrete**
- a. Contractor shall use a clear, dry, membrane forming curing compound in accordance with compliance specifications and the building code.
- 6. Seal Concrete**
- a. Contractor shall apply a topical sealer in accordance with compliance specifications.
 - Topical sealer shall be L&M Construction Chemicals Aquapel Plus, or an approved equivalent.
 - b. Contractor shall apply a joint sealer to all joints in accordance with compliance specifications.
 - Joint sealer shall be MasterSeal NP 1 or an approved equivalent.

Concrete repair and replacement work shall involve the concrete driveway and parking areas including any miscellaneous areas with concrete paving. The Contractor shall visit the site and perform a thorough site inspection. The Contractor will be required to provide as built drawings of the completed driveway. The contractor shall inspect the site to become familiar with the existing conditions relating to

the work to be performed and the difficulties and restrictions to the work to be performed. The contractor shall notify the Contracting Officer or his/her designated representative of any conditions that prevent the suitable completion of these requirements. All work shall be performed in accordance with the applicable building codes and terms of the contract. The work includes, but is not limited to the following:

- a. Route and Seal Cracked Concrete and Select Joints
- b. Route Identified Cracks and Joints as wherever shown at the projection location and documented in the final (as built) drawing.
 - Contractor shall use a grinder/router to create a V-Shaped groove, with the crack centered in the groove. Though it can vary depending on the application, the grooves should typically be about ½ inch deep.
 - Post grinding, contractor shall ensure that the substrate is sound and clean.
 - Remove any contaminants including laitance, oil, dust, debris, and other foreign particles to make ready for sealant.
- c. Clean and prepare identified joints for new sealant
 - Remove existing caulk/sealant
- d. Remove any contaminants including laitance, oil, dust, debris, and other foreign particles from between the existing slabs to make ready for sealant.
- e. Joints that are deeper than ½ inch shall have right sized backer rod installed prior to application of the sealant. Patch and Repair Existing Concrete wherever damage is noted.
- f. Seal Prepared Cracks and Joints
 - Contractor shall seal joints and cracks with MasterSeal NP 1 gun grade polyurethane sealant, or an approved equivalent.
 - Prior to sealing, contractor shall ensure that the bonding surface is sound and free of contamination, fully cured, dry, and free of any waterproofing or curing compounds residue.
 - Contractor shall dry tool joints to assure neat joints, correct bead shape and optimal adhesion.
 - Repair Spalled Concrete
 - Prepare Spall for Patch Material
 - Contractor shall sawcut identified spalls to provide a square/symmetrical repair pattern in accordance with the attached drawing.
 - Spall perimeter shall be sawcut to a minimum 2” depth into sound concrete.
 - Contractor shall take care to remove spalled concrete back to sound cut without causing damage to sound surface.
 - Spall shall be chipped/hammered to provide a minimal 2” repair.
 - Degraded concrete shall be removed until solid substrate is recognized.
 - Ensure that the conditioned surface of the spall to be repaired is sound and free of any material that may inhibit bonding with the patch material, such as, oil, dirt, loose material, chemical residue, etc.
- g. Repair prepped spalls
 - Contractor shall use Rapid Set Cement All, or an approved equivalent to repair the prepped spalls.
 - Contractor shall mix and apply patch material in compliance with manufacturer’s recommendations.
 - Contractor shall take care to assure that patch material is not applied excessively to avoid staining concrete past the perimeter of the repair.
 - Patches are to be troweled and finished to match existing concrete work to provide a professional, neat repair.

- Contractor shall cure patch repairs in accordance with manufacturer's recommendations.
- Within 24 hours of installation, contractor shall saw cut any joints that are crossed by the patch repair.
- Joints shall match existing joints in width and depth.
- Contractor will chemically cure all patches in accordance with manufacturer's recommendations
- Note: Most spalls encompass an area within one SF. Spalls will be counted in increments of one square foot pre-repair. IE. .5 sf = 1 spall, 2.5 sf = 3 spalls. Patch and Repair Existing Concrete

h. Additional Requirements:

- Quantities and locations are provided for bidding purposes. Prior to commencement of work, Contractor and COR will identify, mark, and count spalls, LF of sealing, and SF of resurfacing.
- Contractor shall provide submittals for all materials associated with this scope of work for approval prior to performance.
- Contractor shall perform the following activities at select locations for review and approval by the COR (Contracting Officer Representative) prior to full performance:
- Joint/Crack routing and sealing:
 - Check for routing profile and confirmation of depth
 - Check for sealant installation tooling and finish
- Repair spalled concrete:
 - Check for compliance with spall preparation
 - Check with spall repair finish compliance

7. Refer to Exhibit "A" for location of driveway around building and Exhibit "B" for FDOT Specifications and Standard Plans.

V. EXTERIOR PAINTING

Exterior Building Painting

Complete painting of exterior of building including the interior courtyard and the walls in the newly constructed Three Season Seating/Recreation Area. Seal and or repair all cracks or rotted wood, use one coat of primer and two coats of paint. Building will have two colors, base and trim. Owner to choose colors. Refer to specifications below and Exhibit "F" for Sherwin-Williams Exterior Repaint Specification or approved equal.

The following items are required submittals and review for THA Contracting Officer and COREpresentative approval:

Stucco

- a. **Sealant**
Primer-Loxon® Masonry Coating System Conditioner (Tinted primer preferred), non-white or approved equal.
- b. **Topcoat**-Exterior Elastomeric Satin Coating Extra White or approved equal.

- c. **Stucco Cracks**
- Concrete / Masonry Patch and/or Elastomeric sealant or approved equal (if needed)
- d. **Exterior Caulk**
Caulk: Acrylic/Siliconized- Caulk /Urethanized Elastomeric Sealant or approved equal
- e. **Stucco Cracks > 1/16th** - Concrete-Masonry Elastomeric Mesh/ Patch and sealant or approved equal (as needed)

General note:

1. All “RFI (S)” must be submitted to THA CO/COR and the material supplier within a reasonable time period for review/approval before application can occur. A 24 hr. response shall be deemed “reasonable” for THA/ supplier to respond in writing.
2. Contractor shall adhere to all recommendations/ direction of the paint supplier during the “mock-up” phase to ensure accurate millage coating(s) for approval to complete the project/ to manufacturers suggested practice(s).
3. All approved submittals must be used continuously/throughout the duration of the contract without exception, unless authorized by THA.

Site Work

1. The Contractor to furnish and provide labor, material, equipment and supervision to remove debris/ rust/ hard water/stains of any sort by power-washing existing exterior of buildings. These area locations shall also consist of exterior entryway arches, balcony porches, ceilings, walls, decorative-EFIS molds, horizontal masonry banding, fascia, gutters, downspouts, rain leaders.
NOTE- The maximum pressure for power washing shall be 2000-2500psi to effectively clean without causing damage to the exterior building surfaces. The interior building systems’ (interior stairwell location-s) steam cleaning shall be performed/defined by industry standard practices.
2. The Contractor shall adhere to, if any, chemical water-based solution is used, refer to the suggested manufacturers’ specs/recommendation for multiple staining/ surface types or mixed-use APPROVAL for effective cleaning. A reasonable period shall be allocated/ elapse for drying per the specs for time before inspection and commencement of applying sealant/ painting.

Wood - Plastics

1. The Contractor shall remove all signage from, its current building location during pressure-power washing and paint phases. All shall be re-installed immediately following effective drying time of all building(s) exterior painting finishes/coatings.
2. The Contractor shall remove or provide effective cover for all decorative mold(s) at its current building location during pressure-power washing and paint. All mold surfaces will be the same as its original color listed within the Paint Draw Down matrix. If removal has occurred, the mold shall be re-installed to the original location immediately following drying time of the building painted surface.

Thermal and Moisture

1. The Contractor shall furnish and provide necessary labor, material, equipment and supervision to effectively clean, prep and caulk application as needed to fill in areas of stucco breaks, separations and cracks at all areas of (6) six select exterior building wall systems at Palm Terrace Assisted Living Facility.
2. The Contractor shall furnish and supply labor, material, equipment and supervision to apply a sealant/primer/conditioner as needed to all exterior building wall systems to complete the scope/project.
3. The Contractor shall furnish and provide labor material, supervision and equipment to apply a two-part paint system (spray/back roll application) being (1) one coat of tinted primer (Loxon Conditioner or approved equal) to all paintable exterior structural building surfaces (includes all: walls, ceilings, fascia, gables, columns, soffit, eaves, drip edges, downspouts, returns/reveals, rain leaders and select flooring area locations)
4. Contractor shall avoid sealer or paint/ overspray/splatter from spewing onto electric meter cans, boxes, conduit, condensing cabinets, a/c conduit lines, disconnects, pads, fire annunciators and other mechanical. electrical and plumbing component units. Spillage of any type shall be the sole responsibility of cleaning thoroughly by the contractor before final inspection phase.
5. The Contractor shall furnish and provide labor material, supervision and equipment to paint all drip eaves/ edges (includes wall surface exhaust vents/ covers) per linear foot as determined during the site walk through.

Finishes

1. The Contractor shall furnish and provide labor, material, equipment and supervision to install Loxon Conditioner sealer system (tinted) or approved equal, to all areas at to include exterior entryway arches, balcony ceilings, walls, breezeways, decorative EFIS, decorative molds, bands, fascia, gutters, downspouts, rain leaders and entire staircasing system, including stairwell entry walls, ceilings, floors, treads and casings.
2. The Contractor shall furnish and provide labor, material, equipment and supervision to install topcoat Exterior Top Coat system to all surface areas to include exterior entryway arches, balcony ceilings, walls, breezeways, decorative EFIS, decorative molds, bands, fascia, gutters, downspouts, rain leaders and entire staircasing system, including floors, treads, foundation slabs and breezeway ceilings.
3. Furnish quality control inspection to ensure that the finish coat is semi-gloss in luster on all door sides to enhance the exterior surface.
4. Furnish labor, material, equipment and supervision to provide primer and paint to access panel doors and frame shall be installed to industry standards, caulked and painted same like manner as adjacent wall areas.

VI. PORCELAIN TILES

Material Specification

- **Tiles**

All tiles to be used must follow ANSI A326.3 Standard Requirements for Dynamic Coefficient of Friction (DCOF) for the following Classifications: 1) Interior (Dry); 2) Interior (Wet); 3) Interior (Wet Plus); 4) Exterior (Wet); 5) Oils/Greases.

Install Crossville, Inc. “SpeakEasy Porcelain Stone AV281 Sidecar” or approved equal in Entrance Vestibule, Lobby, Hallway and Dining Hall. Install matching 6X18 Bullnose Trim along baseboards at walls. **Refer to Exhibit “C” for location of areas” and Exhibit “E” for Tiles by Crossville, Inc.**

Install Crossville Inc. “Aurum Porcelain tile Ebur Outdoor – Grip” or approved equal in newly converted “Three Season Sitting Area (Patio)”. Install matching 3 X 20 Bullnose Grip along baseboards at walls. **Refer to Exhibit “D” for location of areas and Exhibit “E” for Tiles by Crossville, Inc.**

Installation Procedures

- Contractor to follow Manufacturer’s Installation Procedures.
- Contractor to comply with all related Building Code, NFPA Code and ADA Code requirements. Contractor to ensure any transition in heights of new flooring to existing flooring meets ADA guidelines. Contractor to ensure to maintain a consistent code compliant slope to allow proper drainage of water from newly installed tile flooring. No ponding or pitting is allowed in the new tiled surface.
- **Backing Material (Substrate):** Remove all existing tiles prior to installing new tiles. Backing Material (Substrate): The surface to be tiled must be clean, dry, flat and structurally sound (does not flex when weight is applied), secure, and free from any type of contamination that can act as a bond breaker or bond inhibitor. If there is any substance present that could inhibit the bond of the mortars used, it must be completely removed.
- **Mortar:** Depending on the application and conditions present, the use of a modified cement mortar, improved modified cement mortar. LHT mortar, or epoxy mortar is recommended for the installation of Porcelain Stone tile. It can also be installed on a mortar bed (i.e.thick bed) applications. Consult the installation materials manufacturer for additional information and installation instructions. Ensure that adequate coverage of mortar is present under the tiles to provide bedding coverage and problem-free performance.
- **Grouting:** A modified cement grout (sanded or un-sanded), or epoxy grout should be used with porcelain stone tiles. A small test patch is recommended when using a dark grout over a light-colored tile, or vice versa. The test patch will also verify cleanability of the grout with heavy textured tile surfaces.
- **Cleaning Procedures.**
Follow Manufacturer’s “Care & Maintenance” brochure for proper cleaning procedure after grouting as well as for routine maintenance.

VII. LANDSCAPE

General Contractor to inspect and refurbish existing landscape and to incorporate a new drip irrigation system including sprinkler heads as needed. General Contractor to provide drawings showing extent of new work. Provide new plants as needed. Contractors providing bids for this job will be required to conduct a mandatory site visit.

*** End of Scope of Work ***

****** CLOSE-OUT REQUIREMENTS AND DOCUMENTS ******

At Final Closeout, the Contractor must furnish required documentation as indicated below for approval. All final closeout packages with missing documents and incomplete submittal will not be processed. Prior to the final closeout, Contractors should make sure that all documents are complete and ready for review to avoid unwarranted delays. Consult with the Contracting Officer/CO Representative if you anticipate any delays with your package.

The Contractor shall ensure that the following documents have been completed or submitted in accordance with the contract:

1. Final Weekly Certified Payroll Reports for the Contractor and all Subcontractors.
2. All Contract Modifications, if any, shall have already been executed by the Contractor and approved by the Authority.
3. Certificate showing approved building permit and inspection.
4. Original copy of product warranties from Manufacturers.
5. Contractor's Letter of Warranty on Construction. Contractor's 5-year workmanship warranty and 10-year Structural Warranty, with original signature and commencement date. (Commencement date shall be the same date as the completion date of project.)

Any installation products not indicated above but provided for submittal and requiring warranty shall be submitted.

All warranties requiring the Manufacturer's review prior to the issuance of warranty after job completion must be the Contractor's responsibility. The Contractor must make sure that warranties have affiliation with referenced project and with specificity to the installed products.

All Building Material/Product Installers who are required to be Certified by Manufacturer must submit Proof of Certifications.

6. Waiver or Release of Lien documents from major subcontractors and suppliers.
7. Substantial Completion Punch List.

*** End of Contract Close-Out ***

EXHIBIT A

Site Plan (Driveway)

EXHIBIT B

**FDOT Specifications
&
FDOT Standard Plans**

SECTION 160 STABILIZING

160-1 Description.

Stabilize designated portions of the roadbed to provide a firm and unyielding subgrade, having the required bearing value specified in the Plans.

160-2 Materials.

160-2.1 Commercial Material: Meet the requirements of Section 914-2.1.

160-2.2 Local Material: Submit test results to the Engineer at least 14 days prior to the stabilization operation.

160-2.2.1 Local Stabilizing Material: Sample and test material from each source and meet the requirements of Section 914. The Engineer will verify the Quality Control (QC) test results meet the requirements of Section 914. If the QC and Verification results do not compare, the Engineer will take one additional sample of material from the source in question and the State Materials Office (SMO) or an AASHTO accredited laboratory designated by the SMO will perform Resolution testing. If the Resolution test results satisfy the required criteria, material from that source will be verified and accepted. If the Resolution test results do not meet the required criteria, reject the material.

160-2.2.2 Reclaimed Asphalt Pavement (RAP): Obtain the Engineer's approval in writing for the option to use 100% RAP material. Material must be milled and stockpiled without blending or contaminating with any other material.

160-2.2.3 Reclaimed Asphalt Pavement (RAP) Blended Material: RAP blended material is defined as material meeting the requirements of 914-1 and 914-2.2 except for the limits for organic content. If the RAP blended material meets the requirements of 914-1 and 914-2, then the blended material will be classified as local stabilizing material. Provide test results to the Engineer and obtain their approval in writing before using RAP blended material. The Engineer will verify that the QC test results meet the acceptance criteria, otherwise the Engineer will perform Resolution testing procedures specified in 160-2.2.1.

160-2.3 Existing Base: Obtain the Engineer's approval in writing before using existing base. When the material from an existing base is used as all, or a portion, of the stabilizing additives, no further testing is required unless directed by the Engineer.

160-2.4 Granular Subbase: The Engineer may allow, at no additional cost to the Department, the substitution of 6 inches of granular subbase meeting the requirements of 290-2 and 290-3, only when 12 inches of Type B stabilization requiring a Limerock Bearing Ratio (LBR) value of 40 is specified in accordance with Standard Plans, Index 120-001.

160-3 Construction Methods.

160-3.1 General: Prior to the beginning of stabilizing operations, construct the area to be stabilized to an elevation such that, upon completion of stabilizing operations, the completed stabilized subgrade will conform to the lines, grades, and cross-section shown in the Plans. Prior to spreading any additive stabilizing material, bring the surface of the roadbed to a plane approximately parallel to the plane of the proposed finished surface.

Construct mainline pavement lanes, turn lanes, ramps, parking lots, concrete box culverts, retaining wall systems, shoulder-only areas, sidewalk, and shared use path areas meeting the requirements of 120-8.1, except replace "embankment" with "subgrade".

Isolated mixing operations will be considered as separate LOTs. Curb pads and shoulders compacted separately shall be considered separate LOTs. Isolated compaction operations will be considered as separate LOTs. For multiple phase construction, a LOT shall not extend beyond the limits of the phase.

160-3.2 Application and Acceptance of Stabilizing Material: After completing the roadbed grading operations, determine the type and quantity (if any) of stabilizing material necessary for compliance with the bearing value requirements. Before using any Fossil Fuel Combustion Products (FFCPs), submit documentation, at the preconstruction meeting or no later than 30 days prior to delivery of FFCP's to the project, signed and sealed by the Specialty Engineer that these materials meet the requirements of 403.7047 F.S. Notify the Engineer of the approximate quantity to be added before spreading. When additive stabilizing materials are required, spread the material uniformly over the area to be stabilized.

The Engineer may perform Independent Verification (IV) sampling and testing if variability in the stabilizing material is observed during inspection after spreading on the roadway. If the IV test results do not meet the requirements of Section 914, then remove and replace the failing LOTs with acceptable material. The Engineer reserves the right to reject stabilizing material that contains excessive deleterious substances.

160-3.3 Mixing: Perform mixing using rotary tillers, a plant or other equipment meeting the approval of the Engineer. The subgrade may be mixed in one course if the equipment and method of construction provides the uniformity, particle size limitation, compaction and other desired results of 160-4. Thoroughly mix the area to be stabilized throughout the entire depth and width of the stabilizing limits.

Perform the mixing operations, as specified, (either in place or in a plant) regardless of whether the existing soil, or any select soils placed within the limits of the stabilized sections, have the required bearing value without the addition of stabilizing materials.

160-3.4 Mixed Material Requirements: At the completion of the mixing, ensure the gradation of the material within the limits of the area being stabilized is such that 97% will pass a 3-1/2 inch sieve. Break down or remove from the stabilized area materials, including clay lumps or lumps made of clay-size particles (any particle size 2 microns or less), not meeting the gradation requirements. After mixing, remove any existing lumps of clay or clay-sized particles greater than one inch that do not meet the requirements of 160-3.2 or this Section from the stabilized area. The final product must meet the acceptance requirements of 160-4.

160-3.4.1 Classification and Bearing Value: Meet the soil utilization and bearing value requirements for the subgrade in accordance with 160-4.

160-3.4.2 Compaction: After completing the mixing operations and satisfying the requirements for bearing value, uniformity, and particle size, compact the materials at a moisture content permitting the specified compaction in 160-4.2.3. If the moisture content of the material is improper for attaining the specified density, either add water or allow the material to dry until reaching the proper moisture content for the specified compaction.

160-3.4.3 Finish Grading: Shape the completed stabilized subgrade to conform with the finished lines, grades, and cross-section indicated in the Plans. Check the subgrade using elevation stakes or other means approved by the Engineer.

160-3.4.4 Condition of Completed Subgrade: After completing the stabilizing and compacting operations, ensure that the subgrade is firm and substantially unyielding to the extent that it will support construction equipment and will have the bearing value required by the Plans.

Remove all soft and yielding material, and any other portions of the subgrade which will not compact readily, and replace it with suitable material so that the whole subgrade is brought to line and grade, with proper allowance for subsequent compaction.

160-3.4.5 Maintenance of Completed Subgrade: After completing the subgrade as specified above, maintain it free from ruts, depressions, and any damage resulting from the hauling or handling of materials, equipment, tools, etc. The Contractor is responsible for maintaining the required density until the subsequent base or pavement is in place including any repairs, replacement, etc., of curb and gutter, sidewalk, etc., which might become necessary in order to recompact the subgrade in the event of underwash or other damage occurring to the previously compacted subgrade. Perform any such recompaction at no expense to the Department. Construct and maintain ditches and drains along the completed subgrade section.

160-4 Acceptance Program for Mixed Materials.

160-4.1 General Requirements:

160-4.1.1 Initial Equipment Comparison: Meet the requirements of 120-10.1.1.

160-4.1.2 Initial Production LOT: Meet the requirements of 120-10.1.2.

160-4.1.3 Density over 105%: Meet the requirements of 120-10.1.3.

160-4.1.4 Quality Control Tests:

160-4.1.4.1 Modified Proctor Maximum Density Determination:

Collect enough material to split and create three separate samples. Determine test locations, including stations and offsets, using the Random Number generator approved by the Department. Retain the Verification and Resolution samples for the Department until the Engineer accepts the LOTs represented by the samples. Determine modified Proctor maximum density and optimum moisture content by sampling and testing the material in accordance FM 1-T180.

160-4.1.4.2 Density Testing Requirements: Meet the requirements of 120-10.1.4.2.

160-4.1.4.3 Bearing Value Requirements: Test the stabilized subgrade sample collected in 160-4.1.4.1 to determine the LBR in accordance with FM 5-515. Within the entire limits of the width and depth of the areas to be stabilized, obtain the required minimum bearing value at the frequency in 160-4.4.1. For any area where the bearing value obtained is deficient from the value indicated in the Plans, in excess of the tolerances established herein, spread and mix additional stabilizing material in accordance with 160-3.3. Perform this reprocessing for the full width of the roadway being stabilized and longitudinally for a distance of 50 feet beyond the limits of the area in which the bearing value is deficient.

Determine the quantity of additional stabilizing material to be used in reprocessing.

160-4.1.4.3.1 Under-tolerances in Bearing Value

Requirements: The under-tolerances are allowed for the following specified Bearing Values:

Table 160-1	
Specified Bearing Value	Under-tolerance
LBR 40	5.0
LBR 35	4.0
LBR 30 (and under)	2.5

160-4.1.4.3.2 Unsoaked LBR Requirements: If unsoaked LBR is desired, submit request for approval to the Engineer. Upon approval by the Engineer to consider the use of unsoaked LBR, randomly sample and test from three locations in the initial LOT for both soaked and unsoaked LBR in accordance with FM 5-515. Ensure all of the tests achieves the LBR value shown in the table below. Continue testing unsoaked LBR at the frequency shown in 160-4.4.1. Discontinue unsoaked LBR testing if any unsatisfactory QC LBR test result is obtained or resolution determines an unsatisfactory LBR.

The following unsoaked bearing value requirement is based on tests performed on samples obtained after completing mixing operations:

Table 160-2		
Specified Bearing Value	Unsoaked Bearing Value Required	Under-tolerance
LBR 40	LBR 43	0.0

160-4.1.4.4 Soil Classification and Organic Content Testing: Perform soil classification tests on the sample collected in 160-4.1.4.1, in accordance with AASHTO T88, AASHTO T89, AASHTO T90, and FM 1-T267. The Engineer may waive the soil classification and organic content testing requirements for existing base or granular subbase materials. Classify soils in accordance with AASHTO M145 to determine compliance with soil utilization requirements as specified in Standard Plans, Index 120-001. If the stabilizing material used is 100% RAP or RAP blended material, then replace FM 1-T267 with FM 5-563 (excluding gradation analysis). The following testing requirements must be met.

Table 160-3	
Test Method	Criteria
AASHTO M145	Soil Symbol = S
FM 1-T267	Average of 3 Organic Content $\leq 2.5\%$
	Individual Organic Content Result $\leq 4.0\%$
AASHTO T89	Liquid Limit ≤ 30
AASHTO T90	Plastic Index ≤ 8
FM 5-563*	Asphalt Content $\leq 4.0\%$

* Replace FM 1-T 267 with FM 5-563 (excluding gradation analysis) for 100% RAP or RAP blended material

160-4.1.5 Department Verification: Meet the requirements of 120-10.1.5 except the Engineer will conduct the Verification tests in order to accept all materials and work associated with 160-4.1.4.

160-4.1.6 Reduced Testing Frequency: Meet the requirements of 120-10.1.6.

160-4.1.7 Payment for Resolution Tests: Meet the requirements of 120-10.1.7.

160-4.2 Mixing Depth Requirements: Report depth requirements in the Earthwork Records System (ERS) section of the Department's database measured to the nearest 0.25 inch. The difference between the individual measured depth thickness on the roadway and the plan target thickness must not exceed 2 inches. The difference between the LOT average (average of the three individual measured depth thickness) and the plan target thickness must not exceed 1 inch. No undertolerance of mixing depth is allowed.

As an exception to the above mixing requirements, where the subgrade is of rock, the Engineer may waive the mixing operations (and the work of stabilizing), and the Department will not pay for stabilization for such sections of the roadway.

Meet the required Plan mixing-depths by measuring from the proposed final grade line. Determine test locations, including stations and offsets, using the Random Number generator approved by the Department. Notify the Engineer a minimum of 24 hours before checking mixing depths. Record results on Department approved forms.

160-4.3 Density Acceptance Criteria:

160-4.3.1 General: Within the entire limits of the width and depth of the areas to be stabilized, other than as provided in 160-4.3.2, obtain a minimum density at any location of 98% of the Modified Proctor maximum density as determined by FM 1-T 180.

160-4.3.2 Exceptions to Density Requirements: The Contractor need not obtain the minimum density specified in 160-4.3.1 in the upper 6 inches of areas to be grassed under the same Contract. Compact these areas to a reasonably firm condition as directed by the Engineer.

160-4.4 Additional Requirements:

160-4.4.1 Frequency: Conduct QC sampling and testing at a minimum frequency listed in the table below. The Engineer will perform Verification sampling and tests at a minimum frequency listed in the table below.

Table 160-4			
Test Name	Quality Control	Verification	Verification for Shoulder-Only, Shared Use Path and Sidewalk Construction
Modified Proctor Maximum Density	One per two consecutive LOTs	One per eight consecutive LOTs	One per four LOTs
LBR			
Gradation, LL/PI, and Soil Classification			
Organic Content			
Asphalt Content*			
Density	One per LOT	One per four LOTs	One per two LOTs
Stabilizing Mixing Depth	Three per 500 feet	Witness QC	Witness QC

*Replace organic content with asphalt content for 100% RAP or RAP blended material only.

160-4.5 Verification Comparison Criteria and Resolution Procedures:

160-4.5.1 Bearing Value: The Engineer will collect a sample at a location other than the location where the sample was collected in 160-4.1.4.1, and test the stabilized subgrade for determination of the LBR in accordance with FM 5-515. The Engineer will select test locations, including stations and offsets, using a Random Number generator, based on the LOTs under consideration.

160-4.5.1.1 Unsoaked LBR: The Engineer will sample and test the initial LOT for one soaked and one unsoaked LBR if consideration of the unsoaked LBR has been approved.

160-4.5.1.2 Resolution Procedure: If the Department's Verification test meets the requirements of 160-4.1.4.3, the Engineer will accept the corresponding LOTs. Otherwise, the Engineer will collect an additional sample in the same LOT the Verification sample was obtained. SMO or an AASHTO accredited laboratory designated by SMO will perform Resolution testing on the additional sample. The material will be sampled and tested in accordance with FM 5-515.

If the resolution testing results meet the requirements of 160-4.1.4.3, then the Engineer will accept the LOTs in question. Otherwise reprocess the corresponding LOTs in accordance with 160-3 and retest in accordance with 160-4.1.4.3.

160-4.5.2 Modified Proctor Maximum Density Determination: Meet the requirements of 120-10.4.1 except replace FM 1-T099 with FM 1-T180.

160-4.5.3 Density Testing: Meet the requirement of 120-10.4.2

160-4.5.4 Soil Classification: Meet the requirements of 120-10.4.3 with the exception that the limits will be in accordance with 160-4.1.4.4.

160-4.5.5 Organic Content: Meet the requirements of 120-10.4.4 with the exception that the limits will be in accordance with 160-4.1.4.4.

160-4.5.6 Asphalt Content: If the material used to stabilize is 100% RAP or RAP blended material, meet the requirement of 120-10.4.4, except replace FM 1-T267 with FM 5-563 (exclude gradation analysis) and meet the limits of 160-4.1.4.4.

160-4.5.7 Mixing Depth: The Engineer will witness the Contractor's mixing depth checks to ensure compliance with 160-4.2. The Engineer will select test locations, including stations and offsets, using a Random Number generator. The Department will witness the mixing depth checks.

1. If the depth checks meet the requirements of 160-4.2, the Engineer will accept that 500-foot section.

2. If the depth checks confirm shallow depth, re-mix the 500-foot section to an appropriate depth and re-measure in accordance with 160-4.2. The Engineer will repeat the witness process.

3. If the depth checks confirm extra deep mixing, conduct an additional QC density test after compaction for the bottom 12 inches of the subgrade for that 500-foot section in addition to a QC density test for the top 12 inches. The additional density test must meet the requirements of 160-4.3.

160-4.6 Disposition of Defective Materials: Meet the requirements of 120-10.5.

160-5 Method of Measurement.

The quantity to be paid for will be the plan quantity, in square yards, completed and accepted.

160-6 Basis of Payment.

Price and payment will constitute full compensation for all work and materials specified in this Section, including furnishing, spreading and mixing of all stabilizing material required and any reprocessing of stabilization areas necessary to attain the specified bearing value. The Department will make full payment for any areas where the existing subgrade materials meet the design bearing value requirements without the addition of stabilizing additives, as well as areas where the Contractor may elect to place select high-bearing materials from other sources within the limits of the stabilizing.

If the item of borrow excavation is included in the Contract, any stabilizing materials obtained from designated borrow areas will be included in the pay quantity for borrow excavation.

Payment will be made under:

Item No. 160- 4- Stabilization - per square yard.

BASE COURSES

SECTION 200 ROCK BASE

200-1 Description.

Construct a base composed of base rock. Do not use recycled concrete aggregate (RCA) base on interstate roadways.

200-2 Materials.

200-2.1 General: Meet the requirements of Section 911 for the particular type of base to be constructed. The Contractor may use more than one source of base rock on a single Contract provided that a single source is used throughout the entire width and depth of a section of base. Obtain approval from the Engineer before placing material from more than one source. Place material to ensure total thickness single source integrity at any station location of the base. Intermittent placement or “blending” of sources is not permitted. Base rock may be referred to hereinafter as “rock”.

The reuse of existing base may be considered provided it meets the requirements of this Section. Submit as a Cost Savings Initiative Proposal in accordance with Section 4.

200-2.2 Existing Rock: Meet the following requirements for use of existing rock on the same project:

1. Notify the Engineer in writing prior to excavating existing rock.
2. Submit a process control plan, herein referred to as “Plan” consisting of the following:
 - a. Locations where existing rock will be removed from the roadway.
 - b. Locations where existing rock will be used for new construction.
 - c. Method of excavation, transport, and placement to ensure excavated rock will be kept separate from other approved stockpiles. Excavation methods that may result in damage to the rock rendering it unfit to be used as base will not be approved.
 - d. Proposed measures to prevent contamination and segregation.
 - e. Proposed locations and methods for constructing stockpiles for sampling and testing.
 - f. Method for sampling and reporting test results.
3. The Engineer will coordinate the review of the “Plan” with the District Materials Office.
4. Upon the Engineer’s review of the “Plan”, build a preliminary stockpile, not to exceed 1,000 cubic yards.
5. Collect and test a minimum of three samples from the preliminary stockpile. Once the stockpile has been sampled, do not add any additional material to the stockpile. Determine compliance with 200-2.1, with the exception of carbonate contents. Reject any stockpile if the Limerock Bearing Ratio (LBR) is less than 100. The District Materials Office will sample and test the preliminary stockpile to verify compliance with this Section.
6. If all test results meet the requirements of this Section, the Engineer will notify the Contractor in writing of the approved status of the preliminary stockpile based on the analysis of test data performed by the District Materials Office.

7. If the use of existing rock is approved, continue to produce additional stockpiles not exceeding 1,000 cubic yards. Ensure the rock meets the requirements of this Section by sampling and testing each new stockpile at a minimum frequency of one sample per 400 cubic yards. Once a stockpile has been sampled, do not add additional material to that stockpile. The District Materials Office may also perform sampling and testing. Materials will be accepted if test results meet the requirements of this Section.

8. After 10 consecutive quality control (QC) LBR test results meet the requirements of the Section and no individual LBR test is less than 120, the sampling and testing frequency may be reduced to a minimum frequency of one sample per 800 cubic yards for each stockpile. Notify the Engineer in writing prior to reducing testing frequency. If any QC LBR test result falls below 120 or a stockpile is rejected, revert to original sampling frequency of one sample per 400 cubic yards.

9. Construct a new preliminary stockpile if there is a change in material, conditions not addressed in the “Plan” are encountered, or if production varies from the approved “Plan”.

200-3 Equipment.

Use mechanical rock spreaders, equipped with a device that strikes off the rock uniformly to laying thickness, capable of producing even distribution. For crossovers, intersections and ramp areas; roadway widths of 20 feet or less; the main roadway area when forms are used and any other areas where the use of a mechanical spreader is not practicable; the Contractor may spread the rock using bulldozers or blade graders.

200-4 Transporting Rock.

Transport the rock to its point of use, over rock previously placed, if practicable, and dump it on the end of the preceding spread. Hauling and dumping on the subgrade will be permitted only when, in the Engineer’s opinion, these operations will not be detrimental to the subgrade.

200-5 Spreading Rock.

200-5.1 Method of Spreading: Spread the rock uniformly. Remove all segregated areas of fine or coarse rock and replace them with properly graded rock.

200-5.2 Number of Courses: When the specified compacted thickness of the base is greater than 6 inches, construct the base in multiple courses of equal thickness. Individual courses shall not be less than 3 inches. The thickness of the first course may be increased to bear the weight of the construction equipment without disturbing the subgrade.

If, through field tests, the Contractor can demonstrate that the compaction equipment can achieve density for the full depth of a thicker lift, and if approved by the Engineer, the base may be constructed in successive courses of not more than 8 inches compacted thickness.

The Engineer will base approval on results of a test section constructed using the Contractor’s specified compaction effort. Notify the Engineer prior to beginning construction of a test section. Construct a test section of the length of one LOT. Perform five QC density tests at random locations within the test section. At each test site, test the bottom 6 inches in addition to the entire course thickness. All QC tests and a Department Verification test must meet the density required by 200-7.2.1. Identify the test section with the compaction effort and thickness in the Earthwork Records System (ERS) portion of the Department’s database. Remove the

materials above the bottom 6 inches, at no expense to the Department. The minimum density required on the thicker lift will be the average of the five results obtained on the thick lift in the passing test section. Maintain the exposed surface as close to “undisturbed” as possible; no further compaction will be permitted during the test preparation. If unable to achieve the required density, remove and replace or repair the test section to comply with the specifications at no additional expense to the Department. The Contractor may elect to place material in 6 inches compacted thickness at any time.

Once approved, a change in the source of base material will require the construction of a new test section. Do not change the compaction effort once the test section is approved. The Engineer will periodically verify the density of the bottom 6 inches during thick lift operations.

The Engineer may terminate the use of thick lift construction and instruct the Contractor to revert to the 6 inches maximum lift thickness if the Contractor fails to achieve satisfactory results or meet applicable specifications.

200-5.3 Rock Base for Shoulder Pavement: Unless otherwise permitted, complete all rock base shoulder construction at any particular location before placing the final course of pavement on the traveled roadway. When dumping material for the construction of a rock base on the shoulders, do not allow material capable of scarring or contaminating the pavement surface on the adjacent pavement. Immediately sweep off any rock material that is deposited on the surface course.

200-6 Compacting and Finishing Base.

200-6.1 General: Construct mainline pavement lanes, turn lanes, ramps, parking lots, concrete box culverts and retaining wall systems meeting the requirements of 120-8.1, except replace “embankment” with “base”.

Construct shoulder-only areas, shared use paths, and sidewalks. Meet the requirements of 120-8.1 except replace “embankment” with “base” meeting the acceptance criteria of 200-7.2. Shoulders compacted separately shall be considered separate LOTs.

200-6.1.1 Single Course Base: After spreading, scarify the entire surface, then shape the base to produce the required grade and cross-section, free of scabs and laminations, after compaction.

200-6.1.2 Multiple Course Base: Clean the first course of foreign material, then blade and bring it to a surface cross-section approximately parallel to the finished base. Before spreading any material for the upper courses, allow the Engineer to make density tests for the lower courses to determine that the required compaction has been obtained. After spreading the material for the top course, scarify finish and shape its surface to produce the required grade and cross-section, free of scabs and laminations, after compaction.

200-6.2 Moisture Content: When the material does not have the proper moisture content to ensure the required density, wet or dry it as required. When adding water, uniformly mix it in to the full depth of the course that is being compacted. During wetting or drying operations, manipulate, as a unit, the entire width and depth of the course that is being compacted.

200-6.3 Thickness Requirements: Within the entire limits of the length and width of the finished base, meet the specified plan thickness in accordance with the requirements of 200-7.3.1.2.

200-6.4 Correction of Defects:

200-6.4.1 Contamination of Base Material: If, at any time, the subgrade material becomes mixed with the base course material, dig out and remove the mixture, and

reshape and compact the subgrade. Then replace the materials removed with clean base material, and shape and compact as specified above. Perform this work at no expense to the Department.

200-6.4.2 Cracks and Checks: If cracks or checks appear in the base, either before or after priming, which, in the opinion of the Engineer, would impair the structural efficiency of the base, remove the cracks or checks by rescarifying, reshaping, adding base material where necessary, and recompacting.

200-6.5 Compaction of Widening Strips: Where base construction consists of widening strips and the trench width is not sufficient to permit use of standard base compaction equipment, compact the base using vibratory compactors, trench rollers or other special equipment which will achieve the density requirements specified herein.

When multiple course base construction is required, compact each course prior to spreading material for the overlaying course.

200-7 Acceptance Program.

200-7.1 General Requirements: Meet the requirements of 120-10, except use 200-7.2 instead of 120-10.2, 200-7.3 instead of 120-10.3 and 200-7.4 instead of 120-10.4.

200-7.2 Acceptance Criteria:

200-7.2.1 Density: Within the entire limits of the width and depth of the base, obtain a minimum density in any LOT of 98% of modified Proctor maximum density as determined by FM 1-T180 or the Pit Proctor when using the Pit Proctor option. For shoulder only areas and shared use paths, obtain a minimum density of 95% of the modified Proctor maximum density as determined by FM 1-T180 or the Pit Proctor when using the Pit Proctor option.

200-7.2.2 Frequency: Conduct QC sampling and testing at a minimum frequency listed in the table below. The Engineer will perform Verification sampling and tests at a minimum frequency listed in the table below.

Table 200-1 Mainline Pavement Lanes, Turn Lanes, Ramps, Parking Lots, Concrete Box Culverts and Retaining Wall Systems		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per eight consecutive LOTs	One per 16 consecutive LOTs
Density	One per LOT	One per four LOTs
Roadway Surface	Ten per LOT	Witness
Roadway Thickness	Three per LOT	Witness

Table 200-2 Shoulder-Only, Shared Use Path and Sidewalk Construction		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per two LOTs	One per four LOTs
Density	One per LOT	One per two LOTs
Surface	Five per 500 feet	Witness
Thickness	Three per 1000 consecutive feet	Witness

200-7.2.3 Pit Proctor: In lieu of Modified Proctor Maximum Density testing at the roadway, notify the Engineer in writing that the Contractor option to use the Pit Proctor supplied by the Department will be used. The Modified Proctor maximum density frequency requirements of 200-7.2.2 shall not apply. The Department will determine the Pit Proctor from statistical analysis of the base rock Modified Proctor maximum density at Department approved mines. For posting of Mines and Pit Proctors for each calendar quarter refer to the Pit Proctor Quarterly report located at the following URL:

<https://www.fdot.gov/materials/laboratory/geotechnical/aggregates/pitproctor/index.shtm>. Use the current posted Pit Proctor value in lieu of the Modified Proctor maximum density required by 200-7.2.1. Use the current posted Pit Proctor value for density acceptance during the quarter corresponding to the posting. Notify the Engineer in writing if returning to the provisions of 200-7.2 and 200-7.2.2 but do not re-elect to use the Pit Proctor until the start of the next calendar quarter.

200-7.3 Additional Requirements:

200-7.3.1 Quality Control Testing:

200-7.3.1.1 Modified Proctor Maximum Density Requirement: Collect enough material to split and create three separate samples and retain two for the Engineer's Verification and Resolution testing until the Engineer accepts the 16 LOTs represented by the samples.

200-7.3.1.2 Depth and Surface Testing Requirements: Notify the Engineer a minimum of 24 hours before checking base depths and surface checking. Determine test locations including Stations and Offsets, using the Random Number generator approved by the Department. Do not perform depth and surface checks until the Engineer is present to witness. Enter test results into the Department's database. Perform thickness check on the finished base or granular subbase component of a composite base. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment. Traffic control is to be provided in accordance with the standard maintenance of traffic requirements of the Contract.

The thickness is considered deficient, if the measured depth is over 1/2 inch less than the specified thickness. Correct all deficient areas of the completed base by scarifying and adding additional base material. As an exception, if authorized by the Department, such areas may be left in place without correction and with no payment.

Check the finished surface of the base course with a template cut to the required crown and with a 15 foot straightedge laid parallel to the centerline of the road. Correct all irregularities greater than 1/4 inch to the satisfaction of the Engineer by scarifying and removing or adding rock as required, and recompact the entire area as specified hereinbefore.

200-7.3.1.3 Surface & Thickness Reduced Testing Frequency: When no Resolution testing is required for 12 consecutive verified LOTs, or if required, the QC test data was upheld, reduce the QC surface and/or thickness checks to one half the minimum requirements as stated in 200-7.2.2 (e.g., reduce frequency from ten per LOT to ten per two LOTs) by identifying the substantiating tests and notifying the Engineer in writing prior to starting reduced frequency of testing. If the Verification test fails, and QC test data is not upheld by Resolution testing the QC testing will revert to the original frequency of 200-7.2.2. The results of the Independent Verification testing will not affect the frequency of the QC testing. Do not apply reduced testing frequency in construction of shoulder-only areas, shared use paths, and sidewalks.

200-7.3.2 Department Verification Tests:

200-7.3.2.1 Maximum Density: The Engineer will randomly select one of the remaining two split samples and test in accordance with FM 1-T180.

200-7.3.2.2 Thickness and Surface Testing Requirements: The Department will witness the base depth and surface checks to ensure compliance with 200-7.3.1.2. If the QC test results are not deficient as defined in 200-7.3.1.2, the LOT or 500-foot section will be accepted. If the QC test results are deficient, resolve deficiencies in accordance with 200-7.3.1.2. Repeat acceptance testing. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment.

200-7.4 Verification Comparison Criteria and Resolution Procedures:

200-7.4.1 Modified Proctor Maximum Density: The Engineer will compare the Verification test results of 200-7.3.2.1 to the corresponding QC test results. If the test result is within 4.5 lb/ft³ of the QC test result, the LOTs will be verified. Otherwise, the Engineer will collect the Resolution split sample corresponding to the Verification sample tested. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with FM 1-T180.

The Engineer will compare the Resolution Test results with the QC test results. If the Resolution Test result is within 4.5 lb/ft³ of the corresponding QC test result, the Engineer will use the QC test results for material acceptance purposes for each corresponding set of LOTs. If the Resolution test result is not within 4.5 lb/ft³ of the corresponding QC test, the Engineer will collect the remaining Verification split sample for testing. Verification Test results will be used for material acceptance purposes for the LOTs in question.

200-7.4.2 Pit Proctor: When using the Pit Proctor option, the Engineer will select a random location to sample and test at the minimum frequency in the table below, to obtain an Independent Verification (IV) maximum density as determined by FM 1-T180. The Engineer will collect enough material to split and hold a sample for Resolution testing.

Table 120-3		
Test Name	Mainline Pavement Lanes, Turn Lanes, Ramps, Parking Lots, Concrete Box Culverts and Retaining Wall Systems	Shoulder-Only, Shared Use Path and Sidewalk Construction
IV Modified Proctor Maximum Density	One per 16 consecutive LOTs	One per 4 consecutive LOTs

The Engineer will compare the IV results with the Pit Proctor. If the IV result is lower than or equal to the Pit Proctor plus 4.5 pcf, keep the option to use the Pit Proctor. If the IV result is more than 4.5 pcf higher than the Pit Proctor the Engineer will test the Resolution sample and compare the Resolution result with the Pit Proctor. If the Resolution result is lower than or equal to the Pit Proctor plus 4.5 pcf, keep the option to use the Pit Proctor. Otherwise return to the provisions of 200-7.2.2, 200-7.3.1.1, 200-7.3.2.1, and 200-7.4.1.

200-7.4.3 Density: When a Verification or Independent Verification density test does not meet the requirements of 200-7.2.1 (Acceptance Criteria), retest at a site within a 5 feet radius of the Verification test location and observe the following:

1. If the QC retest meets the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, the Engineer will accept the LOTs in question.
2. If the QC retest does not meet the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, rework and retest the material in that LOT. The Engineer will re-verify the LOTs in question.
3. If the QC retest and the Verification or Independent Verification test do not compare favorably, complete a new equipment-comparison analysis as defined in 120-10.1.1. Once acceptable comparison is achieved, retest the LOTs. The Engineer will perform new verification testing. Acceptance testing will not begin on a new LOT until the Contractor has a gauge that meets the comparison requirements.

200-7.4.4 Thickness and Surface Testing Requirements: Resolve deficiencies in accordance with 200-7.3.1.2.

200-8 Priming and Maintaining.

200-8.1 Priming: Apply the prime coat only when the base meets the specified density requirements and when the moisture content in the top half of the base does not exceed the optimum moisture of the base material. At the time of priming, ensure that the base is firm, unyielding and in such condition that no undue distortion will occur. Ensure the prime coat adheres to the base course.

200-8.2 Maintaining: Maintain the true crown and template, with no rutting or other distortion, while applying the surface course.

200-9 Calculations for Average Thickness of Base.

For bases that are not mixed in place, the Engineer will determine the average thickness from the measurements specified in 200-10.1, calculated as follows:

1. When the measured thickness is more than 1/2 inch greater than the design thickness shown on the typical cross-section in the Plans, it will be considered as the design thickness plus 1/2 inch.
2. Average thickness will be calculated per typical cross-section for the entire job as a unit.
3. Any areas of base left in place with no payment will not be included in the calculations.
4. Where it is not possible through borings to distinguish the base materials from the underlying materials, the thickness of the base used in the measurement will be the design thickness.

200-10 Method of Measurement.

200-10.1 General: The quantity to be paid for will be the plan quantity, adjusted as specified below.

200-10.2 Authorized Normal Thickness Base: The surface area of authorized normal thickness base to be adjusted will be the plan quantity as specified above, omitting any areas not allowed for payment under the provisions of 200-6.3 and omitting areas which are to be included for payment under 200-10.3. The adjustment shall be made by adding or deducting, as appropriate, the area of base represented by the difference between the calculated average thickness, determined as provided in 200-9, and the specified normal thickness, converted to equivalent square yards of normal thickness base.

200-10.3 Authorized Variable Thickness Base: Where the base is constructed to a compacted thickness other than the normal thickness as shown on the typical section in the Plans, as specified in the Plans or ordered by the Engineer for providing additional depths at culverts or bridges, or for providing transitions to connecting pavements, the volume of such authorized variable thickness compacted base will be calculated from authorized lines and grades, or by other methods selected by the Engineer, converted to equivalent square yards of normal thickness base for payment.

200-11 Basis of Payment.

Price and payment will be full compensation for all the work specified in this Section, including dust abatement, correcting all defective surface and deficient thickness, removing cracks and checks as provided in 200-6.4.2, the prime coat application as directed in 300-8, and the additional rock required for crack elimination.

Payment shall be made under:

Item No. 285- 7- Optional Base - per square yard.

BASE COURSES

SECTION 200 ROCK BASE

200-1 Description.

Construct a base composed of base rock. Do not use recycled concrete aggregate (RCA) base on interstate roadways.

200-2 Materials.

200-2.1 General: Meet the requirements of Section 911 for the particular type of base to be constructed. The Contractor may use more than one source of base rock on a single Contract provided that a single source is used throughout the entire width and depth of a section of base. Obtain approval from the Engineer before placing material from more than one source. Place material to ensure total thickness single source integrity at any station location of the base. Intermittent placement or “blending” of sources is not permitted. Base rock may be referred to hereinafter as “rock”.

The reuse of existing base may be considered provided it meets the requirements of this Section. Submit as a Cost Savings Initiative Proposal in accordance with Section 4.

200-2.2 Existing Rock: Meet the following requirements for use of existing rock on the same project:

1. Notify the Engineer in writing prior to excavating existing rock. Do not mill any existing rock from the roadway.

2. Submit a process control plan, herein referred to as “Plan” consisting of the following:

a. Locations where existing rock will be removed from the roadway.
b. Locations where existing rock will be used for new construction.
c. Method of excavation, transport, and placement to ensure excavated rock will be kept separate from other approved stockpiles. Excavation methods that may result in damage to the rock rendering it unfit to be used as base will not be approved.

d. Proposed measures to prevent contamination and segregation.
e. Proposed locations and methods for constructing stockpiles for sampling and testing.

f. Method for sampling and reporting test results.

3. The Engineer will coordinate the review of the “Plan” with the District Materials Office.

4. Upon the Engineer’s review of the “Plan”, build a preliminary stockpile, not to exceed 1,000 cubic yards.

5. Collect and test a minimum of three samples from the preliminary stockpile. Once the stockpile has been sampled, do not add any additional material to the stockpile. Determine compliance with 200-2.1, with the exception of carbonate contents. Reject any stockpile if the Limerock Bearing Ratio (LBR) is less than 100. Engineer will sample and test the preliminary stockpile to verify compliance with this Section.

6. If all test results meet the requirements of this Section, the Engineer will notify the Contractor in writing of the approved status of the preliminary stockpile based on the analysis of test data performed by the District Materials Office.

7. If the use of existing rock is approved, continue to produce additional stockpiles not exceeding 1,000 cubic yards. Ensure the rock meets the requirements of this Section by sampling and testing each new stockpile at a minimum frequency of one sample per 400 cubic yards. Once a stockpile has been sampled, do not add additional material to that stockpile. The District Materials Office may also perform sampling and testing. Materials will be accepted if test results meet the requirements of this Section.

8. After 10 consecutive quality control (QC) LBR test results meet the requirements of the Section and no individual LBR test is less than 120, the sampling and testing frequency may be reduced to a minimum frequency of one sample per 800 cubic yards for each stockpile. Notify the Engineer in writing prior to reducing testing frequency. If any QC LBR test result falls below 120 or a stockpile is rejected, revert to original sampling frequency of one sample per 400 cubic yards.

9. Construct a new preliminary stockpile if there is a change in material, conditions not addressed in the “Plan” are encountered, or if production varies from the approved “Plan”.

200-3 Equipment.

Use mechanical rock spreaders, equipped with a device that strikes off the rock uniformly to laying thickness, capable of producing even distribution. For crossovers, intersections and ramp areas; roadway widths of 20 feet or less; the main roadway area when forms are used and any other areas where the use of a mechanical spreader is not practicable; the Contractor may spread the rock using bulldozers or blade graders.

200-4 Transporting Rock.

Transport the rock to its point of use, over rock previously placed, if practicable, and dump it on the end of the preceding spread. Hauling and dumping on the subgrade will be permitted only when, in the Engineer’s opinion, these operations will not be detrimental to the subgrade.

200-5 Spreading Rock.

200-5.1 Method of Spreading: Spread the rock uniformly. Remove all segregated areas of fine or coarse rock and replace them with properly graded rock.

200-5.2 Number of Courses: When the specified compacted thickness of the base is greater than 6 inches, construct the base in multiple courses of equal thickness. Individual courses shall not be less than 3 inches. The thickness of the first course may be increased to bear the weight of the construction equipment without disturbing the subgrade.

If, through field tests, the Contractor can demonstrate that the compaction equipment can achieve density for the full depth of a thicker lift, and if approved by the Engineer, the base may be constructed in successive courses of not more than 8 inches compacted thickness.

The Engineer will base approval on results of a test section constructed using the Contractor’s specified compaction effort. Notify the Engineer prior to beginning construction of a test section. Construct a test section of the length of one LOT. Perform five QC density tests at random locations within the test section. At each test site, test the bottom 6 inches in addition to the entire course thickness. All QC tests and a Department Verification test must meet the density required by 200-7.2.1. Identify the test section with the compaction effort and thickness in the Earthwork Records System (ERS) portion of the Department’s database. Remove the

materials above the bottom 6 inches, at no expense to the Department. The minimum density required on the thicker lift will be the average of the five results obtained on the thick lift in the passing test section. Maintain the exposed surface as close to “undisturbed” as possible; no further compaction will be permitted during the test preparation. If unable to achieve the required density, remove and replace or repair the test section to comply with the specifications at no additional expense to the Department. The Contractor may elect to place material in 6 inches compacted thickness at any time.

Once approved, a change in the source of base material will require the construction of a new test section. Do not change the compaction effort once the test section is approved. The Engineer will periodically verify the density of the bottom 6 inches during thick lift operations.

The Engineer may terminate the use of thick lift construction and instruct the Contractor to revert to the 6 inches maximum lift thickness if the Contractor fails to achieve satisfactory results or meet applicable specifications.

200-5.3 Rock Base for Shoulder Pavement: Unless otherwise permitted, complete all rock base shoulder construction at any particular location before placing the final course of pavement on the traveled roadway. When dumping material for the construction of a rock base on the shoulders, do not allow material capable of scarring or contaminating the pavement surface on the adjacent pavement. Immediately sweep off any rock material that is deposited on the surface course.

200-6 Compacting and Finishing Base.

200-6.1 General: Construct mainline pavement lanes, turn lanes, ramps, parking lots, concrete box culverts and retaining wall systems meeting the requirements of 120-8.1, except replace “embankment” with “base”.

Construct shoulder-only areas, shared use paths, and sidewalks. Meet the requirements of 120-8.1 except replace “embankment” with “base” meeting the acceptance criteria of 200-7.2. Shoulders compacted separately shall be considered separate LOTs.

200-6.1.1 Single Course Base: After spreading, scarify the entire surface, then shape the base to produce the required grade and cross slope, free of scabs and laminations, after compaction.

200-6.1.2 Multiple Course Base: Clean the first course of foreign material, then blade and bring it to a surface cross slope approximately parallel to the finished base. Before spreading any material for the upper courses, allow the Engineer to make density tests for the lower courses to determine that the required compaction has been obtained. After spreading the material for the top course, scarify finish and shape its surface to produce the required grade and cross slope, free of scabs and laminations, after compaction.

200-6.2 Moisture Content: When the material does not have the proper moisture content to ensure the required density, wet or dry it as required. When adding water, uniformly mix it in to the full depth of the course that is being compacted. During wetting or drying operations, manipulate, as a unit, the entire width and depth of the course that is being compacted.

200-6.3 Thickness Requirements: Within the entire limits of the length and width of the finished base, meet the specified plan thickness in accordance with the requirements of 200-7.3.1.2.

200-6.4 Correction of Defects:

200-6.4.1 Contamination of Base Material: If, at any time, the subgrade material becomes mixed with the base course material, dig out and remove the mixture, and

reshape and compact the subgrade. Then replace the materials removed with clean base material, and shape and compact as specified above. Perform this work at no expense to the Department.

200-6.4.2 Cracks and Checks: If cracks or checks appear in the base, either before or after priming, which, in the opinion of the Engineer, would impair the structural efficiency of the base, remove the cracks or checks by rescarifying, reshaping, adding base material where necessary, and recompacting.

200-6.5 Compaction of Widening Strips: Where base construction consists of widening strips and the trench width is not sufficient to permit use of standard base compaction equipment, compact the base using vibratory compactors, trench rollers or other special equipment which will achieve the density requirements specified herein.

When multiple course base construction is required, compact each course prior to spreading material for the overlaying course.

200-7 Acceptance Program.

200-7.1 General Requirements: Meet the requirements of 120-10, except exclude the requirements of 120-10.1.4.3, 120-10.3.1, 120-10.4.3, and 120-10.4.4. Use 200-7.3.1.1 instead of 120-10.1.4.1, 200-7.2 instead of 120-10.2, and 200-7.4.1 instead of 120-10.4.1.

200-7.2 Acceptance Criteria:

200-7.2.1 Density: Within the entire limits of the width and depth of the base, obtain a minimum density in any LOT of 98% of modified Proctor maximum density as determined by FM 1-T180 or the Pit Proctor when using the Pit Proctor option. For shoulder only areas and shared use paths, obtain a minimum density of 95% of the modified Proctor maximum density as determined by FM 1-T180 or the Pit Proctor when using the Pit Proctor option.

200-7.2.2 Frequency: Conduct QC sampling and testing at a minimum frequency listed in the table below. The Engineer will perform Verification sampling and tests at a minimum frequency listed in the table below.

Table 200-1 Mainline Pavement Lanes, Turn Lanes, Ramps, Parking Lots, Concrete Box Culverts and Retaining Wall Systems		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per eight consecutive LOTs	One per 16 consecutive LOTs
Density	One per LOT	One per four LOTs
Roadway Surface and Cross Slope	One per LOT	One per two LOTs
Roadway Thickness	Three per LOT	Witness

Table 200-2 Shoulder-Only, Shared Use Path and Sidewalk Construction		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per two LOTs	One per four LOTs
Density	One per LOT	One per two LOTs
Surface and Cross Slope	One per LOT	One per two LOTs
Thickness	Three per 1000 consecutive feet	Witness

200-7.2.3 Pit Proctor: In lieu of Modified Proctor Maximum Density testing at the roadway, notify the Engineer in writing that the Contractor option to use the Pit Proctor supplied by the Department will be used. The Modified Proctor maximum density frequency requirements of 200-7.2.2 shall not apply. The Department will determine the Pit Proctor from statistical analysis of the base rock Modified Proctor maximum density at Department approved mines. For posting of Mines and Pit Proctors for each calendar quarter refer to the Pit Proctor Quarterly report located at the following URL: <https://www.fdot.gov/materials/laboratory/geotechnical/aggregates/pitproctor/index.shtm>. Use the current posted Pit Proctor value in lieu of the Modified Proctor maximum density required by 200-7.2.1. Use the current posted Pit Proctor value for density acceptance during the quarter corresponding to the posting. Notify the Engineer in writing if returning to the provisions of 200-7.2 and 200-7.2.2 but do not re-elect to use the Pit Proctor until the start of the next calendar quarter.

200-7.3 Additional Requirements:

200-7.3.1 Quality Control Testing:

200-7.3.1.1 Modified Proctor Maximum Density Requirement: Collect enough material to split and create three separate samples and retain two for the Engineer's Verification and Resolution testing until the Engineer accepts the 16 LOTs represented by the samples.

200-7.3.1.2 Depth and Surface Testing Requirements: Notify the Engineer a minimum of 24 hours before checking base depths and surface checking. Determine test locations including Stations and Offsets, using the Random Number generator approved by the Department. Do not perform depth and surface checks until the Engineer is present to witness. Enter test results into the Department's database. Perform thickness check on the finished base or granular subbase component of a composite base. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment. Traffic control is to be provided in accordance with the standard maintenance of traffic requirements of the Contract.

The thickness is considered deficient, if the measured depth is over 1/2 inch less than the specified thickness. Correct all deficient areas of the completed base by scarifying and adding additional base material. As an exception, if authorized by the Department, such areas may be left in place without correction and with no payment.

200-7.3.1.3 Surface & Thickness Reduced Testing Frequency: When no Resolution testing is required for 12 consecutive verified LOTs, or if required, the QC test data was upheld, reduce the QC surface and/or thickness checks to one half the minimum requirements as stated in 200-7.2.2 (e.g., reduce frequency from ten per LOT to ten per two LOTs) by identifying the substantiating tests and notifying the Engineer in writing prior to

starting reduced frequency of testing. If the Verification test fails, and QC test data is not upheld by Resolution testing the QC testing will revert to the original frequency of 200-7.2.2. The results of the Independent Verification testing will not affect the frequency of the QC testing. Do not apply reduced testing frequency in construction of shoulder-only areas, shared use paths, and sidewalks.

200-7.3.2 Department Verification Tests:

200-7.3.2.1 Maximum Density: The Engineer will randomly select one of the remaining two split samples and test in accordance with FM 1-T180.

200-7.3.2.2 Thickness and Surface Testing Requirements: The Department will witness the base depth and surface checks to ensure compliance with 200-7.3.1.2. If the QC test results are not deficient as defined in 200-7.3.1.2, the LOT or 500-foot section will be accepted. If the QC test results are deficient, resolve deficiencies in accordance with 200-7.3.1.2. Repeat acceptance testing. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment.

200-7.4 Verification Comparison Criteria and Resolution Procedures:

200-7.4.1 Modified Proctor Maximum Density: The Engineer will compare the Verification test results of 200-7.3.2.1 to the corresponding QC test results. If the test result is within 4.5 lb/ft³ of the QC test result, the LOTs will be verified. Otherwise, the Engineer will collect the Resolution split sample corresponding to the Verification sample tested. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with FM 1-T180.

The Engineer will compare the Resolution Test results with the QC test results. If the Resolution Test result is within 4.5 lb/ft³ of the corresponding QC test result, the Engineer will use the QC test results for material acceptance purposes for each corresponding set of LOTs. If the Resolution test result is not within 4.5 lb/ft³ of the corresponding QC test, the Engineer will collect the remaining Verification split sample for testing. Verification Test results will be used for material acceptance purposes for the LOTs in question.

200-7.4.2 Pit Proctor: When using the Pit Proctor option, the Engineer will select a random location to sample and test at the minimum frequency in the table below, to obtain an Independent Verification (IV) maximum density as determined by FM 1-T180. The Engineer will collect enough material to split and hold a sample for Resolution testing.

Table 120-3		
Test Name	Mainline Pavement Lanes, Turn Lanes, Ramps, Parking Lots, Concrete Box Culverts and Retaining Wall Systems	Shoulder-Only, Shared Use Path and Sidewalk Construction
IV Modified Proctor Maximum Density	One per 16 consecutive LOTs	One per 4 consecutive LOTs

The Engineer will compare the IV results with the Pit Proctor. If the IV result is lower than or equal to the Pit Proctor plus 4.5 pcf, keep the option to use the Pit Proctor. If the IV result is more than 4.5 pcf higher than the Pit Proctor the Engineer will test the Resolution sample and compare the Resolution result with the Pit Proctor. If the Resolution

result is lower than or equal to the Pit Proctor plus 4.5 pcf, keep the option to use the Pit Proctor. Otherwise return to the provisions of 200-7.2.2, 200-7.3.1.1, 200-7.3.2.1, and 200-7.4.1.

200-7.4.3 Density: When a Verification or Independent Verification density test does not meet the requirements of 200-7.2.1 (Acceptance Criteria), retest at a site within a 5 feet radius of the Verification test location and observe the following:

1. If the QC retest meets the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, the Engineer will accept the LOTs in question.

2. If the QC retest does not meet the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, rework and retest the material in that LOT. The Engineer will re-verify the LOTs in question.

3. If the QC retest and the Verification or Independent Verification test do not compare favorably, complete a new equipment-comparison analysis as defined in 120-10.1.1. Once acceptable comparison is achieved, retest the LOTs. The Engineer will perform new verification testing. Acceptance testing will not begin on a new LOT until the Contractor has a gauge that meets the comparison requirements.

200-7.4.4 Surface Testing Requirements: Resolve deficiencies in accordance with 200-7.3.1.2.

200-7.5 Cross Slope: Construct base surface with cross slopes in compliance with the requirements of the Contract Documents. Furnish a level with a minimum length of 4 feet with a digital slope measuring device approved by the Engineer for the control of cross slope. Make this level or measuring device available at the jobsite at all times during base construction operations.

200-7.5.1 Quality Control Requirements: Measure the cross slope of the base surface by placing the measuring device perpendicular to the roadway centerline. Report the cross slope to the nearest 0.1%. Record all the measurements and submit to the Engineer for documentation. Measure the cross slope at a minimum frequency of one measurement per lot to ensure the cross slope is uniform and in compliance with the design cross slope. When the difference between the measured cross slope and the design cross slope exceeds $\pm 0.2\%$ for travel lanes (including turn lanes) or $\pm 0.5\%$ for shoulders, make all corrections in accordance with 200-7.5.3 to bring the cross slope into the acceptable range.

200-7.5.2 Verification: The Engineer will verify the Contractor's cross slope measurements by randomly taking one measurement every two lots. If the average cross slope of the ten random measurements varies more than the allowable tolerance from the design cross slope ($\pm 0.2\%$ for travel lanes (including turn lanes) and $\pm 0.5\%$ for shoulders), make corrections in accordance with 200-7.5.3 to bring the cross slope into the acceptable range. A recheck of the cross slope will be made following any corrections or additional work performed on the base surface. This process will be repeated until the base cross slope meets the requirements of this specification.

The Engineer may waive the corrections specified above (at no reduction in payment) if:

1. the deficiencies are sufficiently separated so as not to affect the overall ride quality, traffic safety and surface drainage characteristics of the pavement and;
2. the Contractor agrees to use asphalt to fill in areas where the earthwork is low at no additional cost to the Department greater than the 10% allowed in Sections 234, 334, 337, and 339.

For intersections, tapers, crossovers, transitions at beginning and end of project and similar areas, adjust the cross slope to match the actual site conditions or as directed by the Engineer.

200-7.5.3 Cross Slope Corrections: Correct all cross slopes out of tolerance per 200-7.5.1 and 200-7.5.2 in accordance with 200-7.3.1.2.

200-7.5.4 Elevation Data Collection: Within curb and gutter areas and in widening areas, measure and record elevation of finished surface of base course every 500 feet by measuring elevation of base adjacent to curb and gutter, as well as at each lane edge location. Provide the elevation measurements to the Engineer.

200-8 Priming and Maintaining.

200-8.1 Priming: Apply the prime coat only when the base meets the specified density requirements and when the moisture content in the top half of the base does not exceed the optimum moisture of the base material. At the time of priming, ensure that the base is firm, unyielding and in such condition that no undue distortion will occur. Ensure the prime coat adheres to the base course.

200-8.2 Maintaining: Maintain the true crown and template, with no rutting or other distortion, while applying the surface course.

200-9 Calculations for Average Thickness of Base.

For bases that are not mixed in place, the Engineer will determine the average thickness from the measurements specified in 200-10.1, calculated as follows:

1. When the measured thickness is more than 1/2 inch greater than the design thickness shown on the typical section in the Plans, it will be considered as the design thickness plus 1/2 inch.
2. Average thickness will be calculated per typical section for the entire job as a unit.
3. Any areas of base left in place with no payment will not be included in the calculations.
4. Where it is not possible through borings to distinguish the base materials from the underlying materials, the thickness of the base used in the measurement will be the design thickness.

200-10 Method of Measurement.

200-10.1 General: The quantity to be paid for will be the plan quantity, adjusted as specified below.

200-10.2 Authorized Normal Thickness Base: The surface area of authorized normal thickness base to be adjusted will be the plan quantity as specified above, omitting any areas not allowed for payment under the provisions of 200-6.3 and omitting areas which are to be included for payment under 200-10.3. The adjustment shall be made by adding or deducting, as appropriate, the area of base represented by the difference between the calculated average thickness, determined as provided in 200-9, and the specified normal thickness, converted to equivalent square yards of normal thickness base.

200-10.3 Authorized Variable Thickness Base: Where the base is constructed to a compacted thickness other than the normal thickness as shown on the typical section in the Plans, as specified in the Plans or ordered by the Engineer for providing additional depths at culverts or bridges, or for providing transitions to connecting pavements, the volume of such authorized

variable thickness compacted base will be calculated from authorized lines and grades, or by other methods selected by the Engineer, converted to equivalent square yards of normal thickness base for payment.

200-11 Basis of Payment.

Price and payment will be full compensation for all the work specified in this Section, including dust abatement, correcting all defective surface and deficient thickness, removing cracks and checks as provided in 200-6.4.2, the prime coat application as directed in 300-8, and the additional rock required for crack elimination.

Payment shall be made under:

Item No. 285- 7- Optional Base - per square yard.

SECTION 520 CONCRETE GUTTER, CURB ELEMENTS, AND TRAFFIC SEPARATOR

520-1 Description.

Construct portland cement concrete curb. Curb will include concrete curb and gutter, concrete traffic separator, valley gutter, special concrete gutter, curb for sidewalk curb ramps and driveways, and any other types of concrete curb not specified in other Sections.

520-2 Materials.

520-2.1 Concrete: Use concrete meeting the requirements of Section 347.

520-2.2 Reinforcement: For all steel reinforcement required by the Plans, meet the requirements of Section 415.

520-2.3 Joint Materials: Meet the requirements of Section 932.

520-2.4 Toll Header Curb Concrete: Use concrete meeting the requirements of Section 346, Class II.

520-3 Forms.

520-3.1 Form Materials: Construct forms for this work of either wood or metal. Provide forms that are straight, free from warp or bends, and of sufficient strength, when staked, to resist the pressure of the concrete without deviation from line and grade. For all items constructed on a radius, use flexible forms.

520-3.2 Depth of Forms: Ensure that forms have a depth equal to the plan dimensions for the depth of concrete being deposited against them.

520-3.3 Machine Placement: The Contractor may place these items by machine methods with the approval of the Engineer provided that the Contractor consistently produces an acceptable finished product, true to line, grade, and cross section.

520-4 Excavation.

Excavate to the required depth, and compact the foundation material upon which these items are to be placed as specified in 120-9.

520-5 Placing Concrete.

Place the concrete in the forms, and tamp and spade it to prevent honeycombing, and until the top of the structure can be floated smooth and the edges rounded to the radius shown in the Plans.

520-6 Joints.

520-6.1 Contraction Joints: Except for machine placed items, the Contractor may form joints by using dummy joints (either formed or sawed) or by using sheet metal templates. If using sheet metal templates, ensure that they are of the dimensions, and are set to the lines, shown in the Plans. Hold templates firmly while placing the concrete. Leave templates in place until the concrete has set sufficiently to hold its shape, but remove them while the forms are still in place.

Saw contraction joints, for machine placed items, unless the Engineer approves an alternate method. Saw the joints as soon as the concrete has hardened to the degree that excessive raveling will not occur and before uncontrolled shrinkage cracking begins.

Space contraction joints at intervals of 10 feet except where closure requires a lesser interval, but do not allow any section to be less than 4 feet in length.

520-6.2 Expansion Joints: Construct expansion joints at all inlets, at all radius points, and at other locations indicated in the Plans. Locate them at intervals of 500 feet between other expansion joints or ends of a run. Ensure that the joint is 1/2 inch in width.

520-7 Finishing.

520-7.1 Repair of Minor Defects: Remove the forms within 24 hours after placing the concrete, and then fill minor defects with mortar composed of one part portland cement and two parts fine aggregate. The Engineer will not allow plastering on the face of the curb. Remove and replace any rejected curb, curb and gutter, or valley gutter without additional compensation.

520-7.2 Final Finish: Finish all exposed surfaces while the concrete is still green. In general, the Engineer will only require a brush finish. For any surface areas, however, which are too rough or where other surface defects make additional finishing necessary, the Engineer may require the Contractor to rub the curb to a smooth surface with a soft brick or wood block, using water liberally. Also, if necessary to provide a suitable surface, the Engineer may require the Contractor to rub further, using thin grout or mortar.

520-7.3 Imprinted Concrete: Install imprinted concrete as shown in the Plans.

520-8 Curing.

520-8.1 General: Continuously cure the concrete for a period of at least 72 hours. Commence curing after completely finishing and as soon as the concrete has hardened sufficiently to permit application of the curing material without marring the surface. Immediately replace any curing material removed or damaged during the 72 hour period.

After removing the forms, cure the surfaces exposed by placing a berm of moist earth against them or by any of the methods described below, for the remainder of the 72 hour curing period.

520-8.2 Wet Burlap Method: Place burlap, as specified in 925-1, over the entire exposed surface of the concrete, with sufficient extension beyond each side to ensure complete coverage. Overlap adjacent strips a minimum of 6 inches. Hold the burlap securely in place such that it will be in continuous contact with the concrete at all times, and do not allow any earth between the burlap surfaces at laps or between the burlap and the concrete. Saturate the burlap with water before placing it, and keep it thoroughly wet throughout the curing period.

520-8.3 Membrane Curing Compound Method: Apply clear membrane curing compound or white pigmented curing compound, as specified in 925-2, by a hand sprayer meeting the requirements of 350-3.10, in a single coat continuous film at a uniform coverage of at least one gallon per 200 square feet. Immediately recoat any cracks, checks, or other defects appearing in the coating. Thoroughly agitate the curing compound in the drum prior to application, and during application as necessary to prevent settlement of the pigment.

520-8.4 Polyethylene Sheeting Method: Place polyethylene sheeting, as specified in 925-3, over the entire exposed surface of the concrete, with sufficient extension beyond each side to ensure complete coverage. Overlap adjacent strips a minimum of 6 inches. Hold the sheeting securely in place and in continuous contact with the concrete at all times.

SECTION 522 CONCRETE SIDEWALKS AND DRIVEWAYS

522-1 Description.

Construct concrete sidewalks and driveways in accordance with the Plans and the Standard Plans. Sidewalk will include curb ramps, landings, transition slopes, sidewalk curb, and edge beams.

522-2 Materials.

Meet the requirements specified in 520-2 and the embankment utilization requirements of Standard Plans Index 120-001.

522-3 Forms.

Provide forms as specified in 520-3.

522-4 Foundation.

Shape and compact the foundation materials with suitable equipment to a firm, even surface, true to grade and cross-slope. Meet the testing frequency and maximum lift thickness requirements of Section 120. Record density test results in the Earthwork Records System (ERS) section of the Department's database. Compact cut-and-fill areas within 1 foot beyond each side of the sidewalk or driveway, when right-of-way conditions allow. Compact the foundation material below the bottom of concrete for a minimum depth of 1 foot for cut areas, 1 foot for fill areas less than 1 foot, and 2 feet for all other fill areas to a density not less than 95% of the maximum density as determined by FM 1-T099. Compact the material in the remaining fill areas to match the adjacent area density.

522-5 Joints.

Install expansion and contraction joints in accordance with the Plans and the Standard Plans.

522-6 Placing Concrete.

Place the concrete as specified in 520-5.

522-7 Finishing.

522-7.1 Screeding: Strike-off the concrete by means of a wood or metal screed, used perpendicular to the forms, to obtain the required grade and remove surplus water and laitance.

522-7.2 Surface Requirements: Imprint concrete as detailed in the Plans, otherwise provide a broom finish. Ensure that the surface variations are not more than 1/4 inch under a 10-foot straightedge or more than 1/8 inch on a 5-foot transverse section. Finish the outer edges of the concrete with an edging tool having a radius of 1/2 inch.

522-7.3 Sidewalk Cross Slope Requirements: Construct sidewalk with cross slope as shown in the Plans and Standard Plans. Sidewalks must have some cross slope, but no more than 2.0%, in either the positive or negative direction after construction.

522-8 Curing.

Cure the concrete as specified in 520-8.

522-9 Opening Sidewalk to Pedestrian Traffic.

Install detectable warnings, when shown in the Plans, in accordance with Section 527 on completed sections of sidewalk before opening to pedestrian traffic.

522-10 Method of Measurement.

The quantity to be paid will be plan quantity, in square yards, completed and accepted.

522-11 Basis of Payment.

Price and payment will be full compensation for all work specified in this Section. Excavation for new installations will be paid for under the items for the grading work on the project.

Payment will be made under:

Item No. 522-	Concrete Sidewalks and Driveways - per square yard.
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MATERIALS FOR PORTLAND CEMENT CONCRETE
(STRUCTURAL, PAVEMENT, AND MISCELLANEOUS)

SECTION 921
PORTLAND CEMENT AND BLENDED CEMENT

921-1 General.

Cement shall conform to the requirements of AASHTO M 85 or AASHTO M 240, as applicable, except as provided in this Section.

921-1.1 Type of Cement: Cement may be Types I, II, III, V (as defined by AASHTO M 85), or IL, IP, IS, IT (as defined by AASHTO M 240). Cement type shall be selected based on component and environmental conditions in accordance with Section 346. Different brands of cement, cement of the same brand from different facilities, or different types of cement shall be stored separately, identified, and shall not be mixed.

921-1.2 Heat of Hydration: The cement heat of hydration for Type II, Type IT, Type IL, Type IP, and Type IS shall be tested in accordance with ASTM C1702 and reported at three days.

921-2 Definitions.

The following definitions are applicable to the production and Quality Control (QC) of cement:

1. **Approved Laboratory:** A laboratory that is currently inspected by the Cement and Concrete Reference Laboratory (CCRL), is actively participating in the CCRL proficiency program, and which has all deficiencies noted at the time of inspection corrected. The laboratory must also authorize CCRL to submit their inspection reports to the State Materials Office (SMO).

2. **Producer:** A cement supplier, including but not limited to a plant, a terminal, or a transfer facility, that has been qualified by the SMO. The Cementitious Materials Production Facility Listing will be maintained by the SMO.

3. **Test Report:** A certification from the Producer showing that the cement meets the requirements of Section 921.

The test report must include, at a minimum, the following information:

- a. The type of cement.
- b. The production period.
- c. Chemical and physical analysis of the cement.
- d. The silo identification where the cement is stored.
- e. The base cement phase composition, except for blended cements.
- f. Amount of limestone and/or inorganic processing additions used, expressed as a percentage of the cement mass.
- g. The oxide composition of the limestone and/or inorganic processing additions.
- h. The specific gravity of cement reported as an average of the last twelve monthly tests, updated every six months.
- i. The heat of hydration at three days.
- j. The approved laboratory that performed all tests.

Acceptable test reports are available in the appendices of AASHTO M 85 for portland cement and AASHTO M 240 for blended cement, except as modified by the requirements of this Section.

4. Purchaser: The term “purchaser” in the AASHTO requirements shall be taken as the Department.

921-3 Quality Control Program.

921-3.1 General: Develop a Producer QC Program as specified in Section 105.

Producers shall submit a proposed QC Plan to the SMO for acceptance. Complete the Cementitious Materials Producer QC Plan Checklist (Appendix B02) and submit it along with the QC Plan, in a separate file. The checklist can be found on the SMO website: <https://www.fdot.gov/materials/quality/programs/qualitycontrol/checklists/index.shtm>. In addition to the QC Plan, the Producer must submit monthly test reports from an approved laboratory which certifies that the cement in current production or supply conforms to the requirements of this Section.

Producers with an accepted QC Plan will appear on the Cementitious Materials Production Facility Listing.

QC test data that does not comply with this Section will not be a reason for rejection of the material if the Producer’s QC Plan indicated that material will be diverted and not used for Department work.

921-3.2 Sampling and Testing: An approved laboratory shall perform one QC test per day. Test reports representing no more than one month’s production shall be submitted to the SMO on a monthly basis, for foreign cement, refer to 921-5.

Representatives from the Department may take verification samples at the Producer’s plant, terminal, distribution facility, or the concrete production facility. Samples shall be obtained by one of the methods described in FM 5-503. Sample size shall be a minimum of one gallon. At the concrete production facility, cement samples shall be jointly obtained by the Department inspector and the concrete producer’s representative.

Upon request of the Department, the Producer shall provide split samples of the cement collected for QC testing. Split samples shall be delivered to the SMO and shall be identified as representing a designated LOT of cement.

Notification of failing verification sample test results will be distributed to the Producer and concrete producer, if applicable. Split samples of the initial sample may be provided to the Producer and concrete producer upon request, as available.

921-3.3 Limestone and Inorganic Processing Additions: Producers intending to use limestone and/or inorganic processing additions as component materials in the production of cement shall describe the type, source, and the target amount, expressed as a percentage of cement mass. In addition, the Producer shall display the information required in 921-2 on the test report. Samples of any pulverized limestone and/or inorganic processing additions shall be provided to the SMO for evaluation upon request.

921-4 Shipping and Storage.

Cement shall be delivered in bags or in bulk. Portland cement from a Producer on the Cementitious Materials Production Facility Listing shall be shipped on the basis of test reports meeting the requirements of this Section. Ensure that each shipment is accompanied by a delivery ticket that is traceable to the test report and includes, at a minimum, the following information:

1. FDOT Facility Identifier
2. Type of cement
3. Date shipped
4. Silo Identification

The storage building, bin or silo shall be weatherproofed.

921-5 Foreign Cement Acceptance.

Cement being imported from a foreign source shall conform to all requirements of this Section and will be subject the following process:

1. The proposed QC Plan and the QC Plan Checklist (Appendix B02) referenced in 921-3.1 shall be sent to the SMO and will include information regarding the QC, sampling, storage, and handling of the cement at the arrival terminal as well as the shipping control to and from the arrival terminal. In addition, the QC Plan from the foreign source shall be translated to English and will be included with the proposed QC Plan for the arrival terminal.

2. An initial one-gallon sample of the imported cement shall be sent to the SMO for chemical and physical verification testing.

3. When the first ship is being loaded from foreign source, a one-gallon verification sample will be obtained and shipped to the SMO for chemical and physical property testing.

The material will be accepted for use on Department projects provided that the QC Plan has been accepted, and the results of the initial and verification samples have been confirmed to meet the requirements of this Section.

Upon receiving the shipment of cement at the arrival terminal, the Department will be notified, and a Department representative may obtain another verification sample. Test reports representing each shipment shall be sent to the SMO.

921-6 Rejection of Material:

Reject the entire container of cement if it does not meet the requirements of this Section, including cement that has been damaged, is partially set, lumpy or caked.

Reject bagged cement if it varies more than 5% from the designated weight, or if the average weight of 50 randomly selected sacks is less than the designated weight.

SECTION 923 WATER FOR CONCRETE

923-1 General Requirements.

Water for use with cement shall be clear and free from oil, and injurious amounts of acid, alkali, chlorides, organic matter, and other deleterious substances. It shall not be salty or brackish. Water that contains quantities of substances which makes it discolored or smell unusual or objectionable, shall not be used unless approved by the Department. Water sources permitted include potable water supplies that are approved by a public health department, open bodies of water, well water, reclaimed water, and recycled water. Reclaimed water shall be as defined in Chapter 62-610, F.A.C. Open bodies of water are defined as naturally occurring rivers, lakes, and ponds. Recycled water includes wash water from mixer washout operations and stored in a lined settling pond. Water sources that meet the requirements of Table 923-1, Table 923-2 or from a public health department may be used alone or blended in a storage tank for use in batching structural or non-structural concrete. All other sources of water not listed above shall be considered recycled and reclaimed water.

923-2 Evaluation of Water for Concrete.

923-2.1 General: Water from potable water supplies approved by a public health department may be used without additional testing. The concrete producer shall submit test data of water samples from other sources. To determine chemical properties, the concrete producer shall use a laboratory accredited by the Construction Materials Engineering Council Accreditation Program including accreditation on referred chemical tests on Table 923-1 and 923-2.

923-2.2 Initial Sampling and Testing Frequency: Open bodies of water and well water shall be initially sampled once prior to use. Recycled and reclaimed water shall be tested once per week for four weeks initially, and thereafter once per month for four months prior to its use, provided that the results of the test samples comply with all the applicable limits. Failing test results will result in restarting initial sampling and testing.

923-2.3 Production Sampling and Testing Frequency: Open bodies of water and recycled water shall be tested monthly. Well water and reclaimed water shall be tested once every three months. If the last eight consecutive well water and reclaimed water samples meet the requirements, then the sample frequency may be reduced to one sample every six months, as approved by the Department. If a well water or reclaimed water sample fails once the frequency has been reduced, then the sampling frequency shall revert to once every three months.

923-3 Chemical Requirements.

923-3.1 Testing: All chemical analysis shall be performed in accordance with the test methods listed in Tables 923-1 and 923-2 or equivalent Standard Methods for the Examination of Water and Wastewater (SM). Inorganic Anions (Chlorides and Sulfates) shall be determined simultaneously using SM 4110B Ion Chromatography or separately using SM 4500 Cl⁻ B and SM 4500 SO₄²⁻ E. ASTM D516 may be used as an alternative method for sulfates. The test method used shall be included in the concrete producer report.

923-3.2 Recycled and Reclaimed Water: Recycled and reclaimed water shall be tested before use and shall not exceed the limits in Table 923-1:

Table 923-1		
Chemical Test	Test Method	Maximum (%)
Total Solids	SM 2540 B	5.00
Total Chlorides as Cl ⁻	SM 4500 Cl ⁻ B or SM 4110 B	0.05
Total Sulfates as SO ₄ ²⁻	ASTM D516	0.30

923-3.3 Open Bodies of Water and Well Water: Open bodies of water and well water shall be tested before use and shall not exceed the limits of Table 923-2:

Table 923-2		
Chemical Test	Test Method	Maximum (%)
Alkalinity Calculated in terms of Calcium Carbonate	SM 2320 B	0.05
Total Organic Solids	SM 2540 E	0.05
Total Inorganic Solids	SM 2540 E	0.08
Total Chlorides as Cl ⁻	SM 4500 Cl ⁻ B or SM 4110 B	0.05

923-4 Physical Requirements for Mortar.

923-4.1 General: To determine physical properties, use a laboratory accredited by the Construction Materials Engineering Council Accreditation Program or inspected by the Cement and Concrete Reference Laboratory.

923-4.2 Testing: Mortar shall be tested in accordance with ASTM C109 with the following exception: the mortar shall not be tested for flow. The mortar, composed of the sampled water, shall have a compressive strength of not less than 90% when compared to a mortar prepared using distilled water and tested at seven days.

Water of a questionable quality, as determined by the Department, shall be subject to the acceptance criteria for time of set as required by ASTM C1602, Table 1.

SECTION 924 ADMIXTURES FOR CONCRETE

924-1 General.

This Section covers admixtures for specific concrete applications. Admixtures shall comply with applicable ASTM specifications and the requirements of this Section. Admixtures that have been previously qualified for Department use are listed on the Department's Approved Product List (APL).

924-2 Acceptance of Admixtures.

924-2.1 Approved Product List (APL): All admixtures must be listed on the Department's Approved Product List (APL). Manufacturers seeking evaluation of their products shall submit an application in accordance with Section 6 and include product data sheets, certified independent test data showing the product meets the requirements of this Section, safety data sheet (SDS), and a certification of the average solids content and specific gravity.

Admixtures shall meet the following requirements:

- Air-Entraining - ASTM C260
- Type A Water-Reducing - ASTM C494
- Type C Accelerating - ASTM C494
- Type D Water-Reducing and Retarding - ASTM C494
- Type E Water-Reducing and Accelerating - ASTM C494
- Type F High Range Water Reducing - ASTM C494
- Type G High Range Water-Reducing and Retarding - ASTM C494
- Type I - Plasticizing - ASTM C1017
- Type II - Plasticizing and Retarding - ASTM C1017
- Type S Specific Performance - ASTM C494 and the performance

requirements of this Section.

Corrosion Inhibitors – ASTM G109 and the requirements of this Section.

The inclusion of any specific product on the APL, as specified in 6-1, indicates that the product has been given contingent approval, as evidenced by previous tests and apparent effectiveness under field conditions.

Unless otherwise specified, no further testing will be required for any product on the APL unless there is indication in actual field use of inadequate or unreliable results.

924-2.2 Additional Requirements for Corrosion Inhibitors: Calcium nitrite is a chemically reactive admixture used in concrete to inhibit the corrosion of embedded reinforcing steel and other metallic components. The calcium nitrite supplier shall submit to the Engineer test certificates from an independent laboratory indicating compliance with this Specification. The test certificate shall include corrosion inhibiting properties per ASTM G109 and results of physical tests included in this section. Calcium nitrite shall be supplied by the same manufacturing source throughout the project. If a single primary source of calcium nitrite cannot be maintained throughout the project, new test certificates shall be submitted. The Engineer will determine specification compliance of a new supplier's product, and evaluate the effectiveness of the new calcium nitrite product before approving the source.

The active ingredient shall be calcium nitrite $\text{Ca}(\text{NO}_2)_2$.

The calcium nitrite shall be furnished in solution containing not less than 29% calcium nitrite solids. The concentration of the calcium nitrite solution shall be verified by

spectrophotometric analysis or other comparable methods. The nitrite concentration shall be measured in accordance with Standard Methods for the Examination of Water and Waste Water, 18th Edition.

A volume of one gallon of calcium nitrite solution shall weigh within the range of 10.40 to 11.92 lb.

The calcium nitrite solution shall be added to the concrete mixture at a rate of 4.50 to 4.60 gal/yd³ of concrete.

The addition of calcium nitrite to the concrete mix shall not adversely affect the properties of fresh and hardened concrete.

Calcium nitrite concrete shall meet the following physical requirements when mixed and tested in accordance with ASTM C494:

Table 924-1	
Water Content, % of control	95 to 100
Time of setting, allowable deviation from control, h:min:	
Initial: at least not more than	1:00 earlier nor 1:30 later
Final: at least not more than	1:00 earlier nor 1:30 later
Compressive Strength, min. % of control:	shall be 100 for all ages
Flexural strength, min. % of control:	shall be 100 for all ages
Length change, max Shrinkage (alternative requirements): % of control	135
Increase over control	0.010
Relative durability factor, min	80

The following table lists the corrosion inhibiting test result limits for calcium nitrite concrete tested in accordance with ASTM G109:

Table 924-2	
Maximum Allowable Test Results of Calcium Nitrite Concrete	
Measured average macrocell current any time during the test	10 μ A
Average macrocell current at test completion	2 μ A
Average visible corrosion measured as percent corroded area of control	85%

924-2.3 Type S (Specific Performance): Trial batches shall use concrete meeting the requirements of ASTM C494. Additional trial batches may be required. Dosage rate shall be the same for all testing.

924-2.3.1 Workability Retention: Workability retention admixtures are used to extend workability and slump life without retarding the setting time. The dosage rate used shall be capable of maintaining 80% of the initial measured slump after 60 minutes. Perform an initial slump test, hold the trial batch in the mixer for 60 minutes, remix for 30 seconds and perform a second slump test. Workability retention shall be calculated as the percent difference in the initial slump and the slump at 60 minutes.

924-2.3.2 Shrinkage Reducing: Shrinkage reducing admixtures are used to minimize the shrinkage of plastic and hardened concrete. The dosage rate used shall reduce shrinkage a minimum of 50% after dry curing for 28 days. Shrinkage shall be determined in accordance with ASTM C157, except omit curing period in ASTM C157(10.3). Air storage for

the 28-day curing period shall be in accordance with ASTM C157(11.1.2). Shrinkage reduction shall be calculated as the percent difference in the control mix length change and the test mix length change.

924-2.3.3 Viscosity Modifying: Viscosity modifying admixtures are used primarily in flowing and self-consolidating concrete to maximize the rheology of plastic concrete and reduce segregation. The dosage rate used shall reduce static segregation to a minimum of 10%. A flowing concrete control mix shall be established by adding a compatible high range water-reducing or plasticizing admixture to increase the slump to 10 inches, plus or minus 0.5 inches. To establish the test mix, the control mix shall be reproduced with the addition of the viscosity admixture. The static segregation for both mixes shall be determined in accordance with ASTM C1610. Static segregation shall be calculated as the percent difference of the control mix static segregation to the test mix static segregation.

924-2.3.4 Rheology Modifying: Rheology modifying admixtures are used to maximize the rheology of plastic concrete. The dosage rate used shall be based on the manufactures recommendation and may vary for a specific application.

924-3 Retesting.

The approved admixtures are required to be tested for their uniformity and equivalence whenever there is an indication of erratic results. The tests shall be performed in accordance with the following procedure. The admixture shall be checked for comparison between infrared spectrophotometry, pH value, specific gravity, and solids content. Any marked variation from the original curve, pH value, specific gravity, or solids content will be considered sufficient evidence that the chemistry of the original material has been changed and, therefore, the use of this material will be rejected and the material will be removed from the APL.

**SECTION 925
CURING MATERIALS FOR CONCRETE**

925-1 Burlap.

Burlap for curing concrete shall consist either of two layers, each weighing 10 to 18 ounces/10 square feet, or of four layers, each weighing 6 to 7 ounces/10 square feet. Burlap which has been used as a container for sugar shall not be used. Burlap that is being used for the first time shall be thoroughly washed in order to remove starches used in sizing the material. Burlap shall be furnished in strips of at least 3 feet wide and shall be at least 3 feet longer than the width of surface to be covered.

925-2 Membrane-Forming Curing Compound.

925-2.1 General: Membrane-forming curing compound shall conform to requirements of ASTM C309 and the following requirements:

Table 925-1		
Requirement	Test Method	Test Value
Water Loss@72 hours	ASTM C156	0.55 kg/m ²
Deleterious Reaction with Concrete	ASTM C309	None
Reflectance	ASTM E1347	60% minimum*
Drying Time	ASTM C309	4 hours maximum
Non-Volatile Content	ASTM D1644 (Method A)	(informational)
Density, lbs/gal	ASTM D1475	(informational)
*Type 2 (White) compounds only.		

The membrane-forming curing compound shall be of a consistency suitable for spraying at temperatures prevalent at the time of application, and which forms a continuous, uniform film. It shall be free from precipitated matter caused by conditions of storage or temperature. Thoroughly agitate the curing compound in accordance with the manufacturer's recommendations prior to shipment from manufacturer's plant and prior to use at job site.

Curing compound delivered to the jobsite shall be in the manufacturer's original container and clearly labeled with the following information:

1. manufacturer's name
2. product name (trade name)
3. type
4. batch or LOT number
5. date of manufacture

925-2.2 Product Acceptance: Acceptance of membrane-forming curing compound shall be based on the product being listed on the Department's Approved Product List (APL).

925-2.2.1 Approved Product List: Manufacturers seeking evaluation of their product must submit an application in accordance with Section 6 and include product data sheets, material safety data sheets (SDS) and certified test reports from an independent laboratory showing the product meets the requirements of this Section. Testing in accordance with the

National Transportation Product Evaluation Program (NTPEP) Project Work Plan for the Laboratory Testing of Liquid Membrane-Forming Compounds for Curing Concrete shall be acceptable as independent laboratory data. Include an Infrared Spectrophotometry (IR) Scan and a certification stating the nominal minimum percentage of non-volatile material for the product formulation. Deviation of the non-volatile material below this certified value shall be considered a change in formulation and shall be grounds for removal from the APL.

925-2.2.2 Certification: Prior to use, the Contractor shall submit to the Engineer a certification from the manufacturer conforming to the requirements of Section 6 that the requirements of this Section are met.

925-2.3 Product Life: Store the curing compound in accordance with the manufacturer's recommendations. Curing compounds not used within one year of the date of manufacture shall not be incorporated into the work.

925-3 Sheet Materials.

925-3.1 General: Waterproof paper, polyethylene film and white burlap-polyethylene sheet, for curing concrete shall meet the requirements of ASTM C171, with the additional requirements for waterproof paper and for polyethylene film as shown below.

925-3.2 Additional Requirements for Waterproof Paper: The paper as prepared for use shall be in such dimensions that each unit as laid will extend at least 18 inches beyond the edges of the slab. If laid longitudinally, paper not manufactured in sizes which will provide this width shall be securely sewed or cemented together; the joints being sealed in such manner that they do not open up or separate during the curing period.

At the option of the Contractor, instead of the single longitudinal strip specified above, the blanket may be furnished in three strips; one strip being the neat width of the pavement, with two side strips.

925-3.3 Additional Requirements for Polyethylene Sheeting: The sheets, as prepared for use, shall be of such dimensions that each unit as laid will extend beyond the edges of the slab by at least twice the thickness dimension of the pavement edge, and the sheets shall overlap by at least 18 inches.

No sheet may be reused except after individual inspection and approval by the Engineer. Any sheets determined by the Engineer to be so damaged as to not afford the protection to the concrete in preventing moisture loss during the curing period will be rejected.

925-4 Certification.

For burlap or white burlap-polyethylene, the Contractor shall submit to the Engineer a certification conforming to the requirements of Section 6 from the manufacturer confirming that the requirements of this Section are met. Each certification shall cover only one type of burlap or white burlap-polyethylene sheeting.

**SECTION 926
EPOXY COMPOUNDS**

926-1 Types of Compounds.

Epoxy resin-based compounds for application to portland cement concrete, bituminous cement concrete, metals and other type surfaces shall be applicable for the following types as designated. Products may only be used for applications recommended by the manufacturer.

Table 926-1	
Type	Description
AB*	An epoxy resin, for bonding fresh or hardened concrete to hardened concrete and constructing doweled splices in precast prestressed concrete piles.
E*	A fluid epoxy for crack injection in the repair of old structures.
F	An epoxy for repairing spalled areas on concrete bridge structures with these subtypes:
F-1*	A non-sagging gel type for vertical surfaces.
F-2**	A pourable type for repairs where forms are to be used.
H**	An epoxy for structural bonding where asphalt overlays are to be in contact with the hardened compound.
K*	An epoxy for underwater sealing of the bottom of the jacket of an integral pile jacket system.
M***	A coal tar epoxy coating for steel sheet piles and H piles (water immersion) and hot applied coal tar epoxy tape.
PSE*	A two-part epoxy system to match the cast faces of joints between precast segmental concrete superstructure and/or substructure segments.
Q*	An epoxy for use in post tensioning anchorage protection systems.
*Accepted by APL	
**Accepted by certified test report	
***Accepted by certification	

926-2 Epoxy Design Requirements.

926-2.1 General: All types of compounds, except for Type M, shall be thermosetting containing no volatile solvent, and be pure reactive material. All types of compounds except for Type M shall have simple mix ratios of one to one, two to one, or shall be supplied in pre-proportioned containers in which all the contents are to be mixed.

All types of compounds shall be labeled with the manufacturer's name, brand name, component type (resin, hardener or filler), mix ratio, mixing directions, date manufactured, shelf life, and the manufacturer's LOT number. Potential hazards shall be stated on each package in accordance with the Federal Hazardous Products Labeling Act.

Certain terms used in this specification shall have these meanings:

low modulus - the stress-strain property for which ultimate tensile strength is attained at over 10% elongation.

high modulus - the stress-strain property for which ultimate tensile strength is attained at under 6% elongation.

non-sagging gel - grades of mixed compounds which will not perceptibly flow under their own weight on a vertical surface in the unhardened state.

pourable - grades of mixed compound sufficiently fluid that they (either neat or filled) can be cast into and will take the shape of a mold.

Fillers for mixing mortars and grouts shall be recommended by the manufacturer of the epoxy compound and supplied as packages accompanying the epoxy or premixed.

926-2.2 Approved Product List (APL): All epoxy materials shall be one of the products listed on the Department’s Approved Product List (APL) unless an alternative acceptance is identified in this Specification. Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6 and identify the epoxy type. Include with the submittal product data sheets, safety data sheets (SDS), and certified test reports from an independent laboratory showing the product meets the requirements of this Section. Manufacturers may submit performance test reports from the National Transportation Product Evaluation Program (NTPEP) as acceptable independent laboratory data.

Upon request, submit product samples to the Department for confirmatory testing and Infrared (IR) analysis.

926-3 Specific Requirements for Type AB Epoxy Compounds.

926-3.1 Mixing and Application: Type AB epoxy compounds are used for bonding fresh or hardened concrete to harden concrete and constructing doveled splices in precast prestressed concrete piles.

926-3.2 Performance Tests: Meet the requirements of ASTM C881 Type IV and V, Class C, when tested at 73° ± 2° F.

926-4 Specific Requirements for Type E Compounds.

Epoxies for crack injection shall meet the requirements of ASTM C881 Type IV compound with these additional requirements:

Table 926-2	
Viscosity five minutes after mixing	300 to 600 cps at 77°F by ASTM D2556
Wet bond strength to concrete, minimum	250 psi at seven days by FM 5-518

926-5 Specific Requirements for Type F Compounds.

926-5.1: Repairing Spalled Areas: Epoxies for repairing spalled areas shall meet the requirements in this Section.

926-5.2: Subtype F-1: Subtype F-1 epoxy is used for repairing vertical and other surfaces and shall be a trowelable low modulus, non-sagging gel epoxy compound capable of bonding to wet surfaces with these properties:

Table 926-3	
Color	Shall match gray color No. 36622 of FED-STD-595
Consistency	Gel
Maximum sand loading	Recommended by the manufacturer
Elongation in tension minimum	10% by ASTM D638, seven-day cure
Wet bond to Steel and Concrete minimum	250 psi by Florida Test Method FM 5-518

926-5.3: Subtype F-2: Subtype F-2 epoxy is used for filling larger spalls where a form is required to build back to the original surface. Materials shall be a pourable low modulus type compound capable of bonding to wet surfaces with these properties:

Table 926-4	
Color	Shall match gray color No. 36622 of FED-STD-595-
Maximum sand loading	Recommended by the manufacturer
Elongation in tension, minimum	10% by ASTM D638, seven-day cure
Exotherm	110°F by ASTM D2471, 1 pint sample
Wet bond strength	250 psi at seven days by FM 5-518

Type F-2 epoxy compounds will be accepted by certified test report. Submit to the Engineer testing from the manufacturer of the product for each LOT of material to be incorporated in the project. The test results will indicate that the material is in conformance with the Specifications, and will include actual values from the required tests. Obtain approval from the Engineer before incorporating material into the project.

926-6 Specific Requirements for Type H Compounds.

Type H epoxies for structural bonding where bituminous pavement overlays will come in contact with the hardened compound shall meet the requirements for Types AB compounds above. Submit from the manufacturer test data showing that cutback and emulsified asphalts, asphalt cement, and bituminous mixes shall bond to but not soften or otherwise damage the epoxy after a curing period of four days.

Type H epoxy compounds will be accepted by certified test report. Submit to the Engineer testing from the manufacturer of the product for each LOT of material to be incorporated in the project. The test results will indicate that the material is in conformance with the Specifications and will include actual values from the required tests. Obtain approval from the Engineer before incorporating material into the project.

926-7 Specific Requirements for Type K Compounds.

Type K epoxies are used for sealing the bottom of integral pile jackets in the repair of concrete piles. These epoxies will be extended with the aggregate supplied by the manufacturer. The epoxy shall be factory pre-proportioned including factory supplied aggregate and meet the following requirements:

Table 926-5	
Compressive strength at seven days, minimum by ASTM C579B	4,500 psi
Bond Strength by FM 5-518	
to wet concrete, minimum	250 psi
to wet pile jacket, minimum	150 psi
Viscosity of mixed epoxy component at 77°F, five minutes by ASTM D2556	1,000-2,000 cps

The epoxy shall be capable of flowing through water in the void area of the jacket and hardening under water so as to provide a water tight seal of the depth indicated in the Plans or approved shop drawings and to maintain this seal during subsequent construction steps.

926-8 Specific Requirements for Type M Compounds.

Type M Coal Tar epoxy coatings for steel sheet and H piles used in bridges, fender systems and other structures subject to immersion in water shall comply with the requirements of SSPC Paint 16 with Type 1 pitch. Application of the epoxy coating shall meet the requirements of Section 560 for a coal tar epoxy coating.

Hot applied coal tar epoxy tape used to protect tie back rods on sheet pile walls and bulkheads shall comply with the requirements of American Water Works Association standard C203. Application shall be according to the manufacturers published recommendations.

Submit to the Engineer a manufacturer certification, confirming that the coal tar epoxy meets the requirements of this Section. The certification shall conform to the requirements of Section 6. Do not incorporate these materials into the project until the Engineer has accepted and approved the certification for the material. Submit such certification for each LOT of material delivered to the project. In each certification, identify the serial or LOT numbers of the containers certified.

926-9 Specific Requirements for Type PSE Epoxy Compounds.

Precast Segmental Epoxy (PSE) compounds are used for match-cast joints between precast concrete segments. Normal set PSE shall remain workable for a short open time (about one hour) and meet the requirements of ASTM C881, Type VI Grade 3. Slow set PSE shall remain workable over an extended open time (about eight hours), meet the requirements of ASTM C881, Type VII Grade 3, and have a compressive yield strength of 6,000 psi at 14 days.

PSE compounds shall be factory pre-proportioned and formulated to provide application temperature ranges which are suitable for the erection of match cast segments with substrate temperatures between 40°F and 105°F with a minimum of at least two, but preferably three, formulations dividing the range into approximately equal subranges which overlap by at least 5°F.

926-10 Specific Requirements for Type Q Compounds.

Type Q epoxy compounds are used to protect the anchorages of post-tensioning tendons or bars and other uses indicated in the Plans. The material shall produce a low exothermic reaction and have flow and fill characteristics suitable for machine base plate applications. The material shall be factory pre-proportioned including factory supplied aggregate. Mix with the full aggregate loading unless the use of less aggregate is approved by the Engineer.

The epoxy grout plus aggregate mix shall meet or exceed the specified physical properties stated herein as determined by the following standard ASTM test methods.

Table 926-6		
Property	Test Value	Test Method
Compressive Strength at 7-day Cure at 77°F	> 10,000 psi	ASTM C579B
Tensile Strength at 7 days, Cure at 77°F	> 2,100 psi	ASTM C307
Flexural Strength at 7 days Cure at 77°F	> 3,600 psi	ASTM C580
Modulus of Elasticity 7 days Cure at 77°F	< 2,100,000 psi	ASTM C580
Coefficient of Thermal Expansion at 74° to 210°F	< 20 x 10 ⁻⁶ in/in/°F	ASTM C531
Peak Exotherm, Specimen 12 x 12 x 3 in.	< 150°F	ASTM D2471
Slant Shear at 7 days (Bond Strength to Concrete)	> 3000 psi	FM 5-587
Thermal Compatibility	90% of control	FM 5-609
Linear Shrinkage at 7 days	0.025%	ASTM C531
Flowability and Bearing Area	90% Contact area	ASTM C1339
Gel Time, Specimen 12 x 12 x 3 in.	< 4:00 (hr.)	ASTM D2471

SECTION 929 SUPPLEMENTARY CEMENTITIOUS MATERIALS

929-1 General.

Supplementary cementitious materials (SCMs) shall conform to the requirements of this Section. SCMs shall be used in concrete mix designs in accordance with Section 346.

Repulable bags may be accepted by the Engineer, provided a successful demonstration by the producer has indicated complete degradation of the repulable bags during the mixing operation and before the mix is discharged.

The Engineer may require additional testing beyond the requirements of this Section prior to the acceptance of any SCM sources.

929-1.1 Definitions.

The following definitions are applicable to the production and quality control (QC) of SCMs:

1. **Approved Laboratory:** A laboratory that is currently inspected by the Cement and Concrete Reference Laboratory (CCRL), is actively participating in the CCRL proficiency program and has corrected all deficiencies noted at the time of inspection. The laboratory must authorize the CCRL to send a copy of the final inspection report and proficiency sample results to the State Materials Office (SMO).

2. **SCM Producer:** Indicates an SCM supplier, including but not limited to a plant, a terminal, or a transfer facility, that has been qualified by the SMO. The Cementitious Materials Production Facility Listing will be maintained by the SMO.

3. **Test Report:** A certification from the SCM producer showing that the SCM meets the requirements of this Section. The test report must include, at a minimum, the following information:

- a. The Type of SCM.
- b. The production period.
- c. Chemical and physical analysis of the SCM.
- d. The silo numbers where the SCM is stored.
- e. The specific gravity of the SCM.
- f. The approved laboratory that performed all tests.

4. **Purchaser:** The term “purchaser” in the ASTM requirements shall be taken as the Department.

929-2 Quality Control Program.

929-2.1 General: Develop a Producer QC Program as specified in Section 105.

SCM producers shall submit a proposed QC Plan to the SMO for acceptance.

Complete the Cementitious Materials Producer QC Plan Checklist (Appendix B02) and submit it along with the QC Plan, in a separate file. The checklist can be found on the SMO website:

<https://www.fdot.gov/materials/quality/programs/qualitycontrol/checklists/index.shtm>. In addition to the QC Plan, the SCM producer must submit monthly test reports from an approved laboratory which certifies that the SCM in current production or supply conforms to the requirements of this Section.

SCM producers with an accepted QC Plan will appear on the Cementitious Materials Production Facility Listing.

QC test data that does not comply with the Specification will not be reason for rejection of the material if the SCM producer's QC Plan indicates that material will be diverted and not used for Department projects.

929-2.2 Sampling and Testing: Representatives from the Department may take verification samples at the SCM producer's plant, terminal, distribution facility or the concrete production facility. Samples shall be obtained by one of the methods described in FM 5-503. Sample sizes shall be a minimum of one gallon by volume. At the concrete production facility, cementitious samples shall be jointly obtained by the Department inspector and the concrete producer's representative.

Upon request of the Department, the SCM producer shall provide split samples of the cementitious material collected for QC testing. Split samples shall be delivered to the SMO and shall be identified as representing a designated LOT of the SCM.

Notification of failing verification sample test results will be distributed to the SCM producer and concrete producers (if applicable). Split samples of the initial sample may be provided to the SCM producer and concrete producer upon request.

929-3 Fly Ash.

929-3.1 General: Sampling and testing of fly ash shall follow the requirements of ASTM C311. Fly ash shall not include the residue resulting from the burning of municipal waste or any other refuse with coal, or the burning of industrial or municipal waste in incinerators.

929-3.2 Fly Ash (Class F): Fly ash derived from the combustion of ground or powdered coal shall meet the requirements of ASTM C618 Class F fly ash.

929-3.3 Fly Ash (Class C): Fly ash derived from the combustion of ground or powdered coal shall meet the requirements of ASTM C618 Class C fly ash.

929-3.4 Acceptance Testing of Fly Ash: Acceptance of fly ash from sources operating under an accepted QC Plan shall be based on the monthly test reports meeting the chemical and physical requirements of ASTM C618 Class F or Class C and this Section. When the loss on ignition exceeds 5.0%, the Supplementary Optional Physical Requirements shall be mandatory. Fly ash meeting the requirements of ASTM C618 Class F may be used with no further testing.

Petroleum coke, bark ash, or Class C fly ash may be used if the concrete test results provide an improvement or comparable compressive strength, sulfate resistance, corrosion protective properties and other durability requirements, when compared to concrete containing Class F fly ash.

929-3.4.1 Concrete/Mortar Testing: Six concrete mixes shall be prepared by an accredited laboratory, three control batches using an approved Class F fly ash and three comparison batches with petroleum coke, bark ash, or Class C fly ash, while all other constituents remain the same except for small adjustments to get the mix to yield. Follow the below criteria for each mix:

1. Use a previously approved FDOT Class IV (5,500 psi) mix design.
2. Size No. 57 Coarse Aggregate from an approved FDOT source.
3. 18 to 22% fly ash replacement.
4. Water/cementitious materials ratio of 0.41.

The following testing shall be performed on each concrete mix, as appropriate.

Table 929-1 Concrete Testing Requirements		
Test Description	Standard Test Method	Test Age
Surface Resistivity	AASHTO T 358	28 days
Compressive Strength	ASTM C39	28 days
Chloride Diffusion	ASTM C1556 or NT Build 443	6 months, 12 months ⁽¹⁾
Length Change	ASTM C157	28 days ⁽²⁾

(1) Upon completion of all 28 day and 6-month testing, the SCM producer may present the data to the SMO for acceptance. The 12 month data shall be provided to the SMO upon completion.
(2) Follow the Air Storage procedure.

Sulfate Resistance testing shall be performed on a mortar mix in accordance with ASTM C1012 and results reported after 6 and 12 months of testing.

929-4 Slag Cement.

Slag cement (ground granulated blast furnace slag, GGBFS) is the quenched, ground by-product of the iron ore refinement process conducted in blast furnaces. It is primarily an amorphous material of calcium aluminosilicate constituents.

929-4.1 General: Slag cement and reference cement used for determination of slag activity tests shall meet the requirements of ASTM C989. Sampling and testing procedures shall follow the requirements of ASTM C989.

929-4.2 Acceptance Testing of Slag Cement: Acceptance of slag cement from sources operating under an accepted QC Plan shall be based on the monthly test reports meeting the chemical and physical requirements of ASTM C989 and this Section. The test report shall include:

1. For slag granules, provide X-ray Fluorescence (XRF) elemental analysis of the granules, presented in oxide form. Include CaO, SiO₂, Al₂O₃, MgO, Mn₂O₃, TiO₂, Fe₂O₃, and sulfur (as sulfide).
2. For slag cement, provide XRF elemental analysis, presented in oxide form. Include CaO, SiO₂, Al₂O₃, MgO, Mn₂O₃, TiO₂, Fe₂O₃, sulfur as sulfide (S), sulfate sulfur (SO₃), and total sulfur as sulfate (SO₃).
3. The results of all testing listed under Test Methods section of ASTM C989.
4. Indicate the amount of any additions introduced during grinding of the slag granules and report compliance with Section 6 of ASTM C989.
 - a. Amount of limestone added and its CaCO₃ content.
 - b. Amount of other inorganic processing addition.
5. For calcium sulfate additions, indicate:
 - a. Amount of calcium sulfate added.
 - b. Form of calcium sulfate.
 - c. SO₃ content.
 - d. Method used to determine the amount of calcium sulfate that was added.

929-4.2.1 Assessment of Sulfate Resistance: Following guidance in ACI 233R-17 Guide to the Use of Slag Cement in Concrete and Mortar, slag cements with

Al₂O₃ contents greater than 11% should be interground with calcium sulfate to avoid an undersulfated cementitious system. Provide ASTM C1012 data with a 50:50 portland cement-slag cement blend, using a Type II portland cement on the Department's Production Facility Listing, with an alkali content of no more than 0.6%, when any of the following conditions occur:

1. The Al₂O₃ content of the slag cement is equal to or greater than 12%.
2. The slag cement is a blend of slag granules from more than one source

that are interground during production of the slag cement and for which one or more of the following are true:

- a. The Al₂O₃ contents of both slag sources are equal to or greater than 12%.
- b. The average Al₂O₃ content of the blend is equal to or greater than 12%.
- c. One of the slag sources has an Al₂O₃ content that is equal to or greater than 14%.

The Department will consider the ASTM C1012 data acceptable when the results indicate no more than 0.10% expansion at 12 months.

The Department may grant provisional acceptance if the expansion does not exceed 0.05% at 6 months.

For any slag cements with Al₂O₃ content equal to or greater than 12%, perform a retest of ASTM C1012 if the monthly test report indicates that any of the following conditions have occurred:

1. The Al₂O₃ content increases by greater than or equal to 1.0% of the content measured during qualification of the sulfate resistance.
2. The sulfate sulfur (SO₃) content decreases by 0.25% less than that measured during qualification of the sulfate resistance.
3. The Blaine fineness increases by 50 m²/kg greater than that measured during qualification of the sulfate resistance.

The Department may grant provisional acceptance of the slag cement source if ASTM C1012 data is required for any of the above retesting conditions.

929-5 Calcined Clay.

929-5.1 General: Sampling and testing of calcined clay shall follow the requirements of ASTM C311. Calcined clay shall meet the requirements of ASTM C618 Class N.

929-5.2 Acceptance Testing of Calcined Clay: Acceptance of calcined clay from sources operating under an accepted QC Plan shall be based on the monthly test reports meeting the chemical and physical requirements of ASTM C618 Class N and this Section.

Calcined clay may be used in concrete if the test results provide an improvement or comparable compressive strength, sulfate resistance, corrosion protective properties, and other durability requirements of concrete, when compared to ASTM C618 Class F fly ash concrete.

929-5.2.1 Concrete/Mortar Testing: Six concrete mixes shall be prepared by an accredited laboratory, three control batches using an approved Class F fly ash and three comparison batches with the calcined clay, while all other constituents remain the same except for small adjustments to get the mix to yield. Follow the below criteria for each mix:

1. Use a previously approved FDOT Class IV (5,500 psi) mix design.
2. Size No. 57 Coarse Aggregate from an approved FDOT source.

3. Control batches: Replace 18 to 22% of the portland cement with Class F fly ash.

4. Comparison batches: Replace a portion of portland cement with a quantity of calcined clay sufficient to produce properties comparable to those for the control batches.

5. Water/cementitious materials ratio of 0.41

Testing shall be performed in accordance with Table 929-1.

Sulfate Resistance testing shall be performed on a mortar mix in accordance with ASTM C1012 and results reported after 6, 12, and 18 months of testing.

929-6 Ground Glass.

929-6.1 General: Sampling and testing of ground glass shall follow the requirements of ASTM C311. Ground glass shall meet the requirements of ASTM C1866. Sampling and testing procedures shall follow the requirements of ASTM C1866.

929-6.2 Acceptance Testing of Ground Glass: Acceptance of ground glass from sources operating under an accepted QC Plan shall be based on the monthly test reports meeting the chemical and physical requirements of ASTM C1866 and this Section.

Ground glass may be used in concrete if the test results provide an improvement or comparable compressive strength, sulfate resistance, corrosion protective properties, and other durability requirements of concrete, when compared to ASTM C618 Class F fly ash concrete.

929-6.2.1 Concrete/Mortar Testing: Six concrete mixes shall be prepared by an accredited laboratory, three control batches using an approved Class F fly ash and three comparison batches with the ground glass, while all other constituents remain the same except for small adjustments to get the mix to yield. Follow the below criteria for each mix:

1. Use a previously approved FDOT Class IV (5,500 psi) mix design.

2. Size No. 57 Coarse Aggregate from an approved FDOT source.

3. Control batches: Replace 18 to 22% of the portland cement with Class F fly ash.

4. Comparison batches: Replace a portion of portland cement with a quantity of ground glass sufficient to produce properties comparable to those for the control batches.

5. Water/cementitious materials ratio of 0.41.

Testing shall be performed in accordance with Table 929-1.

Sulfate Resistance testing shall be performed on a mortar mix in accordance with ASTM C1012 and results reported after 6, 12, and 18 months of testing.

929-7 Highly Reactive Pozzolans.

929-7.1 Silica Fume:

929-7.1.1 General: Silica Fume shall meet the requirements of ASTM C1240 using the referenced test methods and frequencies.

929-7.1.2 Acceptance Testing of Silica Fume: Acceptance of silica fume from sources operating under an accepted QC Plan shall be based on monthly test reports that the material meets the requirements of ASTM C1240 and this Section.

929-7.2 Metakaolin:

929-7.2.1 General: Metakaolin shall meet the requirements of ASTM C618 Class N with the following modifications:

1. The sum of $\text{SiO}_2 + \text{Al}_2\text{O}_3 + \text{Fe}_2\text{O}_3$ shall be at least 85%.

2. The loss on ignition shall be less than 3.0%.
3. The available alkali's, as equivalent Na_2O , shall not exceed 1.0%.
4. The strength activity Index, at 7 days, shall be at least 85%.

929-7.2.2 Acceptance Testing of Metakaolin: Acceptance of metakaolin from sources operating under an accepted QC Plan shall be based on the monthly test reports meeting the chemical and physical requirements of ASTM C618 Class N, as modified herein, and this Section.

929-7.3 Ultra Fine Fly Ash:

929-7.3.1 General: Sampling and testing of the ultra fine fly ash shall follow the requirements of ASTM C311. Ultra fine fly ash derived from the combustion of ground or powdered coal shall meet the requirements of ASTM C618 as a Class F fly ash with the following modifications:

1. The pozzolanic activity index, at 7 days, shall be at least 85% of the control and the pozzolanic activity index, at 28 days, shall be at least 95% of the control.
2. The amount of material retained when wet-sieved on a 45- μm sieve shall be less than 6.0%.
3. The moisture content shall be less than 1.0%.
4. The loss on ignition shall be less than 2.0%.

929-7.3.2 Acceptance Testing of Ultra Fine Fly Ash: Acceptance of fly ash from sources operating under an accepted QC Plan shall be based on the monthly test reports meeting the chemical and physical requirements of ASTM C618 Class F fly ash and this Section. When the loss on ignition exceeds 2.0%, the Uniformity Requirements in the Supplementary Optional Physical Requirements shall be mandatory.

929-8 Shipping and Storage.

SCMs may be delivered in bags or in bulk. SCMs from an SCM producer on the Cementitious Materials Production Facility Listing shall be shipped on the basis of test reports meeting the requirements of this Section. Ensure that each shipment is accompanied by a delivery ticket that is traceable to the test report and includes, at a minimum, the following information:

1. FDOT Facility Identifier
2. Type of material (e.g. Class F fly ash or Grade 120 slag)
3. Date shipped
4. Silo Identification

The storage building, bin or silo shall be weatherproofed.

929-9 Foreign Supplementary Cementitious Material Acceptance.

SCMs being imported from a foreign source shall conform to all requirements of this Section and will be subject the following process:

1. The proposed QC Plan shall be sent to the SMO and will include information regarding the QC, sampling, storage, and handling of the material at the arrival terminal as well as the shipping control to and from the arrival terminal. In addition, the QC Plan from the foreign source shall be translated to English and will be included with the proposed QC Plan for the arrival terminal.
2. An initial one gallon by volume sample of the imported SCM shall be sent to the SMO for chemical and physical testing.

3. When the first ship is being loaded from the foreign source, a one gallon by volume verification sample will be obtained and shipped to the SMO for chemical and physical property testing.

The material will be accepted for use on Department projects provided that the QC Plan has been accepted, and the results of the initial and verification samples have been confirmed to meet the requirements of this Section.

Upon receiving the shipment of cement at the arrival terminal, the Department will be notified, and a Department representative may obtain another verification sample.

Test reports representing each shipment shall be sent to the SMO.

SECTION 930 MATERIALS FOR CONCRETE REPAIR

930-1 Description.

This Section covers cementitious materials used to repair concrete including defects or purposely placed openings in concrete elements. Materials containing organic compounds, such as bitumen and epoxy resin as the principal binder are not included. The requirements for epoxy resin materials are covered in Section 926. Any depth larger than the manufacturer's recommendation for the specific material shall be repaired with portland cement concrete meeting the requirements of Section 346.

930-2 Product Acceptance on the Project.

930-2.1 Product Acceptance: Use only products listed on the Department's Approved Product List (APL). Manufacturers seeking evaluation of products must submit an application in accordance with Section 6 and include independently certified test reports that the material meets the requirements of this Section. The application package must describe detailed quality control requirements for installation including, but not limited to: maximum water to cementitious material ratio, formulation for two or more component systems, special materials and/or equipment, recommendations for all surface preparation, and curing requirements.

Provide the Engineer certification conforming to the requirements of Section 6 from the manufacturer confirming that the materials used meets the requirements of this Section and is the appropriate product for the intended use.

When specified in the Contract Documents, submit a report of test results from an independent laboratory on samples taken from material shipped. Ensure the test was performed within 45 days prior to the shipping date of the material.

930-2.2 Material Supply, Storage, and Marking: The material shall be pre-proportioned including aggregate. Deliver products in original, unopened containers with manufacturer's name, date of manufacture, and clearly marked with all information described below. Store the material in an elevated dry and weather protected enclosure in full compliance with the manufacturer's recommendations. Material must be used within manufacturer's recommended shelf life.

The material from which the containers are made shall have water vapor transmission not greater than 100 g/m² in 24 hours as determined in accordance with Procedure B of ASTM E96.

All containers shall be marked with the following information:

1. LOT identification number and material expiration date
2. Directions for use shall include but are not limited to the following:
 - a. The type and kind of adhesive recommended (if any) to bond fresh repair material to the concrete or mortar being repaired.
 - b. The recommended amount of resin, other liquid component, or both, to be mixed with the package contents.
 - c. The recommended length of mixing time or sequence of mixing and resting times in minutes.
3. Date the material was packaged.
4. The yield in cubic feet or yield in ft²/in. thickness when mixed with the recommended amount of liquid.

5. The net weight in each container. The contents of any container shall not vary by more than 2% from the weight stated in the declarations. The average weight of filled containers in a LOT shall be not less than the individual weight stated in the declarations.

6. Instructions for the maximum and minimum water (or solutions) to cementitious material ratio.

7. State the approximate working time.

930-2.3 Sampling, Mixing, and Additional Testing: A LOT is the packaged repair material normally placed on a pallet. A unit sample is a single container or package of material randomly selected from the LOT. Mix and install the materials in accordance with the manufacturer's recommendations. Manufacturers will be required to provide field representation upon request by the Engineer. The Department reserves the right to conduct further field testing on any approved material.

930-2.4 Rejection: All broken containers will be rejected. Material that fails to meet any of the requirements of this Specification will be rejected. Report all materials failing to meet this specification and state the reasons for rejection in writing to the Engineer and the producer or supplier. Material in local storage in the hands of a vendor for more than six months after testing will be retested before use, except for the scaling resistance test and length change immersed in sulfate solution test for magnesium ammonium phosphate concrete. Retested material will be rejected if it fails to conform to any of the requirements of this Specification.

930-3 Laboratory Specimen Preparation.

930-3.1 Mixing and Fabrication: Mechanically mix the dry packaged materials with liquid components in accordance with the manufacturer's recommendations.

930-3.2 Length Change: Make and cure the test specimens in accordance with ASTM C157, except omit the curing period in Section 10.3; however both 11.1.1 and 11.1.2 shall apply for 28 day curing period.

930-3.3 Manifestly Faulty Specimens: Visually examine each group of specimens representing a given test or a given age of test, including tests of freshly mixed concrete, before or during the test, or both, whichever is appropriate. Discard any specimen found to be manifestly faulty by such examination without testing. Visually examine all specimens representing a given test at a given age after testing, and should any specimen be found to be manifestly faulty the test results thereof shall be disregarded. Should more than one specimen representing a given test at a given age be found manifestly faulty either before or after testing, the entire test shall be disregarded and repeated. The test result reported shall be the average of the individual test results of the specimens tested or, in the event that one specimen or one result has been discarded, it shall be the average of the test results of the remaining specimens.

930-4 Materials for Repair of Predominately Horizontal Surfaces.

930-4.1 General: This material is intended to be used to repair concrete where the area to be treated will be on a horizontal surface. Examples of the type of locations for these materials are bridge decks, portland cement concrete pavements and other locations required by the Contract Documents. Follow the manufacturer's recommendations for preparing the surfaces, mixing, placing, and curing the repair material unless otherwise directed in the Contract Documents.

930-4.2 Classification: The materials to be considered under this classification shall meet the following requirements:

930-4.2.1 Rapid Hardening: Moderate compressive strength for repairing concrete with an in-place compressive strength less than or equal to 4,000 psi.

930-4.2.2 Very Rapid Hardening: High compressive strength for repairing concrete with an in-place compressive strength greater than 4,000 psi. This material may be used in lieu of rapid hardening materials.

930-4.3 Physical Properties: The repair material shall meet or exceed the physical properties stated in Table 930-1 as determined by the specified test methods.

Table 930-1 Physical Properties of Repair Materials for Horizontal Surfaces			
Requirement	Test Method	Rapid Hardening	Very Rapid Hardening
Minimum Compressive Strength, psi			
3 hours	ASTM C39* or ASTM C109*	N/A	2,000
24 hours		2,000	4,000
7 days		4,000	6,000
28 days		Greater than or equal to strength at 7 days.	
Maximum Length Change, %			
Allowable expansion at 28 days when water cured compared to length at one day	ASTM C157**	0.12	0.12
Allowable shrinkage at 28 days when air cured compared to length at one day		-0.12	-0.12
Allowable difference between increase in water and decrease in air		0.20	0.20
Minimum Slump (Concrete), inches	ASTM C143***	3	3
Minimum Flow (Mortar), %	ASTM C1437***	100	80
Time of Setting (Initial), minutes	ASTM C191* or ASTM C403*	Minimum 30	10 to 29
Coefficient of Thermal Expansion, in/in/°F	ASTM C531* or AASHTO T 336	3.0x 10 ⁻⁶ to 9.0 x 10 ⁻⁶	3.0 x 10 ⁻⁶ to 9.0 x 10 ⁻⁶
Minimum Bond Strength by Slant Shear, psi			
24 hours	FM 5-587	400	450
7 days		Greater than or equal to strength at 24 hours.	
Maximum Allowable Total Chlorides lb/yd ³	FM 5-516	0.40	
* as applicable ** Make and cure the test specimens in accordance with ASTM C157, except omit the curing period in Section 10.3; however both 11.1.1 and 11.1.2 shall apply for 28 day curing period. *** Testing for flow/slump will be completed in 15 plus or minus 1/2 minute after the start of mixing liquid with the rapid hardening materials or 5 plus or minus 1/2 minute after mixing the liquid with the very rapid hardening materials.			

930-4.4 Specimen Preparation:

930-4.4.1 Flow/Slump: Testing for flow/slump will be completed in 15 minutes, plus or minus 1/2 minute, after the start of mixing liquid with the rapid hardening materials or 5 minutes, plus or minus 1/2 minute, after mixing the liquid with the very rapid hardening materials.

930-5 Materials for Repair of Predominately Vertical Surfaces.

930-5.1 General: This material is intended to be used to repair concrete where the area exposed in the field to be treated will be on a vertical surface. If an element has both horizontal and vertical surfaces, then the repair used will be for vertical surfaces. If it is not apparent which material is to be used, the vertical application will prevail. Examples of the type of locations for these materials are columns, caps, beams, piles, incidental concrete products, drainage structures and other locations required by the Contract Documents. Follow the manufacturer's recommendations for preparing the surfaces and for mixing, placing and curing the repair material.

930-5.2 Classification: The materials to be considered under this classification shall meet the following requirements:

930-5.2.1 High Performance: Moderate compressive strength for repairing concrete with a designed compressive strength greater than or equal to 5,000 psi.

930-5.2.2 Ultra-high Performance: High compressive strength for repairing concrete with a designed compressive strength greater than 5,000 psi. These materials may be used in lieu of high performance vertical materials.

930-5.3 Physical Properties: The repair material shall meet or exceed the physical properties stated in Table 930-2 as determined by the specified test methods.

Table 930-2 Physical Properties of Repair Materials for Vertical Surfaces*			
Requirement	Test Method	High Performance	Ultra-high Performance
Minimum Compressive Strength, psi			
24 hours	ASTM C39** or ASTM C109**	1,000	2,000
7 days		N/A	5,000
28 days		5,000	Greater than or equal to strength at 7 days
Maximum Length Change, %			
Allowable expansion at 28 days when water cured compared to length at one day	ASTM C157**	0.12	0.12
Allowable shrinkage at 28 days when air cured compared to length at one day		-0.08	-0.08
Maximum Slump (Concrete), inches	ASTM C143	3****	3****
Maximum Flow (Mortar), %	ASTM C1437	100****	100****
Time of Setting (Initial), minutes	ASTM C191** or ASTM C403**	10 to 180****	10 to 180****
Coefficient of Thermal Expansion, in/in/°F	ASTM C531*** or AASHTO T 336****	3.0 x 10 ⁻⁶ to 9.0 x 10 ⁻⁶	
Minimum Bond Strength by Slant Shear, psi,			
24 hours	FM 5-587	450	750
7 days		750	750
Minimum Flexural Strength (at 7 days), psi	ASTM C580	500	700
Maximum Absorption (Mortar at 7 days), %	ASTM C413	4	4
Minimum Surface Resistivity (Concrete at 28 days), kohm-cm	AASHTO T 358	N/A	22
Maximum Allowable Total Chlorides lb/yd ³	FM 5-516	0.40	
* Use cement-based materials modified with polymers and silica fume for extremely aggressive environments			
** Make and cure the test specimens in accordance with ASTM C157, except omit the curing period in Section 10.3; however both 11.1.1 and 11.1.2 shall apply for 28 day curing period.			
*** As applicable			
**** For pump and pour applications, the maximum flow, slump and time of setting can be adjusted according to the manufacturer's recommendation.			

930-6 Material for Repair of Concrete in High Stress Concentration Areas.

930-6.1 General: This material is intended to be used to repair block-outs and voids in post-tensioned elements, load bearing area of a beam, and other locations required by the Contract Documents. This material may be used for the repair of horizontal or vertical surfaces. Follow the manufacturer's recommendations for preparing the surfaces and for mixing, placing and curing the concrete. This material shall be a magnesium ammonium phosphate based concrete (MAPC) or a magnesium potassium phosphate based concrete (MPPC).

930-6.2 Physical Properties: The MAPC and MPPC materials shall meet or exceed physical properties stated in Table 930-3 as determined by the specified standard test methods.

Table 930-3 Physical Properties of Repair Material in High Stress Areas		
Requirement	Test Method	Test Value
Minimum Compressive Strength (at 28 days), psi	ASTM C109*	8,500
Minimum Flexural Strength (at 28 days), psi	ASTM C348*	600
Minimum Slant Shear Bond (at 14 days), psi	FM 5-587*	2,500
Time of Setting (Initial), minutes	ASTM C191**	15 to 60
Maximum Scaling Resistance	ASTM C672	No scaling
Maximum Length Change, %		
Allowable expansion at 28 days when water cured compared to length at one day	ASTM C157***	0.03
Allowable shrinkage at 28 days when air cured compared to length at one day		-0.03
Maximum Allowable Total Chlorides lb/yd ³	FM 5-516	0.40
* The test methods for compressive strength (ASTM C109), flexural strength (ASTM C348), and Slant Shear Bond (FM 5-587) shall be modified so that the specimens are air cured instead of moist cured. All of these samples shall be air cured until the time of testing.		
** Initial time of set for MAPC or MPPC will be tested in accordance with ASTM C191 with the following modification. The initial time of set shall be tested at 95° plus or minus 5°F.		
*** Make and cure the test specimens in accordance with ASTM C157, except omit the curing period in Section 10.3; however both 11.1.1 and 11.1.2 shall apply for 28 day curing period.		

930-6.3 Curing of Compressive Strength, Flexural Strength and Slant Shear Bond Specimens: The test methods for compressive strength (ASTM C109), flexural strength (ASTM C348), and Slant Shear Bond (FM 5-587) shall be modified so that the specimens are air cured instead of moist cured. All of these samples shall be air cured until the time of testing.

930-7 Special Fillers.

930-7.1 General: This material is intended to be used as filler material and for rapid repairs to pile jacket structures and other locations specified in the Plans. Meet the requirements of the contract documents for preparing the surfaces, placing, sampling, testing, and curing the concrete. Mix the material in accordance with the manufacturer’s recommendations.

930-7.2 Classification: The materials to be considered under this classification shall meet the following requirements:

930-7.2.1 Cathodic Protection (CP) Filler: Provide cementitious based materials with a minimum cement content of 900 pounds of cement per cubic yard of mix. Material formulation must not contain fly ash, slag, silica fume or other mineral admixtures which may produce increased electrical resistance. The material shall not contain any substances corrosive to metals.

930-7.2.2 Non-Cathodic Protection (Non-CP) Filler: Provide cementitious based materials with a minimum cement content of 650 pounds of cement per cubic yard of mix. The material shall not contain any substances corrosive to metals.

930-7.2.3 Extended Materials: Where concrete filler materials are specified, approved mortar materials may be extended using size number 89 gradation aggregates from a certified FDOT approved source.

930-7.3 Physical Properties: The repair material shall meet or exceed the physical properties stated in Table 930-4 as determined by the specified standard test methods. If extended, materials shall meet the minimum requirements of Table 930-4.

930-7.4 Constructability: Submit to the Engineer for approval shop drawing as may be required to complete repairs in compliance with the design shown in the Plans and the manufacturer’s recommended repair system.

Table 930-4 Physical Properties of Special Fillers			
Requirement	Test Method	Cathodic Protection	Non-Cathodic Protection
Minimum Compressive Strength, psi			
24 hours	ASTM C39* or	1,500	2,000
28 days	ASTM C109*	5,000	5,000
Maximum Length Change, %			
Allowable expansion at 28 days when water cured compared to length at one day	ASTM C157**	0.12	0.12
Allowable shrinkage at 28 days when air cured compared to length at one day		-0.12	-0.12
Allowable difference between increase in water and decrease in air		0.20	0.20
Slump (Concrete), inches	ASTM C143	7-9	7-9
Minimum Flow (Mortar), %	ASTM C1437	100	100
Time of Setting (Initial), minutes	ASTM C191* or ASTM C403*	200 to 400	200 to 400
Minimum Bond Strength by Slant Shear (at 7 days), psi	FM 5-587	450	450
Minimum Flexural Strength (at 7 days), psi	ASTM C580	700	700
Minimum Tensile Strength (at 7 days), psi	ASTM C307	200	200
Surface Resistivity (at 28 days), kohm-cm	AASHTO T 358	15 or less	22 or greater
Maximum Allowable Total Chlorides lb/yd ³	FM 5-516	0.40	
* as applicable			
** Make and cure the test specimens in accordance with ASTM C157, except omit the curing period in Section 10.3; however both 11.1.1 and 11.1.2 shall apply for 28 day curing period.			

ACCESSORY MATERIALS FOR
CONCRETE PAVEMENT AND CONCRETE STRUCTURES

SECTION 931
METAL ACCESSORY MATERIALS FOR
CONCRETE PAVEMENT AND CONCRETE STRUCTURES

931-1 Reinforcement Steel (for Pavement and Structures).

931-1.1 Steel Bars:

931-1.1.1 Carbon Steel Bars: Carbon steel bars for concrete reinforcement shall conform to the requirements of ASTM A615 Grades 60 or 80.

931-1.1.2 Stainless Steel Bars: Stainless steel bars for concrete reinforcement shall conform to the requirements of ASTM A955, Grades 60 or 75; or ASTM A276, UNS S31653 or S31803.

931-1.1.3 Low-Carbon Chromium Steel Bars: Low-carbon chromium steel bars for concrete reinforcement shall conform to the requirements of ASTM A1035 Grade 100.

931-1.1.4 Special Requirements: The following special requirements shall apply:

1. Unless otherwise specified or shown in the Plans all reinforcing bars No. 3 and larger shall be deformed bars.
2. Twisted bars shall not be used.
3. Wherever in the Specifications the word “purchaser” appears it shall be taken to mean the Department.

931-1.1.5 Acceptance of Steel Bars: Acceptance of reinforcing steel shall be based on the manufacturer being on the National Transportation Product Evaluation Program (NTPEP) list of compliant producers, samples taken by the Department, and manufacturer’s certified mill analysis. The test results shall meet the specification limits of the ASTM or AASHTO designation for the size, grade and any additional requirements. The manufacturer’s certified mill analysis for each heat, size, and grade per shipment of reinforcing steel shall be provided to the Engineer prior to use.

The Engineer will select samples representing each LOT of reinforcing steel. A sample is defined as the reinforcing steel and the certified mill analysis corresponding to the sample. A LOT is defined as the weight of all bars, regardless of size, grade or pay item in consecutive shipments of 100 tons or less. Samples shall be cut from bundled steel that is shipped to the jobsite.

Projects with less than two tons of bars do not require Department sampling.

931-1.2 Wire Reinforcement:

931-1.2.1 Carbon Steel Wire Reinforcement: Plain and deformed carbon steel wire reinforcement shall meet the requirements of ASTM A1064. Deformed carbon steel wire shall be Grade 75.

931-1.2.2 Stainless Steel Wire Reinforcement: Plain and deformed stainless steel wire reinforcement shall meet the requirements of ASTM A276, UNS S30400.

931-1.2.3 Acceptance of Wire Reinforcement: Acceptance of wire reinforcement shall be based on the manufacturer’s certified mill analysis certifying that the test results meet the specification limits of the ASTM designation for the sizes and any additional

requirements. Prior to use, submit to the Engineer the manufacturer's certified mill analysis for each heat and size per shipment.

931-1.3 Carbon Steel Welded Wire Reinforcement:

931-1.3.1 Carbon Steel Welded Wire Reinforcement: Welded wire reinforcing steel shall meet the requirements of ASTM A1064.

931-1.3.2 Acceptance of Carbon Steel Welded Wire Reinforcement:

Acceptance of welded wire reinforcement shall be based on the manufacturer's certified mill analysis certifying that the test results meet the specification limits of the ASTM designation for the sizes and any additional requirements. Prior to use, submit to the Engineer the manufacturer's certified mill analysis for each heat and size per shipment.

931-1.4 Couplers for Steel Bars:

931-1.4.1 Approved Product List (APL): The couplers used shall be a product included on the Department's APL.

Manufacturers seeking approval of their product shall demonstrate the performance of their product in accordance with the requirements in 931-1.4.2 through 931-1.4.4 as applicable and 931-1.4.5.

931-1.4.2 Couplers for Carbon Steel Bars: Couplers for use with carbon steel bars shall be fabricated from an alloy that is electrochemically compatible with bars that meet the requirements of 931-1.1.1.

931-1.4.3 Couplers for Stainless Steel Bars: Couplers for use with stainless steel bars shall be fabricated from an alloy that is electrochemically compatible with bars that meet the requirements of 931-1.1.2.

931-1.4.4 Couplers for Low-Carbon Chromium Steel Bars: Couplers for use with low-carbon chromium steel bars shall be fabricated from an alloy that is electrochemically compatible with bars that meet the requirements of 931-1.1.3.

931-1.4.5 Special Requirements: Couplers shall develop at least 125% of the specified yield strength of the bar being spliced.

931-2 Metal Materials for Joints in Concrete Pavement.

931-2.1 Sheet Metal Bottom Strips: For concrete pavement using the special select soil base option, the sheet metal strip for protecting the bottom and side edges of transverse expansion joints shall be composed of galvanized sheet metal of 0.0157 inches minimum thickness and shall conform to the requirements of ASTM A653.

The sheets shall be furnished in accordance with the dimensions shown in the Plans. They may be in one continuous piece, or spliced. When splicing is used the metal shall be lapped not less than 3 inches and securely fastened, by welding or otherwise, in such manner as to leave the spelter undamaged and produce a smooth sliding surface in contact with the pavement slab. The splices shall be spaced not less than 10 feet apart and not less than 5 feet from either end. The complete sheet shall not vary from a straight line by more than 1 inch from end to end.

The Contractor shall submit to the Engineer a certified mill analysis from the manufacturer of the sheet metal bottom strips including test results for thickness, dimension, grade, length, size, and spacing. Each certified mill analysis shall cover only one type of metal material for joints.

931-2.2 Bars and Chairs for Longitudinal Joints: Transverse reinforcing steel across the joint shall be deformed steel bars conforming to the requirements of 931-1.1 except that the bars may be any grade shown in ASTM A615.

These bars, and the chairs to hold them in place, shall be of the type and spacing as indicated in the Plans.

931-2.3 Dowel Bars: Dowel bars must meet the requirements of Table 931-1. They shall be of the length, size and spacing as shown in the Plans.

The Contractor shall submit to the Engineer a certified test report from the manufacturer of the dowel bars confirming that the requirements of this Section are met. The certified test report shall conform to the requirements of Section 6 and include metallurgical mill analysis, grade, length and size. Each certification shall cover only one LOT for dowel bars.

931-2.4 Chairs and Metal Expansion Caps: The chairs and metal expansion caps shall be of an approved type as shown in the Plans.

Dowel bars for expansion joints shall have a metal cap on one end so placed to provide ample space for movement of the slab. Continuous sleeves covering one half of the length of the bar will not be permitted. Other fasteners may be approved. Dowel bars shall be coated with an approved material to break the bond.

931-3 Metal Dowel Bar Assemblies for Joints in Concrete Pavement.

931-3.1 Approved Product List (APL): The dowel bars and basket assembly must meet the requirements of Table 931-1 and shall be a product included on the Department’s APL.

Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6 and shall submit product photo and drawings, technical data sheets, and certifications that demonstrate the performance of their products in accordance with the requirements in 931-3.1 thru 931-3.5.

Table 931-1 Material Requirement for Dowel Bar and Basket Assemblies		
Component	Base Metal	Coating
Dowel Bar	ASTM A615	ASTM A775 or SSPC Paint 20
Wire Basket Assembly	ASTM A1064	ASTM A775 or SSPC Paint 20 or Primer with $\geq 40\%$ Solids (by weight)

Produce dowel bars coated in the shop. Wire basket assemblies may be coated in the shop or the field. For welded wire basket assemblies fabricated after coating, apply touch-up coating in the shop or field over all welded connections. All field applied coatings must have a volatile organic compound (VOC) content $\leq 420\text{g/L}$.

931-3.2 Rigidity: The dowel bars shall be supported by an approved welded assembly possessing sufficient rigidity to hold the dowel bars in position to such accuracy that error or deviation from its required position in any bar in the entire installation after the pavement has been finished shall be no greater than 1/2 inch.

The assembly shall have continuous parallel spacer bars and two continuous parallel bearing members of no less than 1/4 inch diameter wire. One spacer bar shall be located at or near each end of the dowel. Alternate ends of dowels shall be welded to a spacer bar in such a manner as to maintain the dowels parallel to each other and permit sliding movement in the joint.

The free ends of each dowel shall be retained securely in place by means of wire loops or metal tubes welded to the other spacer bar. An expansion cap shall be installed on one end of each bar if the dowels are being used in an expansion joint.

Suitable struts or ties shall be provided to hold the assembly in correct position during installation.

The assembly shall have an upright support welded to the spacer bar and continuous bearing member at the end of each dowel and a continuous bearing member.

If the upright support consists of a single vertical wire, the support shall be no less than 5/16 inch diameter wire. Otherwise, the support shall be no less than 1/4 inches in diameter.

931-3.3 Sand Plates: Sand plates, if required, shall be made from no less than 3/8 inch sheet steel. Each plate shall have no less than 0.1 square feet of bearing area. The plates shall be furnished in sufficient number to provide uniform support for the complete assembly. They may be furnished separate from the assembly units or attached thereto by welding, suitable clips, or other approved means.

931-3.4 Welds: The welds of the assembly shall be made securely. A broken weld will be cause for rejection of the length of section of the assembly where it occurs.

931-3.5 Assembly Placement: When the dowel bar assembly is in place, it shall act as a rigid unit with each component part securely held in position relative to the other member of the assembly.

The entire assembly shall be held securely in place during placing, consolidating, and finishing the concrete by means of metal pins. Pins used on granular subbase or cold mixed bituminous stabilized subbase shall penetrate at least 12 inches below the dowel bar assembly. The pins shall be of no less than 1/4 inch diameter wire and shall be provided with a hook or arm welded to the pin in such a manner that it shall secure the assembly in place.

Nail securing systems may be used as an anchoring device on hot bituminous stabilized subbase. The nail shall be no less than 1/8 inch in diameter, no less than 2 inches in length and the nail head or attached washer shall be not less than 1/2 inch outside diameter. The nail shall be driven through both ends of a metal strap after it has been placed around one of the lower transverse bars on the dowel bar assembly.

At least eight pins or nails shall be used for each 12 foot section (a lane width) of assembly. Sand plates, if required, shall be drilled to receive the pins.

The Contractor shall provide the equipment and personnel necessary to verify dowel bar location after the concrete is placed and has received the initial screeding.

931-4 Wire for Site Cage Machines.

The wires for site cage machines shall meet the requirements of ASTM A1064 or ASTM A706.

**SECTION 932
NONMETALLIC ACCESSORY MATERIALS
FOR CONCRETE PAVEMENT AND CONCRETE STRUCTURES**

932-1 Joint Materials.

932-1.1 Preformed Joint Filler for Pavement and Structures: Preformed joint filler shall meet the requirements of AASHTO M 153, ASTM D8139, AASHTO M 213, or cellulose fiber types meeting all the requirements of AASHTO M 213 (except for the asphalt content) is acceptable provided they contain minimums of 0.2% zinc borate as a preservative and 1.5% waterproofing wax. For AASHTO M 153, unless a particular type is specified, either Type I, Type II or Type III may be used.

Preformed joint fillers shall have a thickness equal to the width of the joint required, and shall be furnished in lengths equal to the widths of the slabs in which they are to be installed, except strips which are of a length not less than the distance between longitudinal joints, or between longitudinal joint and edge, may be used if laced or clipped together in a manner approved by the Engineer. The depth and shape of the joint filler shall conform to the dimensions shown in the Plans. For doweled joints, proper provision shall be made for the installation of the dowels.

932-1.1.1 Certification: The Contractor shall submit to the Engineer a certification confirming that the preformed joint filler meets the requirements of this Section. The certification shall conform to the requirements of Section 6.

932-1.2 Joint Sealer for Pavement and Structures:

932-1.2.1 General: This Specification covers joint sealer intended for use in sealing joints in asphaltic concrete pavement and portland cement concrete pavement. These materials may also be used to seal joints in portland cement concrete bridges and other structures.

932-1.2.2 Material: The joint sealant shall be composed of a mixture of materials, typically but not limited to bituminous based, that will melt when heated for application and then solidify to form a resilient and adhesive compound capable of sealing joints in portland cement concrete and asphaltic concrete against the infiltration of moisture and foreign materials throughout normal pavement conditions and at ambient temperatures. The manufacturer shall have the option of formulating the material according to their Specifications. However, the requirements delineated in this Specification shall apply regardless of the type of formulation used. The material shall cure sufficiently to not flow from the joint or be picked up by vehicle tires after 3 hours at 77°F. The material shall be capable of a uniform application consistency suitable for filling joints without the inclusion of large air holes or discontinuities and without damage to the material.

Materials for pavement joints shall be tested according to ASTM D5329.

932-1.2.2.1 Physical Requirements of Joint Sealants for Portland Cement Concrete Only:

Table 932-1	
Parameter	Limits
Pour Point	At least 20°F lower than the safe heating temperature as stated by the manufacturer.
Cone-Penetration, Non-immersed at 77°F, 150 g, 5 s	Less than or equal to 90 mm
Flow at 140°F, 5 h	Less than or equal to 5.0 mm
Bond, Non-immersed, 0°F for 5 cycles*	No cracking, separation, or opening that at any point is over 1/4 inch deep, in the sealant or between the sealant and the substrate.
*The depth of a crack, separation or opening shall be measured perpendicular to the side of the sealant showing the defect. At least two test samples in a group of three representing a given sample of sealant shall meet this requirement.	

932-1.2.2.2 Physical Requirements of Joint Sealants for Portland Cement Concrete and/or Asphaltic Concrete:

Table 932-2	
Parameters	Limits
Pour Point	At least 20° lower than the safe heating temperature as stated by the manufacturer.
Cone-Penetration, Non-immersed at 77°F, 150 g, 5 s	Less than or equal to 90 mm
Flow at 140°F, 5 h	Less than or equal to 3.0 mm
Bond, Non-immersed, -20°F for 3 cycles, 50% extension*	No cracking, separation, or opening that at any point is over 1/4 inch deep, in the sealant or between the sealant and the substrate.
Resilience at 77°F	Recovery greater than or equal to 60%
Asphaltic Concrete Compatibility at 140°F	No failure in adhesion, formation of an oily exudates at the interface between the sealant and the asphaltic concrete, or softening or other deleterious effects on the asphaltic concrete or sealant.
*The depth of a crack, separation or opening shall be measured perpendicular to the side of the sealant showing the defect. At least two test samples in a group of three representing a given sample of sealant shall meet this requirement.	

932-1.2.3 Approved Product List (APL): The joint sealant materials used shall be one of the products listed on the Department’s APL. Manufacturers seeking evaluation of their products shall submit product datasheets, performance test reports from an independent laboratory showing the product meets the requirements of this section, and an APL application in accordance with Section 6. Information on the APL application must identify the sealant type.

932-1.2.4 Shipment: The material shall be delivered in containers plainly marked with the manufacturer’s name or trademark product name, LOT number and date of expiration.

932-1.2.5 Bond Breaker Rod: The bond breaker rod shall be a closed cell, expanded polyethylene foam rod of the size and dimensions shown in the Plans. It shall be compatible with the joint sealant and no bond or reaction shall occur between the rod and the sealant.

All bond breaker rods installed shall be covered by a sealant at the end of each workday.

Bond breaker tape approved by the sealant manufacturer may be used in lieu of bond breaker rod when sealing random cracks.

932-1.3 Low Modulus Silicone Sealant Materials:

932-1.3.1 Low Modulus Silicone Sealants: Silicone sealant shall be furnished in a one part or pre-measured two-part formulation meeting the requirements specified herein.

Acetic acid cure sealants are not acceptable. A primer as specified in 932-1.4 for bonding sealant to concrete shall be used if required by the manufacturer. When a manufacturer’s product is tested and approved by the Department using a primer, primer will be required for project installation.

Do not use Low Modulus Silicone Sealants Types A, B or C for bridge expansion joints.

Silicones shall be identified in the following manner:

Type A - A low modulus, non-sag (non-self-leveling) silicone formulation, used in sealing horizontal and vertical joints in cement concrete pavements and bridges (i.e., concrete-concrete joints). Tooling is required.

Type B - A very low modulus, self-leveling silicone formulation, used in sealing horizontal joints (including joints on moderate slopes) in cement concrete pavements and bridges (i.e., concrete-concrete joints). Tooling is not normally required.

Type C - An ultra-low modulus, self-leveling silicone formulation, used in sealing horizontal joints (including joints on moderate slopes) in cement concrete pavements and bridges (i.e., concrete-concrete joints). It can also be used to seal the joints between cement concrete pavements and asphalt concrete shoulders (including asphalt-asphalt joints). Tooling is not normally required.

Type D - An ultra-low modulus, self-leveling silicone formulation, cold-applied, rapid-cure, used to seal expansion joints that experience both thermal and/or vertical movements. The material must cure by chemical reaction and not by evaporation of solvent or fluxing of harder particles. Tooling shall not be required. Use in accordance with Standard Plans, Index 458-110 for bridge deck expansion joints with backer rods or as shown in the Plans for other joints with or without backer rods.

932-1.3.2 Physical Requirements:

Table 932-3					
Silicone Sealant Type	Test Method	Type A	Type B	Type C	Type D
Flow	ASTM D5893	No Flow			
Slump (maximum)	ASTM D2202	0.3 inches			
Extrusion rate (minimum)	ASTM C1183, Procedure A	20 ml/min	20 ml/min	20 ml/min	20 ml/min
Tack-free time at 77 ± 3°F and 45 to 55% Relative Humidity	ASTM C679	90 minutes maximum	180 minutes maximum	180 minutes maximum	20 – 60 minutes
Specific gravity	ASTM D792, Method A	1.1 to 1.515	1.10 to 1.40	1.1 to 1.5	1.26 to 1.34
Durometer hardness, Shore A (Cured seven days at 77 ± 3°F and 50 ± 5% Relative Humidity)	ASTM D2240	10-25			

Table 932-3					
Silicone Sealant Type	Test Method	Type A	Type B	Type C	Type D
Durometer hardness, Shore 00 (Cured 21 days at 77 ± 3°F and 50 ± 5% Relative Humidity)	ASTM D2240		40-80	20-80	
Tensile stress (maximum) at 150% elongation	ASTM D412 (Die C)	45 psi	40 psi	15 psi	
Elongation (Cured seven days at 77 ± 3°F and 50 ± 5% Relative Humidity)	ASTM D412 (Die C)	800% minimum			600% minimum
Elongation (Cured 21 days at 77 ± 3°F and 50 ± 5% Relative Humidity)	ASTM D412 (Die C)		800% minimum	800% minimum	
Ozone and Ultraviolet Resistance	ASTM C793	No chalking, cracking or bond loss after 5,000 hours, minimum.			
Bond to cement mortar briquets (primed if required) (Cured seven days at 77 ± 3°F and 50 ± 5% Relative Humidity)	AASHTO T 132	50 psi minimum			
Bond to cement mortar briquets (Cured 21 days at 77 ± 3°F and 50 ± 5% Relative Humidity)	AASHTO T 132		40 psi minimum	35 psi minimum	
Movement Capability	ASTM C719	No adhesive or cohesive failure and adhesion, 10 cycles at -50 to +100%			No adhesive or cohesive failure and adhesion, 10 cycles at +100/-50 %

Portland Cement Mortar: Briquets shall be molded and cured 28 days minimum in accordance with AASHTO T 132. Saw cut cured briquets in half, clean, and dry at 230°, plus or minus 5°F. Bond the two halves together with a thin section of sealant. After cure of sealant, briquets shall be tested in accordance with AASHTO T 132.

932-1.3.3 Field Cure: Six-inch samples of the sealant shall be taken by the Engineer from the joint at the end of a two-week curing period and tested for durometer hardness (by FM ANSI/ASTM D2240), except that the requirements of a 1-inch sample width shall not apply. A minimum hardness of 7.0 is required as evidence of adequate cure.

932-1.3.4 Approved Product List: The low modulus silicone sealant used shall be one of the products listed on the APL. Manufacturers seeking evaluation of their products shall submit product datasheets, performance test reports from an independent laboratory

showing the product meets the requirements of this Section, an infrared identification curve (2.5 to 15 μm) and an APL application in accordance with Section 6. Information on the APL application must identify the sealant type.

932-1.3.5 Shipment: The material shall be delivered in containers plainly marked with the manufacturer's name or trademark product name, LOT number and date of expiration.

932-1.3.6 Primer: When required by the manufacturer's product, a primer shall be used.

The manufacturer shall perform quality control tests on each LOT of sealant primer material furnished to each project and submit a certified report that each LOT of primer material furnished to a project meets the company's specifications for that product and the primer is suitable for its intended use.

Sealant primer material shall be delivered in containers plainly marked with the manufacturer's name or trademark and product name, LOT number and date of expiration.

932-1.3.7 Backer Rod and Tape Bond Breakers: Backer rods and tape shall be compatible with the joint sealant and approved by the sealant manufacturer. No bond or reaction shall occur between the rod and the sealant.

932-1.3.8 Installation: Installation, material selection, joint dimensions, bond breaker suitability (by type and project) shall be in agreement with the requirements of Standard Plans, Indexes 350-001 and 458-110. Any modifications or exceptions to these requirements shall be shown in the Plans.

For new construction projects or general use where the joints to be sealed have uniform width, a closed cell, expanded polyethylene foam backer rod bond breaker shall be required. For rehabilitation projects and similar joint seals where the joints to be sealed have irregular width, an open cell, expanded polyethylene foam backer rod bond breaker with an impervious skin shall be required.

The backer rod shall be compatible with the joint sealant. No bond or reaction shall occur between the rod and the sealant.

Tape bond breaker approved by the sealant manufacturer may be used in lieu of backer rod bond breaker when sealing joints and/or random cracks, as required.

Type D Silicone sealant shall be placed when the ambient temperature is rising and is between 55°F and 85°F and the temperature is expected to rise for the next three hours minimum to provide to adequate joint opening and compression of the sealant during curing.

All installed bond breakers shall be covered by sealant at the end of each workday.

A tolerance in cross-sectional height at midpoint of minus 1/16 inches to plus 3/16 inches will be allowed to the nominal values shown for each joint width on the plan sheet. The Engineer shall check one joint for each 1,000 feet of roadway by cutting out specimens. If the cross section of the cut specimen is out of the allowable range, additional specimens shall be taken as follows:

One joint every 100 feet of pavement, not to exceed 500 feet.

If the average of the specimens is out of tolerance, the Contractor shall remove and replace the entire 500-foot section at no additional expense to the Department.

Installation tolerance shall be verified at 1,000-foot intervals.

932-1.4 Pre-cured Silicone Sealant:

932-1.4.1 General: Pre-cured silicone sealants are intended for sealing vertical joints on concrete surfaces. Type V1 sealant is intended for contraction joints or joints with movements less than 1/4 inches. Type V2 sealant is intended for expansion joints not exceeding 200% of the nominal joint opening. Type V2 sealant may be substituted for Type V1 sealant. The joint sealant must be listed on the APL.

932-1.4.2 Physical Requirements: Sealant material shall be a nominal 1/16 inches thick, available in standard widths from 1 inch to 6 inches, colored to match the finish surface coating of the concrete, and meet the following minimum testing requirements:

Table 932-4			
Test Property Description	Test Method	Type V1	Type V2
Minimum Movement, Cohesion/Adhesion	ASTM C1523	100%	200%
Dry/Room Temperature Loss of Adhesion/Cohesion	ASTM C1523	None	None
Water Immersion Loss of Adhesion/Cohesion	ASTM C1523	None	None
Frozen Loss of Adhesion/Cohesion	ASTM C1523	None	None
Heat Loss of Adhesion/Cohesion	ASTM C1523	None	None
Artificial Weathering Loss of Adhesion/Cohesion	ASTM C1523	None	None
Tear Propagation	ASTM C1523	NT or PT (No Tear or Partial/Knotty Tear)	NT or PT (No Tear or Partial/Knotty Tear)
Ultimate Elongation	ASTM D412	250%	500%

932-1.4.3 Approved Product List: The pre-cured silicone sealant used shall be one of the products listed on the APL. Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6. Applications must include test results, an infrared identification curve (2.5 to 15 μm), and a product data sheet with the recommended adhesive and installation requirements.

932-1.5 Compression Seals and Adhesive Lubricant

932-1.5.1 Preformed Elastomeric Compression Seals: Preformed Elastomeric Compression Seals shall meet the requirements of ASTM D2628 except that immersion oil IRM 903 may be substituted for Oil No. 3 in the Oil Swell test procedure.

932-1.5.2 Compression Seal Adhesive Lubricant: Compression seal adhesive lubricant shall meet the requirements of ASTM D4070. The material shall be fluid from 5°F to 120°F (-15°C to 49°C).

932-1.5.3 Certification: The manufacturer shall submit a certified test report for each LOT of material furnished to each project along with a statement certifying that the material

conforms to this specification and identifying the project number and manufacturer's LOT number.

932-1.5.4 Verification Samples: Provide verification samples in accordance with Section 6.

932-2 Structure Bearing Pads.

932-2.1 General: Furnish elastomeric structure bearing pads as shown in the Contract Documents. Elastomeric bearings as defined herein shall include plain pads (elastomer only) and laminated bearings with steel or fabric laminates. Flash tolerance, finish and appearance of bearings shall meet the requirements of the latest edition of the Rubber Handbook as published by the Rubber Manufacturer's Association, Inc. RMA-F3-T.063 for molded bearings, and RMA-F2 for extruded bearings.

932-2.2 Materials: Use elastomer that is Grade 2 or higher, as defined in the AASHTO LRFD Bridge Design Specifications, crystallization resistant, 100% virgin polychloroprene (neoprene). Use only new materials; reclaimed material is not allowed in the finished product. No wax, anti-ozonants, or other foreign material may accumulate or be applied to the surfaces of the bearing. The steel layers of the laminated pads shall utilize 10-gauge steel sheet (0.1345 inches thick). The steel utilized for the steel layers and for external load bearing plates (if specified) shall meet the requirements of ASTM A36 or ASTM A1011 Grade 36 Type I steel sheet. External load bearing plates shall be finished or machined flat to within 0.01 inches. The bottom surfaces of external load plates (masonry plates) designed to rest on bearing pads shall not exceed an out of flatness value of 0.0625 inches. External load bearing plates shall be protected from rust until all exposed surfaces can be field painted. Any rust inhibitor shall be removed from all surfaces prior to welding.

932-2.3 Sampling: A sampling LOT shall consist of a maximum of 100 bearing pads of a single type of bearing (plain, steel laminates, fabric laminates), of the same design, materials, thickness, and manufacturer, referred to here as "like pads", delivered to the project site or to an offsite storage facility within the State of Florida in reasonable proximity to the project site as determined by the Engineer. Organize stockpiled pads into groups of like pads by LOT so that they can be readily identified and sampled by the Engineer.

932-2.3.1 Ancillary Structure Pads: Sampling is not required, and acceptance is by certification.

932-2.3.2 Bridge Structure Pads: When the total number of like pads, as defined in 932-2, consists of a LOT of 10 or less, sampling is not required, and acceptance is by certification. Submit to the Engineer a certification conforming to the requirements of Section 6 stating that the structure bearing pads meet the requirements of this Section.

For LOT sizes of like pads that exceed 10, two bridge bearing pads per LOT will be selected by the Engineer, one for testing and one for verification in the event of a failing test result. LOTs will be sampled only after all like pads in the LOT are at the project site or in an offsite storage facility. Samples shall consist of complete pads as detailed in the Plans. Furnish additional complete bridge bearing pads to replace those selected for testing. Bridge bearing pads shall be available for sampling a minimum of three weeks prior to their installation. Submit the sample bridge bearing pads to a Department approved independent laboratory for testing. Shipping and testing will be at the Contractor's expense

932-2.4 Dimensional Tolerances: Fabricate elastomeric bearings within the dimensional tolerances specified below or as designated in the Plans. If any of the dimensions are outside the limits specified, the bearing pad shall be rejected.

Table 932-5		
Measurement		Tolerance (inches)
Overall vertical dimensions	Design thickness ≤ 1.25 inches	-0, +0.125
	Design thickness > 1.25 inches	-0, +0.25
Overall horizontal dimensions	measurements ≤ 36 inches	-0, +0.25
	measurements > 36 inches	-0, +0.50
Thickness of individual layers of elastomer (laminated bearings only) at any point within the bearing		
Variation from a plane parallel to the theoretical surface (as determined by measurements at the edge of the bearings)	Top (slope relative to bottom)	≤ 0.005 radians
	Sides	0.25
Position of exposed connection members		
Edge cover of embedded laminates of connection members		
Position and size of holes, slots, or inserts		
Note: If the variation in thickness of individual layers of elastomer is greater than that allowed in the tolerance for Measurement (3) (± 0.125 in.), use the following equation to determine compliance: $7.5\theta + v/hr < 0.35$ provided $\theta \leq 0.02$ where θ (radians) and v (in) are absolute values of steel laminate rotation and vertical displacement. If the specified layer elastomeric layer thickness is h_r , the bearing length is L , and H_1 and H_2 are the measured maximum and minimum thicknesses at the edges of the layer, then $v = h_r - 1/2(H_1 + H_2) $ and $\theta = (H_1 - H_2)/2L $ for interior layers and $\theta = (H_1 - H_2)/L $ for top and bottom layers provided that the minimum elastomer layer thickness $H_2 \geq 0.2$ in.		

932-2.5 Ancillary Structures - Plain, Fiber Reinforced, or Fabric Laminated

Bearing Pads:

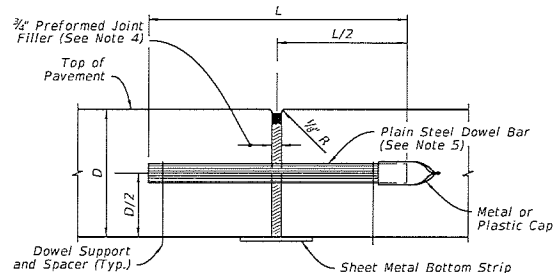
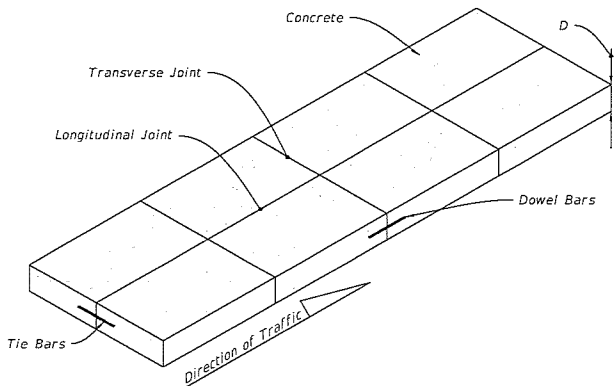
932-2.5.1 Plain Pads: Plain pads shall be either molded, extruded, or vulcanized in large sheets and cut to size. Cutting shall not heat the material and shall produce a smooth finish conforming to ANSI B46.1, 6.3 μm (0.248 mils). Plain pads shall be molded or extruded to the finished thickness. Plying pads of lesser thickness together shall not be permitted. External load plates, when used, shall be protected from rusting and shall be hot bonded by vulcanization during the primary molding process. The finished pads shall withstand a minimum uniform compressive load of 1200 psi when tested in accordance with FM 5-598.

932-2.5.2 Fiber Reinforced or Fabric Laminated Pads: Fiber reinforced pads shall be constructed with a homogeneous blend of elastomer and random-oriented high strength synthetic fiber cords. Bearing pads may be molded and vulcanized in large sheets and cut to size. Cutting shall be performed so as to prevent heating and must produce a smooth finish conforming to ANSI B46.1.

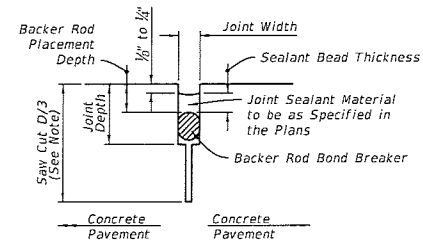
Fabric laminated bearings shall be constructed of multiple layers of fabric and elastomer. The fabric shall be composed of 8-ounce cotton duck and the pads manufactured in accordance with Military Specification MIL-C-882. Ensure the fabric is free of folds or ripples and parallel to the top and bottom surfaces.

Fiber reinforced and fabric pads shall withstand a minimum uniform compressive load of 2,400 psi when tested in accordance with FM 5-598.

932-2.5.3 Certification: The Contractor shall submit to the Engineer a certification conforming to the requirements of Section 6 stating that the ancillary structure pads meet the requirements of this Section and the physical and heat resistance properties of Section 6



EXPANSION JOINT
(See General Notes 4 and 7)



NOTE:
(D=Conc. Pavt. Thick.) Not required for construction joints, existing joints, or cracks.

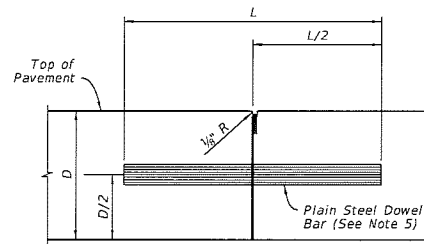
**BACKER ROD BOND BREAKER
(CONCRETE-CONCRETE JOINTS)**

JOINT DIMENSIONS (INCHES)				
JOINT WIDTH	SEALANT BEAD THICKNESS	BACKER ROD DIA.	MINIMUM JOINT DEPTH	BACKER ROD PLACEMENT DEPTH
1/4	1/4	3/8	1	1/2
3/8	1/4	1/2	1 1/4	1/2

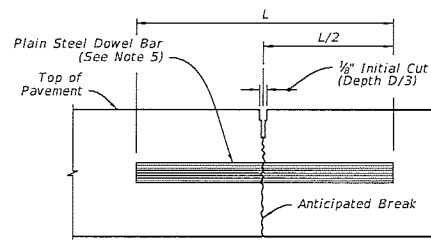
Unless otherwise indicated on the plans the joint width for new construction will be 1/4" for construction joints, 3/8" for all other joints.

For rehabilitation projects the joint width will be shown on the plans or established by the Engineer based on field conditions.

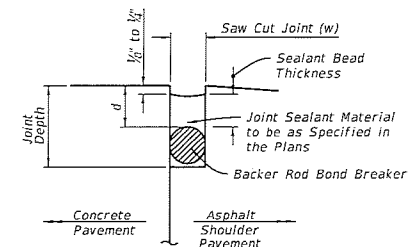
CONCRETE-CONCRETE JOINTS



BUTT CONSTRUCTION JOINT
(Used At Discontinuance Of Work)



CONTRACTION JOINT
(Sawed Method)

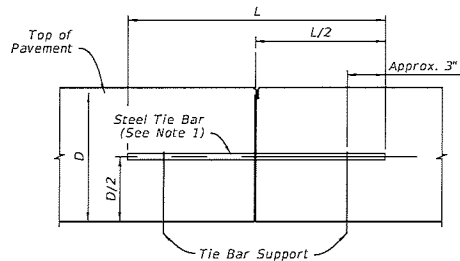


NOTE:
"d" and "w" = 3/4", unless specified in the Plans.

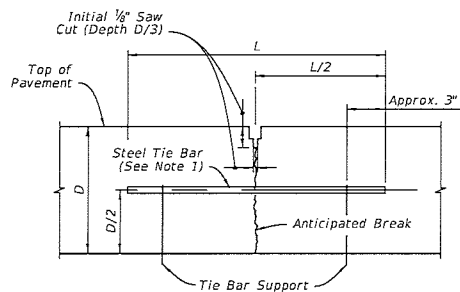
CONCRETE-ASPHALT SHOULDER JOINTS

GENERAL NOTES:

- For Longitudinal Joints:
 - Tie bars are deformed #4 or #5 reinforcing steel bars meeting the requirements of Specification 931.
 - Provide a tied joint with #4 bars 25" in length at 24" spacing or #5 bars 30" in length at 36" spacing.
- Transverse joints are to be spaced at a maximum of 15'. Dowel Bars are required at all transverse joints unless otherwise noted in the plans.
- For bridge expansion joints, see Index 370-001.
- Punch clean holes in preformed joint filler greater than bar diameter.
- Coat plain steel dowel bars and welded wire basket assemblies in accordance with Specification 931. Lubricate dowel bars in accordance with Specification 350.
- New and rehabilitation projects, backer rod bond breaker is required. Shoulder must be repaired if proper joint shape can not be attained.
- Sheet metal bottom strips in accordance with Specification 931. Not required with asphalt base.



BUTT CONSTRUCTION JOINT



LANE-TIE JOINT

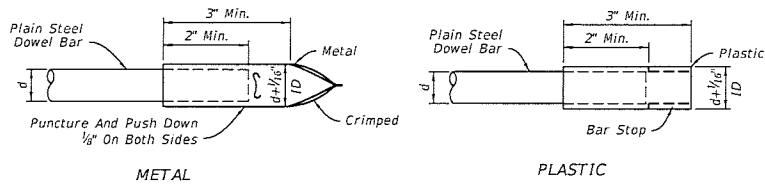
LONGITUDINAL JOINTS

TRANSVERSE JOINTS

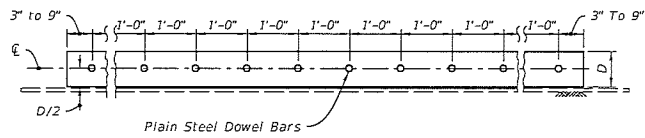
JOINT SEAL DIMENSIONS

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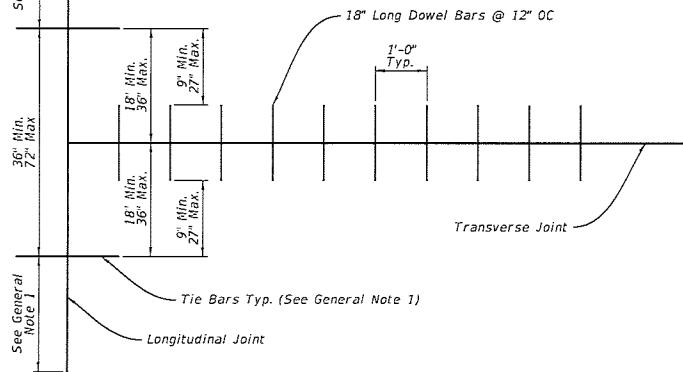


DOWEL BARS CAPS

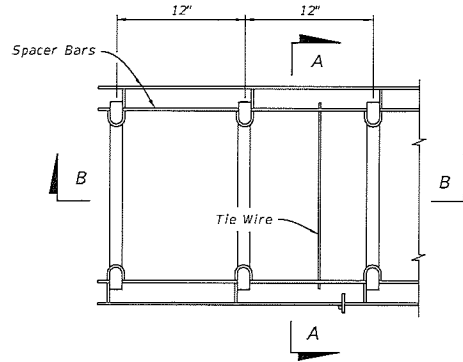


DOWEL BAR LAYOUT

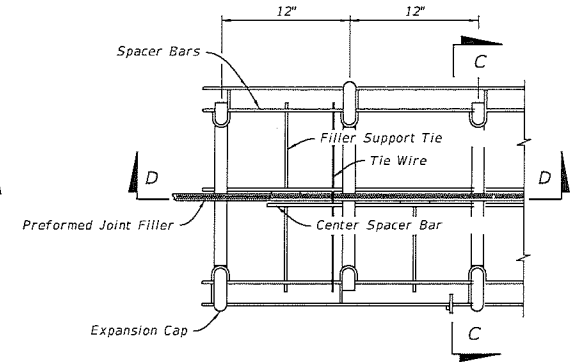
DOWEL BARS (LENGTH 18")	
Pavement Thickness " <i>t</i> "	Diameter
6"-6 1/2"	3/4"
7"-8"	1"
8 1/2"-10 1/2"	1 1/4"
≥ 11"	1 1/2"



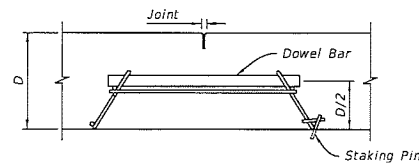
RELATION OF TIE BARS TO DOWEL BARS



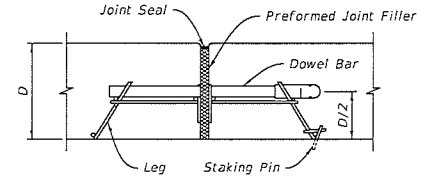
PLAN VIEW



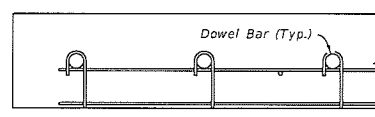
PLAN VIEW



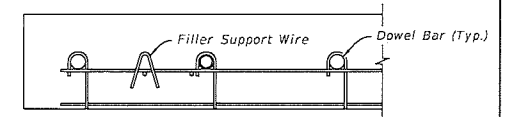
SECTION A-A



SECTION C-C



SECTION B-B



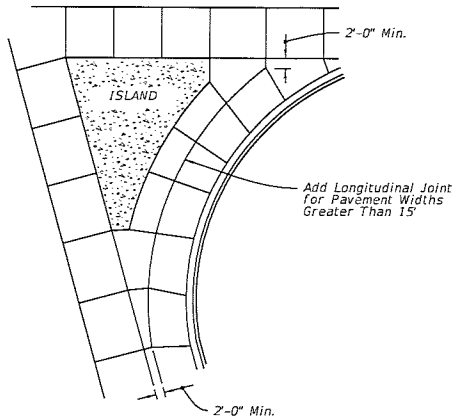
SECTION D-D

CONTRACTION ASSEMBLY

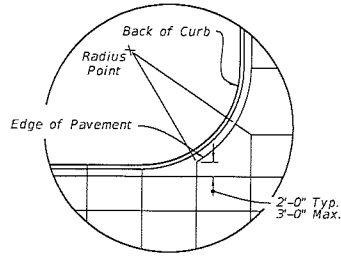
EXPANSION ASSEMBLY

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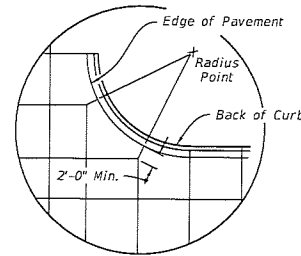
LAST REVISION 11/01/22	DESCRIPTION:		FY 2023-24 STANDARD PLANS	CONCRETE PAVEMENT JOINTS	INDEX 350-001	SHEET 2 of 5
REVISION						



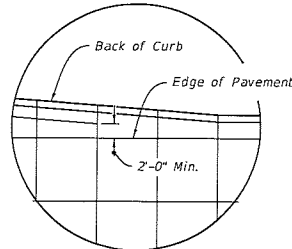
LARGE RIGHT TURN



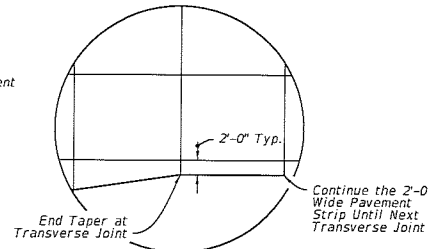
DETAIL "A"



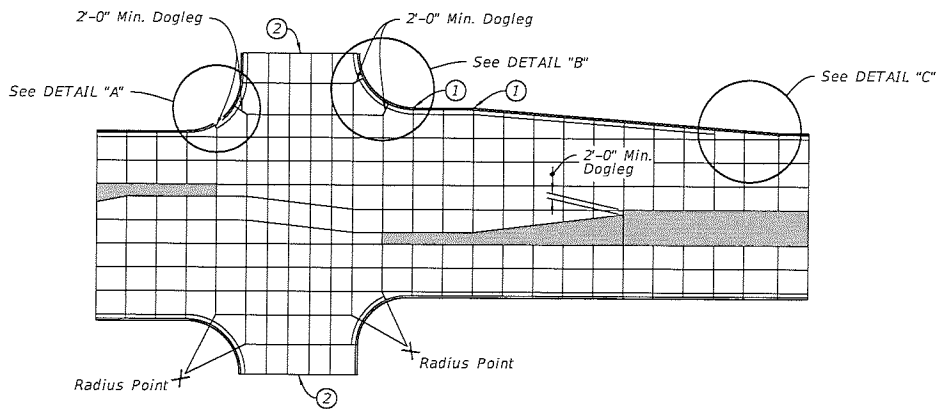
DETAIL "B"



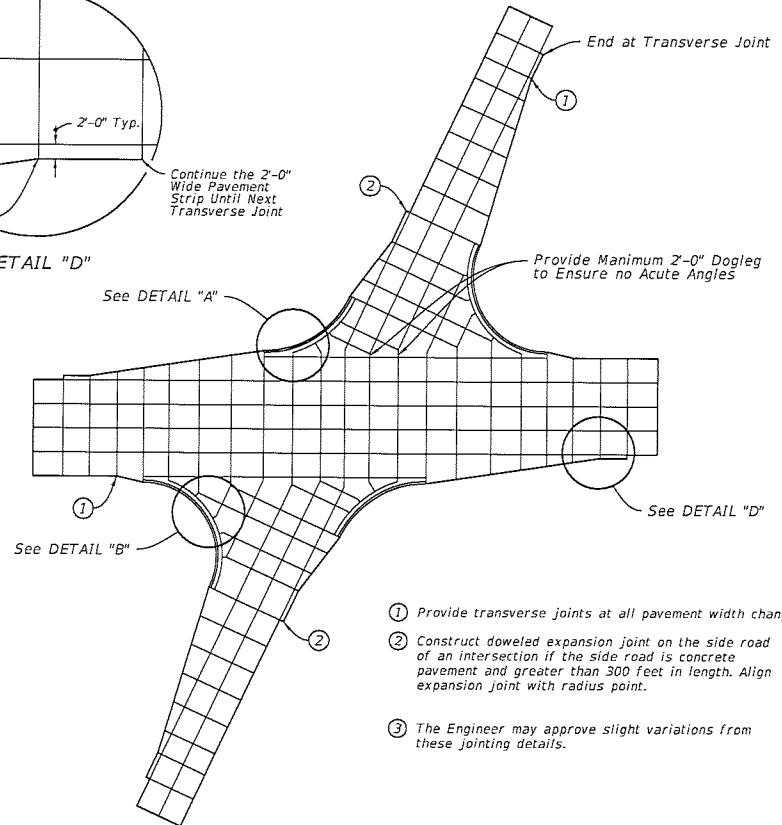
DETAIL "C"



DETAIL "D"



STANDARD INTERSECTION



SKewed INTERSECTION

NOTES:

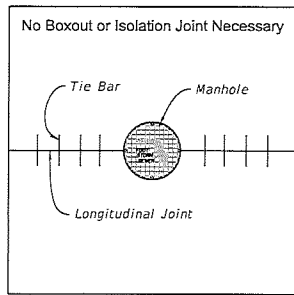
1. The primary roadway controls the transverse joint pattern.
2. Align new joints with existing joints or cracks.
3. Construct transverse joints perpendicular to the roadway.
4. Adjust transverse joints to align with utility fixtures (e.g., manholes and inlets) in the pavement structure when possible.
5. Avoid slabs less than 2 feet wide or greater than 15 feet wide.
6. Avoid angles less than 60° by doglegging joints through curve radius points. Use 90° angles when possible.
7. Correlate longitudinal joints with lane lines when possible.
8. Longitudinal joints are not required for single lane pavement 14' or less in width. For entrance and exit ramp joint details, see sheet 5.

- ① Provide transverse joints at all pavement width changes.
- ② Construct doweled expansion joint on the side road of an intersection if the side road is concrete pavement and greater than 300 feet in length. Align expansion joint with radius point.
- ③ The Engineer may approve slight variations from these jointing details.

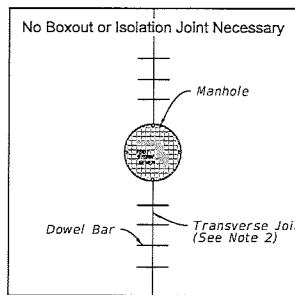
JOINT LAYOUTS FOR INTERSECTIONS

LAST REVISION 11/01/22	DESCRIPTION:	FY 2023-24 STANDARD PLANS	CONCRETE PAVEMENT JOINTS	INDEX 350-001	SHEET 3 of 5
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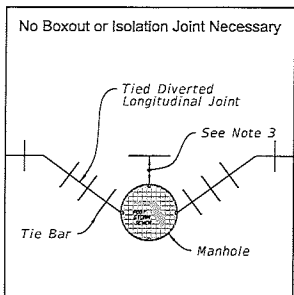
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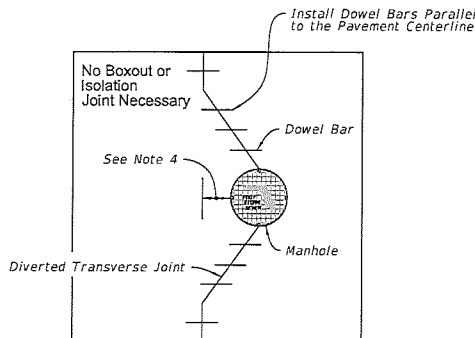
MANHOLE WITH LONGITUDINAL JOINT



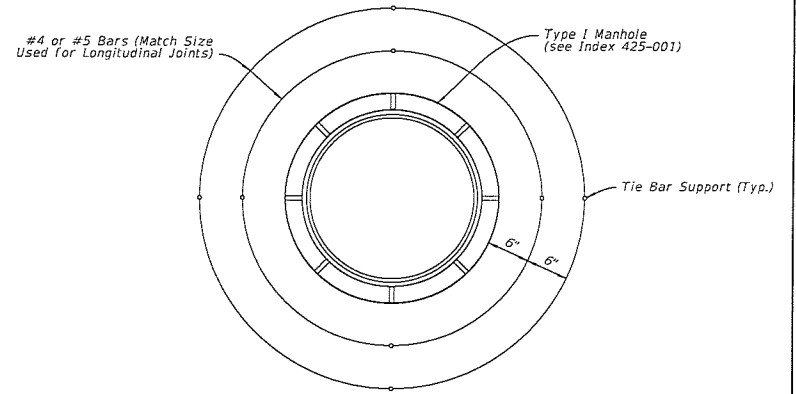
MANHOLE WITH TRANSVERSE JOINT



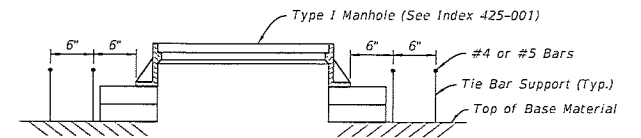
MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT



PLAN




ELEVATION

MANHOLE REINFORCEMENT (See Notes 3 and 4)

NOTES:

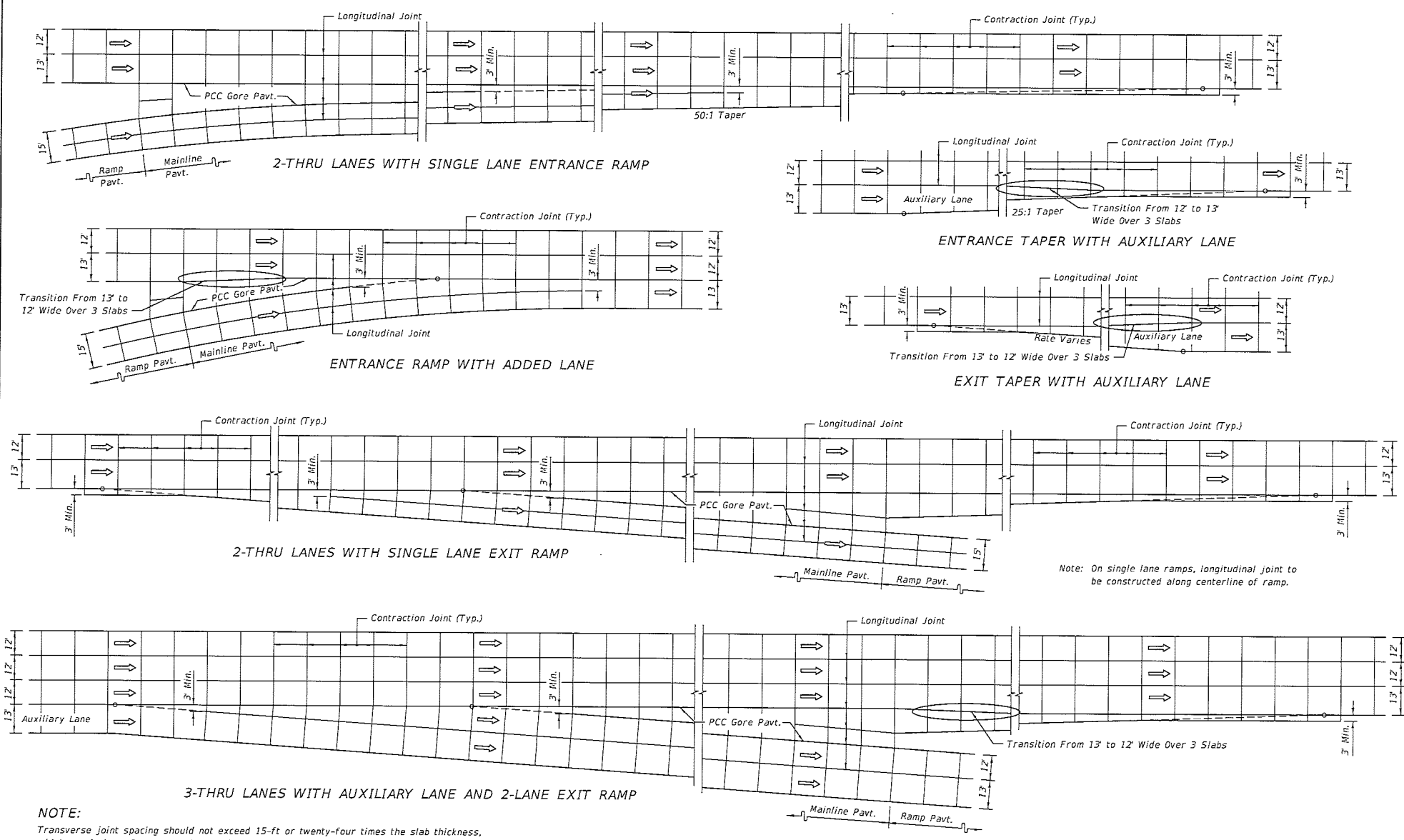
1. Use boxouts when utility structure is in the path of construction joints. Provide a 1 foot minimum clearance between the exterior limit of the structure to the diamond boxout.
2. Adjust transverse joint to intersect manhole, if possible.
3. If distance between the longitudinal joint and the edge of manhole is 2 feet or less, divert the longitudinal joint at a 2:1 taper rate to the center of the manhole. If the distance is greater than 2 feet, do not divert the joint, saw as normal, and place reinforcement rebar around the manhole.
4. If the distance from the edge of the manhole to the nearest transverse joint is 4 feet or less, redirect joint at 2:1 taper to intersect the center of the manhole. If distance is greater than 4 feet, do not divert the joint, saw as normal, and place reinforcement rebar around the manhole.
5. Align transverse joint with one edge of inlet when practical.
6. All manholes, meter boxes and other projections into the pavement shall be boxed-in with 1/2" preformed expansion joint material.

ISOLATION JOINT DETAILS

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Note: On single lane ramps, longitudinal joint to be constructed along centerline of ramp.

NOTE:
 Transverse joint spacing should not exceed 15-ft or twenty-four times the slab thickness, whichever is less. Construct a longitudinal joint in the center of single-lane ramps.

JOINT LAYOUT AT ENTRANCE AND EXIT RAMP TERMINALS

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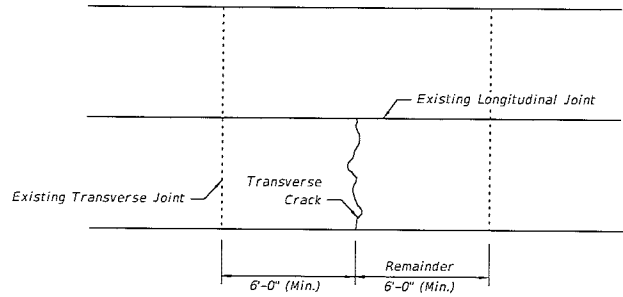


FIGURE 10.2 - REPAIR METHOD: NONE OR CLEAN AND SEAL

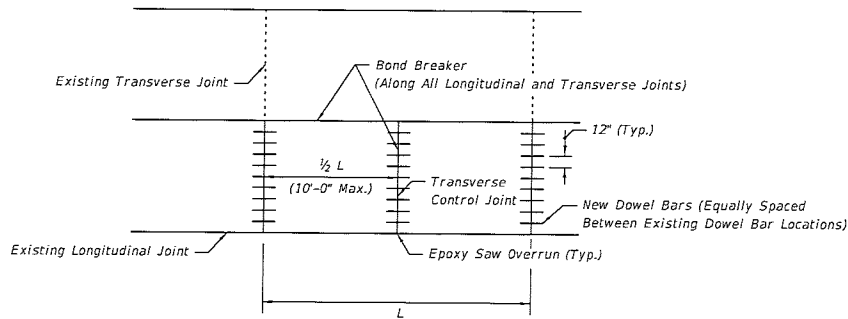


FIGURE 10.3 - FULL SLAB FULL DEPTH REPLACEMENT

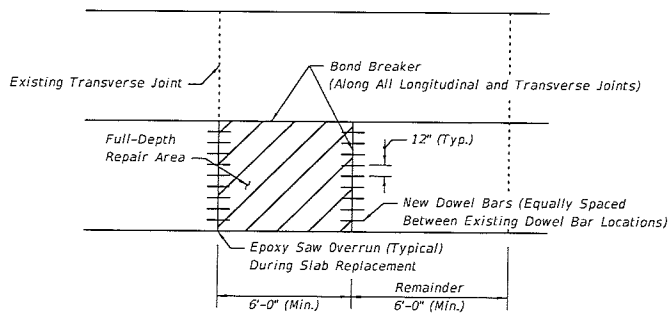


FIGURE 10.4 - PARTIAL SLAB FULL DEPTH REPLACEMENT

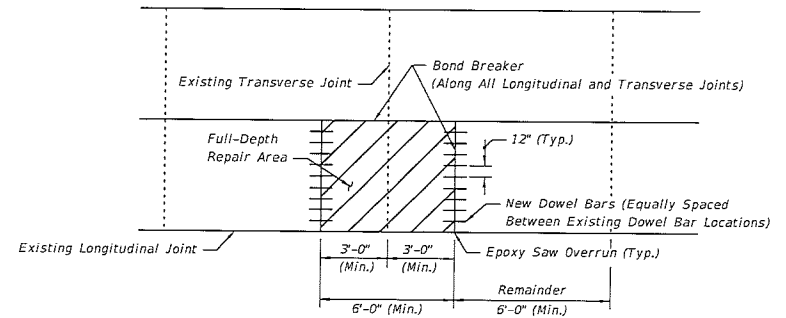


FIGURE 10.5 - FULL-DEPTH REPAIR ON BOTH SIDES OF THE JOINT

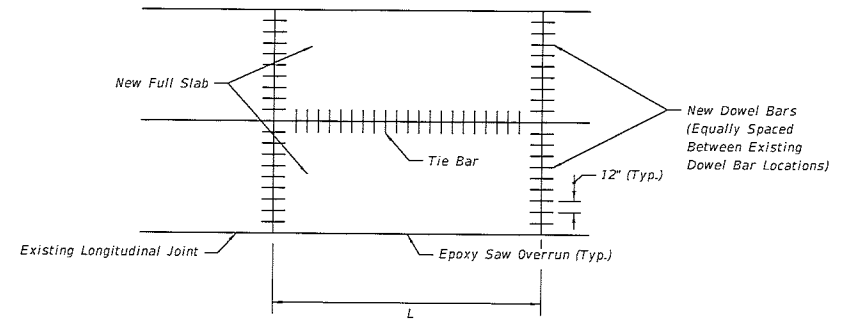



FIGURE 10.6 - MULTIPLE SLAB FULL DEPTH REPLACEMENT

GENERAL NOTES

1. For Repair and Replacement Criteria see Sheet 2.
2. Full depth repairs consist of removing and replacing at least a portion of the existing slab to the bottom of the concrete.
3. Repair boundaries shall be sawed full-depth with diamond saw blades. On hot days, it may not be possible to make this cut without first making a wide, pressure relief cut within the repair boundaries. A carbide-tipped wheel saw may be used for this purpose, but the wheel saw must not intrude on the adjacent lane, unless the lane is slated for repair. The wheel saw cuts produce a ragged edge that promotes excessive spalling along joints. Hence, if wheel saw cuts are made, diamond saw cuts must be made 18 in. outside the wheel saw cuts. To prevent damage to the base, the wheel saw must not be allowed to penetrate more than 0.5 in. into the base.
4. No additional base or subgrade material shall be added and all loose base or subgrade material shall be removed prior to placement of the new concrete slab. The concrete slab shall be placed to the full depth of the material removed. No additional compensation will be allowed for additional concrete required to bring proposed concrete slab up to finished grade.
5. Removal of the damaged concrete pavement shall be by lifting. Any good concrete pavement which is damaged during removal of damaged areas shall be removed and replaced by the contractor at his expense.
6. If the roadway contract includes grinding, then the slab replacement shall be performed first.
7. During slab replacement operations, fill any saw cut over runs into adjacent slabs with epoxy.
8. Install tie bars at longitudinal joints when two full adjacent or multiple replaced slabs.

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SLAB REPAIR AND REPLACEMENT CRITERIA

DISTRESS PATTERN	SEVERITY/DESCRIPTION		REPAIR METHOD	REFERENCE
CRACKING				
Longitudinal	Light	<1/8", no faulting, spalling <1/2" wide	None	Figure 10.2
	Moderate	1/8" < width < 1/2", spalling < 3" wide	Clean and Seal	Figure 10.2
	Severe	width > 1/2", spalling > 3" faulting > 1/2"	Replace	Figure 10.3
Transverse	Light	<1/8", no faulting, spalling <1/2" wide	None	Figure 10.2
	Moderate	1/8" < width < 1/2", spalling < 3" wide	Clean and Seal	
	Severe	width > 1/2", spalling > 3" faulting > 1/2"	Replace	Figure 10.3, 10.4 and 10.5
Corner Breaks	A corner of the slab is separated by a crack that intersects the adjacent longitudinal and transverse joint, describing an approximate 45° angle with the direction of traffic.		Full Depth	Figure 10.4 and 10.5
Intersecting Random Cracks (Shattered Slab)	Cracking patterns that divide the slab into three or more segments.		Full Depth	Figure 10.3 and 10.4
JOINT DEFICIENCIES				
Spall Nonwheel Path	Light	spall width < 1 1/2", < 1/2 slab depth, < 12" in length	None	Figure 10.4 and 10.5
	Moderate	1 1/2" < spall width < 3", < 1/2 slab depth, < 12" in length	None	Figure 10.4 and 10.5
	Severe	spall width > 3" or length > 12"	Full Depth	Figure 10.4 and 10.5
Spall Wheel Path	Light	spall width < 1 1/2", < than 1/2 slab depth, < 12" in length	None	Figure 10.4 and 10.5
	Moderate	1 1/2" < spall width < 3", < 1/2 slab depth, < 12" in length	Full Depth	Figure 10.4 and 10.5
	Severe	spall width > 3" or length > 12"	Full Depth	Figure 10.4 and 10.5
SURFACE DETERIORATION				
Pop Outs Nonwheel Path	Small pieces of surface pavement broken loose, normally ranging from 1 to 4 in. diameter and 1/2 to 2 in. in depth.			
	Light	Not deemed to be a traffic hazard	Keep under observation	
	Severe	Flying debris deemed a traffic hazard	Full Depth	Figure 10.4
Pop Outs Wheel Path	Small pieces of surface pavement broken loose, normally > 3" diameter and 2" in depth.			
	Light	Deemed to be a traffic hazard	Full Depth	Figure 10.4
	Severe	Flying debris deemed a traffic hazard	Full Depth	Figure 10.4
MISCELLANEOUS DISTRESS				
Faulting	Elevation differences across joints or cracks.			
	Light	Faulting < 4/32"	None	
	Moderate	4 < Faulting < 16/32"	Grind	
Lane To Shoulder Drop-Off	Light	0 < drop-off < 1"	None	N/A
	Moderate	1" < drop-off < 3"	Build Up	
	Severe	drop-off > 3"	Build Up	
Water Bleeding Or Pumping	Seeping or ejection of water through joints or cracks.		Install appropriate drainage, edge drain, permeable subbase, reseal joints, etc.	N/A
Blowups	Upward movement at transverse joints or cracks often accompanied by shattering of the concrete.		Full Depth	Figure 10.3 and 10.4

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EXHIBIT C

**Entrance Lobby, Hallway and
Dining Hall Location**

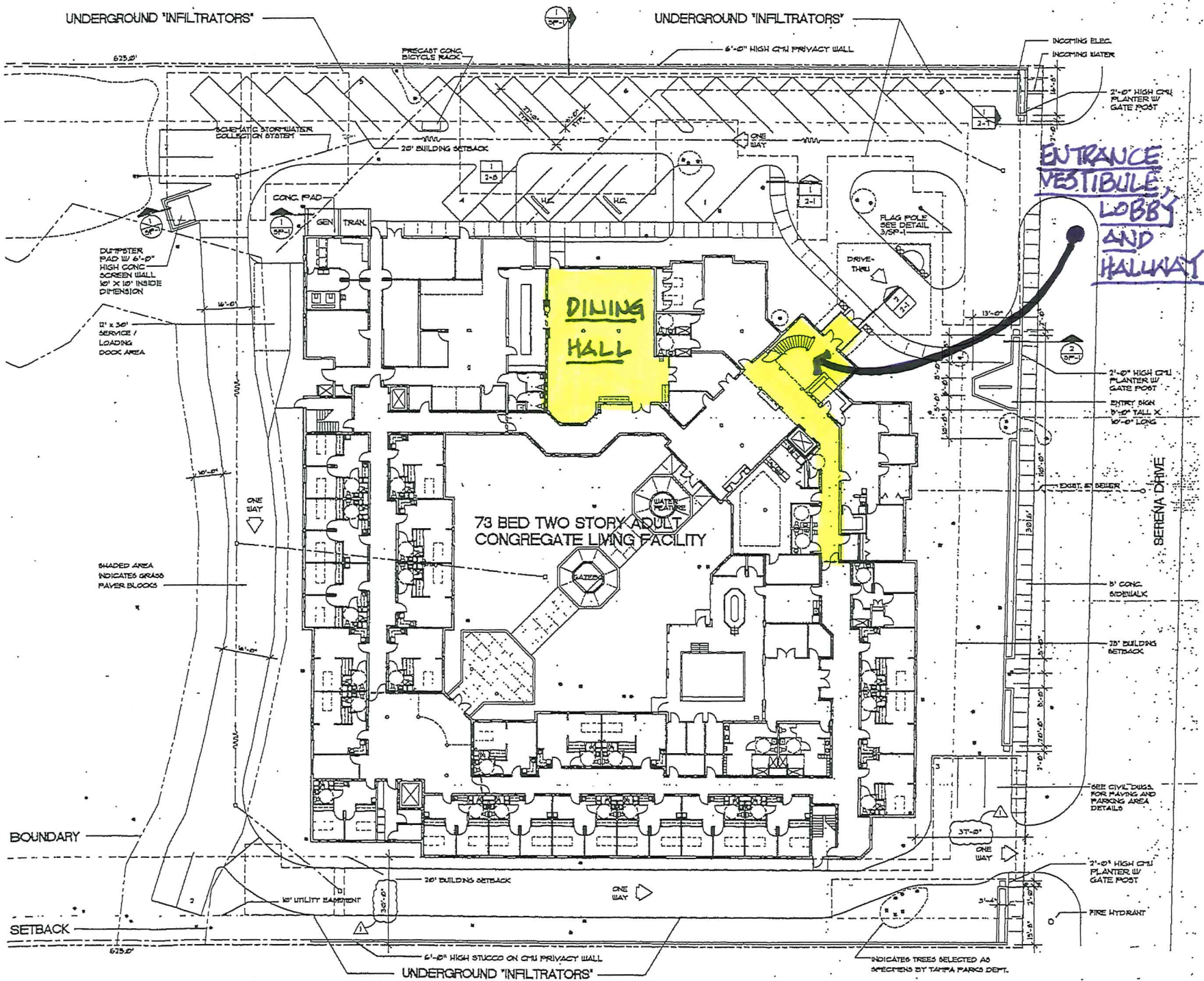


EXHIBIT "C" - ENTRANCE VESTIBULE, LOBBY, HALLWAY + DINING HALL

EXHIBIT D

Three Season Seating/Recreation Area Location

EXHIBIT E

Exhibit "E"

Crossville Studios

AURUM



NUX NATURAL AND NUX GRIP

Powerfully expressive surfaces, whose wealth of nuances and color variations describe materials sourced from different quarries. With its classic and multi-format laying solutions, Aurum enhances every indoor and outdoor surface.

INDOOR - NATURAL



EBUR

NUX

CANDOR

OUTDOOR - GRIP



EBUR

ARTIS (BLEND)***

NUX

*** This color is a blend with very substantial color variation, please see additional samples for accurate color range.

Available Sizes: Indoor - Natural Thickness 9 mm

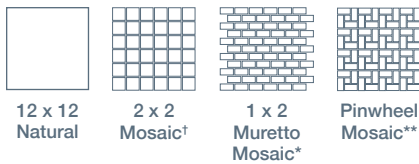
INDOOR - NATURAL



24 x 48 Natural

24 x 24 Natural

2 x 24 Bullnose Natural



12 x 12 Natural

2 x 2 Mosaic†

1 x 2 Muretto Mosaic*

Pinwheel Mosaic**

† Available in Candor, Ebur and Nux with natural finish.
* Ebur and Nux with natural finish.
** Candor and Nux with natural finish.



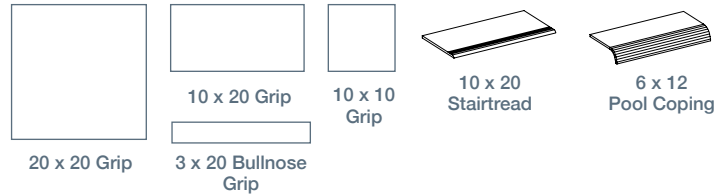
2 x 2 Mosaic†

1 x 2 Muretto Mosaic*

Pinwheel Mosaic**

Available Sizes: Outdoor - Grip Thickness 10 mm

OUTDOOR - GRIP



20 x 20 Grip

10 x 20 Grip

10 x 10 Grip

3 x 20 Bullnose Grip

10 x 20 Stairtread

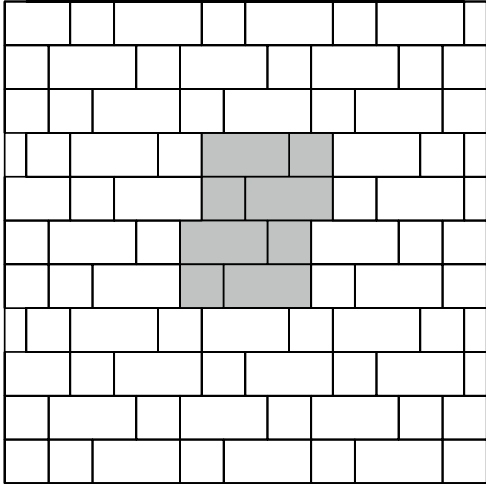
6 x 12 Pool Coping

Technical Specifications

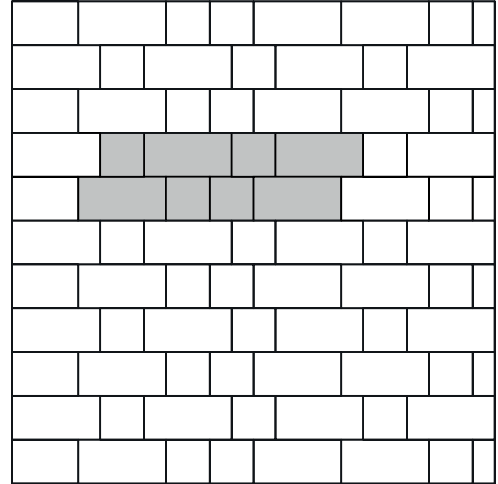
Product Performance	Result (Natural & Grip)	Testing Method
Water Absorption	≤ 0.1%	ISO 10545-3
Frost Resistance	Resistant	ISO 10545-12
Chemical Resistance	Complying	ISO 10545-13
Stain Resistance	Complying	ISO 10545-14
Wear Rating	5	PEI
DCOF	> 0.42	ANSI A137.1
Recommended Grout Thickness	3mm recommended	
Shade Variation	V3 (Artis is V4)	
Usage	Aurum porcelain tile is suitable for exterior covered walls, exterior floors (grip finish only), exterior walls, interior floors dry, interior walls dry, interior walls wet, pool fountain waterlines.	

View other great product options and find detailed product specifications at crossvillestudios.com

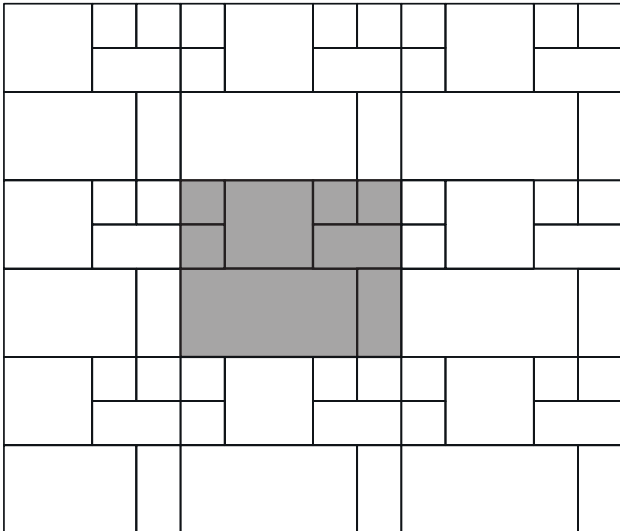
Aurum Modular Layouts



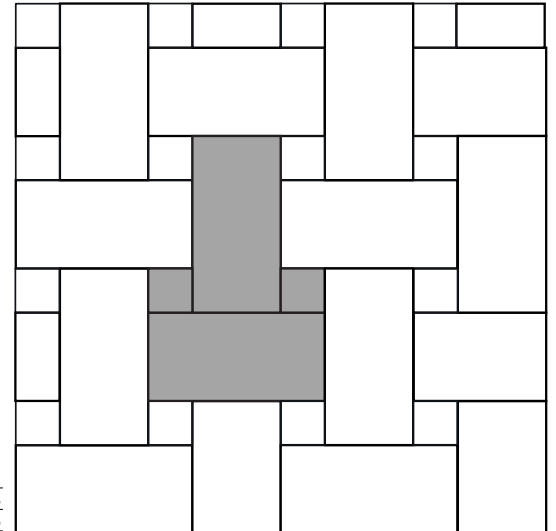
SIZES - FORMATI		% MQ
25x50 . 10"x20"		66,7 %
25x25 . 10"x10"		33,3 %
30x60 . 12"x24"		66,7 %
30x30 . 12"x12"		33,3 %



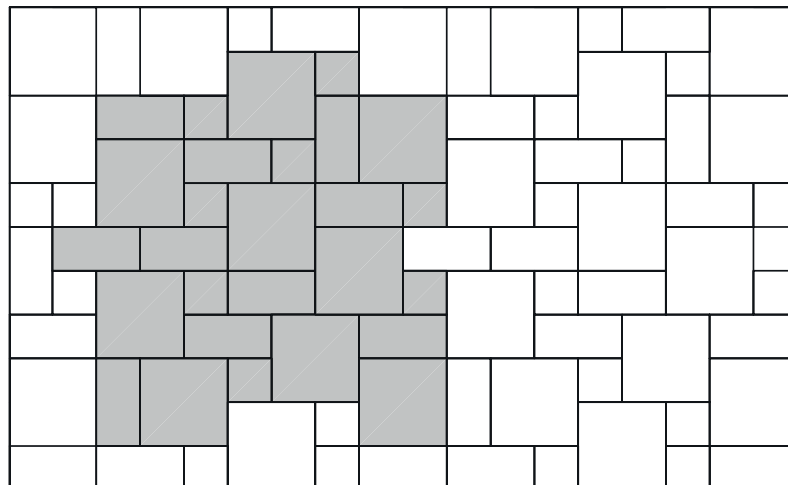
SIZES - FORMATI		% MQ
25x50 . 10"x20"		66,7 %
25x25 . 10"x10"		33,3 %
30x60 . 12"x24"		66,7 %
30x30 . 12"x12"		33,3 %



SIZES - FORMATI		% MQ
30x30 . 12"x12"		20 %
30x60 . 12"x24"		20 %
60x60 . 24"x24"		20 %
60x120 . 24"x48"		40 %



SIZES - FORMATI		% MQ
30x30 . 12"x12"		11.11%
60x120 . 24"x48"		88.89%



SIZES - FORMATI		% MQ
50x50 . 20"x20"		56,3 %
25x50 . 10"x20"		31,3 %
25x25 . 10"x10"		12,5 %
60x60 . 24"x24"		56,3 %
30x60 . 12"x24"		31,3 %
30x30 . 12"x12"		12,5 %

SpeakEasy

Porcelain Stone[®]

Colors



AV281 ▶ Sidecar



AV282 ▶ Zoot Suit



AV283 ▶ Sweet Georgia
Brown



AV284 ▶ Silver Screen



AV285 ▶ Bank Roll



AV281 ▶ Sidecar 6 x 36 UPS

Features and Benefits

- Beautifully durable alternative to rustic barn wood
- Five distinct colors which mimic the look of stained timber in a range of tones
- Plank sizes offered 6 x 36 and 8 x 36 and 12 x 36, enhance the wood-like effect.
- All sizes **rectified** and modular with a minimum 3mm grout joint
- Trim includes 6 x 18 bullnose
- Made in the U.S.A.
- Green SquaredSM certified and Made in the USA



SpeakEasy

Porcelain Stone[®]

Sizes



6 x 36



8 x 36



12 x 36



AV285 ▶ Bankroll 6 x 36 UPS

Sizes & Finishes

Field Tile			Available in all colors		
Nominal (in)	Actual (mm)	Thickness (mm)	Grout Joint (mm)	Finish	
6 x 36	147 x 897	10.5	3	UPS	
8 x 36	197 x 897	10.5	3	UPS	
12 x 36	297 x 897	10.5	3	UPS	

All field tile is rectified.
Crossville recommends a minimum 3mm grout joint.

Coordinating Trim

Coordinating Trim			Available in all colors		
Nominal (in)	Actual (mm)	Thickness (mm)	Grout Joint (mm)	Finish	
6 x 18 Bullnose	147 x 447	10.5	3	UPS	



6 x 18 Single Bullnose
(available in all colors)

Product Performance

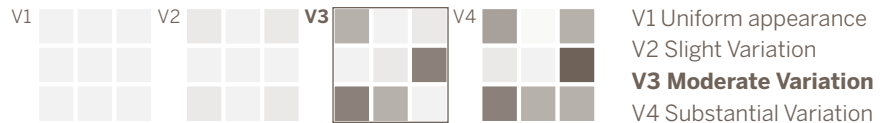
Breaking Strength	>450 lbf	ASTM C648
Bond Strength	>200 psi	ASTM C482
Chemical Resistance	Unaffected	ASTM C650
Frost Resistance	Resistant	ASTM C1026
Water Absorption	<0.50%	ASTM C373
Scratch Hardness	7	Mohs Scale

Wet Dynamic Coefficient of Friction Range

UPS	0.50 - 0.60	ANSI A326.3
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Shade & Texture Index

SpeakEasy has a shade variation of V3.



This porcelain tile product is produced with a V3 variation. Inspect the product upon delivery and for best results, blend tile from several cartons during installation.

Application Areas

Finish	Interior Floors (dry)	Interior Walls (wet/dry)	Exterior Walls	Interior Floors (Standing water/shower floors)	Exterior/Paving	Pool/Fountain Full Lining**	Water Line Pool/Fountains
UPS	✓	✓	✓			✓	✓

** Excludes mesh mounted mosaics. Crossville recommends face mounted or edge mounted mosaics for fully submerged applications. Contact your Crossville sales representative for more information.

NOTE: Trim applications will differ from field tile applications for the same series.

For more information on ANSI-A326.3 visit our website at <https://www.crossvilleinc.com/Resources/Tile-101/DCOF?tab=1>



Recommended Use

SpeakEasy is recommended for interior floors, interior walls, countertops, exterior walls, pool waterlines and full linings[†] in both residential and commercial applications. SpeakEasy is not recommended for exterior horizontal surfaces or exterior paving. See CrossvilleInc.com for detailed installation instructions.

[†]Excludes mesh mounted mosaics.

Care and Maintenance

Regular cleaning is the best way to keep SpeakEasy tile looking good for years to come. Use clean, hot water (combined with a household cleaner for more aggressive cleaning). Rinse thoroughly and dry with a soft cloth. No waxes are needed. More information regarding the care and maintenance of Crossville® products is available at CrossvilleInc.com.

Crossville® Sample Express

Visit the website to learn more:
CrossvilleInc.com/Products/SpeakEasy

Loose Tile Samples

Sizes may vary depending on product series
Max. of 4 large field tile per order

Standard Shipping

FedEX Ground

National Accounts

For over 20 years we have been offering Porcelain tile to commercial customers at National Accounts pricing programs with special discounts. The National Accounts department provides materials forecasting, sales support and samples.

CrossvilleInc.com

If you want a better idea of what Crossville tile would look like in a particular room setting, simply visit our website and click on Cross-Vision. This powerful software tool allows you to visualize different types of Crossville tile. In addition, you'll find comprehensive information about Crossville's entire portfolio of products. You can also learn about the latest styles and trends from industry experts, download detailed care and maintenance instructions for our various products, or browse electronic versions of Crossville's product brochures. So whether you need information about Crossville products or tile in general, please visit us at CrossvilleInc.com.

Our Warranty

Crossville Inc. guarantees that its products will meet or exceed the performance specifications outlined in ANSI A137.1-2022 and in the performance data section of the Crossville, Inc. general product catalog. For complete details check our website at CrossvilleInc.com.



AV281 ▶ Sidecar 6 x 36 UPS
AV282 ▶ Zoot Suit 12 x 36 UPS

Information listed here is subject to change. Please refer to CrossvilleInc.com for the latest, most accurate information.

Trade Organizations



Environmentally Aware



EXHIBIT F

Exhibit “F”



SHERWIN-WILLIAMS.



Exterior Repaint Specification for Palm Terrace Assisted Living

May 2, 2023

Prepared by:

The Sherwin-Williams Company

**David P. West
Healthcare Account Specialist
David.P.West@sherwin.com
Cell: 813.927.7174**

Table of Contents

Problem Area Pictures/Substrate

Project Scope

- A. Scope of Work
- B. Materials
- C. Protection of Substrates Not to be Painted
- D. Minimum Specifications
- E. Resolution of Conflicts
- F. Coordination of Work
- G. Safety
- H. Jobsite Visitation
- I. Surface Preparation
- J. Moisture
- K. Pressure Washing & Surface Preparation
- L. Application
- M. Workmanship & Application Conditions
- N. Weather
- O. Color Schedule
- P. Coating Maintenance Manual

Recommended Coatings Systems

Minimum Recommended Surface Preparation

Caulks and Sealants

Coatings Systems

- Stucco Masonry Surfaces (Crack Repair)
- Crack Repair
- Stucco, EIFS, Brick and Other Masonry Surfaces
- Stucco, CMU (Concrete Block), Tilt Up and Poured in Place (Waterproofing Systems)
- Stucco Tilt Up and Poured in Place
- CMU (Concrete Block)
- Tilt Up, Poured in Place
- Vinyl Siding and Cellular PVC Trim
- Fiber Cement Siding: Unfinished or Pre-Primed
- Wood Siding
- Wood Trim
- Wood Doors
- Ferrous Metal Stairwells, Railings and Doors
- Metal Doors
- Aluminum Soffit Gutters and Downspouts
- Exterior Drywall Ceilings
- Concrete Walkways and Patio Floors (Decorative Finish Only)
- Concrete Walkways and Patio Floors (Coating System)

Project Scope

Contractor shall strictly adhere to all applicable federal, state and local regulations associated with proper lead-safe work renovation, repair and painting practices and procedures. State and local regulations may be more strict than those set under the federal regulations. The federal practices and procedures are detailed in EPA's Lead Renovation, Repair and Painting Program Regulations Rule (RRP) 40 CFR Part 745, Subpart E, and as amended. Specifics associated with the RRP Rule pertaining to "Firm Certification", individual "Certified Renovator" Certification, pre-work activities (notification & testing), occupant protection / work site preparation measures, safe work / prohibited work practices, clean-up / clean-up verification / waste disposal / clearance testing (if applicable), recordkeeping and worker training criteria can be obtained on EPA's website: www.epa.gov/lead.

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority. Removal must be done in accordance with EPA Renovation, Repair and Painting Rule and all related state and local regulations. Care should be taken to follow all state and local regulations which may be more strict than those set under the federal RRP Rule.

The work will consist of all preparation, painting, finishing work and related items necessary to complete work described in these specifications and listed in the remaining pages included within this specification.

A. Scope of Work

Work in general includes surface preparation, surface repair, caulking, sealants, patching and application of the paint coating to the substrates and systems outlined in this specification and approved by owner or owner's agent.

B. Materials

1. All materials specified are from The Sherwin-Williams Company.
2. All paints shall be delivered to the job site in the original container with the manufacturer's label intact.
3. The paint shall be used and applied per label and data sheet instructions. The material shall not be thinned or modified in any way unless specified herein. Manufacturer's recommendation for proper surface preparation shall be followed. All data sheets on specified materials are available from your local Sherwin-Williams representative or www.paintdocs.com.
4. All paint and sundries at the job site shall be available for inspection at any time upon commencement of the job by the owner, owner's agent, or a Sherwin-Williams representative.

C. Protection of Substrates Not to be Painted

1. Contractor shall protect his/her work at all times and shall protect all adjacent work and materials by suitable covering or other methods during progress of work. The contractor will protect all adjacent areas not to be painted by taking appropriate measures. Areas to be protected are windows, brick, surrounding lawn, trees, shrubbery, floor and steps. Upon completion of work, he/she shall remove all paint droppings and over-spray from floors, glass, concrete and other surfaces not specified to be painted.

D. Minimum Specifications

1. If instructions contained in this specification, bid documents or painting schedule are at variance with the paint manufacturer's instructions or the applicable standard, and codes listed, surfaces shall be prepared and painted to suit the higher standard, as determined by Sherwin-Williams, the customer or management representative.

E. Resolution of Conflicts

1. Contractor shall be responsible for requesting prompt clarification when instructions are lacking, when conflicts occur in the specifications and/or paint manufacturer's literature, or the procedures specified are not clearly understood. Any questions concerning these specifications should be clarified prior to commencing the job. Any changes to these specifications would require written approval by Sherwin-Williams, the customer or customer's representative.

F. Coordination of Work

1. The general contractor and subcontractor shall be responsible for coordination of his work with the other crafts and contractors working on the same job and with the Management Company or owner.

G. Safety

1. All pertinent safety regulations shall be adhered to rigidly. In addition, all safety noted on the manufacturer's Product Data Sheets and labels shall be observed. Material Safety Data Sheets and Product Data Sheets are available from your local Sherwin-Williams store or representative or by visiting www.sherwin-williams.com.
2. Verify the existence of lead-based paints on the project. Buildings constructed after 1978 are less likely to contain lead-based paints. If lead-based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting Rule or similar state regulation. Verify that owner has completed a Hazardous Material Assessment Report for the project prior to issuing of Drawings.

H. Jobsite Visitation

1. The contractor shall be responsible for visiting the jobsite and familiarizing himself with the job and working conditions.
2. All work during application is subject to inspection by the owner or his representative.
3. It will be the paint contractor's responsibility to own and use a wet film thickness gauge to check his application thickness as he proceeds.
4. Contractor and owner have complete responsibility for ensuring that the project specifications are followed, notwithstanding periodic visits to the project by any Sherwin-Williams representative.
5. Any questions concerning these specifications should be clarified prior to commencing the job. Any changes to these specifications would require written approval of the owner, agent, or Sherwin-Williams representative.

I. Surface Preparation

1. Each surface shall be cleaned, scrapped, sanded and prepared as specified. The painting contractor is responsible for the finish of his work. Should any surface be found unsuitable to produce a proper paint or sealant finish, the project representative shall be notified, in writing, and no materials shall be applied until the unsuitable surfaces have been made satisfactory. Commencing of work in a specific area shall be construed as acceptance of surfaces and thereafter as fit and proper to receive finish. Contractor shall be fully responsible for satisfactory work.
2. All deteriorated or delaminated substrates (i.e. wood, hardboard siding, T-111, stucco and masonry surfaces) shall be replaced with new materials. New substrates will be box primed (6 sides) before installation in accordance with specifications. Delaminating substrate is defined as a substrate surface that paint is being applied to lifting or peeling away from the previous coating/s or original substrate/s.

3. All exterior surfaces to be painted shall be pressure cleaned, scrapped to remove all dirt, mildew, peeling paint, chalk and any foreign materials detrimental to the new finish (see Pressure Washing).
4. Thoroughly sand all glossy surfaces to create a profile for paint and/or primer to adhere to.
5. Apply caulks and sealants where appropriate. All existing underperforming caulks or sealants should be removed and replaced with sealant as specified. Allow sealant to cure for specified time in dry weather before paint is applied. **NOTE:** It is recommended to apply all primers first and then apply sealant before topcoat is applied. See specified sealants section.
6. Knots and pitch streaks shall be scraped, sanded and spot primed before full priming coat is applied. All nail holes or small openings shall be patched after priming coat is applied. Any wood that is rotten, cracked, delaminated or water damaged should be replaced. Any loose or peeling paint should be removed by sanding and scraping. All hard, glossy surfaces should be sanded down to create a profile for new paint to adhere. Fill nail holes, imperfections and cracks with putty (color to match primer). Edges, corners and raised grain shall be prepared by sanding. Apply sealants to all joints between wood items with a specified sealant.
7. All masonry surfaces should be scrapped and cleaned to remove all peeling paint, delaminated surfaces or substrates, chalk, dirt, stains, efflorescence and other surface contaminants. These areas shall be pressure washed and scrubbed with a cleaner/degreaser solution. After cleaning if there is still chalk evident this should be brought to the owner's attention in writing before any further work is done. Use an industry accepted patch or filler to assure a visually aesthetic finished substrate.
8. Brick must be free of dirt, loose or peeling paint, loose and excess mortar, delaminating layers of the brick, and foreign material. All brick should be allowed to weather for at least one year followed by wire brushing to remove efflorescence. Treat the bare brick with one coat of Loxon Conditioner. Any areas of breakage shall be patched and dried using specified Sherwin-Williams patching compound in accordance with Product Data Sheet instructions before coatings are applied.
9. All galvanized gutters and flashing should be thoroughly cleaned and sanded to remove loose and peeling paint. Any bare galvanized metal should be wiped down with a non-petroleum solvent cleaner.
10. All ferrous metals should be thoroughly cleaned and all loose rust or mill scale be removed by wire brush, scraper and/or power tool, such as an electric drill with wire brush attachment. Any rust spots or bare metal should receive the specified prime coat. Any hard, glossy surfaces should be dulled. Previously painted hand rails in sound condition should be washed down with a strong degreasing cleaner such as Krud Kutter, M-1 House Wash or Simple Green.
11. All vinyl siding should be clean thoroughly by scrubbing with a warm, soapy water solution. Rinse thoroughly. Do not paint vinyl siding with any color darker than the original color, unless the product and color are designed for such use. Painting with darker colors may cause siding to warp.
12. Cement Composition Siding/Panels: Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Pressure clean, if needed, to remove all dirt, dust, grease, oil, loose particles, laitance, foreign material, and peeling or defective coatings. Allow the surface to dry thoroughly. The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments.
13. EIFS: Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Remove and replace any peeling or delaminating surfaces. Replace EIFS to manufactures recommendation.

J. Moisture

All areas that could cause paint failure due to moisture should be addressed and eliminated. This would include but is not limited to:

1. Gutters and downspouts not working properly.
2. Previous coats of paint not adhering properly.
3. Wood checking (cracks and splits in wood).
4. Deteriorated caulking or sealant.

5. Gaps between substrates.
6. Rotten wood.
7. Areas affected by water splashing.
8. Painting in inclement weather.
9. Painting an undry substrate.
10. Uncaulked nail holes.

K. Pressure Washing & Surface Preparation

1. Pressure wash or water blast to remove oil, grease, dirt, loose mill scale and loose paint by water at pressures of 2500-3000 p.s.i. Power tool clean per SSPC-SP3 to remove loose rust and mill scale. Hand tool clean per SSPC-SP2 and sand all glossy surfaces to promote adhesion.
2. Remove mildew per the following:
 - a. Tools: Stiff brush, garden pump sprayer or chemical injector power washer method.
 - b. Remove before painting by washing with a solution of 1 part liquid bleach and 3 parts water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with water and allow the surface to dry before painting. Wear protective eyewear, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.

L. Application

1. Contractor shall be responsible for notification of owner's representative before beginning work if conditions substantially exceed Scope of Work.
2. Contractor shall protect his/her work at all times and shall protect all adjacent work and materials by suitable covering or other method during progress of the work. Upon completion of work, he/she shall remove all paint and varnish spots from floors, glass and other surfaces. He shall remove from premises all rubbish and accumulated materials of whatever nature not caused by others and shall leave his part of work in a clean, orderly, and acceptable condition.
3. Remove and protect hardware, accessories, device plates, lighting fixtures, factory finished work and similar items or provide ample in-place protection. Upon completion of each space, carefully replace all removed items.
4. Cover all electrical panel box covers and doors before painting walls. Omit if covers have been previously painted.
5. Materials shall be applied under adequate illumination, evenly spread and flowed on smoothly to avoid runs, sags, holidays, brush marks, air bubbles and excessive roller stipple.
6. All coats shall be dry to manufacturer's instructions before applying additional coats.
7. All suction spots or "hot spots" in plaster or cement shall be sealed prior to application of finish coat.
8. When spray painting is specified, contractor shall finish 100 square feet by spraying a sample of finish upon request of owner. This shall be finished with materials specified and shall be called a Pilot Wall.
9. Exterior doors with paintable tops, bottoms, and side edges finished same as exterior faces of doors.
10. Building by building inspections will be made by the owner or his representative. If requested, a Sherwin-Williams representative may participate in these visits for technical consultation.
11. All repairs, replacements and applications are to meet or exceed all manufacturers' and attached specifications.
12. Elastomeric coatings shall not be applied directly over pre-existing elastomeric coatings.

M. Workmanship & Application Conditions

1. Keep surface dust, dirt and debris free before, during, and after painting, until paint is cured.
2. Execute work in accordance with label directions. Coating application shall be made in conformance to this specification and to the manufacturer's paint instruction on the labels and Product Data Sheets.
3. All work shall be accomplished by persons with the necessary skill and expertise and qualified to do the work in a competent and professional manner.
4. All shrubbery, outside carpeting and sprinkler systems shall be fully protected against damage during each stage of the painting project.
5. Paint all previously painted surfaces, including, but not limited to: stair systems, light poles and fixtures, pool fence, and underside of balconies. Any potentially hazardous substrate shall be reviewed with owner and owner's agent. All necessary safety precautions must be fully taken to ensure worker's safety.
6. All exterior substrates designated not to receive paint coatings shall be kept free of paint residue, i.e., windows, outdoor carpeting, walkways, etc.
7. Owner shall provide water and electricity from existing facilities.
8. Normal safety and "wet paint" signs, necessary lighting and temporary roping off around work areas shall be installed and maintained in accordance with OSHA requirements while the work is in progress.
9. A progress schedule shall be furnished by the contractor to the owner for approval and shall be based on the contract completion date. Contractor shall advise the owner of those areas in which work is to be performed sufficiently in advance of the work schedule to permit the owner to prepare for the work, advise residents, move vehicles, etc.
10. Do not paint over any code required labels or any equipment identification, performance rating, name or nomenclature plates.

N. Weather

1. All materials are to be applied in accordance with the product data page in regards to weather conditions. Stop exterior work early enough in the day to permit paint film to set up before condensation caused by night temperature drops occurs.
2. Do not begin painting until surfaces are moisture free.

O. Color Schedule

1. To be approved by owners.
2. The owner and project coordinator should be aware that certain colors, especially darker tones, fade more rapidly than other colors, regardless of the product manufacturer, product type, or substrate to which the product is applied. It is advisable for the owner, project coordinator, and/or person responsible for color selection to consult with Sherwin-Williams early in the planning stage to assure the most durable combination of tinting formulation is used to achieve the desired color. Additionally, color selection affects the hiding ability of the finish coats.

P. Coating Maintenance Manual

1. Upon conclusion of the project, the Contractor or paint manufacture/supplier shall furnish a coating maintenance manual, such as Sherwin-Williams "Custodian Project Color and Product Information" report or equal. Manual shall include an Area Summary with finish schedule, Area Detail designating 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.

Recommended Coatings Systems

Thank you for the submittal of Sherwin-Williams products on the above referenced project. The Sherwin-Williams Company certifies that the products we intend to furnish will meet or exceed the performance requirements of the job specifications.

Surface preparation, application methods, spreading rates, and wet and dry film thicknesses will be determined by the attached specifications and our Material Safety Data Sheets, available at www.sherwin-williams.com, except as noted below.

All surface contamination, such as mildew, chalk, grease, dirt, grime, rust, efflorescence, old loose peeling paint, rotten wood and hard glossy surfaces, needs to be removed by pressure washing, prep work and hand tool clean, before a new coating system can be applied. Be sure to read and follow the Data Sheets before application.

Minimum Recommended Surface Preparation

SSPC-SP1: Remove all oil, grease, chalk and other surface contamination

SSPC-SP2: Remove all rotten wood, peeling paint and rust

Surface Cleaner: Krud Kutter Wash Cleaner or equivalent non-residue surface cleaner

Sealant: Loxon Elastomeric Patching Material and Loxon Urethane Sealant

Caulks and Sealants

Execution

- A. Do not begin application of caulk or sealants until substrates have been properly prepared. Notify SW Rep of unsatisfactory conditions before proceeding.
- B. If substrate preparation is the responsibility of another installer, notify Brookdale Asset Management and SW Rep of unsatisfactory preparation before proceeding.
- C. Proceed with work only after conditions have been corrected, and approved by all parties, otherwise application of caulks and sealants will be considered as an acceptance of surface conditions.

Surface Preparation

- A. Clean all joints by removing any foreign matter or contaminants that would impede adhesion of the sealant to the building material. The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
- B. Porous materials are usually treated by mechanical means and nonporous surfaces by a solvent wipe that is compatible with the building substrate being used. **Note:** For porous surfaces, the use of detergent or soap & water is NOT recommended.
- C. Priming: When required, apply a primer. Do NOT allow it to pool or puddle.
- D. Install backup materials as required to ensure that the recommended depth is regulated when using the backup material.
- E. No exterior caulking should be done immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50°F, unless products are designed specifically for these conditions.

Installation

- A.** Apply all caulks and sealants with manufacturer specifications in mind.
- B.** Do not apply to wet or damp surfaces.
 - 1. Wait at least 30 days before applying to new concrete or masonry, or follow manufacturer's procedures to apply appropriate sealants prior to 30 days.
 - 2. Wait until wood is fully dry after rain or morning fog or dew.
- C.** Apply sealants using methods recommended by manufacturer.
- D.** Uniformly apply caulks and sealants without skips, voids or sags. Tool bead to a consistent, smooth surface.

PVC, Plastic, Brick, Stone, Masonry, Marble, Stucco, Cementitious Siding, Vinyl Siding, Wood:

- 1. Exterior Acrylic Latex:
SHER-MAX ULTRA Urethanized Elastomeric Sealant (WL00 Series)

Concrete: Vertical Applications

- 1. Exterior Polyurethane:
Sherwin-Williams Loxon S1(SU21S00XX)

Concrete: Horizontal Applications

- 1. Exterior Polyurethane:
Sherwin-Williams: Loxon SL1 - One Component Self Leveling for Horizontal Surfaces (SU21S00XX)

Gaps: Window & Door Frames

- 1. Interior/Exterior Insulating Foam:
Sherwin-Williams White Lightning STOP GAP! Minimal Expanding Insulating Foam (WL1111100)

Gaps: Large Areas

- 1. Interior/Exterior Insulating Foam:
Sherwin-Williams White Lightning STOP GAP! Triple Expanding Insulating Foam (WL3333300-20)

Glass: Glazing

- 1. Exterior Latex:
Sherwin-Williams White Lightning Window & Door Siliconized Acrylic Latex Glazing Compound (6503-64177)

Glass: Non-Structural Sealing

- 1. Exterior:
Sherwin-Williams White Lightning All Purpose Silicone Ultra (W111200XX)

Metal: Ferrous and Non-Ferrous

- 2. Exterior Polyurethane:
Sherwin-Williams Loxon S1 (SU21S00XX)

EIFS/DriVit

- 1. Exterior Polyurethane/Silicone Hybrid:
Sherwin-Williams Loxon H1 Hybrid (SU51H00XX)

Paint and Coatings Systems

Stucco Masonry Surfaces (Crack Repair)

Crack Repair

Identify all cracks in the existing substrates and repair per manufacturer's recommendation.

- A. For hairline cracks 1/16 inch or less wide — seal with Sherwin-Williams Concrete and Masonry Elastomeric Patching Compound (smooth or textured) (6501-71788 Smooth - 6501-86117 Textured)
 1. OR- Use Loxon XP as top coat without patch repair.
- B. For cracks 1/16-3/5 inch, route the crack open to a uniform size by mechanical methods. Clean out crack with water and allow to completely dry. Seal with Sherwin-Williams Concrete and Masonry Elastomeric Patching Compound (smooth or textured). SEE ABOVE
- C. For cracks deeper than ½ inch or wider than 1/4inch, backer rods should be used to fill the gap and to eliminate three point adhesions. See data sheet for additional information.

Stucco & Cementitious Surfaces

- A. **Prime Coat:** Loxon Acrylic Conditioner (LX03 series)
- B. **Finish Coat:** Latitude Acrylic Exterior Latex Satin (K62 Series) *Early Moisture Resistance

Painted Wood Trim

- A. **Spot Prime Coat:** Exterior Latex Wood Primer (B42W8041)
Exterior Oil Base Primer (Y24W8020)

Note: New/Bare wood, full prime. Previously coated with bare areas, spot priming is acceptable. For wood that is considered a tannin bleeding wood, use Exterior Oil Based Primer (Y24W8020).

- B. **Prime Coat:** Loxon Acrylic Conditioner (LX03 series)
- C. **Finish Coat:** Latitude Acrylic Exterior Latex Satin Finish (K62 Series)

Note: Rough sawn wood surfaces must be back-rolled to ensure proper adhesion and a smooth final appearance.

Painted Exterior Galvanized Metal Doors

- A. **Prime Coat:** Loxon Acrylic Conditioner (LX03 series)
- B. **Finish Coat:** SnapDry Door & Trim Coating (A71 Series – Semi-Gloss)

Painted Exterior Fiberglass Doors

- A. **Prime Coat:** Loxon Acrylic Conditioner (LX03 series)
- B. **Finish Coat:** SnapDry Door & Trim Coating (A71 Series – Semi-Gloss)

Aluminum Soffit, Gutters, Downspouts & Eaves Drip

Note: Gutters should be cleaned inside and out and working prior to painting.

- A. **Spot Prime Coat:** Loxon Acrylic Conditioner (LX03 series)

- B. **Finish Coat:** Latitude Acrylic Exterior Latex Satin Finish (K62 Series)

Exterior Drywall Ceilings

Note: For water stains, use Fast Dry Interior/Exterior Alkyd Primer (Y24Series)

- A. **Spot Prime Coat:** PrepRite ProBlock Interior/Exterior Latex Primer/Sealer (B51 Series)

- B. **Finish Coat:** Latitude Acrylic Exterior Latex Satin Finish (K62 Series)

Bare PVC Piping

- A. **Prime Coat:** Extreme Bond Interior/Exterior Primer (B51W1150)

- B. **Finish Coats (2):** Latitude Acrylic Exterior Latex Satin Finish (K62 Series)

Painted PVC Piping

- A. **Prime Coat:** Loxon Acrylic Conditioner (LX03 series)

- B. **Finish Coat:** Latitude Acrylic Exterior Latex Satin Finish (K62 Series)

Painted Galvanized Electric Meters

- A. **Prime Coat:** Loxon Acrylic Conditioner (LX03 series)

- B. **Finish Coat:** Latitude Acrylic Exterior Latex Satin Finish (K62 Series)

Painted Wood Gazebo

Note: There is wood damage that will need to be repaired prior to painting. Insufficient prep will result in coating failure.

- A. **Spot Prime Coat:** Exterior Latex Wood Primer (B42W8041)
Exterior Oil Base Primer (Y24W8020)
Note: New/Bare wood, full prime. Previously coated with bare areas, spot priming is acceptable. For wood that is considered a tannin bleeding wood, use Exterior Oil Based Primer (Y24W8020).

- B. **Prime Coat:** Loxon Acrylic Conditioner (LX03 series)

- C. **Finish Coats (2):** SnapDry Door & Trim Coating (A71 Series – Semi-Gloss)

Exclusions

A. A/C Vents

B. Stucco Fence

C. Lighting

D. Cameras

E. PVC Fence

F. Insulated Piping

G. Generators

H. Natural Gas Meters & Piping

I. A/C Pumps & Piping

J. All Other Items



EXHIBIT G

Pathway Location

BID FORM

	Work Item	Work Description	Quantity	Unit Price	Extended Price
1	Concrete Driveway, Repair and Replacement	6" cast in place concrete over 4" washed gravel on compacted soil. Class 4000 psi concrete installed including rebar, dowels, wire mesh installed and troweled. Prep work such as but not limited to building forms, using bonding agents, leveling, and compacting soil and cleanup area once completed.	18,500 SF		
2	Indoor, Inground Privacy Pool and Spa, Sauna and Steam Room Removal	Demolition of existing pool, spa, sauna, and steam room. Construction to follow specifications and provide A/E drawings as required for removal of pools, spa, steam, and pool equipment. Voided pool space to be filled with clean fill and compacted prior to construction of new Reinforced concrete floor slab to tie into existing floor slab.	1		
3	Ceiling Fans	Aeration FR3 Series or approved equal.	8		
4	Lighting	Aspect LED 5.2" Recessed Light with 12 LED/12W or approved equal.	20		
5	New 4 feet wide Paved Pathway between new Patio and Existing Gazebo	Follow specifications for construction and topped with Belgrade Interlocking Eco-Holland Smooth Surface Permeable Concrete Pavers or approved equal.	80 SF		
6	Porcelain Tiles	Crossville, Inc. "Speak Easy Porcelain Stone AV281 <u>Sidecar</u> " at Entrance Vestibule, Lobby, Hallway and Dining Hall with matching 6X18 Bullnose Trim along baseboards at walls. Remove existing tiles prior to installing new tiles.	3,500 SF		
6	Porcelain Tiles	Crossville, Inc. " <u>Aurum Porcelain Tile Ebur Outdoor – Grip</u> " or approved equal at newly converted patio with matching 3X20 Bullnose Grip along baseboards at walls. Remove existing tiles prior to installing new tiles.	2,500 SF		
7	Exterior Painting	Follow Specifications for prep work; Sealant – Loxon Elastomeric Patching Material and Loxon Urethane Selant; Exterior Prime Coat – Loxon Acrylic Conditioner (LX03 Series) and Finish Coat – Latitude Acrylic Exterior Latex Satin (K62 Series) * Early Moisture Resistance. (All paints by or Sherwin Williams or approved equal.)	27,000 SF		
8	Landscape and Irrigation Improvements	Refurbish existing landscape to incorporate a new drip irrigation system including sprinkler heads as needed.	Site		\$ 47,000.00
9	Drywall	Follow Scope of Work and include finishing and painting specifications.	1,000 SF		
10	Screen with Anodized Aluminum Frame	Replace existing screen. Install new "Super Screen/Pet Guard" with commercial grade anodized aluminum frame in Patio Walls fronting Interior Court.	650 SF		
11	Ceiling Reconstruction at new Patio	Follow specifications. Refurbish automatic sprinkler system and electrical wiring to bring up to Code. Install new Sprinkler Heads.	2,500SF		
12					
13					
TOTAL BASE BID					

BID BOND

Bond No: _____

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned

(Name of Principal)

as **PRINCIPAL** (hereinafter called "Principal"), and

(Name of Surety)

as **SURETY** (hereinafter called "Surety"), are hereby held and firmly bound unto the **HOUSING AUTHORITY OF THE CITY OF TAMPA** (hereinafter called "AUTHORITY") for the penal sum of _____ DOLLARS, lawful money of the United States, for the payment of which sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, personal representatives, successors and assigns, jointly and severally, firmly by these presents.

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

(Insert Job Number)

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

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



In presence of:

(Attest)

_____ (Seal)
(Individual Principal)

(Business Address)

(Attest)

_____ (Seal)
(Individual Principal)

(Business Address)

By _____ Affix Corporate Seal

(Attest:)

(Attest:)

(Corporate Surety)

By _____ Affix Corporate Seal

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

Bid Bond

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____ certify that I am the
Secretary of the corporation named as Principal in the within bond: That

who signed the bond on behalf of the Principal , was then

of said corporation; that I know his/her/her signature thereto is genuine; and that said bond was duly
signed, sealed, and attested to for and in behalf of said corporation by authority of its governing body

_____ (Corporate Seal).

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END OF BID BOND

Representations, Certifications, and Other Statement 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 of competitor relating to (i) those prices, (ii) the intention to submit a bid, or (iii) the methods or factors used to calculate the prices offered;

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

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

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

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

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

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

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) 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 this 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 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 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 sixty (60) consecutive 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 the 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 certified 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 at least 51 percent Indian is 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 for the Bureau of Indian Affairs and "Native" as defined in the Alaska Native Claims Settlement Act.

(b) [] is, [] is not an Indian organization. "Indian organization," as used in this provision, means the governing body of any Indian tribe or entity established or recognized by such governing body. Indian "tribe" means any Indian tribe, band, group, pueblo, or community including Native villages and Native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, which is recognized by the Federal Government as eligible

for services from the Bureau of Indian Affairs.

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

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

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

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

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

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

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

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

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

- (1) Obtain identical certifications from the proposed subcontractors;
(2) Retain the certifications in its files; and
(3) Forward the following notice to the proposed subcontractors (except if



the proposed subcontractors have submitted identical certifications for specific time periods:

11. 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.

12. 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.

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)

END OF HUD FORM 5369-A (11/92)



STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data provided must be clear and comprehensive. This statement must be notarized. If necessary add separate sheets for items requiring additional explanations. This information must be submitted in a separate sealed envelope marked "Bidder's Qualifications" and inserted inside the sealed Bid envelope. In the event your bid is not selected for award, this envelope will be returned to the Bidder unopened.

SECTION 1: General Information

1. Name of Bidder.
2. Permanent main office address.
3. Date Organized.
4. State in which Bidder is incorporated.
5. Submit your license # for the Contractor's licensing that conforms to the Bid requirements.
6. Number of years you have been engaged in the contracting business under your present firm name.

SECTION 2: Contracting Experience and Past Performance

7. Describe the general character of work normally performed by your company. *Do not exceed one (1) page.*
8. Provide a schedule of all current contracts,

For each contract provide the following:

- a. Contract title.
- b. A general description of the work.
- c. Owner.
- d. Name of Owner's representative, title, address and phone number.
- e. Contract amount.
- f. Contractual start and completion date
- g. The approximate % and dollar amount of work completed.
- h. % of work self performed
- i. Identify any Owner MBE and/or Section 3 contractual goals
- j. % of work and dollar value performed by MBE and/or Section 3 Contractors



Statement of Bidder's Qualifications

9. Describe any past experience your firm may have had of a similar nature to this project. (List each project, number of units or square foot demolished, address, contract amount, contract duration, name and contact information of owner or owner's representative.
10. Has your firm ever failed to complete any work awarded to you? If so, provide information regarding for whom, where, and why?
11. Has your firm ever defaulted on a contract? If so, provide information regarding for whom, where, and why?
12. Describe your company's senior management involvement in ensuring customer satisfaction. Describe your firm's plan for ensuring customer satisfaction for this contract. *Do not exceed two (2) pages.*
13. Provide any additional information or statements that you feel will demonstrate your firm's ability to successfully manage this contract and multiple trade Subcontractors. Information and statements will be considered with particular attention paid to demonstrate past experience with regard to mechanical, electrical, and commercial Contracts. *Do not exceed two (2) pages.*

SECTION 3: Quality Control Plan

14. Describe the specific qualifications of each member of your quality control staff. Indicate their levels of authority to redirect or put a stop to work and on what basis. *Do not exceed two (2) pages.*
15. Describe the detailed procedures to be followed by your quality control staff in visiting the sites; documenting the progress and quality of work; directing subcontractors in the correction of deficiencies; and directing work in the event of problems, design changes, change orders, etc. *Do not exceed three (3) pages.*
16. Describe the approach your firm will utilize to inspect work and correct deficiencies prior to Authority staff being informed that the work is ready for inspection. *Do not exceed two (2) pages.*

SECTION 5: Subcontractor and Section 3 Utilization/Management

17. Provide a description of the provisions your firm will institute regarding your bonding and insurance requirements, imposed on your Subcontractors, that will enhance the viability of Subcontract opportunities for small, minority and Section 3 Subcontractors and make such requirements more attainable for said Subcontractors. *Do not exceed one (1) page.*



Statement of Bidder's Qualifications

18. Describe your firm's policy of making progress payments to small, minority and Section 3 Subcontractors that will enhance the viability of Subcontract opportunities with your firm and allow you to maximize your firm's utilization of such businesses. *Do not exceed one (1) page.*

19. Describe your plan for coordinating and controlling Subcontractors (see previous assumptions in the Statement of Bidder's qualification section of these Contract Documents). Focus specifically on your plan to ensure that subcontractors show up on the job site every day they are scheduled, with appropriate staff and materials, and make reasonable progress. The Authority is particularly interested in a plan that demonstrates capabilities to accomplish the majority of the supervision and management tasks early each workday to minimize elapsed unproductive time. *Do not exceed two (2) pages.*

20. Authority is interested in the Bidder demonstrating past experience in subcontracting to and managing a significant number of trade Contractors. Provide a representative list of Subcontractors you intend to use or solicit bids from during the duration of this contract. For each Subcontractor, list the city and state of its office location. Authority recommends that to demonstrate adequate capability, at a minimum, identify one contractor for each trade area listed below or note your intent to self-perform in that specific trade area. In addition, Authority will give significant attention as to whether or not those listed are local (Tampa metro area) subcontractors, MBE or Section 3 Contractors and if the Bidder has demonstrated experience and/or knowledge of the local and MBE subcontractor market.

a. Trade Areas: Demolition, earthwork, carpentry, concrete, masonry, roofing, painting, flooring, drywall finishing, mechanical/plumbing, electrical, lead paint abatement, and asbestos abatement, final cleaning, hauling, and principal material suppliers.

b. For each trade firm listed in (a) above indicate the most recent project you have worked together on, and provide the approximate dates.

c. Provide the information in a table format, similar to the example below:

<u>Trade</u>	<u>Sub Name</u>	<u># of Times</u>					<u>Most Recent</u>
		<u>Used</u>	<u>MBE</u>	<u>Section 3</u>	<u>Local</u>		
<u>Project/Date</u>							
Demolition	ACME Wrecking	6	X	N/A	Yes	NBH 1999	

21. Provide a description of your plan to market subcontract opportunities to the MBE subcontractor community and to market employment opportunities to Section 3 Employees (see Supplemental General Conditions section of these Contract Documents for definition of MBE Contractors, and Section 3 Employees). Provide a summary of any past successes Subcontracting to MBE Subcontractors and hiring Section 3 Employees. For each example cited, provide a brief description and an

Statement of Bidder's Qualifications



Statement of Bidder's Qualifications

Owner Contact and phone number so that the Authority may verify the event occurrence and the achievement cited. *Do not exceed three (3) pages.*

22. To demonstrate the ability to meet the requirements of this contract and the service expectations of Authority, the Bidder shall provide audited *or* CPA prepared (by a CPA not employed by your firm) Financial Statements for the most recently completed fiscal year (**no later than twelve months ago**).

Provide evidence of available credit in sufficient amount to complete the requirements of this Contract (typical form would be a letter from a credit source).

END OF STATEMENT OF BIDDER'S QUALIFICATIONS

Statement of Bidder's Qualifications



NON-COLLUSIVE AFFIDAVIT

State of _____)

County of _____)

_____, being first duly sworn,
(Printed Name)

deposes and says,

That he/she is _____
(Owner, Partner, Officer, Representative or Agent)

the party making the foregoing proposal or bid is genuine and not collusive or sham; that the said bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any bidder or person to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication, or conference, with any person, to fix the bid price or any other bidder, to fix any overhead, profit or cost element of said bid price, or that of any other bidder, or to secure any advantage against the Housing Authority of the City of Tampa or any person interested in the proposed contract; and that all statements in said proposal or bid are true.

SIGNATURE _____

TITLE _____

COMPANY NAME _____

Bidder, if the Bidder is an Individual
Partner, if the Bidder is a Partnership
Officer, if the Bidder is a Corporation

Subscribed & sworn to before me

This _____ day of _____, 20____.

My Commission expires _____, 20____.

END OF NON COLLUSIVE AFFIDAVIT



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PERFORMANCE BOND FORM

KNOW ALL MEN BY THESE PRESENTS:

That

As Principal, and _____

a corporation of the State of _____, as

Surety, are held and firmly bound unto the HOUSING AUTHORITY OF THE CITY OF TAMPA,

as Obligee, in the amount of _____ DOLLARS

(\$ _____) for the payment thereof Principal and Surety bond themselves, their

heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these present.

WHEREAS, Principal has, by written agreement dated _____, 20____,

entered into a contract with Obligee or _____

in accordance with Contract Documents prepared by THE HOUSING AUTHORITY OF THE CITY OF TAMPA, which Contract is, by reference, made a part hereof and is hereinafter referred to as the Contract.

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall faithfully satisfy all claims and demands incurred by the Principal of said Contract, and shall pay all obligation arising there under, and shall fully indemnify and save harmless the OWNER from all cost and damage which the OWNER might suffer by reason of the failure of the Principal to do so, and shall fully reimburse and repay to the OWNER all costs, damages, and expenses which the OWNER may incur, making good any default by the Principal, and shall promptly make payment to all persons supplying labor, equipment, or materials for use in the prosecution of the Work, whether by subcontractor or otherwise, and including all insurance premiums on said Work as provided for in such Contract, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

In addition, the Principal and Surety, jointly and severally, expressly guarantee that the Owner will be held harmless from any liens, claims, demands, or obligations in conjunction with materials or services provided with respect to this Contract. This Bond shall remain in effect for a period of one year from the date of final acceptance.



The OWNER may sue on this Bond, and any person furnishing material or performing labor, either as an individual or as a subcontractor, shall have the right to sue on this bond, in the name of the OWNER, for his/her use and benefit.

ATTEST

Contractor

Secretary

BY: _____

Title

Surety

(SEAL)

BY: _____

Signed and sealed this _____ day of _____, 20__.



PAYMENT BOND FORM

THIS INSTRUMENT WITNESSETH: That we (1)

a(2)

organized under the law's of the State of _____ hereinafter authorized to do business
in the State of (3) _____, and (4) _____ as Surety

are held and firmly bound unto HOUSING AUTHORITY OF THE CITY OF TAMPA, hereinafter
called the OWNER, in accordance with a referred to, in the penal sum of

(5) _____ Dollars (\$) _____
lawful money of the United States, well and truly to be paid unto the said OWNER, for the
payment of which we bind ourselves, our heirs, executors, administrators, successors and
assignees, jointly and severally firmly by these presents.

WHEREAS, the said Principal has entered into a written contract with the OWNER, dated,

_____ 20_____ for work designated as

Located in _____, in conformity with Contract Documents
hereby referred to and made a part hereof, the same, to all intents and purposes, as if written at
length herein, in which Contract the said Principal has contracted to perform the Work specified in
said Contract in accordance with the terms thereof.

- (1) Contractor
(2) Corporation. Partnership or Individual
(3) State in which project is located
(4) Surety
(5) 100 percent of the Contract

NOW THEREFORE, the conditions of this obligation are such that if the Principal shall faithfully
satisfy all claims and demands incurred by the Principal of said Contract, and shall pay all

FY2014/2015



Payment Bond Form

obligations arising there-under, and shall fully indemnify and save harmless the OWNER from all cost and damage which the OWNER might suffer by reason of the failure of the Principal to do so, and shall fully reimburse and repay to the OWNER all costs, damages, and expenses which the OWNER may incur, making good any default

by the Principal and shall promptly make payment to all persons supplying labor, equipment or materials for use in the prosecution of the Work, whether by subcontractor or otherwise, and including all insurance premiums on said Work as provided for in such Contract, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

In addition, the Principal and Surety, jointly and severally, expressly guarantee that the Owner will be held harmless from any liens, claims, demands or obligations in conjunction with materials or services provided with respect to this Contract. The bond shall remain in effect for a period of one year from the date of final acceptance.

The OWNER may sue on this Bond, and any person furnishing material or performing labor, either as an individual or as a subcontractor, shall have the right to sue on this bond, in the name of the OWNER, for his/her use and benefit. The said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the Work to be performed there-under, or the Contract Documents accompanying the same, shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such changes, extension of time, alteration or addition to the terms of the Contract or to the Work or to the Contract Documents.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary herein under, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in several counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20_____.

(Seal)
Attest:

Contractor:
BY: _____
TITLE: _____

(Seal)
Attest:

Surety:
BY: _____
Attorney-in-Fact



SWORN STATEMENT UNDER SECTION 287.133(3)(A), FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

(To be signed in the presence of notary public or other officer authorized to administer oaths.)

Before me, the undersigned authority, personally appeared _____ who, being by me first duly sworn, made the following statement:

1. The business address of (name of Offeror or business) is.
2. My relationship to _____ (name of Offeror or business) is _____ (Relationship such as sole proprietor, partner, president, vice president).
3. I understand that a public entity crime as defined in Section 287.133 of the Florida Statutes includes 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 in Florida or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any proposal or contract for goods or services to be provided to any public entity or such an agency or political subdivision and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy or material misrepresentation.
4. I understand that "convicted" or "conviction" is defined by the Florida Statutes to mean a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record 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 guilt or no contest.
5. I understand that "affiliate" is defined by the Florida Statutes to mean (1) a predecessor or successor of a person or a corporation 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, or (3) those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate, or (4) a person or corporation who knowingly entered into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months.
6. Neither the Offeror or contractor, nor any officer, director, executive, partner, shareholder, employee, member or agent who is active in the management of the Offeror or contractor, nor any affiliate of the Offeror or contractor has been convicted of a public entity crime subsequent to July 1, 1989. (Draw a line through paragraph 6 if paragraph 7 below applies.)



7. There has been a conviction of a public entity crime by the Offeror or contractor, or an officer, director, executive, partner, shareholder, employee, member or agent of the Offeror or contractor who is active in the management of the Offeror or contractor or an affiliate of the Offeror or contractor. A determination has been made pursuant to Section 287.133(3) by order of the Division of Administrative Hearings that it is not in the public interest for the name of the convicted person or affiliate to appear on the convicted vendor list. The name of the convicted person or affiliate is _____ a copy of the order of the Division of Administrative Hearings is attached to this statement. (Draw a line through paragraph 7 if paragraph 6 above applies.)

(Signature)

(Print name)

STATE OF
COUNTY OF

The foregoing instrument was acknowledged before me this _____ day of _____ by _____, who is personally known to me or who has produced _____ as identification and who did take an oath.

_____ Notary Public

My Commission Expires: _____

FEDERAL DEBARMENT CERTIFICATION FORM

DGS PD 2 (Rev. 12/19)

**Certification Regarding Debarment, Suspension, Ineligibility
and Voluntary Exclusion Lower Tier Covered Transactions**

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 29 CFR Part 98, Section 98.510, Participant's responsibilities. The regulations were published as Part VII of the May 26, 1988 Federal Register (pages 19160-19211).

**(BEFORE COMPLETING CERTIFICATION, READ THE INSTRUCTIONS ON THE NEXT PAGE
WHICH ARE AN INTEGRAL PART OF THE CERTIFICATION)**

1. The prospective recipient of Federal assistance funds certifies, by submission of this IFB/RFP Response, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
2. Where the prospective recipient of Federal assistance funds is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this IFB/RFP Response.

Name and Title of Authorized Representative	
Signature	Date

FEDERAL DEBARMENT CERTIFICATION FORM (CONTINUED)

Instructions for Certification

1. By signing and submitting this IFB Response, the prospective recipient of Federal assistance funds is providing the certification as set out below.
2. The certification in this class is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective recipient of Federal assistance funds knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the Department of Labor (DOL) may pursue available remedies, including suspension and/or debarment.
3. The prospective recipient of Federal assistance funds shall provide immediate written notice to the person to which this RFP Response is submitted if at any time the prospective recipient of Federal assistance funds learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "RFP Response," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this RFP Response is submitted for assistance in obtaining a copy of those regulations.
5. The prospective recipient of Federal assistance funds agrees by submitting this RFP Response that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the DOL.
6. The prospective recipient of Federal assistance funds further agrees by submitting this RFP Response that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may but is not required to check the List of Parties Excluded from Procurement or Non-Procurement Programs.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the DOL may pursue available remedies, including suspension and/or debarment.



**Contractor Certification of Efforts
to Fully Comply with Contracting,
Employment and Training
Provisions of Section 3
(Revised 10/2021)**

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

Is a Section 3 Business concern.

A Section 3 Business concern means a business concern:

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

Is Not a Section 3 Business concern but who has and/or will continue to seek compliance with Section 3 by certifying to the following efforts as being undertaken.

**EFFORTS TO AWARD SUBCONTRACTS TO
SECTION 3 BUSINESS CONCERNS:
(Check all that apply)**

- By contacting business assistance agencies, minority contractors associations and community organizations to inform them of the contracting opportunities and requesting their assistance in identifying Section 3 businesses which may solicit bids for a portion of the work.
- By advertising contracting opportunities by posting notices, which provide general information about the work to be contracted and where to obtain additional information, the common areas of the applicable development(s) owned and managed by the Housing Authority.
- By providing written notice to all known Section 3 business concerns of contracting opportunities. This notice should be in sufficient time to allow the Section 3 business concerns to respond to bid invitations.
- By following up with Section 3 business concerns that have expressed interest in the contracting opportunities.

By coordinating meetings at which Section 3 business concerns could be informed of specific elements of the work for which subcontract bids are being sought.

By conducting workshops on contracting procedures and specific contracting opportunities in a timely manner so that Section 3 business concerns can take advantage of contracting opportunities.

By advising Section 3 business concerns as to where they may seek assistance to overcome barriers such as inability to obtain bonding, lines of credit, financing, or insurance, and aiding Section 3 businesses in qualifying for such bonding, financing, insurance, etc.

Where appropriate, by breaking out contract work into economically feasible units to facilitate participation by Section 3 business concerns.

By developing and utilizing a list of eligible Section 3 business concerns.

By actively supporting and undertaking joint ventures with Section 3 businesses

**EFFORTS TO PROVIDE TRAINING AND EMPLOYMENT
TO SECTION 3 RESIDENTS
(Check all that apply)**

By entering into a "first source" hiring agreements with organizations representing Section 3 residents.

By establishing training programs, which are consistent with the requirements of the Department of Labor, specifically for Section 3 residents in the building trades.

By advertising employment and training positions to dwelling units occupied by Category 1 and 2 Section 3 residents.

By contacting resident councils and other resident organizations in the affected housing development to request assistance in notifying residents of the training and employment positions to be filled.

By arranging interviews and conducting interviews on the job site.

By undertaking such continued job training efforts as may be necessary to ensure the continued employment of Section 3 residents previously hired for employment opportunities.

Authorized Signature of the Bidder & Date

LEFT BLANK

**SECTION 3 AND MBE
PRE-AWARD COMPLIANCE CERTIFICATION**

Housing Authority of the City of Tampa
Contracting & Procurement
5301 W. Cypress Street
Tampa, Florida 33607

1. Contractor Name & Address (street, city, state, zip):	2. Contract Number and Description:	3. Dollar Amount of Contract:
	4. Contact Person:	5. Phone Number:
	6. Contracting Period:	7. Date Report Submitted:

Part I: Employment and Training of Section 3 Residents (If Prime Contractor is Section 3 Owned Check Here)

The employment and training component of section 3 applies to the prime contractor and all sub-contractors providing construction services and professional services to the Tampa Housing Authority. It is the responsibility of the Prime Contractor to enforce these same requirements within any sub-contracts.

Instructions: Complete items A, B and C and adjoining worksheet

- A. Total Number of Current Employees? _____
- B. Total Number of Anticipated New Hires & Trainees? _____
- C. Total Number of Section 3 New Hires & Trainees? _____
(the established goal is 30% of Line B)

Adjoining worksheet		
(A) Job Category	(B) Number of anticipated new hires and trainees	(C) Number of column (B) that will be Section 3 residents
Professional		
Technical		
Office/Clerical		
Construction by Trade (list)		
Other (List)		
Total		

Part II: Subcontract awards – Section 3 and MBE (If Prime Contractor is Section 3 Owned Check Here)

The contracting component of section 3 and minority-owned business participation apply to all prime contractors and sub-contractors providing construction services, professional services, and supplies to the Tampa Housing Authority’s project. It is the responsibility of the prime contractor to enforce the same requirements within any sub-contracts.

Instructions: All contractors must complete item D. Complete item E for construction contracts only. Complete item F for professional service and supplier contracts only. All contractors must complete item G.

D. Total dollar amount of all sub-contracts anticipated for this project? \$ _____

Applies to construction contracts only:

E. Total amount of anticipated Section 3 sub-contract awards? \$ _____
(The established goal is 10% of Line D)

Applies to professional service contracts and suppliers:

F. Total amount of anticipated section 3 sub-contract awards? \$ _____
(The established goal is 3% of Line D)

Applies to all contracts:

G. Total amount of anticipated minority-owned business contract awards? \$ _____
(The established goal is 20% of Line D) **A minority-owned business is an entity that is 51% owned or controlled by one or more of the following minority group members: Black Americans, Hispanic Americans, Native Americans, Asian Pacific Americans, Asian Indian Americans and Hasidic Jewish Americans.**

Part III: Certification

As a duly authorized representative of the prime contractor, it is hereby agreed that the prime contractor and all sub-contractors will make every effort to achieve at least the minimum levels for compliance with Section 3 and Minority- Owned Business participation goals. It is further understood that the undersigned will enforce and ensure compliance within all sub-contracts.

Signature:	Print Name and Title	Date
-------------------	-----------------------------	-------------



Section 3 Contractor List

Company Name	Services Provided	Contact Name	Company Address	Phone #	Email
3-Vets, Inc.	Construction Painting, Window/Doors Install	Reggie Tim	1907 E. Hillsborough Ave., Suite 101 Tampa, FL 33610	813-237-8387	vetlinds@aol.com
AIRMAX1, Inc.	A/C Service and Repairs	Eloy Rojas	PO Box 263394 Tampa, FL 33685	813-385-1867	Airmax1ac@yahoo.com
American Ecosystems, Inc.	Aquatic Mgmt., Water Treatment	Kevin Youngberg	10460 75 th Street Largo, FL 33777	727-545-4404	kry@american-ecosystems.com
Arcor Trading, Inc.	Painting, Waterproofing	Juan Restrepo Luis Arguello	P.O. Box 4149 Tampa, FL 33677	813-446-3225	luisgamin55@gmail.com
Cablelytics, LLC	Communications, Cable	Floyd Freeman	4607 Limerick Drive Tampa, FL 33610	813-727-6728	Ffreeman@cablelytics.com
Campellos Houses Solutions	Cabinets	Jose Campello	2010 Clarice Circle Tampa, FL 33619	813-650-6714	Yeidavid1106@gmail.com
Classic Construction Ltd. Co.	GC/Construction	Brian Lodermeier	703 Regency Ct. Tampa, FL 33613	727-421-2845 813-994-3193	classicltd@gmail.com
Classie Ladies' Cleaning Service	General Cleaning Services	Classie McMillen	7495 Somerset Court Palm Harbor, FL 34584	813-856-8092	ClassieLadie35@gmail.com
Climatize Air of Florida	A/C Service/Repairs, HVAC, Refrigeration	Marcus Carn	7610 Dragon Fly Loop Gibsonton, FL 33534	813-638-5434	climatizeairmkt@gmail.com
Darryl Ward's Painting	Construction Painting	Darryl Ward	35247 Janine Drive Zephyrhills, FL 33541	813-918-3806	Dwpllc1@gmail.com
Faithful Cleaning Service To The Rescue	Commercial and Residential Cleaning	Michelle Henry	9824 Morris Glen Way Tampa, FL 33637	813-210-3616	Faithfulcleaningservice17@yahoo.com
Full of Hope Cleaning Services	Construction and Janitorial Cleaning	Hope Terrible	6913 Bon Air Dr., #C Tampa, FL 33617	813-992-5382	hterrible@yahoo.com
GraphixT's, Inc.	Screen Printing, Banners	Randy Johnson	10071 Country Road Weeki Wachee, FL 34613	352-600-9170	tees@gpats.com
I. B. B., Inc.	Wall Install, Fencing, Enclosures, Etc.	Donald Burkett	2804 Lutz Lake Fern Rd. Tampa, FL 33558	813-949-4786	donb@burint.com

Company Name	Services Provided	Contact Name	Company Address	Phone #	Email
Impact Construction Services Div. 1	GC/Construction	Alex Maldonado	4628 Fremont Ter S. St. Petersburg, FL 33711	708-214-9599	Alex.m@icsdi.com
Intex Builders	GC/Construction	David Knight	3800 Gunn Hwy. Tampa, FL 33618	813-205-1892	david@intexbuilders.net
Johnson & Johnson Janitorial	Janitorial Cleaning, Construction Cleaning, Environmental Services	Janice and Earl Johnson	7901 Bahia Ave. Tampa, FL 33619	813-629-6565	Janice.johnson33@verizon.net
Johnson Construction and Hauling	Stucco, Drywall, Professional Painting, Demolition Hauling, Emergency Clean-up/Demo, Asphalt Services, Landscape & Tree Service, Debris Removal	Eugene Johnson	3205 E. 24 th Avenue Tampa, FL 33605	813-417-9116	johnsonhauling78@gmail.com
On-Line Electrician, LLC	Electrician	Jack Luper	210 W. Powhatan Tampa, FL 33604	813-335-8263	On_line_ele@live.com
Paramount Trim, Inc.	Carpentry, Doors	Walid Ben Khaffed	7419 Savannah Lane Tampa, FL 33637	813-927-1082	paramounttrim@yahoo.com
Pastels Child Development Center	Childcare	Spencena Dalmas	PO Box 286 Lakeland, FL 33802	813-900-8176	pastelschilddevelopment@gmail.com
Pick N Go Property Waste Services	Junk Removal, Dumpster Rental, Demolition Service	Joe Biccum	13575 58 th Street N., #173 Clearwater, FL 33760	727-504-4672	joeb@pickngowaste.com
Pipeline Construction, LLC	Site Preparation, Underground Utilities	Christopher Lee	1313 33rd Avenue Tampa, FL 33603	813-927-6646	pipelinecontractingllc@yahoo.com
Randall Mechanical, Inc.	Plumbing Services	Paul Welsh	3102 Cherry Palm Dr., Suite 150 Tampa, FL 33619	813-626-6161	pwelsh@ramdallmechanical.com
Ryman Commercial Roofing, Inc.	Roofing	Christian	36413 SR 54 Zephyrhills, FL 33541	813-526-9695	christian@rymanroofing.com
Spotless Cleaning 7, LLC	Janitorial Services, Pressure Wash, Hauling	Tow and Reid	PO Box 11093 Tampa, FL 33680	813-370-3645	Spotlesscleaning40@yahoo.com
Sunbelt Constructing Company, LLC	Flooring	Mark Stalsitz	3109 Reseda Court Tampa, FL 33618	813-312-4460	sunbelt.mark@gmail.com

Company Name	Services Provided	Contact Name	Company Address	Phone #	Email
SunScape Grounds Maintenance	Landscape, Lawn Maintenance	Demond Bryant	3624 18th Street N. Tampa, FL 33603	813-376-8755 813-247-3100	sunscapegmi@verizon.net
Universal Contracting Services, Inc.	Drywall, Painting, Carpentry, Pressure Wash	Hadeel Elshehaiy	5008 W. Linebaugh Ave., Suite 13 Tampa, FL 33624	813-966-1508	ucs@email.com
Z's Fine Furniture, Inc.	Kitchen and Bathroom Cabinets Install and Reface	Gina and Michael Zayas	4401 W. Jean Street Tampa, FL 33614	813-323-3893 813-309-2339	mikezcabinets@gmail.com
Global 360	Painting	Celestine Obi	P.O. Box 234 Mango, FL 33550	813-400-8562	obigloballlc@gmail.com
D and R United Cleaning Services Corp.	Cleaning	Dianna Rebeza	1707 Elk Spring Drive Brandon, FL 33511	813-438-5636 407-435-7032	Rebazadiana@hotmail.com

For Questions Regarding Section 3, please contact:
Yasmin Dilbert, Manager of Construction Services
Tampa Housing Authority, Office of Real Estate Development
5301 W. Cypress Street
Tampa, FL 33607
813-341-9101 ext. 2660
E-mail: yasmin.dilbert@thafl.com

A searchable list of local MBE (Minority Business Enterprise) certified businesses can be found at the City of Tampa's website here:

<https://tampa.diversitysoftware.com/FrontEnd/VendorSearchPublic.asp?TN=tampa&XID=846>

or at the Hillsborough County website here:

<https://hillsboroughcounty.diversitycompliance.com/FrontEnd/SEARCHCERTIFIEDDIRECTORY.asp>



Section 3 Applicant List

Name	Address	Email	Eligibility Status	Phone #	Skillset	Date Certified	Expiration Date	Comments
Brittany Williams	12420 N. Florida Ave., Lot 127 Tampa, FL 33612		Arbors	813-853-4653	Construction, Cleaning, General Labor	5/25/2018	5/24/2021	
Ciera Johnson	3723 N. Jefferson St. Tampa, FL 33603		RPV	813-401-7616	Construction, Cleaning, Restaurant	4/12/2021	4/11/2024	
Crystal Moore	6817 N. Habana Ave., #49 Tampa, FL		S8	813-900-6987	CSR, Housekeeping	11/29/2018	11/28/2021	
Zenitha Stewart	10624 Sweet Sapling St. Riverview, FL 33578	zenitiastewart@gmail.com	Low Income	813-410-8187	General Laborer, Real Estate, Child Care, Cleaning, Customer Service, Nursing Assistant	4/13/2021	4/12/2024	
Elaine Justice	2509 W. Grace Street Tampa, FL 33607		RPV	813-445-2140	Construction, Security, Cooking, Clean Up	5/25/2018	5/24/2021	
Elana Harris	430 E. Nordica Street Tampa, FL 33603		RPV	813-458-2965	Program Solver, Interpersonal Skills, Behavioral Health Training	11/15/2018	11/14/2021	
Gaikeena Sua	710 S. Castle Court Tampa, FL 33603		Propety	813-847-4990		2/21/2018	2/20/2021	
Gariello Nicolas	2813 N. 15th Street Tampa, FL 33605		Public Housing	813-520-0371	General Laborer	7/3/2018	7/2/2021	
Joyce M. Griffin	3211 E. 23rd Avenue Tampa, FL 33605		RPV	813-956-7262	Medical, Janitorial, CS, MGMT, Cashier	5/25/2018	5/24/2021	
Monique Pennington	405 E. Ohio Avenue Tampa, FL 33603		Public Housing	813-850-1996		7/9/2018	7/8/2021	

Name	Address	Email	Eligibility Status	Phone #	Skillset	Date Certified	Expiration Date	Comments
Reva Iman	427 N. Hernandez Ct. Tampa, FL		Robles	813-900-8745	Office, Customer Service, Food Service, Housing Support Services	5/15/2018	5/14/2021	
William Williams	4833 Ashland Drive Tampa, FL 33610		Low Income	813-538-6292	Construction	7/9/2018	7/8/2021	
Nicholas French	1010 Riverplace, #207 Tampa, FL 33603	longliveomni@gmail.com	Low Income	813-953-7706	Machine Operator, Certified Fumigation and Dolly Operator	6/11/2019	6/10/2022	
Donnie Malone	11716 N. 17th St., #B Tampa, FL 33612		Low Income	813-297-1235		2/11/2020	2/10/2022	
Kemontrey Lecount	Homeless		JL Young S8	813-720-9990	Warehouse, Trucks	2/11/2020	2/10/2022	
Akbar Jackson	3909 N. 16th Street Tampa, FL 33612		Low Income	813-531-0364	Warehouse, Welding, Forklift, Concrete	2/11/2020	2/10/2022	
Patrick O. Lebranch	5516 Terrain Degolf Dr. Tampa, FL		Low Income	863-623-2146	Laborer, Customer Service	2/11/2020	2/10/2022	
Jason Talavera	12811 Thonotassassa Rd. Dover, FL 33527	jasontalaveraj.t@gmail.com	Low Income	813-403-3697	Cut Trees, Cut Grass, Asphalt, Kitchen Work	2/11/2020	2/10/2022	
Calvin Pulphus	4213 Union Street Tampa, FL 33607		Low Income	813-327-1567	Drafting, Architecture	2/11/2020	2/10/2022	
Donnie H. Adams	10771 Ranfield Drive Riverview, FL 33579		Low Income	727-977-6349	Laborer, Customer Service	2/11/2020	2/10/2022	
Julius Snell	5631 Casino Drive Tampa, FL 34690		Low Income	727-612-8758	Construction, Welding, Labor, Roofing, Concrete	2/11/2020	2/10/2022	
Anthony Vaughn	9308 Ashley Oaks Ct. Tampa, FL 33610		Low Income	813-297-9346	Drywall	2/11/2020	2/10/2022	
Gary Cassell	803 Woodcarver Lane Brandon, FL 33510	gcassell83@icloud.com	Low Income	813-679-9460		2/11/2020	2/10/2022	
Donald Washington	9205 Robbie Court, #2 Tampa, FL 33617	mr.washington196@gmail.com	Low Income	813-993-3786	Customer Service	2/11/2020	2/10/2022	

Name	Address	Email	Eligibility Status	Phone #	Skillset	Date Certified	Expiration Date	Comments
Jartaqaron Williford	4719 Bullock Court Tampa, FL 33624	jd.williford1@gmail.com	Low Income	678-499-6088	Marketing, Mentor, Program Manager, Event Planner	1/11/2020	2/10/2022	Resume On File
Dorothy Gay	5025 E. Sligh Ave., #B Tampa, FL 33617	dgay77973@gmail.com	Low Income	813-415-1899	Customer Service	2/11/2020	2/10/2022	Resume On File
Stephanie D. Spoto	709 E Robson Street Tampa, FL 33604		Low Income	813-562-3695	Food Service, Clerical, Coordinator, Administrative	2/11/2020	2/10/2022	
Seven Henderson	2340 Dovesong Tace Dr. Ruskin, FL 33507		Low Income	802-922-6692		2/11/2020	2/10/2022	
Djons Antoine	PO Box 220588		Homeless	813-384-0405	Customer Service, Framing, Caulking, Finisher Painter	2/11/2020	2/10/2022	
Aaron Acosta	1215 E. 15th Avenue Tampa, FL 33605		Low Income	813-947-4377		2/11/2020	2/10/2022	
Edwin Cruz	12502 Forest Lane Dr. Tampa, FL 33624		Low Income	215-807-9774	Heavy Equipment Operator	2/11/2020	2/10/2022	
Jose Alonso	5807 Blossom Avenue Tampa, FL 33614		Low Income	813-727-2843		2/11/2020	2/10/2022	
Kaula Relyea	923 Cape Cod Circle Valrico, FL 33594		Low Income	607-220-9763	Carpenter	2/11/2020	2/10/2022	
Charles A. Harrilal	11803 Newberry Grove Loop Riverview, FL 33579		Low Income	813-566-2553	Supervisor, Construction Industry, OSHA Certified, Forklift, Scaffolding, Power Tool Training, Project Management	2/11/2020	2/10/2022	
Oluyemi Felix Akinto	7814 BallyMoney Road Tampa, FL 33610	akintofelix@yahoo.com	Low Income	813-296-0669	Forklift Operator, Industrial Truck Operator	2/11/2020	2/10/2022	

Name	Address	Email	Eligibility Status	Phone #	Skillset	Date Certified	Expiration Date	Comments
Jose De Jesus	8220 N. Florida Ave., #387 Tampa, FL 33604	jalexanderm2@gmail.com	Low Income	813-367-6065	Human Resources Manager, Compliance Director, Store Manager	2/11/2020	2/10/2022	
Courtney Martin	3809 N. Jefferson St. Tampa FL 33603	cmuo6683@gmail.com	Section 8	813-410-6220	Cashier, Food Service	2/27/2020	2/27/2022	
Christopher Manuel	3413 East 33rd Avenue Tampa, FL 33610		Food Stamp	863-212-2005		4/3/2020	4/3/2022	
Tyron Elleby	2806 E. Anthony St., #A Tampa, FL 33619	tyronelleby@gmail.com	Food Stamp	203-902-2061		4/3/2020	4/3/2022	
Da'metrius Walker	2806 E. Anthony St., #A Tampa, FL 33619	lizalldaylong@aol.com	Low Income	813-538-584	General Labor Worker, Customer Service	4/3/2020	4/3/2022	Resume On File
Heather Lapradd	5315 Pickron Road, Lot 7 Tampa, FL 33610	heatherlapradd1967@gmail.com	Food Stamp	813-459-1041		4/16/2020	4/16/2022	
Jennifer Lanphar	3113 Huron Avenue Oldsmar, FL 34677	jenniferlanphar@yahoo.com	Low Income	727-967-2213	Layout Assitant	6/2/2020	6/2/2022	
Justin Tribert	4637 Mariner Blvd. Springhill, FL 34609	jtribert2013@gmail.com	Low Income	239-530-8903	Lead Supervisor	6/2/2020	6/2/2022	
Miguel Crespo	1929 12th Street Largo, FL 33778	crespomgl@msn.com	Low Income	727-269-1820		6/2/2020	6/2/2022	
Peter Bowen	3340 Shell Point Road Ruskin, FL 33570	petebowen843@gmail.com	Low Income	920-365-6046		6/2/2020	6/2/2022	
Ted Velasquez	37429 Harper Drive Zephyrhills, FL 33541		Low Income	352-457-4603	Superintendent	6/2/2020	6/2/2022	
Rafael Hernandez Garcia	1019 W Beacon Ave. Tampa, FL 33614	None	Low Income	813-635-8551		6/9/2020	6/9/2022	
Yurisbel Fleites-Portal	4721 N. Hesperides St., #2 Tampa, FL 33614	None	Low Income	813-452-7536		6/9/2020	6/9/2022	
Anthony Castillo	29410 Crossland Drive Wesley Chapel, FL 33543	anthonyhcastillo@gmail.com	Low Income	813-618-1879		6/9/2020	6/9/2022	
Ashley Valentin	7331 Ibis Drive Lakeland, FL 33810	ashley.valentin98@hotmail.com	Low Income	939-404-0893		6/9/2020	6/9/2022	

Name	Address	Email	Eligibility Status	Phone #	Skillset	Date Certified	Expiration Date	Comments
Shahveer Hashm	2706 King Surrey Court Valrico, FL 33596	shahveer@cesarglassinc.com	Low Income	813-842-7118		6/22/2020	6/22/2022	
Adailton Garcia	11319 Riverview Drive Riverview, FL 335478		Low Income	813-545-4215		6/22/2020	6/22/2022	
Estanislao Valladares	4018 Fawn Circle Tampa, FL 33610		Low Income	240-938-7057		6/22/2020	6/21/2022	
Jose Pedraza	3814 Pinedale Street Brandon, FL 33511		Low Income	813-382-9557		6/22/2020	6/21/2022	
Samuel Zavala	3814 Pinedale Street Brandon, FL 33511		Low Income	813-375-2052		6/22/2020	6/21/2022	
Cesar Gomez	218 Skywood Drive Valrico, FL 33594	cesarglass@tampabayrr.com	Low Income	919-196-3341		6/22/2020	6/21/2022	
Juan Mora	723 Cape Cod Circle Valrico, FL 33544	antonmoru95@gmail.com	Low Income	720-789-9115		6/22/2020	6/21/2022	
Michael Rosario	14698 Coronado Drive Springhill, FL 34609	michaelrosario355@gmail.com	Low Income	352-584-2098		6/22/2022	6/21/2022	
Ricardo Morena	218 Skywood Drive Valrico, FL 33594		Low Income	919-763-7566		6/22/2020	6/21/2022	
Tavaris Mitchell	3814 N. Avon Avenue Tampa, FL 33603		Low Income	813-327-0230	Computer Repair, Cable Installation, PVDL, Customer Service	7/22/2020	7/21/2022	
Ramiro Munguia	10303 Celtic Ash Drive Ruskin, FL 33573		Low Income	941-301-5011		6/22/2020	6/21/2022	
Mark Isaac	2606 N. Boulevard Tampa, FL 33602		Food Stamp	813-970-3695		7/1/2020	6/30/2022	

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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 hour. This includes the time for collecting, reviewing, and reporting the data. The information requested is required to obtain a benefit. This form includes those clauses required by OMB's common rule on grantee procurement, implemented at HUD in 2 CFR 200, and those requirements set forth in Section 3 of the Housing and Urban Development Act of 1968 and its amendment by the Housing and Community Development Act of 1992, implemented by HUD at 24 CFR Part 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. There are no assurances of confidentiality. HUD may not conduct or sponsor, and an applicant is not required to respond to a collection of information unless it displays a currently valid OMB control number.

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1. Definitions

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

2. Contractor's Responsibility for Work

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

3. Architect's Duties, Responsibilities, and Authority

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

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

4. Other Contracts

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

Construction Requirements

5. Pre-construction Conference and Notice to Proceed

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

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

6. Construction Progress

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

7. Site Investigation and Conditions Affecting the Work

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

- reasonably ascertainable from an inspection of the site, including all exploratory work done by the PHA, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the PHA.
- (b) The PHA assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the PHA. Nor does the PHA assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

8. Differing Site Conditions

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

9. Specifications and Drawings for Construction

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

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

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

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

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

10. As-Built Drawings

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

11. Material and Workmanship

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

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

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

12. Permits and Codes

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

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

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

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

13. Health, Safety, and Accident Prevention

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

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

(b) For these purposes, the Contractor shall:

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

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

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

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

14. Temporary Heating

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

15. Availability and Use of Utility Services

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

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

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

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

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

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

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

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

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

17. Temporary Buildings and Transportation of Materials

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

18. Clean Air and Water

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

19. Energy Efficiency

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

20. Inspection and Acceptance of

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

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

21. Use and Possession Prior to Completion

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

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

22. Warranty of Title

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

23. Warranty of

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

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

24. Prohibition Against Liens

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

Administrative Requirements

25. Contract Period

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

26. Order of Provisions

accordance with the terms and conditions of the

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

27. Payments

retain ten (10) percent of the amount of progress

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

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

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

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

Name:

Title:

Date:

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

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

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

28. Contract Modifications

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

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

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

29. Changes

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

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

30. Suspension of Work

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

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

31. Disputes

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

32. Default

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

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

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

33. Liquidated Damages

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

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

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

34. Termination for

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

35. Assignment of Contract

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

36. Insurance

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

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

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

[Contracting Officer insert amount] per occurrence.

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

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

37. Subcontracts

(a) Definitions. As used in this contract -

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

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

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

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

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

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

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

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

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

39. Equal Employment Opportunity

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

41. Interest of Members of Congress

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

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

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

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

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

44. Royalties and Patents

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

45. Examination and Retention of Contractor's Records

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

46. Labor Standards - Davis-Bacon and Related

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

47. Non-Federal Prevailing Wage Rates

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

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

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

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

48. Procurement of Recovered Materials.

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

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

"General Decision Number: FL20230065 01/06/2023

Superseded General Decision Number: FL20220065

State: Florida

Construction Type: Residential

County: Hillsborough 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).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$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.
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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.
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The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this

wage determination, the contractor must still submit a conformance request.

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

Modification Number Publication Date
0 01/06/2023

ENGI0925-008 06/01/2013

Rates Fringes

POWER EQUIPMENT OPERATOR:

Crawler Cranes; Truck Cranes; Pile Driver Cranes; Rough Terrain Cranes; and Any Crane not otherwise described below...	\$ 29.61	11.50
Hydraulic Cranes Rated 100 Tons or Above but Less Than 250 Tons; and Lattice Boom Cranes Less Than 150 Tons if not described below.	\$ 30.61	11.50
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 Combination.....	\$ 31.61	11.50
Oiler.....	\$ 22.91	11.50

IRON0397-004 07/01/2022

Rates Fringes

IRONWORKER, REINFORCING.....\$ 32.60 16.97

SUFL2009-104 06/08/2009

Rates Fringes

BRICKLAYER.....\$ 20.00 0.00

CARPENTER, Includes Drywall Hanging, and Form Work.....\$ 15.00 ** 0.00

CEMENT MASON/CONCRETE FINISHER...	\$ 15.93 **	0.00
DRYWALL FINISHER/TAPER.....	\$ 18.27	0.00
ELECTRICIAN.....	\$ 12.54 **	0.00
FENCE ERECTOR.....	\$ 14.00 **	0.75
GLAZIER.....	\$ 15.88 **	0.00
INSULATOR: Batt and Blown.....	\$ 12.41 **	0.00
IRONWORKER, ORNAMENTAL.....	\$ 15.25 **	0.00
IRONWORKER, STRUCTURAL.....	\$ 14.53 **	0.00
LABORER: Common or General.....	\$ 9.21 **	0.00
LABORER: Mason Tender - Brick...	\$ 11.51 **	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 11.29 **	0.00
LABORER: Pipelayer.....	\$ 15.14 **	0.00
LABORER: Roof Tearoff.....	\$ 9.00 **	0.00
LABORER: Landscape and Irrigation.....	\$ 10.41 **	0.00
OPERATOR: Asphalt Paver.....	\$ 12.40 **	0.00
OPERATOR: Backhoe Loader Combo.....	\$ 17.04	0.00
OPERATOR: Backhoe/Excavator....	\$ 15.25 **	0.00
OPERATOR: Bulldozer.....	\$ 12.67 **	0.00
OPERATOR: Distributor.....	\$ 11.41 **	0.00
OPERATOR: Forklift.....	\$ 17.50	0.00
OPERATOR: Grader/Blade.....	\$ 14.00 **	0.00
OPERATOR: Loader.....	\$ 11.50 **	0.00
OPERATOR: Roller.....	\$ 10.62 **	0.00
OPERATOR: Screed.....	\$ 10.93 **	0.00
OPERATOR: Trackhoe.....	\$ 14.81 **	0.00

OPERATOR: Tractor.....	\$ 10.20 **	0.00
PAINTER, Includes Brush, Roller and Spray (Excludes Drywall Finishing/Taping).....		
	\$ 13.59 **	0.00
PLASTERER.....	\$ 13.91 **	0.00
PLUMBER.....	\$ 12.37 **	0.00
ROOFER, Includes Built Up, Modified Bitumen, and Shake & Shingle Roofs (Excludes Metal Roofs).....		
	\$ 15.97 **	0.00
ROOFER: Metal Roof.....	\$ 16.99	0.00
SHEET METAL WORKER, Includes HVAC Duct Installation (Excludes Metal Roof Installation).....		
	\$ 14.82 **	0.00
TILE SETTER.....	\$ 16.00 **	0.00
TRUCK DRIVER, Includes Dump Truck.....		
	\$ 10.22 **	0.00
TRUCK DRIVER: Lowboy Truck.....	\$ 12.10 **	0.00

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

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

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic

violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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

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END OF GENERAL DECISIO"