THE CITY OF DAYTONA BEACH

FIRST STEP SHELTER CONSTRUCTION

INVITATION TO BID No. 0318-2360

PROJECT SPECIFIC CONSTRUCTION SERVICES

THE CITY OF DAYTONA BEACH
PUBLIC WORKS DEPARTMENT – TECHNICAL SERVICES DIVISION
P.O. BOX 2451
DAYTONA BEACH, FLA. 32115

ISSUE DATE: JULY 25, 2018

INVITATION TO BID – PROJECT SPECIFIC CONSTRUCTION SERVICES

The City of Daytona Beach will receive bids for **the "First Step Shelter Construction", Invitation to Bid No. 0318-2360,** at the City of Daytona Beach Purchasing Division, City Hall Room 146, 301 S. Ridgewood Ave., Daytona Beach, Florida 32114, until **2:00 p.m., on AUGUST 24, 2018**, at which time bids will be opened publicly and read aloud. Bids received after said time will be returned unopened.

Sealed bids must be addressed to:

Joanne Flick, Purchasing Agent
The City of Daytona Beach Purchasing Division
301 S. Ridgewood Ave., Room 146
Daytona Beach, Fl., 32114

with "Sealed Bid for First Step Shelter Construction , ITB No**.** 0318-2360**"** plainly written on the outside of the envelope.

The work generally consists of supplying all necessary labor, equipment and materials for the completion of a concrete "tilt-wall" structure and accessory structures as indicated on the plans and specifications of HALL & OGLE ARCHITECTS, INC. and Parker Mynchenberg & Associates, Inc. This structure will be 15,820 square feet located in Volusia County Florida.

Bid Documents may be obtained as pdf files on-line at http://purchasing.codb.us. There is no charge for downloading Bid Documents. The Bid Documents and all other Contract Documents, including Drawings and Technical Specifications if applicable, are also on file at the Daytona Beach Purchasing Division, 301 S. Ridgewood Avenue, Room 146, Daytona Beach, Florida, 32114. A complete set of these Documents may be obtained upon payment of $75, NON-REFUNDABLE. Checks must be made payable to the City of Daytona Beach, Florida. All inquiries and checks pertaining to this project which are mailed should be directed to Post Office Box 2451, Daytona Beach, Florida 32115-2451.

Each bid must be accompanied by **Bid Security** in an amount not less than 10% of the total bid.

A NON-MANDATORY PRE-PROPOSAL CONFERENCE will be held at the Daytona Beach City Hall, 301 S. Ridgewood Ave., Room 149B, Daytona Beach, Florida 32114, on August 8, 2018 at 2:00 PM. Interested contractors are *urged* to attend.

The successful contractor will be required to furnish separate 100% Performance and Payment Bon unless the Contract price is less than $100,000.

The City reserves the right to reject any and all bids, or any portion of any bid, or to waive any informalities in the bidding.

Bids may be held by the City for a period not to exceed 60 days from the date of opening of bids for the purpose of reviewing the bid and investigating the qualifications of bidders prior to awarding the contract.

By: JOANNE FLICK, PURCHASING AGENT
CITY OF DAYTONA BEACH
Issue Date: JULY 25, 2018

INSTRUCTIONS TO BIDDERS – PROJECT SPECIFIC CONSTRUCTION SERVICES

THESE INSTRUCTIONS ARE STANDARD FOR ALL BID SOLICITATIONS FOR PROJECT SPECIFIC CONSTRUCTION SERVICES ISSUED BY THE CITY OF DAYTONA BEACH. THE CITY MAY DELETE, SUPERSEDE, OR MODIFY ANY OF THESE STANDARD INSTRUCTIONS FOR A PARTICULAR SOLICITATION BY USE OF SPECIAL INSTRUCTION SHEETS.

1. BID DOCUMENTS. The Bid Documents consist of the Invitation to Bid; these Instructions; Special Instructions, if any; the Bid Proposal Letter, the Bid Schedule and all other Forms to be completed, signed, and submitted by the Bidder; and all additional documents required to be completed and submitted by the Bidder as part of the Bid.

In making copies of Bid Documents available, the City does so only for the purpose of obtaining Bids and does not confer a license or grant to use the Bid Documents for any other purpose.

2. COMPLETING THE BID. In order for the Bid to be considered complete:

A. The Bid Proposal Letter, the Bid Schedule, and all other required Forms must be completed. All blank spaces must be filled with dark ink or via typing. All corrections and erasures must be initialed by the party submitting the Bid on behalf of the Bidder.

B. All information/documentation that is required to be submitted by this solicitation must be provided in the manner indicated.

C. The Bidder is requested to submit only the Bid Proposal Letter and other Forms, documents, and information specifically required. Any extraneous documents or information submitted by the Bidder will be discarded. The Bidder be asked to sign a written contract only if the City awards a contract to Bidder.

D. Unless Special Instructions are included in this solicitation specifically allowing for partial or lot-by-lot bids where the Bid Schedule only calls for unit prices, the Bidder must provide quotes for all unit prices and extended unit prices (if any) as set forth in the Bid Schedule. If this solicitation allows for partial or lot-by-lot bids, the Bidder must comply with the Special Instructions in completing filling out the unit prices and extended unit prices set forth in the Bid Schedule.

E. The Bid Price (including unit prices and extended prices if applicable), must be stated in numerals.

F. If this solicitation requires unit prices and there is a conflict between the unit prices and the extended totals, the unit price will take precedence. Likewise, discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

G. The Bidder must not submit alternative bids unless this solicitation specifically authorizes alternate bids. If this solicitation specifically allows the submission of alternate bids, the Bidder must submit the standard and the alternative bid in order to be considered responsive.

H. The Bid may not contain qualifications or exceptions of any kinds.

I. All other submittal requirements stated herein must be met.

3. SIGNING THE BID. The Bid Proposal Letter, the Bid Schedule and all other Forms and documents requiring Bidder's signature must contain the original signature of an individual authorized to bind the Bidder. The signature must be located in the space(s) marked for the Bidder's signature. In addition, the person signing the Bid must also sign all of the other Forms to be submitted.

Electronic signatures will not be accepted.

4. REQUESTS FOR INTERPRETATIONS. If the Bidder is in doubt as to the meaning of any of the Bid Documents or other Contract Documents included in this solicitation, the Bidder may submit a written request to the City for an interpretation, care of the Purchasing Agent at the address set forth in the Invitation for delivery of the completed bid. Such requests must be received 10 days prior to bid opening in order to be considered. The City is not obligated to respond to such requests. Any clarification or interpretation issued by the City in the form of a written addendum will be deemed to be a part of the Bid Documents.

No oral clarification or interpretation will be binding.

5. ADDENDA TO BID DOCUMENTS. Prior to bid opening, the City may on the City's own initiative or in response to a request for clarification, furnish addenda for additions or alterations to these Instructions, the Bid Documents, and to any or any Drawings, Specifications, or other Contract Documents previously supplied by the City. In addition, the City may by addenda extend the date scheduled for Bid Opening.

The Purchasing Agent will make reasonable efforts to notify all potential bidders of the issuance of an Addendum. The Purchasing Agent will also post Addenda on the Purchasing Division's web page, http://purchasing.codb.us.

However, the Bidder is solely responsible for ensuring that the Bid submitted reflects all such Addenda.

6. BID SECURITY. The Bidder must submit Bid Security equal to 10% of the Bid. The Bid Security will be in the form of a bid bond; or any of the following alternate forms: cashier's check, certified check, money order, notes at par value, U.S. Currency, or U.S. Government Bond. Any Bid Security provided must be in original form; copies are unacceptable. The City has the right to retain the bid security as liquidated damages should the Successful Bidder fail to comply with the terms of the bid. The City will return the bid security to unsuccessful Bidders after the contract award.

Any bid bond provided must be in a form approved or provided by the City, and must be accompanied by sufficient evidence of the issuing agent's authority. The surety company executing the bond must be authorized to do business in the State of Florida. If the bid bond is in an amount greater than $5,000.00 the surety company executing the bond is listed by the United States Treasury Department as being approved for writing bonds for federal projects on its current list in an amount not less than the required bond amount.

7. BID ENVELOPE. The Bid, including the Bid Proposal Letter, all other required Bid documents, and required bid security, must be returned in an opaque, sealed envelope. The envelope must display the name and address of the Bidder, the bid number and name of the bid/contract as set forth on the Invitation to Bid, and the date and time scheduled for bid opening. The envelope must be addressed to:

Purchasing Agent
City of Daytona Beach
Room 146
301 S. Ridgewood Avenue
Daytona Beach, FL 32114

8. SUBMISSION OF BID. The Bidder must submit the Bid by mail or hand delivery at or prior to the time fixed for bid opening in the Invitation for Bids A bid submitted after the time fixed for bid opening will not be accepted. The Bid must be delivered to the Purchasing Agent at the address above. A bid submitted to any other location will not be considered. Telephonic, electronic, and faxed bids will not be considered.

9. AMENDMENT AND WITHDRAWAL OF BID. The Bidder may amend or withdraw the Bid at any time prior to bid opening, but only with prior written notice to the Purchasing Agent, submitted in the same manner as the Bid. The notice must be signed by a properly authorized agent of the Bidder.

Mere negligence on the part of the Bidder in preparing the Bid does not constitute a right to withdraw the Bid subsequent to bid opening.

Amendments may be made only through the submission of a complete Bid along with a written statement, signed by the same person who signed the Bid, that the submission is intended to fully replace the Bidder's earlier submission. The City is not required to honor an amendment that fails to comply with this Paragraph 9.

10. DISQUALIFICATION OF BIDDERS.

A. **Only One Bid Permitted:** The Bidder may submit only one Bid. If the Bidder submits more than one bid for the work involved, all bid proposals submitted from the Bidder will be rejected.

B. **Collusion:** If the City determines that collusion exists among bidders, the City will reject the bids of all participants in the collusion.

C. **Scrutinized Companies List:** If the Bidder is found to have submitted a false certification as provided by F.S. Section 238.175(5), or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, the City will have the option to immediately terminate this Contract.

11. BID OPENING. Bid opening will be scheduled at the location and on the date and time specified by the Invitation for Bid, or by any applicable Bid Addenda that the City may issue. At bid opening, the City will open and record the Bid so long as it is proper and has been timely submitted. In recording the Bid the City will state the name of the Bidder and the Bid Price.

The Bidder is solely responsibility to ensure that the Bid is time and date stamped by the Purchasing Agent prior to bid opening. Late bids will be rejected and returned unopened.

The Bidder may be present at bid opening but is not required to be present.

12. BID AS OFFER; FIRM PRICING; NO GUARANTEES AS TO QUANTITIES ORDERED. In submitting the Bid, the Bidder certifies that the Bidder is making a firm offer that will remain open for 60 days following Bid Opening unless properly and timely withdrawn by the Bidder prior to Bid Opening in conformance with these Instructions unless the City, in the City's sole discretion, rejects the Bid after Bid Opening. Extensions of time beyond the 60 day-period will only be by agreement of the City, the Successful Bidder, and the surety for the Successful Bidder.

In addition, if this solicitation requests submission of unit prices: (i) all unit prices will be deemed to be held firm for the duration of the Contract, including any extension thereof, unless specifically authorized by the Contract Documents; and (ii) quantities stated are an estimate only and no guarantee is given or implied as to quantities that will actually be required during the contract period.

13. FEDERAL TAXES. The bid price will be exclusive of all federal taxes. If the Bidder believes that certain other taxes are properly payable by the City, the Bidder may list such taxes separately in each case directly below the respective item bid price. Tax exemption certificates will be furnished upon request.

14. BID PRICE INCLUSIVE OF COSTS. The Bid Price is inclusive of all of the Bidder's direct and indirect costs of performing the Work.

15. BIDS AND PUBLIC RECORDS. Sealed bids received by the City pursuant to this solicitation will be temporarily exempt from disclosure in accordance with Florida's Public Records Laws. Thereafter, bids will be open for inspection by any person pursuant to Public Records Law.

If the Bidder believes that the Bid or any portion thereof is permanently exempt from disclosure under the public records laws, the Bidder must state the grounds for this position in CAPITAL LETTERS on a cover sheet accompanying the sealed bid. The Bidder will be contacted prior to the opening of the Bid and a determination will be made as to whether or not it is exempt prior to opening. If a determination is made that it is not exempt from disclosure, the Bidder may in writing request the return of the sealed bid.

16. BID OPENING RESULTS. The Bidder may secure information pertaining to bid opening results on the Purchasing Division webpage under the "Closed Solicitations" link, by visiting the Purchasing Division Office Monday through Friday between 8:00 am and 3:00 pm, or by emailing a request to purchasing@codb.us. Copies of bid tabulation sheets will be furnished upon request and receipt of a valid email address or self-addressed stamped envelope.

17. BIDDER CAPABILITY/REFERENCES. Prior to contract award, the City may require Bidder to show that Bidder has the necessary facilities, equipment, ability, and financial resources to perform the work specified in a satisfactory manner and within the time specified.

In addition, the City may require Bidder to demonstrate that Bidder has experience in work of the same or similar nature as the work required herein, and to provide references satisfactory to the City.

18. REVIEW; BASIS OF AWARD. Bids will be reviewed in accordance with the procedures set forth in these Instructions to Bidders and the applicable provisions of the Purchasing Code, Chapter 30 of the Daytona Beach Code of Ordinances. Any contract awarded pursuant to this solicitation will be made on the basis of the criteria for award of bids provided in the Purchasing Code.

A link to the Code of Ordinances is available on the City's web site, www.codb.us.

19. LOCAL PREFERENCE. The Purchasing Code, Chapter 30, Code of the City of Daytona Beach provides for a preference to local vendors whenever the application of such a preference is reasonable in light of the dollar-value of proposals received in relation to such expenditures.

As used in City Code, the term, "local vendor" means a person or business entity which has maintained a permanent place of business with full-time employees within the city limits of the City of Daytona Beach for a minimum of six months prior to the date bids or proposals were received for the purchase or contract at issue, which generally provides from such permanent place of business the kinds of goods or services solicited, and which at the time of the solicitation fully complies with state and local laws, including City zoning and licensing ordinances.

Pursuant to City Code, if the lowest responsive bid is submitted by a non-local vendor, and a bid submitted by a local vendor is within 10% of the lowest bid, then these two vendors will each have the opportunity to submit a best and final bid equal to or lower than the amount of the lowest bid within five working days after bid opening. The bid will be awarded to the bidder submitting the lowest responsive bid or final bid. In case of a tie between a local vendor and a non-local vendor, the bid will be awarded to the local vendor.

If the Bidder intends to qualify as a local vendor, the Bidder must complete and sign the Local Vendor affidavit and submit it as part of the Bid. A Bidder who fails to property complete and sign this affidavit or submit it with the Bid, will not further considered for local preference.

If the Bidder submits a properly completed Local Vendor affidavit as part of its Bid, the City reserves the right to verify that the Bidder meets the definition of Local Vendor, including by requiring the Bidder to supply additional documentation. In all instances, the City will be the final arbiter as to whether the Bidder qualifies for local preference.

With certain exceptions, application of local preference is discretionary. For more information on how the Local Preference may apply, see the Purchasing Code.

20. IDENTICAL TIE BIDS. If there are two or more low responsive bids from responsible bidders that are identical in price and other evaluation criteria, the tie will be awarded to the following in order of preference: a) the bidder qualifying for local preference under Code 30-86; b) the bidder in compliance with the drug free workplace certification requirements set forth in Florida Statutes 287.087; or c) the most responsible bidder as defined under the City Code 30-82 (9)(c).

21. RIGHT TO ACCEPT OR REJECT BIDS. The City will reject bids which contain modifications, qualifications, or exceptions, or which are incomplete, unbalanced, conditional, obscure, or which contain additions not requested, or irregularities of any kind, or which do not comply in every respect with these Instructions to Bidders and the Contract Documents, unless the City in its sole discretion determines that the non-compliance is minor.

The City does not bind itself to accept the minimum bid stated herein, but reserves the right to accept any bid, which in the judgment of the City will best serve the needs and interests of the City.

22. CRA MAY AWARD PURCHASE ORDERS ISSUED PURSUANT TO CONTRACT. In the case of a continuing/term supply or service contract awarded pursuant to this solicitation, if the funds to be used to pay for a portion of the supply or service are from redevelopment trust funds, the Community Redevelopment Agency (CRA) is authorized to issue the purchase order corresponding to the supply or service instead of the City.

23. CITY'S PROJECT-SPECIFIC CONSTRUCTION CONTRACT FORM. The City's contract form for project specific construction projects, which is included in this solicitation, contains additional terms and conditions, including indemnification and insurance requirements, completion deadlines, and liquidated damages, that the Bidder should review prior to submitting the Bid. The City reserves the right to make minor changes to the form contract prior to execution by the successful bidder to correct errors, make other minor formatting changes, or for legal sufficiency. The City will provide the successful bidder the final contract for execution.

24. LICENSES. At time of Bid submittal, the Bidder must hold the required licensure to be the prime contractor for all work to be performed under this solicitation. Any subcontractors or sub-consultants whom the Bidder proposes to use to perform work under this solicitation must also hold the required licensure at the time of Bid submittal. Required licensure must be maintained in full force and effect during the contract term.

25. BIDDER RESPONSIBILITY FOR PREPARATION COSTS. Neither the City nor the City's officers or agents will be liable for the costs incurred by the Bidder in reviewing or responding to this solicitation.

26. POST-AWARD SUBMITTAL REQUIREMENTS. Within 15 business days after the City's issuance of a notice of award, the Successful Bidder must submit each of the following:

A. A fully-executed contract, using the form provided with or referenced by the notice of intent to award.

B. Proof of insurance, in accordance with the requirements of the Contract. See the Contract form for more information regarding insurance requirements.

C. Performance Security, as further described below, in an amount equal to 100% of the Contract Price.

The award is subject to cancellation and the bid security subject to forfeiture if this deadline is not met.

27. PERFORMANCE SECURITY. Performance Security is required. Payment and performance bonds may be submitted; or an alternative form of security as specified in Florida Statutes § 255.05(7) may be provided upon the City's prior written approval.

If the Successful Bidder elects to use payment and performance bonds for required Performance Security, the Successful Bidder will use forms provided by the City. Copies of the City's current form bonds will be provided with the Notice of Award. Completed bonds must be originals, not copies, with raised corporate seals included where applicable. The bonds must be accompanied by sufficient evidence of the authority of the issuing agent, including a certified copy of the power of attorney of the person signing the bond on the surety's behalf. The surety company executing the bonds must be must be rated "A" or better by A.M. Best Key Rating Guide, authorized to do business in the State of Florida, and must be listed by the United States Treasury Department Treasury Fiscal Service, Bureau of Government Financial Operations, Federal Register, Part V, latest revision, entitled: "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," as being approved for writing bonds for federal projects on its current list in an amount not less than the required bond amount.

END OF INSTRUCTIONS TO BIDDERS SECTION

SUBMITTAL CHECKLIST

The following items will be submitted with the Bid Proposal Letter. Each blank on the form will be filled out. Use NA (not applicable) rather than leaving blank.

	Item(s) Required with Submittal
	BID PROPOSAL LETTER
	BID SCHEDULE
	NONCOLLUSION AFFIDAVIT OF PRIME BIDDER
	DRUG-FREE WORKPLACE CERTIFICATION
	AFFIDAVIT ON PUBLIC ENTITY CRIMES
	LOCAL VENDOR AFFIDAVIT (*only if filing for local preference)*
	MINORITY AND WOMEN OWNED BUSINESS ENTERPRISES CERTIFICATION FORM
	MINORITY AND WOMEN OWNED BUSINESS ENTERPRISE OFFICER CERTIFICATION FORM
	Bid Security (10% for all construction bids)
Label the outer most package with the following: Bid Number Date of the Opening Contractor Name and Address	
Item(s) Required after Bid Submittal	
Certificate of Insurance indicating the coverages outlined in this solicitation, including naming the City as additional insured *(requested when Notice of Intent to Award is Issued)*	
Contract signed by Authorized Representative of the Vendor *(completed contract sent with Notice of Intent to Award)*	
Payment & Performance Bonds to be returned as instructed within 15 days after the Notice of Award is issued *(P & P Bonds acceptable to the City will be sent with Notice of Award)*	

BID PROPOSAL LETTER - ITB NO.: 0318-2360

TO THE MAYOR AND COMMISSIONERS
THE CITY OF DAYTONA BEACH, A FLORIDA MUNICIPAL CORPORATION

Dear Mayor and Commissioners:

This Bid is submitted by _____
(insert Bidder's full legal name; include D/B/A if applicable)

Business Address: _____
(include P.O. Box/street address, city, state and zip code)

Business Phone: _____ Business Fax: _____
(include area code) *(include area code)*

Business Email: _____
(leave blank if n/a)

The undersigned, as BIDDER or BIDDER's authorized representative, hereby declares and affirms each of the following:

1. That BIDDER has had the opportunity to examine the project site(s) and is fully informed in regard to all conditions pertaining to the site(s).

2. That BIDDER is fully informed regarding local conditions where the work will be required.

3. That BIDDER has thoroughly examined all Contract Documents, including Plans and Specifications as applicable, relative to the work to be performed, and that BIDDER is sufficiently knowledgeable of the work to be performed.

4. That BIDDER hereby agrees to furnish all labor, materials, and equipment to do the work in strict accordance with the Contract Documents for the price(s) stated in the attached Bid Schedule.

5. That, subject to the terms and conditions stated in the Contract Documents, BIDDER will perform the work in accordance with the completion date(s) specified in the Contract Documents, and will pay liquidated damages in the amounts specified in the Contract Documents for BIDDER's failure to comply with the completion date(s).

6. That BIDDER agrees to indemnify and hold harmless the CITY any other interests as set forth in the Contract Documents.

7. That insofar as the attached Bid Schedule includes extended unit prices, the use of extended unit quantities will not be construed to be a guarantee that the CITY will purchase such quantities if a contract is awarded; and that, subject to the terms and conditions of the Contract, BIDDER will be entitled to payment only based on the units constructed, installed, or otherwise placed in service.

8. That BIDDER has received the following Addenda (*leave blank if inapplicable*):

No. _____ Dated: _____ No. _____ Dated: _____

No. _____ Dated: _____ No. _____ Dated: _____

(*list any additional Addenda by number and date)*: _____

_____

_____

_____

9. That, if within the time period specified in the bid solicitation, BIDDER fails to execute the form Contract, provide proof of insurance, and submit (if required) Performance Security, the bid award will be subject to cancellation and the Bid Security provided with this Bid will be subject to forfeiture.

10. That all information provided by BIDDER as part of this Proposal is truthful to the best of BIDDER's knowledge.

11. That BIDDER is *(mark the appropriate box and include the additional information, as applicable)*:

[ ] An individual person/sole proprietor

[ ] A Florida corporation/ limited liability company

[ ] A foreign corporation/limited liability company authorized to do business in Florida*

_____ *(specify state of incorporation/formation)*

[ ] A Florida limited partnership

[ ] A foreign limited partnership authorized to do business in Florida*

_____ *(specify state of incorporation / formation)*

[ ] A general partnership**

[ ] A joint venture***

[ ] Other _____ (specify, including type of entity)

** Attach proof of formation/registry from State of Florida.*

*** Provide on separate, signed sheets(s) of paper, full legal name and address of the partnership; and names of all general partners.*

**** Provide on separate signed sheet(s) of paper the full legal names of all persons/firms comprising the joint venture.*

12. That BIDDER has completed and attached all required attachments with this Bid Proposal, including Bid Schedule, Non-Collusion Affidavit, Drug Free Workplace Certification, MWBE Certifications, and Public Entity Crimes Affidavit.

In signing below, I certify that I am the above-named BIDDER or a person duly authorized by BIDDER to bind BIDDER to these terms and conditions.

By: _____
(*Signature*)

Printed Name: _____

Title: _____

Date signed: _____

Email: _____

BID SCHEDULE - ITB NO. 0318-2360
First Step Shelter Construction

ITEM DESCRIPTION	TOTAL AMOUNT

Construct the First Step Shelter in accordance with the plans and specifications

TOTAL LUMP SUM BASE BID PROPOSAL **$ _____**
(state numerically only)

DEDUCTIVE ALTERNATE No.1:

Delete the metal roofing areas as shown on sheets A2.6.3 and S2.4. Also delete the wood fence systems at the Exterior Time Out Area 100F, Exterior Overflow Area 116F and Exterior Dining 119. This fence system is detailed on sheet A2.0.1.

$(_____)
(state numerically only)

DEDUCTIVE ALTERNATE No.2:

Delete all food service equipment listed on the schedule on sheet FS-1 and in the Food Service specification section 11400. Note all required utilities, connections and support structure as called for on equipment schedule on sheet FS-2 remains in project. Some equipment connections will need to be capped or modified if the equipment is deleted from the project. The successful bidder shall provide the owner with an itemized listing with cost of each equipment item. At the discretion of the owner individual pieces of equipment may be deleted from the project as a VE option post bid.

$(_____)
(state numerically only)

Submitted by:

Contact Name: (signature)	Contact Name: (printed)
Vendor Name:	Phone:
Address:	Email:

NONCOLLUSION AFFIDAVIT OF PRIME BIDDER

STATE OF_____)
COUNTY OF_____)

_____, being first duly sworn deposes and says that:

(1) He is _____ of _____, the Bidder that has submitted the attached Bid;

(2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Daytona Beach, FL (Local Public Agency) or any person interested in the proposed Contract;

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

By: _____
(Signature)
Name Typed: _____
Title: _____
Bidder: _____

Subscribed and sworn to before me

This _____ day of _____, 20____

_____
(Signature of Notary Public)
My commission expires: _____

DRUG-FREE WORKPLACE CERTIFICATION

IDENTICAL TIE BIDS: - If there are two or more low responsive bids from responsible bidders that are identical in price and other evaluation criteria, the tie will be awarded to the following in order of preference: a) the bidder qualifying for local preference under Code 30-86; b) the bidder in compliance with the drug free workplace certification requirements set forth in Florida Statutes 287.087; or c) the most responsible bidder as defined under the City Code 30-82 (9)(c).

In order to have a drug-free workplace program, a business will:

(1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

(2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violation.

(3) Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in section (1), above.

(4) In the statement specified in section (1), above, notify the employees that, as a condition of working on the commodities or contractual services that are underbid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or *nolo contendre* to, any violation occurring in the workplace no later than five days after such conviction.

(5) Impose sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.

(6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

By: _____
(Signature)

Title: _____
(leave blank if sole proprietor)

Date: _____

AFFIDAVIT ON PUBLIC ENTITY CRIMES

(SWORN STATEMENT PURSUANT TO SECTION 287.133(3) (a), FLORIDA STATUTES)

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

This sworn statement is submitted to the City of Daytona Beach

by_____
(insert individual's printed name and title)

for _____ whose business address
(insert name of Bidder)

is _____

I. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

II. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means 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 guilty or nolo contendere.

III. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:

1. A predecessor or successor of a person convicted of a public entity crime; or

2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

IV. I understand that a "person" as defined in Paragraph 287.133(1)(e), **Florida Statutes**, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

V. Based on information and belief, THE STATEMENT WHICH I HAVE MARKED BELOW is true in relation to the entity submitting this sworn statement *(Place initial of check mark next to applicable statement*):

___ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1,1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (Attach a copy of the final order)

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

_____ _____
(Signature) (Date)

STATE OF _____)
COUNTY OF _____)

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

_____ who, after first being sworn by me, affixed his/her signature
(Name of individual signing)

in the space provided above on this _____day of _____, 20_____.

Attest:_____
(Notary Public)

My commission expires:_____

(Notary Seal)

LOCAL VENDOR AFFIDAVIT

Complete and submit this form ONLY if you qualify for local preference as provided in the City of Daytona Beach Purchasing Code.

A copy of the Bidder's Daytona Beach Business Tax Receipt must be submitted with this Affidavit.

NAME OF BIDDER: _____

LOCAL BUSINESS ADDRESS *(street address being used to claim Local Preference, including. zip code):*

_____

The undersigned certifies under penalty of perjury each of the following:

The Local Business Address has continuously been used as a Permanent Place of Business with at least one full-time employee since _____.
(Insert date)

The Local Business Address has consistently offered or provided the goods or services being solicited by the City of Daytona Beach during the time referenced above.

The Local Business Address has not been established with the sole purpose of obtaining the advantages that may be granted pursuant to the Local Preference provisions of the City of Daytona Beach Purchasing Code.

_____
Signature *(Must be same person as person signing the Bid Proposal*

_____
Print Name/Title

Subscribed and sworn to before me

This _____ day of _____, 20____

_____
(Signature of Notary Public)
My commission expires: _____

The City of Daytona Beach reserves authority to require a copy of the corporate charter, corporate income tax filing return, and any other documents(s) to evaluate the Bidder's Local Preference claim.

MINORITY AND WOMEN OWNED BUSINESS ENTERPRISES
CERTIFICATION FORM

The Bidder hereby certifies that in accordance with applicable provisions of the Daytona Beach Purchasing Code, Chapter 30, Daytona Beach Code of Ordinances, a good faith effort has been made to contact the following minority and women owned business enterprises:

_____

_____

_____

_____

_____

(Use separate sheet if additional space is needed. If separate sheet is used, include a reference to this form, and sign and date the sheet).

SIGNATURE: _____

NAME TYPED: _____

TITLE: _____

The Bidder further certifies that of the minority and women owned business enterprises contacted, he was unable through a good faith effort to obtain any minority or women owned business enterprise to work on this project.

SIGNATURE: _____

NAME TYPED: _____

TITLE: _____

MINORITY AND WOMEN OWNED BUSINESS ENTERPRISE OFFICER CERTIFICATION FORM

I, _____,
Name of Executive Officer
certify that _____
Name of MBE Officer

has been named Minority and Women Owned Business Enterprise Officer for

_____

_____ ☐ Company ☐ Corporation

Date: _____

By:_____

Name Typed: _____

Title:_____

Address: _____

_____

DRAFT
PROJECT-SPECIFIC CONSTRUCTION CONTRACT
ITB 0318-2360

THE PARTIES TO THIS CONTRACT are the City of Daytona Beach, a Florida municipal corporation, hereinafter the "CITY" or "OWNER," and >, a >, hereinafter the "CONTRACTOR."

WITNESSETH, that the CONTRACTOR and the CITY agree as follows, for the mutual valuable consideration provided herein:

ARTICLE I. SCOPE OF WORK

The CONTRACTOR will, at its sole cost and expense, provide, perform, and complete the construction project commonly known as "First Step Shelter Construction" and more fully described in the Contract Documents, hereinafter the "Work".

ARTICLE II. CONTRACT DOCUMENTS

The Contract Documents are further described in the General Conditions, and if applicable the Supplemental General Conditions. In addition, the Plans, dated June 1, 2018 and referenced herein are the plans or drawings prepared by Hall & Ogle Architects, Inc. (the "Engineer/Architect" or "E/A"), provided or made available with the CITY's Invitation to Bid, as amended by any addenda to the bid documents, are a part of the Contract Documents. These Plans are not physically attached hereto but are incorporated herein by reference. CONTRACTOR acknowledges receipt of all such Plans.

The Contract Documents are intended to include all information necessary for CONTRACTOR's proper prosecution and timely completion of the Work. CONTRACTOR will prosecute the Work as necessary to produce the results indicated by the Contract Documents. The Contract Documents are complementary, and what is required by one will be as binding as if required by all.

ARTICLE III. COMMENCEMENT AND COMPLETION

The CITY and the CONTRACTOR mutually agree that time is of the essence with respect to the dates and times set forth in the Contract Documents. To that end, the CONTRACTOR will commence the Work not later than the Commencement Date set forth in the General Conditions, and will diligently and continuously prosecute the Work at such a rate, and with sufficient forces as will allow the CONTRACTOR to achieve Substantial Completion within 180 days after the Commencement Date and Final Completion within 30 days after Substantial Completion, subject only to any adjustments in the Contract Time that may be authorized by Change Orders properly issued in accordance with the Contract Documents. In executing this Contract, CONTRACTOR affirms that the time set for completion is reasonable.

The CITY will suffer financial loss if Final Completion of the Work is not achieved within the Contract Time. Accordingly, and in lieu of actual damages or proof thereof, if CONTRACTOR fails to meet these deadlines, CONTRACTOR will be liable to the CITY for liquidated damages as follows:

> In the amount of **$3,000.00** for each and every day of unexcused delay in achieving Substantial Completion; and

In the amount of **$1,500.00** for each and every day of unexcused delay from the date that Substantial Completion is achieved until Final Completion is achieved.

The CITY will have the right to offset such liquidated damages against any remaining portion of the Contract Price due CONTRACTOR, but will not be limited to the offset if it is insufficient. If the unpaid balance of the Contract Price is less than the amount of the Liquidated Damages, the CONTRACTOR or its Surety must pay the deficiency to the CITY upon demand.

ARTICLE IV. CONTRACT PRICE

Subject to any adjustments that may be authorized pursuant to this Contract, the Contract Price due the CONTRACTOR is $>_____ for work completed and accepted in accordance with the Contract Documents. The Contract Price represents the CONTRACTOR's sole compensation from the CITY for prosecution of the Work. The Contract Price will be paid in a series of Progress Payments and a Final Payment, and is subject to retainage, as further described in the Contract Documents.

ARTICLE V. PERFORMANCE SECURITY

CONTRACTOR must provide a payment bond and a performance bond, or alternate form of Performance Security in an amount equal to 100% of the Contract Price.

Additional requirements associated with the provision of Performance Security, including requirements to increase the amount provided, are set forth in the General Conditions and, if applicable, the Supplemental General Conditions.

ARTICLE VI. INDEMNIFICATION

A. CONTRACTOR hereby indemnifies and holds harmless the CITY from and against all liabilities, damages, losses, and costs, including but not limited to reasonable attorneys' fees, arising out of or resulting from the Work provided that the liabilities, damages, losses, and costs are caused in whole or in part by any negligence, recklessness, or intentional wrongful misconduct of CONTRACTOR, any subcontractor, anyone directly or indirectly employed by any one of them, or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. This indemnification agreement is separate and apart from, and in no way limited by, any insurance provided pursuant to this agreement or otherwise.

B. CONTRACTOR indemnifies the CITY against any claim of supplier's or subcontractor's lien (in cases where such payment is not already guaranteed by payment bond). If any claim or lien remains unsatisfied after all payments are made, CONTRACTOR must refund to the CITY all monies that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

C. For purposes of the obligations stated in this Article, references to the CITY include the CITY's officers, employees, and agents.

D. CONTRACTOR's obligations under this Article are made without regard to the availability of insurance of the CITY or the Engineer/Architect.

ARTICLE VII. INSURANCE

A. Required Insurance.

CONTRACTOR will purchase and maintain, at its own expense, the following types and amounts of insurance, primary and non-contributory with the CITY's own insurance, in form and companies satisfactory to the CITY:

1. **Workers' Compensation Insurance** – As required by Florida Statutes, Chapter 440, Workers' Compensation Insurance, for all employees of CONTRACTOR employed at the project site or in any way connected with the Work.

The insurance required by this provision will comply fully with the Florida Workers' Compensation Law and include Employers' Liability Insurance with limits of not less than $500,000 per accident. Any associated or subsidiary company involved in the service must be named in the Workers' Compensation coverage.

2. **Liability insurance – Including Commercial General Liability coverage** for operations, independent contractors, products-completed operations, broad form property damage, collapse and underground, and personal injury on an "occurrence" basis, insuring the CONTRACTOR and any other interests, including but not limited to any associated or subsidiary companies involved in the Work; and **Automobile Liability coverage** insuring claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle used by CONTRACTOR at the project site or in any way connected with the Work.

THE COMMERCIAL GENERAL LIABILITY INSURANCE POLICY WILL NAME THE CITY AS AN ADDITIONAL INSURED. Contractor's Commercial General Liability insurance policy shall provide coverage to Contractor, and City when required to be named as an additional insured either by endorsement or pursuant to a blanket additional insured endorsement, for those sources of liability which would be covered by the latest edition of the standard Commercial General Liability Coverage Form (ISO Form CG 00 01) without the attachment of any endorsements excluding or limiting coverage for Products/Completed Operations, Independent Contractors, Property of City in Contractor's Care, Custody or Control or Property of City on which contracted operations are being performed, Explosion, Collapse or Underground hazards (XCU Coverage, Contractual Liability or Separation of Insureds). When City is added as additional insured by endorsement, ISO Endorsements CG 20 10 and CG 20 37 or their equivalent shall be used to provide such Additional Insured status.

The limit of liability will be a combined single limit for bodily injury and property damage of no less than $1,000,000 per occurrence. If insurance is provided with a general aggregate, the aggregate will be in an amount of no less than $2,000,000. The Risk Manager may authorize lower liability limits for the automobile policy only, at the Risk Manager's sole discretion.

Unless specifically waived hereafter in writing by the Risk Manager, CONTRACTOR agrees that the insurer will waive its rights of subrogation, if any, against the CITY on each of the foregoing types of required insurance coverage.

3. **Builders' Risk** - The CONTRACTOR is required to maintain Builders Risk Insurance on an "all risk" basis, including but not limited to the completed value basis on the insurable portion of the work for the benefit of the CITY, the CONTRACTOR and subcontractors as their interests may appear. The CITY, the CONTRACTOR and any subcontractor insured therein waive all rights against each other for damages caused by fire and other perils to the extent covered by the insurance obtained pursuant to this paragraph.

B. Subcontractors' Insurance. Each of CONTRACTOR's subcontractors will be required to provide insurance in substantially similar form to the insurance required of CONTRACTOR above based on the services they will provide to the project.

C. Proof of Insurance. CONTRACTOR will furnish proof of insurance acceptable to the CITY prior to or at the time of execution of this Contract. CONTRACTOR will not commence Work until all required insurance has been approved by the CITY. CONTRACTOR will furnish evidence of all required insurance in the form of certificates of insurance which will clearly outline all hazards covered as itemized above, the amounts of insurance applicable to each hazard and the expiration dates.

Upon request of the Risk Manager, CONTRACTOR will also provide the CITY copies of the insurance contracts referenced by the certificates.

D. Cancellation and Replacement. CONTRACTOR will file replacement certificates 30 days prior to expiration or termination of any required insurance occurring prior to expiration or termination of this Contract. If such insurance terminates without CONTRACTOR's prior knowledge, immediately upon becoming aware of such termination CONTRACTOR will provide notice to the City's Risk Manager at P.O. Box 2451, Daytona Beach, Florida 32115-2451.

The CITY reserves the right to suspend any or all of the Work until such insurance has been replaced, or to obtain replacement insurance at CONTRACTOR's sole cost.

E. Termination of Insurance. CONTRACTOR will not cancel any required insurance coverage until the work is completed, accepted by the CITY and CONTRACTOR has received written notification from the Risk Manager that CONTRACTOR is authorized to cancel the insurance and the effective date of such authorization. The Risk Manager will provide such written notification at the request of CONTRACTOR if the request is made no earlier than two weeks before the work is to be completed.

The liabilities of CONTRACTOR under this Contract will survive and not be terminated, reduced, or otherwise limited by any expiration or termination of insurance coverage. Neither approval nor failure to disapprove insurance furnished by the contractor will relieve the CONTRACTOR or its sub-contractors from responsibility to provide insurance as required by the contract.

ARTICLE VIII. NOTICES

A. Where the Contract Documents authorize or require the CITY to provide notice to CONTRACTOR, notice may be provided by delivery by hand to CONTRACTOR's designated Superintendent at the Project Site, or in the absence or unavailability of the Superintendent to any other person on the Project Site who holds himself of herself out as managing the Work on behalf of CONTRACTOR, or in lieu of either of these, by written notice to the address provided below.

B. Where the Contract Documents authorize or require CONTRACTOR to provide notice to the CITY, notice may be provided only by written notice to the address provided below.

C. Written notice is valid only if sent by certified United States mail, return receipt requested, facsimile with confirmation receipt required, or by recognized courier such as Federal Express with confirmation receipt requested. All such notices will be deemed to have been duly given and provided on (i) the date of receipt, (ii) upon receipt or refusal of delivery if transmitted by registered or certified mail, return receipt requested, or (iii) the first business day after the date of deposit, if transmitted by reputable overnight courier service, whichever occurs first. Written notices will be sent to the following persons:

If to the CITY:
Attn: Frank VanPelt, Technical Svcs Dir
The City of Daytona Beach
950 Bellevue Ave.
Daytona Beach, FL 32114
Fax: 386-671-8620

If to the CONTRACTOR:
Attn: _____
_____
_____
_____
Fax: _____

provided, however, that either Party may by written notice change the address designated for receipt of written and faxed notices.

ARTICLE IX. DISPUTE RESOLUTION

If a dispute exists concerning this Contract, the Parties agree to use the following procedure prior to pursuing any judicial remedies.

A. **Negotiations Required**. A Party will request in writing that a meeting be held between representatives of each Party within 14 days of the request or such later date that the Parties may agree to. Each Party will attend and will include, at a minimum, a senior level decision maker (an owner, officer, or employee of each organization) empowered to negotiate on behalf of their organization. The purpose of this meeting is to negotiate the matters constituting the dispute in good faith. The Parties may mutually agree in writing to waive this step and proceed directly to mediation as described below.

B. **Non-Binding Mediation**. Mediation is a forum in which an impartial person, the mediator, facilitates communication between parties to promote reconciliation, settlement, or understanding among them. Within 30 days after the procedure described above proves unsuccessful or the Parties mutually waive the procedure, the Parties will submit to a non-binding mediation. The mediation, at a minimum, will provide for (i) conducting an on-site investigation, if appropriate, by the mediator for fact gathering purposes, (ii) a meeting of all Parties for the exchange of points of view and (iii) separate meetings between the mediator and each Party to the dispute for the formulation of resolution alternatives. The Parties will select a mediator trained in mediation skills and certified to mediate by the Florida Bar, to assist with resolution of the dispute. The Parties will act in good faith in the selection of the mediator and give consideration to qualified individuals nominated to act as mediator. Nothing in this Contract prevents the Parties from relying on the skills of a person who also is trained in the subject matter of the dispute or a contract interpretation expert. Each Party will attend will include, at a minimum, a senior level decision maker (an owner, officer, or employee of each organization) empowered to negotiate on behalf of their organization.

If the Parties fail to reach a resolution of the dispute through mediation, then the Parties are released to pursue any judicial remedies available to them.

ARTICLE X. GENERAL PROVISIONS

A. This Contract will be governed by the laws of the state of Florida without regard to any choice of law principles that could result in application of the laws of any other jurisdiction. Venue for any legal action or proceeding arising out of this Contract is exclusively in the federal or state courts in and for Volusia County, Florida. The Parties hereby waive any right to stay or dismiss any action or proceeding brought under or in connection with this Contract that is brought before the above-referenced courts on the basis of *forum non-conveniens*.

B. In case of litigation arising out of this Contract where the meaning of one or more provisions is at issue, the CITY will not be penalized by virtue of its having drafted this Contract. CONTRACTOR has carefully reviewed and had the opportunity to seek advice of legal counsel prior to executing this Contract.

C. The CITY and CONTRACTOR agree that they have knowingly waived the right to trial by jury and have instead agreed that, in the event of any litigation arising out of or connected to this Contract, to proceed with a trial before the court, unless both parties subsequently agree otherwise in writing.

D. In performing the services provided for herein, CONTRACTOR is an independent contractor and not an employee of the CITY.

E. The waiver of any provision of this Contract will not be deemed to be a waiver of any other provision of this Contract. No waiver of any provision of this Contract will be deemed to constitute a continuing waiver unless expressly provided in writing, nor will a waiver of any default be deemed a waiver of any subsequent defaults of the same type. The failure at any time to enforce this Contract, whether the default is known or not, does not constitute a waiver or estoppel of the right to do so.

F. All terms and conditions of this Contract which contemplate a period of time beyond completion or termination, will survive such completion or termination and not be merged therein or otherwise terminated.

G. If any word, phrase, clause, sentence or provision of the Contract, or the application of same to any person or set of circumstances is for any reason held to be unconstitutional, invalid or unenforceable, that finding will only effect such word, phrase, clause, sentence or provision, and such finding will not affect the remaining portions of this Contract; this being the intent of the Parties in entering into the Contract; and all provisions of the Contract are declared to be severable for this purpose.

H. The undersigned representative of CONTRACTOR affirms that in executing this Contract on behalf of CONTRACTOR, he or she is fully authorized to bind CONTRACTOR to the terms and conditions herein set forth.

I. No CITY officer, employee, or independent consultant who is involved in the development, evaluation, or decision-making process of the performance of any solicitation will have a financial interest, direct or indirect, in the Contract resulting from that solicitation. Any violation of this provision, with the knowledge, expressed or implied, of CONTRACTOR will render the Contract voidable by the CITY.

J. This Contract represents the entire and integrated agreement between the CITY and CONTRACTOR with respect to the subject matter hereof and supersedes all prior negotiations, representations or agreements, either written or oral.

IN WITNESS WHEREOF, the Parties have executed this Contract on the dates written below.

THE CITY OF DAYTONA BEACH

By: _____
Derrick L. Henry, Mayor

Attest: _____
Letitia LaMagna, City Clerk

Date: _____

Approved as to legal form:

By: _____
Robert Jagger, City Attorney

>CONTRACTOR

By: _____
Printed Name: _____
Title: _____

Date: _____

GENERAL CONDITIONS

ARTICLE 1 – DEFINITIONS AND TERMS

1.1 Defined Terms.

Whenever used in the Contract the following terms have the meanings indicated, which are applicable to both the singular and plural thereof

"50-Percent Completion" means the point at which the OWNER has expended 50% of the Adjusted Contract Price.

"*Adjusted Contract Price*" means the Contract Price as set forth in the Contract, as previously adjusted by valid Change Order.

"*Bid*" means the offer of the Bidder.

"*Bid Schedule*" means the Bid Schedule submitted by CONTRACTOR with the Bid; unless CONTRACTOR was the sole responsive bidder and the Parties have negotiated final pricing as part of the bid solicitation process pursuant to the Purchasing Code, in which instance the term means the Revised Bid Schedule included within the Contract Documents.

"*Change Instrument*" means a Field Directive or a Change Order.

"*Change Order*" means a written directive issued by the OWNER authorizing an adjustment in the Contract Price, the Contract Time, the scope of Work, or any other material term or condition of the Contract. When approved by the City Commission, a change order may be in the form of a formal amendment to this Contract.

"*City Code*" means the City of Daytona Beach Code of Ordinances.

"City Commission" or "Commission" means the City of Daytona Beach City Commission.

"*City Manager*" means the City Manager for the City.

"*Commencement Date*" means the date established in the Notice to Proceed upon which the Contract Time begins to run; or if no such date is provided in the Notice to Proceed, the date of the Notice to Proceed.

"Construction Contract form" means that part of the titled as "Project-Specific Construction Contract" or something similar, and signed by the Parties.

"Contract" includes all Contract Documents.

"Contract Administrator" means the individual specifically authorized to administer the Contract on the OWNER's behalf; provided, however that in all instances the City Manager may act as the Contract Administrator.

"*Contract Price*" means the total compensation due to CONTRACTOR for the Work to be performed under the contract, subject only to those adjustments provided in the Contract Documents.

"*Contract Time*" means the total period of time stated in the Contract between the Commencement Date and the deadline for Final Completion, subject only to those adjustments provided in the Contract Documents.

"*Critical Path*" means the longest series of tasks that runs consecutively from the beginning to the end of the Project, as determined by duration and workflow sequence. This longest path sets the managerial standard for how quickly the Project can be completed, given appropriate resources.

"*Day*" or "*Days*" means calendar days unless otherwise specifically noted in the Contract Documents.

"*Defective Work*" or "*Nonconforming Work*" means Work that:

(i) Does not conform to the requirements of the Contract;

(ii) Does not meet the requirements of any inspection, test, or approval as referred to in the Contract or as required by law;

(iii) Contains defects;

(iv) Represents a substitute for that required by the Technical Provisions, unless properly approved and authorized as provided in the Contract; or

(v) Has been damaged or destroyed prior to Final Completion.

"*Effective Date*" means the date on which this Contract is approved by City Commission.

"*E/A*" (*also*, "*Engineer/Architect*", "*Architect*, or "*Engineer*" as applicable) generally means the professional licensed architect or engineer who develops the criteria and concept for the Project, performs the analysis, and is responsible for the preparation of the Technical Provisions and Plans. The E/A may be the OWNER's in-house staff or a consultant retained by the OWNER. No contractual relationship is created by this Contract between CONTRACTOR and the E/A.

"*Equipment*" means the machinery and equipment, together with the necessary supplies for upkeep and maintenance thereof, and all other tools and apparatus necessary for the construction and acceptable completion of the Work.

"*Field Directive*" means a written order prepared and signed by the OWNER, not involving a change in Contract Price or Contract Time, directing a minor change in the Work where a Change Order is not required.

"*Final Completion*" means acceptance of the Work by the OWNER as evidenced by its signature upon the Certificate of Final Completion.

"Force Account" means a method for payment of additional Work that is based on CONTRACTOR's labor, equipment and materials costs with consideration for overhead and profit.

"*Force Majeure Event*" means conditions or other circumstances, such as acts of God, that: (i) were not foreseen, and could not have been reasonably foreseen, by CONTRACTOR or the OWNER, (ii) are beyond the control of CONTRACTOR and the OWNER, and (iii) materially hinder or interfere with the ability of CONTRACTOR to prosecute the Work; provided, however, that no such condition or circumstance will be a Force Majeure event if it is the result of CONTRACTOR's fault, negligence, or material breach of this Contract. Examples of Force Majeure events include wars, floods, strikes and labor disputes, unusual delay in transportation, epidemics abroad, earthquakes, and severe adverse weather conditions not reasonably anticipated.

"*Hazardous Materials*" has the meaning as provided by law.

"*Legal Requirements*" means, collectively, all applicable federal, state, and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Work. The term includes the City Code and other CITY ordinances and regulations.

"*Materials*" means goods or substances to be incorporated in the Work under the Contract.

"*Milestone*" means a significant event specified in the Contract Documents relating to an intermediate completion date or time prior to Final Completion of the Work.

"*OWNER*" means the City of Daytona Beach; or, if the form Contract so provides, the Community Redevelopment Agency for the CITY. All references within the Technical Provisions to the "CITY" (whether or not capitalized) are intended to refer to the "OWNER" unless logic dictates otherwise.

"*Plans*" means the plan documents prepared by the E/A and identified in the Table of Contents or otherwise incorporated into the Contract, including reproductions thereof, showing the location, character, dimensions, and details of the Work. The term may also be referred to herein as "drawings," "contract drawings," "contract plans," or similar terms; but not "shop drawings."

"*Project*" means the subject of the Work and its intended result.

"*Project Site*" or "*Site*" means the land or premises on which the Project is located, and in addition any land and areas identified in and permitted for use by CONTRACTOR by the Contract, subject to conditions that may apply such as for rights-of-way, permits, and easements.

"*The Prompt Payment Act*" means the Local Government Prompt Payment Act, F.S. § 218.70 et seq. (2014), as hereafter amended.

"*Purchasing Code*" means the provisions of Chapter 30 of the City Code.

"*Referenced Standards*" includes standards, standard details, specifications, manuals, regulations or codes of any technical society, organization or association, or of any governmental or quasi-governmental authority referred to in the Contract to describe the nature or quality of any of the Work, whether such reference be specific or by implication, and means the latest standard, standard detail, specification, manual, regulation or code in effect at the time of Bid opening, except as may be otherwise specifically stated in the Contract.

"*Resident Project Representative*" means, where the E/A is a private firm or person under contract with the CITY to act as the E/A, the authorized representative of E/A assigned to the Project Site; and in all other instances, the Contract Administrator.

"*Risk Manager*" means the Risk Manager for the CITY or designee; provided however, that the City Manager may act on behalf of the Risk Manager.

"*Schedule of Values*" means the written breakdown of the Contract Price by Construction Specification Institute divisions or by other format acceptable to the OWNER, prepared by CONTRACTOR for OWNER's review and approval.

"*Shop Drawings*" means all drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR as required by this Contract.

"*Site-Related Reports*" means any environmental, geotechnical, subsoil, and related reports relating to conditions at the Project Site which were used or made available for the OWNER's or E/A's use in creating the Plans.

"*Specifications*" means the Technical Provisions and Plans.

"*Stored Material*s" means delivered materials or equipment that are located at the Project Site, or with the OWNER's approval at another location, and that have not yet been incorporated into the Work.

"*Subcontractor*" means a person or firm that under a direct contract with CONTRACTOR to perform a portion of the Work, and also unless logic dictates otherwise, sub-subcontractors and persons or firms doing work through such sub-subcontractors.

"*Substantial Completion*" means the completion of the Work, or an agreed upon portion of the Work, so as to allow the OWNER to occupy and use the Project or a portion thereof for its intended purposes.

"S*ub-subcontractor*" means a person or firm who has a direct or indirect contract at any tier with a subcontractor to perform a portion of the Work.

"*Supplemental General Conditions*" means that part of the Contract labeled as such and identified in the Table of Contents or otherwise incorporated into the Contract, that amends and supplements these General Conditions.

"*Supplier"* means a person or firm having a contract with CONTRACTOR or with any subcontractor of any tier to furnish materials to be incorporated in the Work.

"*Technical Provisions*" means those provisions of the Contract containing or referencing required technical specifications and standards. The term includes all such technical specifications and standards of other governmental jurisdictions, or professional association where referenced in the Contract, including any exceptions thereto regardless of whether these are attached to or enumerated within the Contract.

Whenever this Contract refers to but does not include a specific Technical Provision, the reference will be deemed to be to the version of the referenced Technical Provision included in the applicable CITY engineering or utility standard unless logic dictates otherwise.

"*Unilateral Change Instrument*" means a Change Instrument issued by the OWNER and not executed by CONTRACTOR.

"*Unit Price Schedule*" means the Bid Schedule.

"*Working Hours*" means 7:00 am through 6:00 pm, Monday through Friday excluding holidays designated by the CITY.

1.2 Abbreviations. The following abbreviations, when used in the Contract, represent the full text shown.

AAN	American Association of Nurserymen, Inc.
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGC	The Associated General Contractors of America, Inc.
AGMA	American Gear Manufacturers Association
AIA	American Institute of Architects.
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute, Inc.
APWA	American Public Works Association
AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWG	American Wire Gauge
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
CRSI	Concrete Reinforcing Steel Institute
DIPRA	Ductile Iron Pipe Research Association
EASA	Electrical Apparatus Service Association
EPA	Environmental Protection Agency of the United States Government
FDHR	Florida Division of Historical Resources
FEMA	Federal Emergency Management Agency
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FSS	Federal Specifications and Standards

IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IFAS	Institute of Food and Agricultural Sciences
IMSA	International Municipal Signal Association
IPCEA	Insulated Power Cable Engineers Association
ISA	International Society of Arboriculture
ISO	International Organization for Standards
MPO	Volusia County Metropolitan Planning Organization
MSTCSD	Minimum Specifications for Traffic Control Signals and Devices
MUTCD	Manual on Uniform Traffic Control Devices
NACE	National Association of Corrosion Engineers
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NIST	National Institute for Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
NSPE	National Society of Professional Engineers
OSHA	Occupational Safety and Health Administration
SAE	Society of Automotive Engineers
SJWRMD	St. Johns River Water Management District
SI	International System of Units
SSPC	Society of Protective Coatings
UL	Underwriters' Laboratories
USACOE	United States Army Corps of Engineers
USGS	United States Geological Service

Each of the above abbreviations, when followed by a number or letter designation, or combination of numbers and letters, designates a specification, test method, or other code or recommendation of the particular authority or organization shown. Where the above-referenced abbreviations refer to a written standard, specifications, test method, or other code, the reference will be deemed to be the edition of the code promulgated at the time of Bid opening.

1.3 Use of Terms.

1.3.1 Singular and Plural. The OWNER, E/A, CONTRACTOR, subcontractor, sub-subcontractor, supplier, other contractors, surety, insurer and others may be referred to in the Contract Documents as if singular in number. In the event that more than one person or entity occupies the position referred to and unless otherwise indicated, the term is interpreted to include all such persons or entities.

1.3.2 Technical Terms and Trade Usage. Terms in the Contract which have well-known technical or construction industry meanings and are not otherwise defined are used in accordance with such recognized meanings unless the context clearly indicates otherwise.

ARTICLE 2 –ORGANIZATION AND INTENT OF CONTRACT

2.1 Interpreting the Contract.

2.1.1 Order of Precedence. In cases of conflict or discrepancy among Contract Documents, interpretations will generally be based on the following order of precedence, ranked from highest to lowest priority:

.1 Change Orders;

.2 The Construction Contract form;

.3 Supplemental General Conditions, if any;

.4 General Conditions;

.5 Technical Provisions;

.6 Plans (figured dimensions will govern over scaled dimensions);

.7 The Invitation to Bid and General and Supplemental Instructions to Bidders, including Addenda thereto;

.8 The Bid Schedule;

.9 All other documents required to be submitted and submitted as part of CONTRACTOR's Bid Proposal; and

.10 All other Contract Documents that are neither listed above nor expressly incorporated into one of the foregoing Contract Documents;

with the understanding that a common sense approach will be used as necessary so that the Contract Documents produce the intended response.

2.1.2 Contract Documents Complementary. The Contract Documents are complementary, and what is required by one is as binding as if required by all. Anything mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, are of like effect as if shown or mentioned in both.

2.1.3 Intent to Require Completed Project. The intent of the Contract Documents is to require that CONTRACTOR provide all materials and labor, including tools, equipment and supervision, necessary for the proper execution and completion of the Work as a functioning whole or required for a completed Project.

2.1.4 Work Required if Reasonably Inferable. Performance by CONTRACTOR is required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results. Where no explicit quality or standards for materials or workmanship are established for the Work, the Work is to be of good quality for the intended use and consistent with the quality of surrounding Work which conforms to the requirements of the Contract Documents and to the standards for construction of the Project generally.

2.1.5 Organization of Drawings and Specifications. Organization of the Drawings around professional disciplines such as civil, architectural, structural, plumbing, mechanical, and electrical, and of the Specifications into divisions, sections, and articles, does not control CONTRACTOR in dividing the Work among sub-contractors or in establishing the extent of Work to be performed by any trade or excuse CONTRACTOR of its obligation to properly allocate and provide for the performance of all Work under the Contract.

2.1.6 Documents Excluded from the Contract. The Contract Documents do not include the Site-Related Reports referenced herein or other documents issued or provided to CONTRACTOR for the information of CONTRACTOR or for reference purposes and which are not specifically incorporated in the Contract Documents.

2.1.7 Titles, Headings, and Capitalization. The titles and headings of the various sections and subsections of these General Conditions and other Contract Documents are intended only as a matter of reference and convenience and in no way define, limit, or prescribe the scope or intent of the Contract Documents. The use, or inadvertent failure to use, capitalization of terms used in the Contract Documents is not intended to define or limit the meaning of the term.

1.1.8 Other Interpretive Rules.

2.1.8.1 Provisions of the Contract Documents that use the active voice-imperative mood writing style are directions to CONTRACTOR and are intended as commands. In such instance, the subject "the Bidder" or "CONTRACTOR" is understood.

2.1.8.2 Provisions of the Contract Documents that use the passive voice writing style are also directions to CONTRACTOR and intended as commands unless logic clearly dictates otherwise.

2.1.8.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

2.2 Referenced Standards.

2.2.1 Standards Incorporated. All Referenced Standards are incorporated into the Contract as fully as if printed and bound with the Specifications, but only to the limited extent that such standards are applicable to the Work.

2.2.2 Availability of Referenced Standards. CONTRACTOR is responsible for obtaining and having available at the Project Site a copy of each Referenced Standard insofar as it is applicable to the Work.

2.2.3 Precedence of Contract Documents Over Referenced Standards. No provision of a Referenced Standard is effective to change (i) the procedures established in the Contract Documents or by any applicable laws or regulations, or (ii) the duties and responsibilities of the OWNER, E/A or CONTRACTOR from those set forth in the Contract Documents; nor is any provision of a Referenced Standard effective to assign to the OWNER or the E/A any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the Contract.

ARTICLE 3 - PRELIMINARY MATTERS

3.1 Pre-Contract Submittals. The OWNER reserves the right to require certain Submittals before executing the Contract. Submittals required before execution of the Contract include, but are not limited to Insurance certificates acceptable to the OWNER as provided in the Contract and any other submittals required by the Bid Documents.

3.2 Project Information. Within ten days after the Effective Date, the OWNER will furnish CONTRACTOR free of charge, two signed, sealed, hard copies and one electronic copy of the Plans in AutoCAD and the Technical Provisions in PDF format, and one copy of each of the Site Related Reports, if any. All Site Related Reports are given to CONTRACTOR for information only, are not warranted as to accuracy, and are not a part of the Contract Documents. CONTRACTOR will not be entitled to rely on the accuracy or the completeness of any information contained in these Reports in performing the Work required herein, or in seeking claims for Contract Price or Contract Time adjustments. It is the CONTRACTOR's responsibility to determine and verify all information provided by OWNER including, but not limited to grades and elevations.

3.3 CONTRACTOR's Review of Contract Documents and Site Related Reports. Before undertaking a project, CONTRACTOR will carefully study the Contract Documents and any Site Related Reports provided by OWNER, to check and verify pertinent figures shown thereon compares accurately to all applicable field measurements. CONTRACTOR will promptly report in writing to the Contract Administrator any conflict, error, ambiguity, or discrepancy that CONTRACTOR discovers and will obtain a written interpretation or clarification from the Contract Administrator before proceeding with any Work affected thereby. CONTRACTOR will be liable to the OWNER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents or Site Related Reports of which CONTRACTOR knew or reasonably should have known.

3.4 Pre-Construction Submittals.

3.4.1 CONTRACTOR will prepare and submit all required pre-construction submittals within 15 Days after the Effective Date, except where the Contract Administrator extends time for submittal in writing. The submittals will include each of the following:

3.4.1.1 A proposed Progress Schedule, developed using Microsoft Project software unless otherwise approved by the Contract Administrator. The Progress Schedule will (i) indicate the times (number of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract, (ii) identify the Critical Path for completing the Work, (iii) identify when all subcontractors will be utilized,

and (iv) take into consideration any Working Hours limitations. The Progress Schedule will contain sufficient detail to indicate that CONTRACTOR has identified all required Work elements and tasks, has provided for a sufficient and proper workforce and integration of subcontractor, has provided sufficient resources and has considered the proper sequencing of the Work required to result in a successful Project that can be completed in accordance with any Milestones and within required completion deadlines.

3.4.1.2 A proposed Schedule of Values, except where the Contract Price is based solely on Unit Prices set forth in the Bid Schedule. The Schedule of Values will be prepared in such a manner that each item of Work is shown as one or more line items on AIA Document G703, Continuation Sheet (latest ed.) or such other form as the OWNER may prescribe, and will contain such detail and be supported by such data as to allow the OWNER and the E/A to substantiate accuracy. Upon approval by the OWNER, the Schedule of Values will be used as the basis for reviewing progress payment requests. After the OWNER has approved the initial Schedule, CONTRACTOR will revise and resubmit for the OWNER's approval, amended Schedules of Values as necessary to reflect adjustments in the Contract Price resulting from approved Change Orders. A schedule of values may be required if a substantial portion of the contract price is a lump sum bid item.

3.4.1.3 An organizational chart showing the principals and management personnel who will be involved with the Work, including each one's responsibilities for the Work.

3.4.1.4 Preliminary Shop Drawings. Shop Drawings will be neat, legible, and drawn to scale. CONTRACTOR will specifically identify any proposed deviations from dimensions, details, and other requirements as provided by the Plans and specifications. When submitting Shop Drawings, CONTRACTOR will also provide a written narrative explanation itemizing each proposed deviation from the Specifications or other Contract requirements. No such deviations will be deemed to be accepted unless they are specifically approved in accordance with the procedures for substitutes and Change Orders.

3.4.1.5 To the extent not set forth in the Contract, a letter designating the Superintendent and, if such designation is required by the Supplemental General Conditions, the Project Manager.

3.4.1.6 A letter designating CONTRACTOR's safety representative, who will be responsible for general safety and excavation safety measures along with certifications or other documentation of the safety representative's qualifications.

3.4.1.7 If applicable, an excavation safety system plan.

3.4.1.8 If applicable, a plan illustrating proposed locations of temporary facilities.

3.4.1.9 A completed Non-Use of Asbestos Affidavit (prior to construction).

3.4.1.10 A map of proposed "haul routes" for delivery of materials and transportation of equipment to the Project Site.

3.4.1.11 A letter designating the Florida Registered Professional Land Surveyor for layout of the Work, if the Work requires the services of a surveyor.

3.4.1.12 Any other documents as required by the OWNER, consistent with the terms of the Contract.

The Supplemental General Conditions (if any) or the Technical Provisions may amplify, waive, or otherwise amend requirements for the above-referenced submittals.

3.4.2 The OWNER will have the right to accept or reject each of the required submittals. The OWNER will provide CONTRACTOR written notice as to any submittals that are rejected, in which instance CONTRACTOR will promptly resubmit them. Alternatively in such instance, the OWNER will have the right but not the obligation to schedule a preconstruction meeting; provided that the preconstruction meeting is scheduled no later than 30 days

after the Effective Date, and the OWNER may delay issuance of the Notice to Proceed until the OWNER and CONTRACTOR have held the meeting.

3.4.3 The OWNER's acceptance of the above-referenced submittals will be deemed to be general only relating solely to their sufficiency and compliance with the intent of the Contract. Such acceptance does not constitute the OWNER's adoption, affirmation, or direction of CONTRACTOR's means and methods, and does not constitute a Change Instrument. OWNER's acceptance of the Progress Schedule will not impose on the OWNER, responsibility or liability for the sequencing, scheduling, or progress of the Work, and will not relieve CONTRACTOR from CONTRACTOR's responsibility for complying with the terms and conditions of this Contract. CONTRACTOR will at all times remain responsible for the factual accuracy of all such submittals.

3.5 Notice to Proceed. No work will proceed until the OWNER has issued a written notice to proceed. The OWNER will issue a Notice to Proceed within 60 days after the Effective Date, provided that CONTRACTOR has submitted all required documents, including insurance and, where applicable Performance Security. The OWNER in its sole discretion may delay issuing the Notice if CONTRACTOR has not completed its preconstruction submittals within that time; or with CONTRACTOR's written concurrence for any other or no reason.

3.6 Limitations on Custody and Use of Plans. CONTRACTOR will not re-use the Plans and Technical Provisions, including modifications thereto, on any other project or for any other client. CONTRACTOR may not own or claim a copyright in the Site-Related Reports, or the Plans or any other Contract Documents. With the exception of the signed Contract Documents, all sets of the above-referenced documents are the property of the OWNER, and will be returned to the OWNER on request or at the completion of the Work prior to issuance of Final Payment.

3.7 Availability of Lands. The OWNER will provide access to the Project Site, secure any easements necessary therefore, and notify CONTRACTOR of any restrictions in such access. The OWNER may identify in the Contract Documents encumbrances or restrictions not of general application which are known by the OWNER and specifically related to use of the Site, but which are not of public record. CONTRACTOR will comply with such encumbrances and restrictions in performing the Work. Permanent easements for the completed facility or for changes in existing facilities will be obtained and paid for by the OWNER, unless otherwise provided in the Contract Documents.

ARTICLE 4 – OWNER'S RESPONSIBILITIES

4.1 Contract Administrator. The Contract Administrator is authorized to administer the Contract on behalf of the OWNER, commencing on the Effective Date and terminating on the date CONTRACTOR performance is completed (including final payment) or terminated.

4.1.1 The Contract Administrator's authority is limited as follows:

.1 Provide direction to CONTRACTOR to ensure satisfactory and complete performance;

.2 Issue Field Directives;

.3 Monitor and inspect CONTRACTOR performance to ensure acceptable timeliness and quality;

.4 Maintain necessary documentation and records regarding CONTRACTOR performance and other pertinent matters;

.5 Furnish timely written notice of CONTRACTOR performance failures to the City Manager and to the City Attorney, as appropriate;

.6 Determine acceptance or rejection of CONTRACTOR's performance;

.7 Approve or reject applications for payment, other than application for final payment;

.8 Furnish necessary reports to the City Manager;

.9 Recommend Change Instruments or stop work orders to the City Manager; and

.10 Recommend termination of Contract or work authorizations for default or convenience to the City Manager.

4.1.2 The authority of the Contract Administrator is limited to the functions set forth above. In particular, the Contract Administrator is NOT authorized to make determinations (as opposed to recommendations) that:

.1 Alter or modify Contracts;

.2 Terminate or cancel Contracts;

.3 Approve, as opposed to recommend, Change Orders or Contract Amendments;

.4 **Except as expressly provided herein,** interpret ambiguities in Contract language; or

.5 Approve final applications for payment; or

.6 Waive the OWNER's contract rights.

4.2 City Manager. The City Manager has all of the authority of the Contract Administrator. The City Manager has authority to approve final applications for payment except where approval also requires approval of a change order that is not within the City Manager's authority, below. In addition, the City Manager is authorized to issue (i) Change Orders increasing Contract Price or Contract Time as provided in the Purchasing Code or as specifically authorized by the City Commission; (ii) Change Orders reducing Contract Price or Contract Time; and (iii) stop work orders where reasonably necessary to preserve property or prevent injury.

4.3 Authority Reserved in City Commission. All administrative authority not specifically conferred upon the Contract Administrator or City Manager is reserved to the City Commission. Modifications to the Contract required to be approved by the Commission may be in the form of Change Orders or formal amendments, as appropriate.

4.4 General Obligation to Avoid Delays. Information or services under the OWNER's control will be furnished by the OWNER with reasonable promptness to avoid delay in orderly progress of the Work. The OWNER will have a reasonable amount of time to investigate site conditions, review submittals, analyze requests for changes, and to make other decisions in the orderly administration of the Contract. CONTRACTOR will notify the OWNER in writing, if the time for the investigation, review, analysis of any submittals, required for changes or otherwise required for the OWNER's decision, impacts in any way the Critical Path of the current approved Progress Schedule.

4.5 Owner-Provided Inspectors. The OWNER will provide persons to perform OWNER-required inspections.

ARTICLE 5 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS

CONTRACTOR will obtain any additional temporary construction facilities, stockpiling or storage sites not otherwise provided. CONTRACTOR will be responsible for providing at his own expense and without liability to the OWNER, any additional land and access thereto that may be required for temporary construction facilities, or for storage of materials. CONTRACTOR will be required to obtain approval of any private property owner for such additional lands and access unless specifically provided otherwise in the Contract Documents.

5.1 Subsurface and Physical Conditions.

5.1.1 CONTRACTOR affirms that CONTRACTOR has carefully examined the Plans and the Site-Related Reports, if any. CONTRACTOR acknowledges that the Site-Related Reports are ***not*** a guarantee of specific site conditions which may vary between boring locations, and that the Project Site is unwarranted.

5.1.2 CONTRACTOR affirms that prior to executing this Contract, CONTRACTOR has had the opportunity to become familiar with the Project Site and the local conditions under which the Project is to be constructed and operated, and to undertake its own geotechnical studies to the extent that CONTRACTOR deems appropriate. CONTRACTOR will not be entitled to any additional time or compensation as a result of any conditions at the Project Site which would have been disclosed to CONTRACTOR by a site visit or by undertaking its own geotechnical studies.

5.1.3 CONTRACTOR will provide the OWNER written notice as soon as reasonably possible, but no later than three days, if unforeseen conditions are encountered at the Project Site which are subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents, or unknown physical conditions of an unusual nature that differ materially from those normally encountered in the type of work being performed under this Contract. CONTRACTOR may not disturb the conditions until the OWNER conducts an investigation. The OWNER will promptly investigate such conditions.

5.1.3.1 If it is determined that such conditions differ materially and cause an increase or decrease in CONTRACTOR's cost of or time required for performance of any part of the Work, the Contract Administrator will recommend an equitable adjustment in the Contract Price or Contract Time, or both. If it is determined that such conditions are not materially different from those indicated in the Contract Documents, the Contract Administrator will notify CONTRACTOR in writing of such findings and the Contract will not be adjusted.

5.1.3.2 CONTRACTOR will be liable to the OWNER for failure to report any such conflict, error, ambiguity, or discrepancy of which CONTRACTOR knew or reasonably should have known, and for CONTRACTOR’s failure to report any conflict, error, ambiguity or discrepancy in the Contract Documents within said three-day period, and for any increases in Project costs, or damages accruing, in association with CONTRACTOR’s disturbance of the conditions pending OWNER’s investigation.

5.1.4 Notwithstanding any other provision of this Contract, CONTRACTOR is solely responsible for the location and protection of any and all public utility lines and utility customer service lines in the Work area. "Public utility lines" means the utility distribution and supply system, and "utility customer service lines" means the utility lines connecting customers to the utility distribution and collection system. Generally, existing utility customer service line connections are not shown on the Plans. CONTRACTOR will notify "One Call" and exercise due care to locate, mark, uncover and otherwise protect all such lines in the construction zone and any of CONTRACTOR's work or storage areas. CONTRACTOR's responsibility for the location and protection of utilities is primary and non-delegable. CONTRACTOR will indemnify or reimburse such expenses or costs (including fines that may be levied against the OWNER) that may result from unauthorized or accidental damage to all public lines and utility customer service lines in the work area. The OWNER reserves the right to repair any damage CONTRACTOR causes to such utilities at CONTRACTOR's expense. If a public or customer service line is damaged by CONTRACTOR, CONTRACTOR will give verbal notice within one hour and written notice within 24 hours, to the OWNER and to the utility representatives identified on the Plans.

5.1.5 CONTRACTOR will take reasonable precaution to avoid disturbing primitive records and antiquities of archaeological, paleontological or historical significance. No objects of this nature will be disturbed without written permission of the OWNER and the FDHR. When such objects are uncovered unexpectedly, CONTRACTOR will stop all Work in close proximity and notify the OWNER and the FDHR of their presence and will not disturb them until written permission and permit to do so is granted. All primitive rights and antiquities uncovered on the OWNER's property will remain property of FDHR conforming to applicable provisions of Florida Statutes. If the OWNER, in consultation with the FDHR, determines that exploration or excavation of primitive records or antiquities on Project Site is necessary to avoid loss, CONTRACTOR will perform salvage work attendant to preservation. If the Work stoppage or salvage work causes an increase in CONTRACTOR's cost of, or time required for, performance of the Work, the Contract Price or Contract Time will be equitably adjusted subject to compliance with the provisions herein for Changes and Delays.

5.2 Protection of Reference Points. Unless otherwise specified, the OWNER will furnish a base line and a suitable number of bench marks adjacent to the work. From the information provided by the OWNER, CONTRACTOR will develop and make all detailed surveys, stakes, lines, and elevations, as CONTRACTOR deems necessary. CONTRACTOR will carefully protect and preserve benchmarks, reference points, and stakes. If these benchmarks, reference points, or stakes are disturbed or destroyed due to CONTRACTOR’s failure to comply with the above-referenced requirement, CONTRACTOR will bear the cost of expenses of relocating and replacing them, including the costs of a Registered Professional Land Surveyor if the OWNER determines the same to be necessary.

5.3 Hazardous Materials.

5.3.1 To the extent provided by applicable law, the OWNER will be responsible for any pre-existing hazardous material uncovered or revealed at the Project Site which was not shown, indicated or identified in the Contract Documents to be within the scope of the Work and which may present a substantial danger to persons or property exposed thereto in connection with the Work.

5.3.1.1 CONTRACTOR will immediately stop Work in the affected area and will take all necessary precautions to avoid further disturbance of the materials. CONTRACTOR will also will immediately notify the OWNER and, if required by applicable law or regulations, all government or quasi-government entities with jurisdiction over the Project or Project Site.

5.3.1.2 Upon receiving notice of the presence of suspected Hazardous Materials, the OWNER will take the necessary measures required to ensure that the Hazardous Materials are remediated or rendered harmless. Such necessary measures will include the OWNER retaining qualified independent experts to (i) ascertain whether Hazardous Materials have actually been encountered, and, if they have been encountered, (ii) prescribe the remedial measures that the OWNER will take either to remove the Hazardous Materials or render the Hazardous Materials harmless.

5.3.1.3 CONTRACTOR will be obligated to resume Work at the affected area of the Project only after the OWNER provides written certification that (i) the Hazardous Materials have been removed or rendered harmless and (ii) all necessary approvals have been obtained from all government and quasi-government entities having jurisdiction over the Project or Site. CONTRACTOR will be responsible for continuing the Work in the unaffected portion of the Project and the Project Site.

5.3.1.4 CONTRACTOR will be entitled, in accordance with these General Conditions, to an adjustment in its Contract Price or Contract Time(s) to the extent CONTRACTOR's cost or time of performance have been adversely impacted by the presence of Hazardous Materials.

5.3.2 CONTRACTOR will maintain at the Project Site, available to the OWNER, appropriate information pertaining to all Hazardous Materials brought to the Project Site by CONTRACTOR or any subcontractor, and as may be required by the Supplemental General Conditions, if any. CONTRACTOR will ensure that all such materials are properly labeled or identified, and will properly store, handle and use them at all times. In accordance with federal Hazard Communication Standard (29 CFR § 1910.1200) and all other applicable Legal Requirements, manufacturers and distributors are required to label each Hazardous Material or chemical container, and to provide Material Safety Data sheets to the purchaser. CONTRACTOR will comply with these laws and will provide the OWNER with copies of all relevant documents, including Material Safety Data sheets prior to performance or services or contemporaneous with delivery of goods. CONTRACTOR will provide and designate appropriate and secure areas for their storage and will notify the OWNER of their presence and location at Project Site. CONTRACTOR will not store Hazardous Materials at the Project Site in excess of those reasonably needed for CONTRACTOR's prosecution of the Work, and will properly remove or dispose of all Hazardous Materials, including combustible waste, as soon as possible after completion of the operations in which they are utilized.

5.3.3 No asbestos-containing materials will be incorporated into the Work or brought on Project Site without prior approval of the OWNER. CONTRACTOR will not knowingly use, specify, request or approve for use any asbestos containing materials or lead-based paint without the OWNER's written approval. When a specific product is specified, CONTRACTOR will endeavor to verify that the product does not include asbestos containing material.

5.3.4 CONTRACTOR will be solely responsible for use, storage and remediation of any Hazardous Materials brought to Project Site by CONTRACTOR, subcontractors, sub-subcontractors, suppliers, and anyone else for whom CONTRACTOR is responsible. CONTRACTOR will indemnify, defend and hold harmless the OWNER and the OWNER's officers, directors, employees and agents from and against all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from those Hazardous Materials introduced to Project Site by CONTRACTOR, subcontractors, sub-subcontractors, suppliers, or anyone for whose acts they may be liable.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.1 General Responsibilities.

6.1.1 Scope of Work. CONTRACTOR will provide, perform, and complete all necessary work, labor, services, transportation, equipment, materials, apparatus, machinery, tools, fuels, gas, electric, water, waste disposal, information, data and other means and items necessary to accomplish the Project at the Work Site, including measures for sediment control, storm water management, and waste disposal, in compliance with this Contract. CONTRACTOR is required to perform all Work specified in the Contract Documents and reasonably inferable from these Documents as being necessary to produce the intended results.

6.1.2 Quality. All materials and Work will be of good quality for the intended use and consistent with the quality of surrounding Work, and will conform to the requirements of the Contract Documents and to the standards for construction of the Project generally. All materials will be new.

6.1.3 Construction Means and Methods. CONTRACTOR will provide continuous on-site supervision and direction of the Work using CONTRACTOR's best efforts. CONTRACTOR will have control over construction means, methods, techniques, sequences, and procedures, unless the Contract Documents give other specific instructions concerning these matters, and is solely responsible therefore.

6.1.4 Discipline at the Project Site. CONTRACTOR will enforce strict discipline and good order among CONTRACTOR's employees and other persons for whose Work CONTRACTOR is responsible, including CONTRACTOR's employees, subcontractors, sub-subcontractors, and suppliers, and the agents and employees of any of them.

6.1.5 Responsibility for Subordinates. CONTRACTOR is responsible for the acts and omissions of all persons performing portions of the Work at the Project Site, including but not limited to CONTRACTOR's employees, subcontractors, sub-subcontractors, and suppliers, and the agents and employees of any of them.

6.1.6 Assignment, Scheduling and Coordination. CONTRACTOR is solely responsible for and has control over assigning, scheduling and coordinating all portions of the work under the Contract performed by CONTRACTOR's own forces and by its subcontractors, sub-subcontractors, and suppliers, in accordance with the approved Progress Schedule, unless the Contract Documents give other specific instructions concerning these matters.

6.1.7 Obligations Not Relieved. CONTRACTOR is not relieved of its obligations to perform the Work in accordance with the Contract Documents, by the activities or duties of the OWNER or the E/A in the administration of the Contract or of construction, or by tests, inspections, or approvals required or performed by persons other than CONTRACTOR.

6.1.8 Ongoing Duty to Report Problems with Contract Documents. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between any Contract Document and any Legal Requirement or of any such standard, specification, manual, or code or instructions of any manufacturer or supplier, CONTRACTOR will within three days of such discovery report it to the OWNER in writing, and CONTRACTOR will not proceed with the Work affected thereby until a Change Order has been issued. CONTRACTOR will be liable to the OWNER for failure to report any such conflict, error, ambiguity, or discrepancy of which CONTRACTOR knew or reasonably should have known. CONTRACTOR will be liable to the OWNER for CONTRACTOR's failure to report any conflict, error, ambiguity or discrepancy in the Contract Documents within said three-day period.

6.1.9 Inspection of Work. CONTRACTOR will make frequent inspections during the progress of the Work to confirm that work previously performed by CONTRACTOR is in compliance with the requirements of this Contract, and that any portion of Work previously performed by CONTRACTOR or by others is in proper condition to receive subsequent Work.

6.2 Diligent Prosecution. CONTRACTOR will at all times be responsible for the diligent prosecution of the Work so as to complete the Work within the Contract Time.

6.2.1 CONTRACTOR will have an affirmative obligation to rearrange Milestones, notwithstanding the manner in which they are scheduled in the current approved Progress Schedule, as circumstances may require. If in order to meet this obligation CONTRACTOR rearranges the order of Work in a manner that materially departs from the current approved Progress Schedule, CONTRACTOR will within 3 days thereafter provide notice to the OWNER, who may require CONTRACTOR to submit a revised Progress Schedule reflecting the rearrangement. No revised Progress Schedule extending the Contract Time will be approved without the issuance of a Change Order in compliance with the Contract Documents.

6.2.2 CONTRACTOR will carry on the Work and adhere to the current approved Progress Schedule, including during all disputes or disagreements with the OWNER. No Work will be delayed or postponed pending resolution of any disputes or disagreements, except as the OWNER and CONTRACTOR may otherwise agree through a Change Order or Contract amendment.

6.3 Supervision and Superintendence.

6.3.1 CONTRACTOR will supervise the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.

6.3.2 CONTRACTOR will have an English-speaking, competent Superintendent on the Work at all times that work is in progress. The Superintendent will be CONTRACTOR's representative on the Work and will have the authority to act on the behalf of CONTRACTOR. All communications given to the Superintendent will be as binding as if given to CONTRACTOR, even where written notice is otherwise required. Either CONTRACTOR or the Superintendent will provide a cellular telephone number and an emergency and home telephone number at which one or the other may be reached if necessary when Work is not in progress. The Superintendent will be an employee of CONTRACTOR, unless waived in writing by the OWNER. If CONTRACTOR proposes a management structure with a Project Manager supervising, directing, and managing construction of the work in addition to or in substitution of a Superintendent, the requirements of these Construction Documents with respect to the Superintendent will likewise apply to any such Project Manager.

6.3.2.1 CONTRACTOR will present the resume of the proposed Superintendent to the OWNER showing evidence of experience and successful superintendence and direction of work of a similar scale and complexity. The OWNER may reject the proposed Superintendent if the OWNER determines that the proposed Superintendent does not have sufficient experience in line with the Work, in which instance CONTRACTOR will propose a different Superintendent for OWNER approval.

6.3.2.2 CONTRACTOR will not replace the Superintendent without written notice to the OWNER. If CONTRACTOR deems it necessary to replace the Superintendent, CONTRACTOR will provide the necessary information for approval, as stated above, on the proposed new Superintendent.

6.3.2.3 CONTRACTOR may designate a qualified substitute Superintendent if the designated Superintendent is temporarily away from the Work, subject to OWNER approval.

6.3.2.4 CONTRACTOR will replace the Superintendent upon the OWNER's request, if the Superintendent is unable to perform to the OWNER's satisfaction.

6.4 Labor, Materials, and Equipment.

6.4.1 CONTRACTOR will employ only orderly and competent workers, skillful in performance of the type of Work required under this Contract. CONTRACTOR will prohibit the use and possess any alcoholic or other intoxicating beverages, illegal drugs, or controlled substances while on the job or on the OWNER's property. Subject to the applicable provisions of Florida law, neither CONTRACTOR, nor subcontractors, suppliers, or other agents of CONTRACTOR, may use or possess any firearms or other weapons while on the job or on the OWNER's property. If the OWNER notifies CONTRACTOR that any officer, employee, subcontractor, supplier, or other agent

is incompetent, disorderly, abusive, or disobedient, has knowingly or repeatedly violated safety regulations, has possessed any firearms in contravention of the applicable provisions of Florida law, or has possessed or was under the influence of alcohol or drugs on the job, CONTRACTOR will immediately remove that person from performing Contract Work, and may not employ that person again on the Work without the OWNER's prior written consent. CONTRACTOR will at all times maintain good discipline and order on- and off-Project Site in all matters pertaining to the Project. CONTRACTOR will pay workers no less than the wage rates established by law, and maintain weekly payroll reports as evidence thereof.

6.4.2 CONTRACTOR will not use any preexisting facilities of the OWNER without the specific written consent of the OWNER, except as indicated in the Contract Documents. CONTRACTOR is solely responsible for temporary facilities and services provided or utilized by CONTRACTOR and will remove those not required to remain at the completion of the Work or any portion thereof, will promptly correct any damage caused by the erection, use or removal of temporary facilities; and will restore the Project Site and any adjacent areas to their original condition or that required by the Contract Documents upon completion of the Work.

6.4.3 CONTRACTOR will store, handle, install, and test all materials in accordance with the manufacturer's or suppliers' most recent instructions and recommendations. CONTRACTOR will promptly notify the OWNER if these instructions and recommendations are in conflict with any provision of the Contract Documents.

6.4.4 All materials and equipment will be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with instructions of the applicable manufacturer and supplier, except as otherwise provided in the Contract Documents. The Contract Administrator or E/A may require CONTRACTOR to furnish one or more of the following:

6.4.4.1 Satisfactory evidence (i.e., reports of required tests, manufacturer's certificates of compliance with material requirements, mill reports, etc.) as to the kind and quality of materials and equipment.

6.4.4.2 Samples of required equipment and materials prior to having such equipment and materials delivered to the Project Site. Each sample submitted by CONTRACTOR will carry a label giving the name of CONTRACTOR, the Project, and the name of the producer. The accompanying certificate or letter from CONTRACTOR will state that the sample complies with the contract requirements, will give the name and brand of the product, its place of origin, the name and address of the producer and all specifications or other detailed information which will assist the OWNER in reviewing the sample promptly. It will also include the statement that all materials or equipment furnished for use in the Project will comply with the samples or certified statements. In addition, the accompanying certificate will include a written narrative explanation itemizing the extent to which the sample deviates from the Specifications or other Contract requirements.

6.4.5 The OWNER will not be required to consider delays in the Work caused by delivery of non-complying materials or equipment, or by late or improper submission test reports or manufacturer's certificates for OWNER approval, as just cause for an extension of the Contract Time. The OWNER's acceptance of any test report, certificate, or sample will be general only and will not constitute a waiver of the OWNER's right to demand full compliance with Contract requirements, nor relieve CONTRACTOR from ensuring full compliance with the Contract.

6.4.6 CONTRACTOR will assign to the OWNER, any rights CONTRACTOR may have to bring antitrust suits against suppliers for overcharges on materials incorporated in the Project growing out of illegal price fixing agreements. CONTRACTOR will cooperate with the OWNER should the OWNER wish to prosecute suits against suppliers for illegal price fixing.

6.4.7. Upon CONTRACTOR's request and the Contract Administrator's written approval, CONTRACTOR may locate stored materials off-site, so long as they are in a bonded and insured facility, accessible to the OWNER, and are clearly marked as OWNER's property.

6.4.8 Title to materials delivered to the Project Site or stored off-site will not be deemed to pass to the OWNER until the OWNER accepts such title by paying for same. The OWNER will be entitled but is not required to request title documentation. Risk of loss will not pass to the OWNER until title passes.

6.5 Concerning Subcontractors, Suppliers, and Others.

6.5.1 CONTRACTOR will retain direct control of and give direct attention to the fulfillment of this Contract. CONTRACTOR agrees not to assign this Contract, by power of attorney or otherwise, without the OWNER's prior written consent.

6.5.2 Unless the Supplemental General Conditions provide otherwise, CONTRACTOR will not subcontract the performance of the entire Project or the supervision and direction of the Work without the OWNER's prior written consent. CONTRACTOR will not employ any subcontractor or other person or organization, whether initially or as a substitute, against whom the OWNER may have reasonable objection. The OWNER will communicate such objections by written notice. CONTRACTOR will not substitute any subcontractor that has been accepted by the OWNER, unless the OWNER first accepts the substitute in writing.

6.5.3 CONTRACTOR will enter into written agreements with all subcontractors and suppliers which specifically bind the subcontractors and suppliers to the applicable terms and conditions of the Contract Documents for the OWNER's benefit. The OWNER reserves the right to specify that certain requirements will be adhered to by all subcontractors and sub-subcontractors as indicated in other portions of the Contract Documents, in which instance these requirements will be made a part of the written agreement between CONTRACTOR and each subcontractor. CONTRACTOR's standard subcontract form is subject to the OWNER's review and approval. Within five working days of the OWNER's request for subcontractor contract documents, CONTRACTOR will provide them to the OWNER.

6.5.4 CONTRACTOR will be fully responsible to the OWNER for all acts and omissions of the subcontractors, suppliers, and other persons and organizations performing or furnishing any of the Work under contract with CONTRACTOR and under contract with CONTRACTOR's subcontractors or suppliers, just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents will create for the benefit of any such subcontractor or other person or organization any contractual relationship between the OWNER and any such subcontractor or other person or organization, nor will it create any obligation on the part of the OWNER or E/A to pay or to see to the payment of any moneys due any such subcontractor or other person or organization except as may otherwise be required by Legal Requirements.

6.5.5 CONTRACTOR will be solely responsible for efficiently scheduling and coordinating the Work of subcontractors and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR in order to avoid any delays or inefficiencies in the prosecution of the Work. CONTRACTOR will require all subcontractors and such other persons and organizations performing or furnishing any of the Work to communicate with the OWNER through CONTRACTOR.

6.5.6 The divisions and sections of the Technical Provisions and the identification of any Plans will not control CONTRACTOR in dividing or delineating the Work to be performed by any specific trade.

6.5.7 CONTRACTOR will pay each subcontractor their appropriate share of payments made to CONTRACTOR not later than ten days of CONTRACTOR's receipt of payment from the OWNER.

6.5.8 To the extent allowed by Florida law, the OWNER will be deemed to be a third party beneficiary to each subcontract and may, if the OWNER elects, following a termination of CONTRACTOR, require that the subcontractor(s) perform all or a portion of unperformed duties and obligations under its subcontract(s) for the benefit of the OWNER, rather than CONTRACTOR; however, if the OWNER requires any such performance by a subcontractor for the OWNER's direct benefit, then the OWNER will be bound and obligated to pay such subcontractor the reasonable value for all Work performed by such subcontractor to the date of the termination of CONTRACTOR, less previous payments, and for all Work performed thereafter. If the OWNER elects to invoke the OWNER's right under this Section, the OWNER will provide notice of such election to CONTRACTOR and the affected subcontractor(s).

6.6 Patent Fees and Royalties.

6.6.1 CONTRACTOR will be responsible at all times for compliance with applicable patents and copyrights encompassing, in whole or in part, any design, device, material, or process utilized, directly or indirectly, in the performance of the Work or the formulation or presentation of its Bid.

6.6.2 CONTRACTOR will pay all royalties and license fees and will provide, prior to commencement of Work hereunder and at all times during the performance of same, for lawful use of any design, device, material or process covered by letters, patent or copyright by suitable legal agreement with the patentee, copyright holder, or their duly authorized representative whether or not the OWNER specifies a particular design, device, material, or process.

6.6.3 CONTRACTOR will defend all suits or claims for infringement of any patent or copyright and will save the OWNER harmless from any loss or liability, direct or indirect, arising with respect to CONTRACTOR's process in the formulation of its Bid or the performance of the Work or otherwise arising in connection therewith. The OWNER reserves the right to provide its own defense to any suit or claim of infringement of any patent or copyright in which event CONTRACTOR will indemnify and save harmless the OWNER from all costs and expenses of such defense as well as satisfaction of all judgments entered against the OWNER.

6.6.4 The OWNER will have the right to stop the Work or terminate this Contract at any time if CONTRACTOR fails to disclose to the OWNER that CONTRACTOR's work methodology includes the use of any infringing design, device, material, or process.

6.7 Permits, Fees. CONTRACTOR will secure and pay for at CONTRACTOR’s expense, all permits and licenses of a temporary nature that are required for the prosecution of the Work; provided, however, that the OWNER will reimburse CONTRACTOR for any CITY-required permits unless specified otherwise in the Supplemental General Conditions.

Unless the Supplemental General Conditions provide otherwise, the OWNER will obtain licenses and easements for permanent structures and or permanent changes in existing facilities.

6.8 Construction Operations.

6.8.1 CONTRACTOR will confine operations at the Project Site to those areas permitted by all Legal Requirements, and will not unreasonably encumber the Project Site with materials and equipment. CONTRACTOR will assume full responsibility for any damage to any portion of the Project Site, or to the owner or occupant thereof or of any adjacent land or areas, resulting from the performance of the Work. If an adjacent property owner or occupant files a claim because of or in connection with the performance of the Work, CONTRACTOR will promptly settle the claim by negotiation or as otherwise provided by law. CONTRACTOR will indemnify, defend and hold harmless the OWNER and anyone directly or indirectly employed by the OWNER, from and against all claims, costs, losses, and damages (including court costs and reasonable attorney’s fees) arising out of or resulting from any claim or action, legal or equitable, brought by any such the owner or occupant against the OWNER, E/A or any other party indemnified hereunder to the extent caused by or based upon performance of the Work or failure to perform the Work.

6.8.2 CONTRACTOR will establish the exterior lines and elevations of all buildings and structures to be erected on the Project Site, and lines and grades of site work such as roads, utilities, and site grading, based on reference points, the location of existing structures and improvements, or benchmarks identified in the site surveys provided by the OWNER. CONTRACTOR will provide a professional certification by a professional engineer or land surveyor as to the actual location of building lines prior to constructing any foundations. CONTRACTOR will establish the building grades, lines, and levels, and column, wall, and partition lines required by subcontractors in laying out the Work. At the completion of the Work, CONTRACTOR will provide another professional certification by a registered engineer or land surveyor as to the location of completed improvements in relation to property lines, building lines, easements, and other boundaries.

6.8.3 CONTRACTOR will not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor will CONTRACTOR subject any part of the Work, the Project Site, or adjacent property to stresses or pressures that will endanger it.

6.8.4 All Work will be performed solely during Working Hours, unless (i) more restrictive hours are required by CITY ordinances or other Legal Requirements governing CONTRACTOR's performance of the Work, or (ii) the Contract Administrator approves expanded Working Hours in writing, such as in the event of emergencies, in which instance the Contract Administrator's approval may be terminated at any time and for any reason without recourse to CONTRACTOR. The OWNER has the right to impose further restrictions on working hours reasonably related to the use of occupied facilities. No delays resulting from compliance with applicable Legal Requirements may form the basis for any claim by CONTRACTOR for delay damages or additional compensation or for any extensions of the Contract Time; any delays arising from restrictions related to the use of occupied facilities are non-compensable and any claims for extensions of the Contract Time relating to them will be filed in accord with Article 11 or the same will be conclusively deemed to have been waived. CONTRACTOR will not permit Work outside of Working Hours without the written consent of the OWNER; such consent, if given, may be conditioned upon payment by CONTRACTOR of the OWNER's additional costs and fees incurred in monitoring such off-hours Work. CONTRACTOR will notify the OWNER as soon as possible if Work will be performed outside such times in the interest of the safety and protection of persons or property at the Project Site or adjacent thereto, or in the event of an emergency. In no event will CONTRACTOR permit Work to be performed at the Project Site without the presence of CONTRACTOR's Superintendent and person responsible for the protection of persons and property at the Project Site and compliance with all Legal Requirements, if different from the Superintendent.

6.8.5 Temporary Utilities. CONTRACTOR, at its own expense, will:

6.8.5.1 Furnish all temporary heat, cooling ventilation, and humidity control including all required apparatus and fuel as may be necessary to protect the Work fully, both during its execution and until Final Completion and acceptance. CONTRACTOR will not use any method of heating, cooling, ventilation, or humidity control of the building unless approved by the OWNER in advance.

6.8.5.2 Provide all temporary on-Site water service required to perform the Work, to assure safety at the Site, and as otherwise required. All temporary services will be removed by CONTRACTOR.

6.8.5.3 Furnish all temporary electric service required to perform the Work, to assure safety at the Site, and as otherwise required.

6.8.5.4 CONTRACTOR will provide and maintain in a neat, sanitary condition such accommodations for the use of CONTRACTOR's employees, subcontractors, and others for whom CONTRACTOR may be responsible, as may be necessary to comply with Legal Requirements, and will commit no public nuisance.

6.8.6 Site Maintenance. During the progress of the Work and on a daily basis, CONTRACTOR will keep the Project Site free from accumulation of waste materials, rubbish, and other debris resulting from the Work. If CONTRACTOR fails to do so in a manner reasonably satisfactory to the OWNER within 48 hours after notice or as otherwise required by the Contract Documents, the OWNER may clean the Project Site and back charge CONTRACTOR for all costs associated with the cleaning. At Substantial Completion, CONTRACTOR will leave the Project Site clean, including but not limited to the cleaning of manholes, inlets, and gravity underground piping systems, and ready for the OWNER's occupancy, and will at this point also remove all temporary buildings, waste, trash, debris, and surplus materials. At Final Completion, CONTRACTOR will remove all tools, appliances, construction equipment, and machinery, in addition to the above-referenced materials, and leave the Project Site clean and ready for OWNER's occupancy. This requirement will not apply to property used for permanent disposal of rubbish or waste materials in accordance with permission for such disposal granted to CONTRACTOR by the OWNER. CONTRACTOR will, at a minimum, restore to original condition all property not designated for alteration by the Contact Documents. If CONTRACTOR fails to clean up at the completion of the Work, the OWNER may do so and the cost thereof will be charged against CONTRACTOR.

6.8.7 Risk of Performance. If CONTRACTOR performs any work involving an apparent error, inconsistency, ambiguity, construction impracticality, omission, or violation of Legal Requirements in the Contract Documents of which CONTRACTOR is aware, or which could reasonably have been discovered by the review required by CONTRACTOR by this Contract, without prompt written notice to the OWNER and the E/A and request

for correction, clarification or additional information, as appropriate, CONTRACTOR does so at its own risk and expense and all claims relating thereafter are specifically waived.

6.9 Legal Requirements.

6.9.1 CONTRACTOR will diligently and promptly call for locates required, in accordance with Sunshine State One Call of Florida requirements.

6.9.2 CONTRACTOR will give all other notices and comply with all other Legal Requirements, including arranging for and obtaining any required inspections, tests, approvals or certifications from any public body having jurisdiction over the Work or any part thereof. Except where these Legal Requirements provide otherwise, neither the OWNER nor the E/A will be responsible for monitoring CONTRACTOR's compliance with any Legal Requirements.

6.9.3 Maintaining clean water, air, and earth or improving thereon will be regarded as of prime importance. CONTRACTOR will plan and execute its operations in compliance with all applicable Legal Requirements concerning control and abatement of water pollution and prevention and control of air pollution, including where applicable the terms and conditions of the CITY's current National Pollutant Discharge Elimination System (NPDES) permit.

6.10 Taxes.

6.10.1 CONTRACTOR will pay only those sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the laws and regulations of the State of Florida in the performance of this Contract.

6.10.2 The OWNER is an exempt organization as defined by Florida Statutes and is therefore exempt from payment of sales and use taxes.

6.11 Maintenance of Records and Documents.

6.11.1 CONTRACTOR will maintain at the Site, available to the OWNER for reference during the progress of the Work, a copy of the current approved Progress Schedule and any approved revisions thereto. CONTRACTOR will keep current records of and mark on a copy of the current approved Progress Schedule the actual commencement date, progress, and completion date of each scheduled activity indicated on the Progress Schedule.

6.11.2 CONTRACTOR will maintain in a safe place at the Project Site, or other location acceptable to the OWNER, one record copy of all Drawings, Specifications, Addenda, Change Instruments and written interpretations and clarifications issued pursuant to this Contract (collectively, "Record Documents") in good order and annotated to show all changes made during construction. The Record Documents and all final samples and final Shop Drawings will be available to the OWNER and E/A for reference during performance of the Work. Upon Substantial Completion of the Work, CONTRACTOR will deliver these Record Documents, and final samples and Shop Drawings, to the OWNER.

6.11.3 To the extent applicable, CONTRACTOR will comply with the requirements of Florida Statutes Section 119.0701, which include the following:

6.11.3.1 Keeping and maintaining public records that the CITY requires for performance of the service provided herein.

6.11.3.2 Upon the request of the City Clerk of the CITY, (i) providing the City Clerk with a copy of requested public records or (ii) allowing inspection or copying of the records, within a reasonable time after receipt of the CITY Clerk's request, at a cost that does not exceed the cost provided in Ch. 119, Florida Statutes, or as otherwise provided by law.

6.11.3.3 Ensuring that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law until completion of this Contract, and following such completion if CONTRACTOR fails to transfer such records to the CITY.

6.11.3.4 Upon completion of this Contract, keep and maintain public records required by the CITY to perform the service. CONTRACTOR will meet all applicable requirements for retaining public records. All records stored electronically must be provide to the CITY upon request from the CITY Clerk, in a format that is compatible with the CITY's information technology systems.

6.11.3.5 IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTRACTOR MUST CONTACT THE CITY CLERK, WHOSE CONTACT INFORMATION IS AS FOLLOWS:

(Phone)	386 671-8023
(Email)	clerk@codb.us
(Address)	301 S. Ridgewood Avenue Daytona Beach, FL 32114

6.11.4 Nothing herein will be deemed to waive CONTRACTOR's obligation to comply with Section 119.0701(3)(a), Florida Statutes, as amended by Chapter 2016-20, Laws of Florida (2016).

6.12 Safety and Protection.

6.12.1 CONTRACTOR will be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Upon request, and prior to installation of measures, CONTRACTOR will submit a site security plan to the OWNER. By reviewing the plan or making recommendations or comments, the OWNER will not assume liability nor will CONTRACTOR be relieved of liability for damage, injury, or loss. CONTRACTOR will take all necessary precautions for the safety of and will provide the necessary protection to prevent damage, injury, and loss to:

6.12.1.1 The public;

6.12.1.2 All persons on the Project Site or who may be affected by the Work;

6.12.1.3 All the Work and materials and equipment to be incorporated therein, whether in storage on or off Project Site; and

6.12.1.4 Other personal property, fixtures and other items at the Project Site or adjacent thereto, including, but not limited to, trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction.

6.12.2 CONTRACTOR will comply with the Occupational Safety and Health Administration's (OSHA) Excavation Safety Standard, 29 U.S.C § 651 et seq., 29 C.F.R. 1926.650 Sub Part P., and the Trench Safety Act, Section 553.60 et seq. In addition CONTRACTOR will comply with all other applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss, and will erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR will notify owners of adjacent property and of underground facilities, and utility owners when prosecution of the Work may affect them, and will cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in Subparagraphs 6.12.1.3 and 6.12.1.4, above, caused, directly or indirectly, in whole or in part, by CONTRACTOR, any subcontractor, or any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, will be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or

Specifications or to the acts or omissions of the OWNER, or E/A, or anyone employed by any of them or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the faults or negligence of CONTRACTOR or any subcontractor, supplier or other person or organization directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and protection of the Work will continue until such time as all the Work is completed and the OWNER has issued a Certificate of Final Completion (except as otherwise expressly provided in connection with Substantial Completion). Without limitation, CONTRACTOR will comply with the following specific provisions:

6.12.3 CONTRACTOR will designate in writing a qualified and experienced safety representative at Project Site whose duties and responsibilities will be the prevention of accidents and the maintaining and supervising of safety precautions and programs. Upon request of the OWNER, CONTRACTOR will provide certifications or other documentation of the safety representative's qualifications.

6.12.4 CONTRACTOR will be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at Project Site in accordance with Legal Requirements.

6.12.5 CONTRACTOR will comply with the following requirements in emergencies:

6.12.5.1 In emergencies affecting the safety or protection of persons or the Work at Project Site or adjacent thereto, CONTRACTOR, without special instruction or authorization from the OWNER or E/A, is obligated to act reasonably to prevent threatened damage, injury or loss and to mitigate damage or loss to the Work. CONTRACTOR will give the OWNER telephone notification as soon as reasonably practical and a prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the express provisions of this Contract Documents have been caused thereby. If the OWNER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Change Order will be issued; otherwise the OWNER will not be responsible for CONTRACTOR's emergency action.

6.12.5.2 Authorized agents of CONTRACTOR will respond immediately to call-out at any time of any day or night when circumstances warrant the presence on Project Site of CONTRACTOR or his agent to protect the Work or adjacent property from damage, restriction or limitation or to take such action or measures pertaining to the Work as may be necessary to provide for the safety of the public. Should CONTRACTOR or CONTRACTOR's agent fail to respond and take action to alleviate such an emergency situation, the OWNER may direct other forces to take action as necessary to remedy the emergency condition, and the OWNER will deduct any cost of such remedial action from the funds due CONTRACTOR under this Contract.

6.12.5.3 If there is an accident involving injury to any individual or damage to any property on or near the Work, CONTRACTOR will provide to the Contract Administrator verbal notification within one hour and written notification within 24 hours of the event and will be responsible for recording the location of the event and the circumstances surrounding the event through photographs, interviewing witnesses, obtaining medical reports, police accident reports and other documentation that describes the event. CONTRACTOR will provide the OWNER copies of such documentation within 48 hours of the event.

6.12.5.4 CONTRACTOR will cooperate with the OWNER in any investigation of any such incident. CONTRACTOR will immediately report such incidents to any other governmental or quasi-governmental authorities having jurisdiction over safety-related matters as may be required by law.

6.13 Indemnification.

6.13.1 Any obligation of CONTRACTOR to indemnify or hold harmless under this Contract will not be limited in any way by any limitation on the amount or type of damages, or compensation or benefits payable by or for CONTRACTOR or any such subcontractor, supplier, or other person or organization for whom CONTRACTOR may be responsible under workers' compensation acts, disability benefit acts, or other employee benefit acts.

6.13.2 Any obligation of CONTRACTOR to indemnify and hold harmless under this Contract, will not extend to the liability of the OWNER, E/A, E/A's consultants, and their officers, directors, partners, employees or

agents, when caused primarily by negligent preparation of maps, drawings, surveys, designs or specifications upon which is placed the applicable state-authorized design professional seal of the OWNER, E/A, or OWNER's or E/A's consultant's, officers, directors, partners, employees or agents.

6.13.3 If CONTRACTOR fails to follow the OWNER's directives concerning use of Project Site, scheduling or course of construction, or engages in other conduct which proximately causes damage to property based on inverse condemnation or otherwise, then and in that event, CONTRACTOR will indemnify the OWNER against all costs resulting from such claims.

6.13.4 If CONTRACTOR unreasonably delays progress of the Work being done by others on Project Site so as to cause loss for which the OWNER becomes liable, then CONTRACTOR will indemnify the OWNER from and reimburse the OWNER for such loss.

6.14 Survival of Obligations. All representations, indemnifications, warranties and guarantees made in, required by or given in accordance with this Contract, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the Work and termination or completion of the Contract.

6.15 Losses from Natural Causes. Unless otherwise specified, all loss or damage to CONTRACTOR arising out of the nature of the Work to be done or from action of the elements, floods or from unforeseeable circumstances in prosecution of the Work or from unusual obstructions or difficulties which may be encountered in prosecution of the Work, will be sustained and borne by CONTRACTOR at its own cost and expense.

6.16. Notice of Claim. Should CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of OWNER or of any of OWNER's employees or agents or others for whose acts OWNER is liable, CONTRACTOR must file a claim within 30 calendar days of the event giving rise to such injury or damage. The provisions of this Section will not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or statute of repose.

6.17 Financial Records.

6.17.1 For purposes of this Section 6.17, "financial records" means all records generated by or on behalf of CONTRACTOR and each Subcontractor and supplier of CONTRACTOR, whether paper, electronic, or other media, which are in any way related to performance of or compliance with this Contract, including, without limitation:

.1 Accounting records;

.2 Written policies and procedures;

.3 Subcontract files (including proposals of successful and unsuccessful Bidders, Bid recaps, etc.);

.4 Original estimates and estimating work sheets;

.5 Correspondence;

.6 Change Order files (including documentation covering negotiated settlements);

.7 Back charge logs and supporting documentation;

.8 General ledger entries detailing cash and trade discounts earned, insurance rebates and dividends;

.9 Lump sum agreements between CONTRACTOR and any Subcontractor or supplier;

.10 Records necessary to evaluate: Contract compliance, Change Order pricing, and any Claim submitted by CONTRACTOR or any of its payees; and

.11 Any other CONTRACTOR record that may substantiate any charge related to this Contract.

6.17.2 CONTRACTOR will allow the OWNER, and the OWNER's authorized representatives, to inspect, audit, and reproduce all Records generated by or on behalf of CONTRACTOR and each subcontractor and supplier, upon the OWNER's written request. Further, CONTRACTOR will allow the OWNER, and the OWNER's authorized representatives, to interview any of CONTRACTOR's employees, all Subcontractors, all suppliers, and all of their respective employees.

6.17.3 CONTRACTOR will retain all its Records, and require all its subcontractors and suppliers to retain their respective Records, during this Contract and for three years after final payment, until all audit and litigation matters that the OWNER has brought to the attention of CONTRACTOR are resolved, or as otherwise required by law, whichever is longer. The OWNER's right to inspect, audit, or reproduce Records, or interview employees of CONTRACTOR or its respective subcontractors or suppliers, exists during this Contract, and for three years after final payment, until all audit and litigation matters that the OWNER has brought to CONTRACTOR's attention are resolved, or as otherwise required by law, whichever is longer, and at no cost to the OWNER, either from CONTRACTOR or any of its subcontractors or suppliers that may furnish Records or make employees available for interviewing.

6.17.4 CONTRACTOR must provide sufficient and accessible facilities during its normal business hours for the OWNER to inspect, audit, or reproduce Records, or all three, and to interview any person about the Records.

6.17.5 CONTRACTOR must insert these requirements in each written contract between CONTRACTOR and any subcontractor or supplier and require each subcontractor and supplier to comply with these provisions.

ARTICLE 7 - OTHER WORK

7.1 Coordinating Other Work. The OWNER may perform other work related to the Project at Project Site by the OWNER's own forces, or let other contracts for the Project or Project Site, or have other work performed by utility owners. CONTRACTOR and the OWNER agree to and will use best efforts to cooperate and coordinate the Work with others performing work and other work related to the Project in order to avoid conflicts and delays in the Work. If CONTRACTOR believes that delay or additional cost is involved because of such action by the OWNER, CONTRACTOR may make a Claim as provided in Article 11.

7.2 Proper and Safe Access by Other Contractors. CONTRACTOR will afford other contractors and each utility owner (and the OWNER, if the OWNER is performing the additional work with the OWNER's employees) proper and safe access to the Project Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and will properly connect and coordinate the Work with theirs. CONTRACTOR will do all cutting, fitting, patching, and finishing of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR will not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the OWNER and the other contractors whose work will be affected. CONTRACTOR will promptly remedy damage wrongfully caused by CONTRACTOR to completed or partially completed construction or to property of the OWNER or separate contractors.

7.3 CONTRACTOR's Inspection and Reports. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR will inspect such other work and promptly report to the OWNER in writing any delays, defects or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure to report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent or non-apparent defects and deficiencies in such other work.

7.4 Progress Schedules. The OWNER will provide for coordination of the activities of the OWNER's own forces, of each separate CITY contractor, and of any other utility owners performing work in relation to the Work of CONTRACTOR, who will cooperate with them. CONTRACTOR will participate with the OWNER any other contractors retained by the OWNER, in reviewing their construction progress schedules when directed to do so. On the basis of such review, CONTRACTOR will make any revisions to the current approved Progress Schedule deemed necessary after a joint review and mutual agreement. The agreed-upon progress schedules will then

constitute the progress schedules to be used by CONTRACTOR, the OWNER, and any other contractor retained by the OWNER until subsequently revised.

7.5 Improper Timing or Delays. Costs caused by delays or by improperly timed activities or defective construction will be borne by the party responsible therefore.

ARTICLE 8 – WARRANTIES

8.1 General Warranty.

CONTRACTOR warrants that the Work and all of its components will be free from defects and flaws in design, workmanship, and materials for the duration of the General Warranty Period described below; will strictly conform to the requirements of the Contract; and will be fit, sufficient and suitable for the purposes expressed in, or reasonably inferred from, the Contract. This general warranty is in addition to any other warranties expressed or implied by law, which are hereby reserved unto the OWNER.

8.1.1 General Warranty Period. The General Warranty Period will be one year from Substantial Completion, except for those items of equipment or those aspects of work placed in service or approved by the OWNER after Substantial Completion, in which instance the warranty for the particular equipment or aspect of work will be one year from the date of OWNER approval; provided, however, that the General Warranty Period for particular equipment placed in continuous service before Substantial Completion may start to run from an earlier date, if expressly provided in this Contract.

8.1.2 Duty to Correct. CONTRACTOR will correct any and all defects that defects in material or workmanship which may appear during the General Warranty Period, even if discovered after the General Warranty Period, by repairing (or replacing with new items or new materials, if necessary) any such defect at no cost to the OWNER, within a reasonable period of time, and to the OWNER's satisfaction.

8.1.3 General Warranty is Absolute. The only exceptions to the General Warranty will be defects or damage caused by abuse, modification or improper maintenance or operation by persons other than CONTRACTOR or CONTRACTOR's subcontractors, sub-subcontractors or suppliers; or normal wear and tear under normal usage. In all other respects the General Warranty will be absolute.

8.2 Special Warranties. CONTRACTOR will furnish all additional special warranties required by this Contract no later than Substantial Completion. The OWNER may require special warranties in connection with the approval of accepted equals and other substitute materials, equipment, methods, and procedures, and in connection with Work which is defective or nonconforming.

8.3. Limitation as to Certain Equipment. As to any equipment which the OWNER has reserved the sole right to have installed, the Warranties under this Article 8 will extend to ensure that the equipment is installed according to the Plans and Technical Provisions, and that any manufacturer or product warranties are conveyed to the OWNER; but in such instance CONTRACTOR will not be held liable for the operating performance of such equipment.

8.4 Relation to Specific Correction Provisions and Other Remedies. CONTRACTOR's general warranty and any additional or special warranties are not limited by CONTRACTOR's obligations to specifically correct Defective/Nonconforming Work, nor are they limited by any other remedies provided in the Contract Documents. CONTRACTOR will also be liable for any damage to property or persons (including death), including consequential and direct damages, relating to any breach of the General Warranty or any additional or special warranties required.

8.5 Third Party Warranties. CONTRACTOR will obtain and assign or transfer to the OWNER, all product warranties available from manufacturers or suppliers of materials to be used in the Project. CONTRACTOR will also obtain and assign or transfer to OWNER, any additional third party warranties as to materials or methods as specified in the Contract Documents. The OWNER's acceptance of any assigned warranties or guaranties will be a precondition to final payment and will not relieve CONTRACTOR of any of CONTRACTOR's guaranty or warranty obligations under this Contract.

ARTICLE 9 – E/A'S STATUS DURING CONSTRUCTION

9.1 Applicability. The provisions of this Article will apply only where the Contract Documents specifically authorize a consultant of the OWNER to act as the E/A to review and modify Technical Provisions, Plans, and other technical specifications associated with the Work. In all instances in which there is no such specific authorization, the provisions of this Article will have no effect, and any authorization or delegation within the Contract Documents to the E/A, will be deemed to be to the Contract Administrator. In addition, where the Contract Documents contain language specifically authorizing a consultant of the OWNER to act as E/A, the OWNER retains the right to assign or assume such authority upon written notice to CONTRACTOR.

9.2 The OWNER's Sole Benefit. The assignment, if any, of any authority, duties or responsibilities to the E/A under this Contract, or under any agreement between the OWNER and the E/A, or any undertaking, exercise or performance thereof by the E/A, is intended to be for the sole and exclusive benefit of the OWNER and not for the benefit of CONTRACTOR, subcontractor, supplier, or any other person or organization, or for any surety or employee or agent of any of them.

9.3. CONTRACTOR Remains Responsible. The E/A will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto. The E/A is not responsible for any failure of CONTRACTOR to comply with laws and regulations applicable to the furnishing or performing the Work. The E/A is not responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with this Contract. Failure or omission of the E/A to discover, or object to or condemn any defective Work or material will not release CONTRACTOR from the obligation to properly and fully perform the Contract.

9.3.1 The E/A is not responsible for the acts or omissions of CONTRACTOR, or of any subcontractor, any supplier, or of any other person or organization performing or furnishing any of the Work.

9.3.2 If the OWNER and E/A agree, the E/A will review each Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests and approvals and other documentation required to be delivered, but only to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests and approvals that the results certified indicate compliance with, this Contract.

9.4 Applicability to E/A's Agents. The limitations upon authority and responsibility set forth in this Article 9 will also apply to the E/A's consultants, Resident Project Representative and assistants.

9.5 Visits to Project Site. If the OWNER and E/A agree, the E/A will make visits to the Project Site at intervals appropriate to the various stages of construction as E/A deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, the E/A will endeavor for the benefit of the OWNER to determine, in general, if the Work is proceeding in accordance with this Contract. The E/A will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The E/A's efforts will be directed toward providing for the OWNER a greater degree of confidence that the completed Work will conform generally to this Contract. On the basis of such visits and on-site observations, E/A will keep the OWNER informed of the progress of the Work and will endeavor to guard the OWNER against Defective Work. The E/A's visits and on-site observations are subject to all the limitations on the E/A's authority and responsibility set forth in this Article 9.

9.6 Resident Project Representative. If the OWNER and E/A agree, E/A will furnish a Resident Project Representative to assist the E/A in providing more continuous observation of the Work. The responsibilities and authority and limitations of any such Resident Project Representative and assistants will be as provided in this Article 9 and in the Supplemental General Conditions. The OWNER may designate another representative or agent to represent the OWNER at Project Site who is not the E/A, E/A's consultant, agent or employee.

9.7 Clarifications and Interpretations. The E/A may determine that written clarifications or interpretations of the requirements of the Technical Provisions (in the form of drawings or otherwise) are necessary. Such written clarifications or interpretations will be consistent with the intent of and reasonably inferable from the Contract Documents, will be issued with reasonable promptness by the OWNER and will be binding on the OWNER and CONTRACTOR. If the OWNER or CONTRACTOR believes that a written clarification or interpretation justifies an adjustment in the Contract Price or the Contract Times, the OWNER or CONTRACTOR may make a Claim therefore as provided in these General Conditions.

9.8 Recommendations as to Defective Work. The E/A will recommend that the OWNER disapprove or reject Work which the E/A believes to be defective, or believes will not produce a completed Project that conforms to this Contract or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by this Contract.

ARTICLE 10 – ACCEPTED EQUALS AND SUBSTITUTIONS

10.1 Accepted Equals. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item, the specification or description is intended to require the item named, unless the Contract Documents, in specifying the name, specifically authorize the use of functionally equivalent item through the use of terms such as “as equal,” “or equal,” or “equivalent.” For purposes herein, an item is only “functionally equivalent” if it is available at the same or lower cost, and if it is sufficiently similar to the item specified, including as to durability, warranty, acquisition time, and availability, so that no change in related Work will be required, and no change in the useful life, maintenance, repair cost, or quality of the completed work is anticipated.

10.2 CONTRACTOR May Propose Substitutions. CONTRACTOR may propose a substitution for any item of material or equipment, and for any means, method, technique, sequence, or procedure of construction, specified in the Contract Documents. CONTRACTOR’s will propose such substitutes at CONTRACTOR’s sole cost and expense, and at CONTRACTOR’s sole risk as to disruptions to the Critical Path of the current approved Progress Schedule. CONTRACTOR will provide OWNER sufficient data and documentation to allow the OWNER to review the proposal.

10.3 OWNER’s Evaluation. The OWNER will be allowed a reasonable time within which to evaluate each proposal made by CONTRACTOR pursuant to this Section. The OWNER will be the sole judge of acceptability. No accepted equal or substitute will be ordered, installed, or utilized until the OWNER’s review is complete, which will be evidenced by a Change Instrument. The OWNER may require CONTRACTOR to furnish at CONTRACTOR’s expense a special performance guarantee or other surety bond with respect to any accepted equal or substitution or for any other delay or disruption to the Critical Path of the Project Schedule attributable to any such substitution. The OWNER will not be responsible for any delay due to review time for any proposed substitution, unless such an extension is due to CONTRACTOR, consistent with the requirements of this Contract for changes and delays. The OWNER will not be responsible for increased costs associated with the review or approval of a proposed substitution, unless the increase is required as provided in association with changes and delays. In any event, no such extension or increase will be deemed provided unless specified in the Change Instrument approving the substitution.

10.4 CONTRACTOR to Remain Responsible. The OWNER’s acceptance of a substitution will not relieve CONTRACTOR from primary responsibility and liability for the suitability and performance of any proposed substitute item or substituted method or procedure, and will not relieve CONTRACTOR from its primary responsibility and liability for curing Defective Work and performing warranty work, which CONTRACTOR will cure and perform, regardless of any claim CONTRACTOR may choose to advance against the OWNER or manufacturer.

ARTICLE 11 – DELAYS AND ADJUSTMENTS TO CONTRACT TIME AND CONTRACT PRICE

11.1 Delay. Delays are classified in one of the following categories:

11.1.1 An excusable delay is a delay caused by a Force Majeure event. An excusable delay may entitle CONTRACTOR to an extension of Contract Time but not an increase in Contract Price.

11.1.2 A compensable delay is a delay which is caused solely and exclusively by acts or omissions of the OWNER, excepting actions taken by the OWNER to protect the public health or safety or to conform to law. A compensable delay may entitle CONTRACTOR to both an extension of Contract Time and an increase in Contract Price.

11.1.3 An unexcused delay is any delay other than an excusable or compensable delay. An unexcused delay entitles CONTRACTOR to no adjustment to Contract Time or Contract Price.

11.2 Events Not Constituting a Delay. The following events will not be considered an excusable delay of any kind even though they are not anticipated by CONTRACTOR, not within CONTRACTOR's control, and are not reasonably foreseeable:

11.2.1 Events that pose no delay to items of Work on the Critical Path of the current approved Progress Schedule.

11.2.2 Events that would not prevent CONTRACTOR from achieving Final Completion before the expiration of the Contract Time, where CONTRACTOR may otherwise accelerate other items of Work without undue expense.

11.2.3 Weather, unless the weather is more severe than the adverse weather normally anticipated for the Project Site for the month in question, based on a generally accepted source of data such as the National Weather Service.

11.2.4 Events, including actions of the OWNER, that impact Critical Path activity, because the activity was previously delayed due to unexcused delays.

11.3 Notice of Delay Required. CONTRACTOR will provide written notice of any actual or prospective delay promptly, and in no event later than ten days after the occurrence of the event giving rise to such delay. CONTRACTOR will give the notice to both the E/A and the Contract Administrator within the specified time. In the case of a continuing delay, CONTRACTOR will provide an initial notice and a further notice at each progress meeting throughout the duration of the delay. The notice will contain all of the specific information required in the following Subsection.

11.4 Contents/Supporting Documents. CONTRACTOR's notice of delay will identify those portions of the current approved Progress Schedule affected by the delay and will include an estimate of the cost and probable effect of the delay, if any, on the progress of the Work. Supporting documentation will include, but is not limited to:

11.4.1 A written detailed statement of the reasons and causes for the delay;

11.4.2 Inclusive dates of the delay;

11.4.3 Specific trades and portions of the Work affected by the delay;

11.4.4 Status of Work affected before commencement of the delay;

11.4.5 Effect of the delay on available "float" time;

11.4.6 A Critical Path Method (CPM) analysis demonstrating that the delay has affected an activity then on the Critical Path at the time of the occurrence of the delay as shown on the most current approved Progress Schedule; and

11.4.7 If CONTRACTOR claims that the delay is an excusable delay or compensable delay, evidence that the delay was unforeseeable, beyond CONTRACTOR's control, and without the fault or negligence of CONTRACTOR or the negligence of anyone for whose acts CONTRACTOR is responsible including any subcontractor, sub-subcontractor or supplier; and in the case of a compensable delay, was caused solely and

exclusively by the acts or omissions of the OWNER (excepting actions taken by the OWNER to protect the public health or safety or to conform to law) or anyone for whose acts the OWNER is responsible, and which are unreasonable under the circumstances involved and not reasonably within the contemplation of the parties.

11.5 Failure to Comply with Notice Requirements. The notice required by this Article 11 operates as a condition precedent to the assertion of any claim for extension of Contract Time, increase in Contract Price, or damages by CONTRACTOR. If CONTRACTOR fails to give the OWNER timely written notice of a claim as required by this Article 11, CONTRACTOR will be deemed to have waived the claim, and the OWNER will have no further liability respecting the claim.

11.6 Review and Adjustment of Schedules. Upon receipt of a notice from CONTRACTOR of the occurrence of a delay complying with the requirements of this Article, the OWNER will review the current approved Progress Schedule to determine (i) whether the delay is in fact an excusable or compensable delay, and (ii) whether any adverse effects of the delay can be overcome by an adjustment in the Progress Schedule, including the application of any unused "float" time available in the Schedule. The OWNER may require CONTRACTOR to submit a more detailed Progress Schedule than previously required in order to permit the OWNER to evaluate the delay. Based on such review, CONTRACTOR will, if required by the OWNER, submit for the OWNER's approval a revised Progress Schedule, which minimizes the adverse effects of the delay.

11.7 Limitation on Adjustments Due to Delays Generally. No extension of the Contract Time or increase in the Contract Price will be allowed for an unexcused delay. No extension of the Contract Time or increase in the Contract Price will be made to the extent that performance is, was or would have been suspended, delayed or interrupted by another cause for which CONTRACTOR is responsible. No increase in the Contract Price will be made to the extent performance was or would have been suspended, delayed or interrupted by another cause for which the OWNER is not solely and exclusively responsible.

11.8 Additional Limitations on Adjustments to Contract Time Due to Delays. No extension of Contract Time will be provided where, notwithstanding a Force Majeure event or other claimed delay, CONTRACTOR may achieve Final Completion within the Contract Time through adjustments to the current approved Progress Schedule.

11.9 Additional Limitations on Adjustments to Contract Price Due to Delays. Any obligation on the part of the OWNER to pay CONTRACTOR for compensable delay is solely intended to reimburse CONTRACTOR for actual expense arising out of the compensable delay. No consequential damages will be allowed to CONTRACTOR in connection with any claimed delays. Damages for compensable delay will be determined by the Force Account method set forth in Subsection 13.3.2.

11.9.1 Standby equipment costs will not be allowed during periods when the equipment would have otherwise been idle. Standby equipment time will not exceed more than eight hours per day, 40 hours per week, and 176 hours per month. Standby equipment costs will be paid at 50 percent of the applicable Rental Rate Blue Book rates and calculated by dividing the monthly rate by 176, multiplying the result by the number of standby hours and multiplying that number by the regional adjustment factor and the rate adjustment factor contained in the Blue Book. Operating costs will not be allowed.

11.10 Liquidated Damages Due to CONTRACTOR's Delays. Liquidated Damages, if any, are set forth in the Contract form.

11.11 No Damages are Due to CONTRACTOR for Prevention of Early Completion. CONTRACTOR represents that its Bid includes all costs, overhead and profit which may be incurred throughout the Contract Time, including the period between Substantial and Final Completion. Accordingly, CONTRACTOR may not make any claim for delay damages based in whole or in part on the premise that CONTRACTOR would have completed the Work prior to the expiration of the Contract Time but for any claimed delay.

11.12 Acceleration to Avoid Delays. If CONTRACTOR's progress is not maintained in accordance with the current approved Progress Schedule, or the OWNER determines that CONTRACTOR is not diligently proceeding with the Work or has evidence reasonably indicating that CONTRACTOR will not be able to conform to the current approved Progress Schedule, CONTRACTOR will, promptly and at no additional cost to the OWNER, take all

measures necessary to accelerate its progress to overcome the delay and ensure that there will be no further delay in the progress of the Work and notify the OWNER thereof. Any extension of working hours requires approval of the OWNER, which will not be unreasonably withheld but may be subject to reasonable conditions including payment for additional or overtime services of the OWNER the Architect/Engineer and any other applicable consultants, testing or regulatory agency costs.

ARTICLE 12 – CHANGES

12.1 Materially Different Site Conditions. For purposes herein, "materially different site conditions" means conditions that are different from those indicated in the Contract Documents, that are unknown to CONTRACTOR, and that could not be reasonably anticipated based upon on the following: (i) typical soil or subsurface conditions for the area in which the Project Site is located; (ii) site visits CONTRACTOR made, or was encouraged or permitted to make by the Bid Documents, prior to Bid submission; or (iii) a careful review of any Site-Related Reports.

12.1.1 CONTRACTOR may be entitled to an increase in Contract Time for materially differing site conditions as an excusable delay as provided in Article 11, subject to the exclusions and conditions of that article including notice requirements.

12.1.2 CONTRACTOR may also be entitled to an increase in Contract Price for materially different site conditions, where these conditions will require additional labor or materials, or both, exceeding the amount estimated in the Schedule of Values or Bid Schedule, as applicable, by 5% or more, provided, that CONTRACTOR complies with the notice requirements in Section 12.3. In such instance, the basis for adjusting Contract Price is set forth in Section 13.3.

12.2 Materially Different Structural Conditions (Remodeling or Renovation Contracts). If this is a Contract for a remodeling or renovation of an existing structure and CONTRACTOR encounters materially different conditions in the structure (not as to the Site or subsurface conditions) from those indicated in the Contract Documents provided by the OWNER as part of the Bid or Proposal Documents, CONTRACTOR will give written notice thereof to the OWNER and the E/A promptly before conditions are disturbed and in no event later than ten days after first observing such conditions. Failure of CONTRACTOR either (i) to provide notice before disturbing the existing conditions or (ii) failure to give notice within ten days of first observing such conditions is conclusively deemed a waiver of any claim relating to such conditions.

12.2.1 Investigation and Determination. The E/A will promptly investigate any alleged differing conditions as to the structure (but not as to the Site or subsurface conditions) and provide a written report of its findings to the OWNER. If the OWNER finds that the conditions of the structure differ materially and require a change in the Work and cause an increase or decrease in CONTRACTOR's cost of, or time required for, performance of any part of the Work, the OWNER may make an adjustment in the amount payable to CONTRACTOR or the Contract Time, as applicable. If the OWNER determines that the conditions of the structure are not materially different or that no change in the terms of the Contract is justified, the OWNER will so notify CONTRACTOR in writing.

12.3 Constructive Changes and Disputed Adjustments.

12.3.1 Notice to the OWNER and E/A. CONTRACTOR will advise the OWNER and the E/A in writing promptly and in no event later than ten days after (i) issuance of any interpretation, clarification, instruction, direction or order whether orally or in writing from either the OWNER or the E/A, or (ii) the occurrence of any event or discovery of any condition (including any condition as provided in Section 12.1 and if applicable, 12.2), which CONTRACTOR believes or has reason to believe entitles CONTRACTOR to an increase in the amount payable to CONTRACTOR or an extension of the Contract Time; and except in the case of an emergency involving possible loss of life or bodily injury or significant property damage, the required written notice will be provided prior to proceeding with the Work. Failure of CONTRACTOR to provide such notice constitutes an acceptance of the interpretation, clarification, instruction, direction, order, event, or condition without adjustment to the Contract Price or the Contract Time and a conclusive waiver of any claim relating to the same. In order to be valid, a claim for an adjustment of Contract Price or Contract Time must contain the specific adjustment requested and must be supported by a detailed explanation of the basis for the claim. In addition to be valid, a claim for increase in

Contract Time must be supported by the documentation specified in Subsection 11.4, and a claim for an increase in the Contract Price must be documented and calculated as specified in Subsection 13.3.2. Failure of CONTRACTOR to object as and when specified in this Subsection is deemed an acceptance of interpretation, clarification, instruction, direction or order as issued and a waiver of any claim by CONTRACTOR to any adjustment to the Contract Price or the Contract Time.

12.3.2 Disputed Adjustments. All disputed adjustments under this Contract will be determined in accordance with the Contract, Article IX if, as conditions precedent thereto, CONTRACTOR has timely provided all notices and objections required under the terms of the Contract.

ARTICLE 13 - CHANGE INSTRUMENTS

13.1 Introduction.

13.1.1 The OWNER may issue a Change Instrument to require changes in the Work without invalidating the Contract.

13.1.1.1 A Field Directive may be issued to require minor changes in the Work that, in the OWNER's view, do not change the Scope of Work, present a delay, or require an adjustment to Contract Time or Contract Price. Examples of such situations where Field Directives may be appropriate are unanticipated field conditions or unavailability of specified materials and equipment.

13.1.1.2 All other changes to the Work will require the issuance of a Change Order issued in conformance with these General Conditions.

13.2 Change Order Required for Contract Time and Contract Price Adjustments. Adjustments to Contract Time or Contract Price will be granted only through a properly-issued Change Order.

13.3 Change Orders Adjusting Contract Price. All Change Orders adjusting Contract Price will be invalid unless approved in accordance with the authority provided by the Purchasing Code.

13.3.1 Basis for Contract Price Adjustment. Subject to any federal procurement standards that may apply if the Project is a federally funded project, in which case the standards will govern to the extent of conflict, a Change Order may provide for an adjustment in the Contract Price based only on one of the following methods:

13.3.1.1 Unit Prices as stated in the Bid Schedule.

13.3.1.2 A fixed not-to-exceed or lump sum agreed to by the OWNER and CONTRACTOR and stated in the Change Order, properly itemized and supported by sufficient substantiating data to permit evaluation which will be limited to estimated costs of labor, materials, supplies and equipment, rental cost of machinery and equipment, additional bond cost, plus a fixed fee for profit and overhead (which includes office overhead and site-specific overhead and general conditions) of 10% if the Work is performed by CONTRACTOR, or 5% if the Work is performed by a subcontractor or sub-subcontractor. The subcontractors' or sub-subcontractors' overhead and profit in turn will not exceed 10%. The total percentage of overhead and profit payable by the OWNER (to both CONTRACTOR and all sub tier subcontractors), regardless of the sub-tier which performs the work, will not exceed 15%.

13.3.3.3 Actual costs, properly itemized, plus a profit factor, using the Force Account method set forth in Section 13.3.2.

13.3.3.4 In the absence of an agreement between the OWNER and CONTRACTOR, the OWNER will determine the amount of the Contract Price Adjustment using any of the methods outlined in Subsections 13.3.1.1 – 13.3.1.3, above, whichever will result in the lowest cost to the OWNER.

13.3.3.5 No cost will be included in a Change Order for time spent preparing the Change Order, nor will costs be included for an estimate of time to negotiate the Change Order costs for machinery, tools, or equipment.

13.3.2 Force Account Method for Contract Price Increases. Before using the Force Account method provided for herein, the OWNER and CONTRACTOR agree to negotiate a Change Order using the other methods identified in Subsection 13.3.1, above, as appropriate, to determine the adjustment in the Contract Price. If neither of these methods can be agreed upon before a change in the Work is commenced which will result in an adjustment in the Contract Price, then the change in the Work will be performed by a Change Order using the Force Account method, and payment will be made as follows:

13.3.2.1 For all personnel, CONTRACTOR will receive actual field cost wage rates for each hour that said personnel are actually engaged in such Work, as substantiated by its certified payroll, to which will be added an amount equal to 15% of the sum thereof as compensation for CONTRACTOR's and any effected subcontractor's total overhead and profit. No separate charge will be made by CONTRACTOR or its subcontractor(s) for organization or overhead expenses. CONTRACTOR will also receive an amount equal to 55% of the wages paid personnel, excluding the 15% compensation provided above, for CONTRACTOR's and any effected subcontractor's cost of premiums on liability insurance, workers' compensation insurance, social security and unemployment insurance. The actual cost of CONTRACTOR's bond(s) on the extra Work will be paid based on invoices from surety. No charge for superintendence will be made unless considered necessary and ordered by the OWNER.

13.3.2.2 CONTRACTOR will receive the actual cost, including freight charges, of the materials used and installed on such Work, to which costs will be added a sum equal to 20% thereof as compensation for CONTRACTOR's and any effected subcontractor's total overhead and profit. In case material invoices indicate a discount may be taken, the actual cost will be the invoice price minus the discount.

13.3.2.3 For machinery, trucks, power tools, or other similar equipment (the "equipment") agreed to be necessary by the OWNER and CONTRACTOR, the OWNER will allow CONTRACTOR the applicable daily, weekly or monthly rate as given in the latest edition of the "Rental Rate Blue Book" as published by EquipmentWatch (1-800-669-3282) for each hour that said equipment is in use on such work, which rate includes the cost of fuel, lubricants and repairs. The established equipment rates will be paid for each hour that the equipment is utilized in the Work. If the equipment is used intermittently during the Work, full payment for an eight-hour day will be made if the equipment is not idle more than four hours of the day. If the equipment is idle more than four hours in a day, then payment will be made only for the actual hours worked. No additional compensation will be allowed on the equipment for CONTRACTOR's or any affected subcontractor's overhead and profit. The OWNER may accept an actual rental invoice in lieu of the method of calculation set forth in this Paragraph for equipment rented exclusively for Force Account Work or for equipment not included in the Rental Rate Blue Book.

13.3.2.4 The compensation provided for herein, will be received by as payment in full for work done pursuant to the Change Order and will include use of small tools, and total overhead expense and profit. CONTRACTOR and the OWNER will compare records of work done by Change Order at the end of each day. Copies of these records will be made upon forms provided for this purpose by the OWNER and signed by both the OWNER and CONTRACTOR, with one copy being retained by the OWNER and one by CONTRACTOR. Refusal by CONTRACTOR to sign these records within two working days of presentation does not invalidate the accuracy of the record.

13.3.3 Additional Performance Security in Conjunction with Change Order. The CITY may require CONTRACTOR to increase or supplement previously-provided Performance Security to cover any additional costs of performing services required under a Change Order that increases Contract Price, commensurate with such additional cost. In such instance, any compensation due CONTRACTOR for CONTRACTOR's cost of providing such increase or supplement will be reflected in the Change Order or otherwise borne by CONTRACTOR.

13.4 Payment for Work Covered by Change Order. Additional monies due CONTRACTOR pursuant to a valid Change Order providing for an adjustment to the Contract Price, will be paid for in accordance with the

Progress Payment schedule established by the Contract, in which case payment will be subject to retainage requirements set forth in the Contract; or at the time of Final Payment.

13.5 Absence of Proposed Adjustments. If a Change Instrument is silent as to any adjustment to the Contract Price or the Contract Time, it will be conclusively presumed that none is intended and none will be allowed unless CONTRACTOR files an objection as and when specified in the following Subsection.

13.6 Action upon Receipt of Change Instrument. Upon receipt of a Change Instrument, CONTRACTOR will promptly proceed with the change in the Work involved.

13.6.1 CONTRACTOR will advise the OWNER in writing, promptly and in any event no later than ten days after issuance of the Unilateral Change Instrument, of CONTRACTOR's objection (i) to the amount or method, if any, provided for in the Change Instrument for adjustment to Contract Price or Contract Time, or (ii) to the absence of any adjustment to the Contract Price or Contract Time. In order to be valid, a claim for an adjustment of Contract Price or Contract Time, must contain the specific adjustment requested, must be supported by a detailed explanation of the basis for the claim. In addition, to be valid a claim for increase in Contract Time must be supported by the documentation specified in Subsection 11.4, and a claim for an increase in the Contract Price must be documented and calculated as specified in Subsection 13.3.1. Failure of CONTRACTOR to object as and when specified in this Subsection is deemed an acceptance of the Unilateral Change Order as issued and a waiver of any claim by CONTRACTOR to any adjustment to the Contract Price or the Contract Time.

13.7 Waiver of Claim. Except for emergencies involving possible loss of life or bodily injury or significant property damage, CONTRACTOR's commencement of the Work that is subject to a Change Instrument will constitute a complete waiver by CONTRACTOR as to such claim regardless of whether CONTRACTOR has within the ten-day period notified the OWNER of a claim consistent with the requirements of Subsection 13.6.1.

13.8 OWNER's Right to Use Third Parties for Additional Work. If the OWNER and CONTRACTOR are unable to negotiate the terms of a Change Order for the performance of additional Work, the OWNER may, at its election, perform such additional Work with its own forces or with another CONTRACTOR and such work will be considered "Other Work."

13.9 OWNER's Right to Accelerate Schedule. The OWNER reserves the right to issue a Change Instrument to accelerate the Work which may be subject to an appropriate adjustment, if any, in the Contract Price. If the OWNER requires an acceleration of the Project Schedule and no adjustment is made in the Contract Price, or if CONTRACTOR disagrees with any adjustment made, any claim an adjustment must comply with the requirements of Subsection 13.6.1 or be deemed to be conclusively waived.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTIONS, REMOVAL AND ACCEPTANCE OF DEFECTIVE WORK

14.1 Access to Work. The OWNER, including the Contract Administrator and other employees and agents, including E/A and E/A's consultants, independent testing laboratories, and governmental agencies having jurisdiction, will each have access to the Work at reasonable times for observing, inspecting and testing. CONTRACTOR will provide them proper and safe conditions for such access, and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.

14.2 Tests and Inspections.

14.2.1 CONTRACTOR will give timely notice of readiness of the Work for all required inspections, tests or approvals, and will cooperate with inspection and testing personnel to facilitate required inspections or tests. All testing will be performed by the CONTRACTOR. Only verification testing will be performed by the CITY. CONTRACTOR is not required to enter test results into MAC.

14.2.2 The OWNER will employ and pay for services of an independent testing laboratory to perform all inspections, tests or approvals required by the Contract Documents except:

.1 For inspections, tests or approvals covered by Paragraph 14.2.3 below;

.2 That costs incurred with tests or inspections conducted pursuant to Paragraph 14.3.3 below will be paid as provided in Paragraph 14.3.3;

.3 For re-inspecting or re-testing Defective Work; and

.4 As otherwise specifically provided in the Contract Documents. All testing laboratories will meet the requirements of ASTM E-329.

14.2.3 If Legal Requirements specifically require any Work (or part thereof) to be inspected, tested, or approved by an employee or other representative of a governmental or related authority, CONTRACTOR will assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all costs in connection therewith and furnish the OWNER the required certificates of inspection or approval.

14.2.4 CONTRACTOR will also be responsible for arranging and obtaining and will pay all costs in connection with any inspections, tests or approvals required for the OWNER's and E/A's review of materials or equipment to be incorporated in the Work, or of materials, mix designs or equipment submitted for review prior to CONTRACTOR's purchase thereof for incorporation in the Work.

14.3 Uncovering Work.

14.3.1 If any Work (or the work of others) that is to be inspected, tested or approved is covered by CONTRACTOR without written concurrence of the Contract Administrator, or if any Work is covered contrary to the written request of the Contract Administrator, it will, if requested by the Contract Administrator, be uncovered and recovered at CONTRACTOR's expense.

14.3.2 Uncovering Work as provided in Paragraph 14.3.1 above, will be at CONTRACTOR's expense unless CONTRACTOR has given the OWNER timely notice of CONTRACTOR's intention to cover the same and the OWNER has not acted within five working days to such notice.

14.3.3 If the OWNER considers it necessary or advisable that covered Work be observed, inspected or tested, CONTRACTOR will uncover, expose or otherwise make available for observation, inspection or testing that portion of the Work in question, furnishing all necessary labor, material and equipment. If the OWNER determines that such Work is defective, CONTRACTOR will pay all claims, costs, losses and damages caused by, arising out of or resulting from such uncovering, exposure, observation, inspection and testing and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and the OWNER will be entitled to an appropriate decrease in the Contract Price, and may make a Claim therefore as provided in these General Conditions. However, if such Work is not found to be defective, CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement and reconstruction; and CONTRACTOR may make a Claim therefore as provided in these General Conditions.

14.4 The OWNER May Stop the Work.

14.4.1 If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to this Contract, the OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the OWNER to stop the Work will not give rise to any duty on the part of the OWNER to exercise this right for the benefit of CONTRACTOR or any surety or other party.

14.4.2 If CONTRACTOR fails to correct Defective Work or submit a satisfactory plan to take corrective action, with procedure and time schedule, the OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until cause for such order has been eliminated, or take any other action permitted by this Contract. A notice to stop the Work, based on defects, will not stop calendar or Working Days charged to the Project.

14.5 Correction or Removal of Defective Work. If required by the OWNER, CONTRACTOR will promptly, as directed, either correct all Defective Work, whether or not fabricated, installed or completed, or, if the Work has

been rejected by the OWNER, remove it from Project Site and replace it with Work that is not defective. CONTRACTOR will correct or remove and replace Defective Work, or submit a plan of action detailing how the deficiency will be corrected, within the time frame identified in the notice of Defective Work. CONTRACTOR will pay all claims, costs, losses and damages caused by or resulting from such correction or removal (including but not limited to all costs of repair or replacement of work of others).

14.6 Correction Required. If within the Warranty Period, or such longer period of time as may be prescribed by Legal Requirements or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work, including Work performed after the Substantial Completion date, is found to be defective, CONTRACTOR will promptly, without cost to the OWNER and in accordance with the OWNER's written instructions:

14.6.1 Correct such Defective Work, or, if it has been rejected by the OWNER, remove it from Project Site and replace it with Work that is not defective, and

14.6.2 Satisfactorily correct or remove and replace any damage to other Work or the work of others resulting from the Defective Work.

If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, the OWNER may have the Defective Work corrected or the rejected Work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR. The warranty period will be deemed to be renewed and recommenced in connection with the completed items of Work requiring correction.

14.7 Coordination with OWNER. If correction of Defective Work will affect the function or use of the facility, CONTRACTOR will not proceed with correction of Defective Work without prior coordination and approval of the OWNER.

14.8 Acceptance of Defective Work. If, instead of requiring correction or removal and replacement of Defective Work, the OWNER decides to accept it, the OWNER may do so. CONTRACTOR will pay all claims, costs, losses and damages attributable to the OWNER's evaluation of and determination to accept such Defective Work. For purposes of this Section, the OWNER’s acceptance of sample materials or equipment will not be deemed to be acceptance of Defective Work. If any such acceptance occurs prior to recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents and compensating the OWNER for the diminished value of the Defective Work. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to the OWNER after a calculation by the OWNER of the diminution in value of the Defective Work.

14.9 The OWNER May Correct Defective Work. If CONTRACTOR fails within a reasonable time after written notice of the OWNER to correct Defective Work, or to remove and replace rejected Work, or if CONTRACTOR fails to perform the Work in accordance with this Contract, or if CONTRACTOR fails to comply with any other provision of this Contract, the OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. If, in the opinion of the Contract Administrator, significant progress has not been made during this seven-day period to correct the deficiency, the OWNER may exercise any actions necessary to remedy the deficiency. In exercising the rights and remedies under this paragraph, the OWNER will proceed expeditiously. In connection with such corrective and remedial action, the OWNER may exclude CONTRACTOR from all or part of Project Site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, and incorporate in the Work all materials and equipment stored at Project Site or for which the OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR will allow the OWNER, its agents and employees, the OWNER's other contractors, E/A and E/A's consultants access to Project Site to enable the OWNER to exercise the rights and remedies under this paragraph. All claims, costs, losses and damages incurred or sustained by the OWNER in exercising such rights and remedies will be charged against CONTRACTOR and a Change Order will be issued incorporating the necessary revisions to this Contract with respect to the Work. Such claims, costs, losses and damages will include but not be limited to all costs of repair or replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's Defective Work. CONTRACTOR will not be allowed an

extension of the Contract Times (or Milestones), or claims of damage because of any delay in the performance of the Work attributable to the exercise by the OWNER of the OWNER's rights and remedies hereunder.

14.10 Testing and Inspections Outside of Working Hours. This Contract contemplates that all testing and inspections will be done during Working Hours as defined herein. Whenever the OWNER is required to test or inspect outside of Working Hours, on weekends, or during Holidays observed by the OWNER, the OWNER will be entitled to a reduction in the Contract Price to the extent of any overtime costs incurred by the OWNER, unless such testing or inspection is required to be performed at that time due to:

14.10.1 Emergency conditions that are not the fault of CONTRACTOR, and subcontractors, sub-subcontractors, suppliers, or other persons for whom CONTRACTOR is responsible;

14.10.2 A Force Majeure event, the OWNER's disruption, or other events which, pursuant to this Contract, would otherwise require an extension of the Contract Time.

14.11 CONTRACTOR Remains Responsible for the Work. The following will not be deemed to be a release of CONTRACTOR's obligation to perform the Work in accordance with this Contract:

14.11.1 Observations by the E/A;

14.11.2 The issuance of a Certificate of Substantial Completion or any payment by the OWNER to CONTRACTOR under this Contract;

14.11.3 Partial use or occupancy of the Work or any part thereof by the OWNER;

14.11.4 Any acceptance by the OWNER or any failure to do so;

14.11.5 Any review of a Shop Drawing or sample submittal;

14.11.6 Any inspection, test or approval by others; or

14.11.7 Any correction of Defective Work by the OWNER.

ARTICLE 15 – PROGRESS PAYMENTS, PARTIAL UTILIZATION AND FINAL COMPLETION

15.1 General Method of Payment. Payment of the Contract Price will be made in a series of Progress Payments and after Final Completion, a Final Payment, in accordance with this Article.

15.1.1 If CONTRACTOR has provided Payment and Performance Bonds, no payment will be made unless and until CONTRACTOR records the bonds and provides the OWNER certified copies of the recorded bonds in accordance with Florida Statutes Section 205.05(b).

15.2 Application for Payment. CONTRACTOR may submit to the OWNER, no more than once a month and no sooner than 30 days following commencement of the Work, an application for payment for those portions of the Work completed as of the date of the application. The OWNER may, by notice, designate a specific day of each month for submission of the application for payment. Each application for payment will be in a form acceptable to the OWNER, and will include the following documentation and information:

15.2.1 The current approved Progress Schedule;

15.2.2 If applicable, the Schedule of Values;

15.2.3 Unless CONTRACTOR has provided payment and performance bonds and recorded them in the public records as provided in Florida Statues Section 205.05, releases of liens from subcontractors or suppliers;

15.2.4 CONTRACTOR's written certification (i) as to the value of the Work completed, (ii) that partial or final waivers of lien have been received covering all such Work, (iii) and that all prior Progress Payments have been properly applied to the payment or reimbursement of the costs with respect to which they were paid;

15.2.5 If payment is requested on the basis of materials or equipment not incorporated in the Work but delivered and suitably stored at Project Site or at another location agreed to in writing, the application for payment by such bills of sale, data, and other procedures satisfactory to the OWNER substantiating the OWNER's title to such materials or equipment or otherwise protecting the OWNER's interest;

15.2.6 A completed Minority and Women-Owned Business Enterprise (MBE/WBE) Usage Report, using forms provided by the OWNER. CONTRACTOR will complete all blank spaces shown on these Report forms. If no amounts have been paid to MBE/WBE subcontractors, the completed form will so indicate; and

15.2.7 The consent of the surety, if any, to the requested payment.

Each application for payment will be deemed to be a warranty and guarantee by CONTRACTOR that title to all Work, materials and equipment covered by the application, whether incorporated in the Project or not, will pass to the OWNER free and clear of all liens no later than the time of payment to CONTRACTOR.

15.3 Review of Application for Payment. As soon as practicable after receipt of an application for Payment, and within the 20-day period following receipt of the application as provided by the Prompt Payment Act, the OWNER will approve, partially approve, or reject the application. The OWNER will provide written notice if payment is rejected or partially rejected, specifying the deficiency in the application for payment and the action necessary to make the request proper. In addition to rejecting payment of all or a portion of the application for failure to comply with submittal requirements referenced above, the OWNER will have the right to reject all or a portion of the application for any of the following reasons:

15.3.1 Defective Work not remedied;

15.3.2 Third party Claims filed or reasonable evidence indicating probable filing of such Claims;

15.3.3 Unless CONTRACTOR has provided payment and performance bonds and complied procedurally with Florida Statutes Section 205.05, failure of CONTRACTOR to make payments properly to subcontractor or for labor, materials or equipment;

15.3.4 Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;

15.3.5 Damage to the OWNER or another CONTRACTOR;

15.3.6 Reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;

15.3.7 Failure of CONTRACTOR to submit a Schedule of Values in accordance with the Contract Documents, if one is required;

15.3.8 Failure of CONTRACTOR to submit a submittal schedule in accordance with the Contract Documents;

15.3.9 Failure of CONTRACTOR to submit and update a Progress Schedule in accordance with the Contract Documents;

15.3.10 Failure of CONTRACTOR to maintain a record of changes on drawings and documents;

15.3.11 Failure of CONTRACTOR to maintain weekly payroll reports and, as applicable, provide copies of reports in a timely manner upon request of the OWNER;

15.3.12 CONTRACTOR's neglect or unsatisfactory prosecution of the Work, including failure to clean up; or

15.3.13 CONTRACTOR's failure to comply with the submittal requirements of Section 15.2, above, or with any other provision of this Contract.

If any portion of the application is rejected the OWNER will provide CONTRACTOR a written notice as to the reasons for rejection, within the time frame provided in the Prompt Payment Act. CONTRACTOR will then make the necessary corrections and re-submit the application or portion of application rejected.

15.4 Progress Payments. The OWNER will make payment on an approved or partially approved application, less amounts set aside for retainage within the deadlines provided by the Prompt Payment Act. If CONTRACTOR and the OWNER disagree on the basis or amount of the payment, or if CONTRACTOR is unwilling to make the necessary corrections or modifications and re-submit the Request as to those items rejected by the OWNER, then the OWNER may approve and process the Request by making such adjustments thereto as the OWNER deems appropriate so that CONTRACTOR receives without delay, payment of the amount determined by the OWNER to have been earned and owing to CONTRACTOR.

15.5 Amounts Withheld from Progress Payments. The OWNER will withhold an amount from each such approved progress payment, as follows:

15.5.1 If the Contract Price is $200,000 or more, the amount of retainage will be determined by the Prompt Payment Act, which as of the Effective Date provides for a 10% retainage until 50-Percent Completion, and a 5% retainage thereafter.

15.5.2 In all other instances, the amount of retainage will be ten percent for each progress payment.

Subject to any limitations that may be imposed by the Prompt Payment Act if applicable, the OWNER will hold all retainage until Final Payment. However, if the Work is near Substantial or Final Completion and delay occurs due to no fault or neglect of CONTRACTOR, the OWNER may pay a portion of the retained amount to CONTRACTOR. CONTRACTOR, at the OWNER's option, may be relieved of the obligation to complete the Work and thereupon, CONTRACTOR will receive payment of the balance due for the work completed and accepted, subject to the conditions applicable to OWNER's termination of work without cause.

15.6 Delayed Payments. Should the OWNER fail to make payment to CONTRACTOR of the amount approved for any application for payment within the time frames provided in the Prompt Payment Act, the OWNER will pay to CONTRACTOR, in addition to amount approved, interest thereon at the rate specified in the Act, from date due until fully paid, which will fully liquidate any injury to CONTRACTOR growing out of such delay in payment.

15.7 Substantial Completion.

15.7.1 When CONTRACTOR considers that the Work, or a portion thereof which the OWNER agrees to accept separately, is substantially complete, CONTRACTOR will notify the OWNER and request a determination as to whether the Work or designated portion thereof is substantially complete. If the OWNER does not consider the Work substantially complete, the OWNER will notify CONTRACTOR giving reasons therefore. After performing any required Work, CONTRACTOR will then submit another request for the OWNER to determine Substantial Completion. If the OWNER considers the Work substantially complete, the OWNER will prepare and deliver a certificate of Substantial Completion which will establish the date of Substantial Completion, will include a punch list of items to be completed or corrected before Final Payment, will establish the time within which CONTRACTOR will finish the punch list, and will establish responsibilities of the OWNER and CONTRACTOR for security, maintenance, heat, utilities, damage to the Work, warranty and insurance. Failure to include an item on the punch list does not alter the responsibility of CONTRACTOR to complete all Work in accordance with this Contract. The Work will not be deemed to be substantially or finally complete until any certificates of occupancy required to occupy the Project are issued. The OWNER and CONTRACTOR will both sign the certificate of Substantial Completion, to evince acceptance of the responsibilities assigned to them in such certificate.

15.8 Partial Utilization. The OWNER will have the option to use any portion of the Work prior to Substantial Completion of the Project where:

15.8.1 The Contract Documents specifically provide for such portion to be partially utilized prior to Substantial Completion; or

15.8.2 Upon the OWNER's request, if CONTRACTOR agrees and, upon joint inspection, the parties agree that the portion of the Work in question is Substantially Complete. In such instance, the OWNER will issue a certificate of Substantial Completion, attaching thereto a punch list of items to be completed or corrected before Final Payment and fixing the responsibility between the OWNER and CONTRACTOR for maintenance, heat and utilities as to that part of the Work.

The OWNER will have the right to exclude CONTRACTOR from any part of the Work which is so certified to be Substantially Complete but the OWNER will allow CONTRACTOR reasonable access to complete or correct items on the punch list.

15.9 Final Inspection and Final Completion. CONTRACTOR will provide the OWNER the Notice of Completion sufficiently in advance of the Completion Date to allow for scheduling of the final inspection and for completion or correction of all Punch List Work before the Completion Date. Upon receipt of CONTRACTOR's Notice of Completion, the OWNER will make a review of the Work and notify CONTRACTOR in writing of all Punch List Work, if any, to be completed or corrected. Following CONTRACTOR's completion or correction of all Punch List Work, the OWNER again review the Work and prepare and deliver to CONTRACTOR either a written notice of additional Punch List Work to be completed or corrected or a written Certificate of Final Completion, signifying final acceptance of the Work.

15.9.1 If the sole remaining unfinished item to complete the Work is the reestablishment of vegetation, at the OWNER's option the OWNER may issue a Certificate of Final Completion on the condition that CONTRACTOR executes a re-vegetation letter, with letter of credit or other guarantee in form and amount satisfactory to the OWNER, to ensure completion of this item. This Work will be accomplished within 120 days of the date of Final Completion of the Work. When permanent erosion control has been established, the OWNER will initiate an inspection for final acceptance of the erosion controls. If the re-vegetation is not completed within the 120 days, the OWNER, at its option, may complete the Work using the posted guarantee.

15.9.2 In all other instances, the OWNER will only be obligated to issue a Certificate of Final Completion accepting the Work as finally complete, when the whole and all parts thereof will have been completed to the satisfaction of the OWNER in full compliance with this Contract.

15.10 Final Application for Payment. As soon as practical after the OWNER's issuance of the Certificate of Final Completion, CONTRACTOR will submit to the OWNER a properly completed application for Final Payment in the form approved or provided by the OWNER. The application will include or attach the following:

15.10.1 Three complete manuals containing all maintenance and operating instructions, warranties, and other associated documents for equipment or other materials that have been installed or otherwise included in the Work;

15.10.2 Record documents (as provided in Paragraph 6.11.2 of these General Conditions);

15.10.3 Unless CONTRACTOR has provided payment and performance bonds and procedurally complied with Florida Statutes, Section 205.05:

15.10.3.1 Legally effective final releases or waivers of liens from CONTRACTOR, and from all subcontractors and sub-subcontractors which performed services for CONTRACTOR and all suppliers of material or equipment to CONTRACTOR;

15.10.3.2 An affidavit that all of CONTRACTOR's debts, and claims, including from all subcontractors, subcontractors, and suppliers in connection with the Work, have been paid or otherwise satisfied;

15.10.4 Complete and legally effective releases or waivers satisfactory to the OWNER of all claims other than claims of subcontractors, Sub-subcontractors, and suppliers, filed in association with the Work;

15.10.5 The consent of the surety, if any, to final payment;

15.10.6 Non-Use of Asbestos Affidavit (After Construction);

15.10.7 Certificate evidencing that required insurance will remain in force after final payment and through the warranty period; and

15.10.8 Any other documentation required pursuant to this Contract.

15.11 If Final Application is Rejected. If the OWNER rejects the request for Final Payment, the OWNER will provide CONTRACTOR written notice stating the reasons therefore within the time required by the Prompt Payment Act.

15.12 Final Payment; Waiver of Claims. Final Payment will be deemed to have taken place when CONTRACTOR or any of its representatives negotiates the OWNER's final payment check, whether labeled final or not, for cash or deposits check in any financial institution for its monetary return. The making and acceptance of Final Payment will constitute:

15.12.1 A waiver of claims by the OWNER against CONTRACTOR, except claims arising from unsettled claims, from Defective Work appearing after final inspection, from failure to comply with this Contract or the terms of any warranty specified therein, or from CONTRACTOR's continuing obligations under this Contract; and

15.12.2 A waiver of all claims by CONTRACTOR against the OWNER other than those which were made in writing through the date that the check for final payment was issued and which are unsettled.

15.13 Partial Final Payment in Extenuating Circumstances. If the OWNER determines that after CONTRACTOR has achieved Substantial Completion, Final Completion is materially delayed through no fault of CONTRACTOR, the OWNER may without terminating this Contract, make payment of balance due for that portion of the Work fully completed and accepted. Such payment will be made under the terms and conditions governing Final Payment, except that it will not constitute a waiver of claims by the OWNER, and will not cause a transfer of title or relieve CONTRACTOR for responsibility for the Substantially Completed Work.

ARTICLE 16 - SUSPENSION OF WORK AND TERMINATION

16.1 The OWNER May Suspend Work Without Cause. At any time and without cause, the OWNER may suspend the Work or any portion thereof for a period of not more than 90 days by written notice to CONTRACTOR which will fix the date on which the Work will be resumed. CONTRACTOR will resume the Work on the date so fixed. CONTRACTOR will be allowed an adjustment in the Contract Price or an extension of the Contract Time, or both, directly attributable to any such suspension if CONTRACTOR makes an approved Claim for such an adjustment as provided herein.

16.2 The OWNER May Terminate Without Cause. Upon seven days' notice to CONTRACTOR, the OWNER may, without cause and without prejudice to any right or remedy of the OWNER, elect to terminate the Contract. In such case, CONTRACTOR will be paid for completed and acceptable Work executed in accordance with this Contract prior to the date of termination, and if the Contract Price is **NOT** based on unit prices, the following:

16.2.1.1 Reasonable demobilization costs;

16.2.1.2 Reasonable anticipated profits on completed and accepted Work not previously paid and not included in separate pay items calculated to date of termination but not for anticipated profit on the entire Contract not previously paid, unabsorbed overhead, or lost opportunity; and

16.2.1.3 All claims incurred in settlement of terminated contracts with subcontractor and others, including for anticipated profits on completed and accepted Work not previously paid and not included in separate pay items calculated to date of termination but not for anticipated profit on the entire Contract not previously paid, unabsorbed overhead, or lost opportunity. CONTRACTOR agrees to negotiate in good faith with subcontractors and others to mitigate the OWNER's cost.

16.3 The OWNER May Terminate With Cause.

16.3.1 A Upon the occurrence of any one or more of the following events:

.1 If CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents

.2 If CONTRACTOR disregards or fails to comply with Legal Requirements;

.3 If CONTRACTOR disregards the authority of the Contract Administrator or the City Manager;

.4 If CONTRACTOR makes fraudulent statements;

.5 If CONTRACTOR fails to maintain a work force adequate to accomplish the Work within the Contract Time;

.6 If CONTRACTOR fails to make adequate progress and endangers successful completion of the Contract; or

.7 If CONTRACTOR otherwise materially breaches the Contract;

The OWNER may, after giving CONTRACTOR (and the surety, if any) seven days' notice terminate the Contract. The OWNER, at its option, may proceed with negotiation with surety for completion of the Work. Alternatively, the OWNER may under these circumstances exclude CONTRACTOR from the Project Site and take possession of the Work (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at Project Site or for which the OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as the OWNER may deem expedient. In such case CONTRACTOR will not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses and damages sustained by the OWNER arising out of or resulting from completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses and damage exceed such unpaid balance, CONTRACTOR or surety will pay the difference to the OWNER. If a termination for cause is found to be wrongful, the termination will be converted to a termination without cause, and CONTRACTOR's remedy for wrongful termination is limited to the recovery of the payments permitted for termination without cause.

16.3.2 Where CONTRACTOR's services have been so terminated by the OWNER, the termination will not affect any rights or remedies of the OWNER against CONTRACTOR and surety then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by the OWNER will not release CONTRACTOR from liability.

16.4 CONTRACTOR May Stop Work or Terminate. If through no act or fault of CONTRACTOR, the Work is suspended for a period of more than 90 days by the OWNER or under an order of court or other public authority, or (except during disputes) the Contract Administrator fails to forward for processing any mutually acceptable Application for Payment within 30 days after it is submitted, or (except during disputes) the OWNER fails for 60 days after it is submitted to pay CONTRACTOR any sum finally determined by the OWNER to be due, then CONTRACTOR may, upon seven days' written notice to the OWNER, and provided the OWNER does not remedy such suspension or failure within that time, terminate the Agreement and recover from the OWNER payment on the same terms as if OWNER terminated without cause pursuant to this Contract. In lieu of terminating the Agreement and without prejudice to any other right or remedy, if (except during disputes) the Contract Administrator has failed to forward for processing any mutually acceptable Application for Payment within 30 days after it is submitted, or (except during disputes) the OWNER has failed for 60 days after it is submitted to pay CONTRACTOR any sum finally determined by the OWNER to be due, CONTRACTOR may upon seven days' written notice to the OWNER stop the Work until payment of all such amounts due CONTRACTOR, including interest thereon. The provisions of

this Section are not intended to preclude CONTRACTOR from making a Claim for an increase in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping Work as permitted by this Section.

16.5 Discretionary Notice to Cure. In its complete discretion, the OWNER may, but is not required to, provide a Notice to Cure to CONTRACTOR and its surety to cure any of the conditions constituting a breach of Contract or an anticipatory breach of contract and, if required by the OWNER, to attend a meeting with the OWNER, regarding the Notice to Cure, the event of default or the anticipatory breach of contract. The Notice to Cure will set forth the time limit in which the cure is to be completed or commenced and diligently prosecuted. Upon receipt of any Notice to Cure, CONTRACTOR will prepare a report describing its program and measures to affect the cure of the event of default or anticipatory breach of contract within the time required by the Notice to Cure. The CONTRACTOR's report will be delivered to the OWNER at least three days prior to any requested meeting with the OWNER and surety.

16.6 Bankruptcy. If CONTRACTOR declares bankruptcy or is adjudged bankrupt or makes an assignment for the benefit of creditors or if a receiver is appointed for the benefit of creditors or if a receiver is appointed by reason of CONTRACTOR's insolvency, CONTRACTOR may be unable to perform this Contract in accordance with the Contract requirements. In such an event, the OWNER may demand CONTRACTOR or its successor in interest provide the OWNER with adequate assurance of CONTRACTOR's future performance in accordance with the terms and conditions of the Contract. If CONTRACTOR fails to provide adequate assurance of future performance to the OWNER's reasonable satisfaction within ten days of such a request, the OWNER may terminate the Contract for cause or without cause, as set forth above. If CONTRACTOR fails to provide timely adequate assurance of its performance and actual performance, the OWNER may prosecute the Work with its own forces or with other contractors on a time and material or other appropriate basis and the cost of which will be charged against the balance of the Contract Price otherwise due to CONTRACTOR.

16.7 Duty to Mitigate. If the OWNER terminates this Contract or suspends CONTRACTOR's work, CONTRACTOR agrees to and will take all reasonable actions to mitigate its damages and any and all claims which may be asserted against the OWNER.

16.8 Responsibility during Demobilization. While demobilizing, CONTRACTOR will take all necessary and reasonable actions to preserve and protect the Work, the Project Site and other property of the OWNER or others at the Project Site.

16.9 CONTRACTOR to Remove Equipment. In the case of termination of this Contract before completion for any cause whatsoever, CONTRACTOR, if notified to do so by the OWNER, will promptly remove any part or all of his equipment or supplies from the property of the OWNER; failing to, the OWNER will have the right to remove such equipment and supplies at the expense of CONTRACTOR.

16.10 CONTRACTOR to Clean Up Project Site. If either OWNER or CONTRACTOR terminates the Contract before Substantial or Final Completion, CONTRACTOR will leave the Project Site in a clean condition as if Final Completion had been achieved, unless OWNER directs otherwise; and if CONTRACTOR fails to comply clean up the Project Site as required, the OWNER may do so and the cost thereof will be charged against CONTRACTOR.

END OF GENERAL CONDITIONS SECTION

TABLE OF CONTENTS

SECTION 01 0300

ALTERNATES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section specifies administrative and procedural requirements for Alternates.

B. Definition: An Alternate is an amount proposed by Bidders and stated on the Bid Form for certain construction activities defined in the Bidding Requirements that may be added to or deducted from Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems or installation methods described in Contract Documents.

C. Coordination: Coordinate related Work and modify or adjust adjacent Work as necessary to ensure that Work affected by each accepted Alternate is complete and fully integrated into the project.

D. Notification: Immediately following the award of the Contract, prepare and distribute to each party involved, notification of the status of each Alternate. Indicate whether Alternates have been accepted, rejected or deferred for consideration at a later date. Include a complete description of negotiated modifications to Alternates.

E. Schedule: A "Schedule of Alternates" is included at the end of this Section. Specification Sections referenced in or to be inferred from the Schedule contain requirements for materials and methods necessary to achieve the Work described under each Alternate.

1. Include as part of each Alternate, miscellaneous devices, accessory objects and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate.

PART 2 - PRODUCTS (NOT APPLICABLE).

PART 3 - EXECUTION

3.01 SCHEDULE OF ALTERNATES

A. ALTERNATE No.1: Delete the metal roofing areas as shown on sheets A2.6.3 and S2.4. Also delete the wood fence systems at the Exterior Time Out Area 100F, Exterior Overflow Area 116F and Exterior Dining 119. This fence system is detailed on sheet A2.0.1.

B. ALTERNATE No.2: Delete all food service equipment listed on the schedule on sheet FS-1 and in the Food Service specification section 11400. Note all required utilities, connections and support structure as called for on equipment schedule on sheet FS-2 remains in project. Some equipment connections will need to be capped or modified if the equipment is deleted from the project. The successful bidder shall provide the owner with an itemized listing with cost of each equipment item. At the discretion of the owner individual pieces of equipment may be deleted from the project as a VE option post bid.

END OF SECTION

SECTION 01 2000

APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.
   1. Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule, List of Subcontracts, and Submittal Schedule.

B. The Contractor's Construction Schedule and Submittal Schedule are included in Section "Submittals".

1.03 SCHEDULE OF VALUES

A. Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule. Correlate line items with other administrative schedules and the forms required for the work, including the following:
   1. Contractor's construction schedule.
   2. Application for Payment form.
   3. List of subcontractors.
   4. Schedule of alternates.
   5. List of products.
   6. List of principal suppliers and fabricators.
   7. Schedule of submittals.

B. Submit the Schedule of Values to the Architect at the earliest feasible date, but in no case later than 10 days before the date scheduled for submittal of the initial Application for Payment.

C. Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values.

D. Identification: Include the following Project identification on the Schedule of Values:
   1. Project name and location.
   2. Name of the Architect.
   3. Project number.
   4. Contractor's name and address.
   5. Date of submittal.

E. Arrange the Schedule of Values in a tabular form with separate columns to indicate the following for each item listed:
   1. Generic name.
      a. Related Specification Section.
   2. Change Orders (numbers) that have affected value.
   3. Dollar value.

F. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports.

G. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.

H. For each part of the Work where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

I. Margins of Cost: Show line items for indirect costs, and margins on actual costs, only to the extent that such items will be listed individually in Applications for Payment. Each item in the

Schedule of Values and Applications for Payment shall be complete including its total cost and proportionate share of general overhead and profit margin.

1. At the Contractor's option, temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown as separate line items in the Schedule of Values or distributed as general overhead expense.

J. Schedule Updating: Update and resubmit the Schedule of Values when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.04 APPLICATIONS FOR PAYMENT:

A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner.

1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.

B. Payment Application Times: Each progress payment date is as indicated in the Agreement. The period of construction Work covered by each Application or Payment is the period indicated in the Agreement.

C. Payment Application Forms: Use AIA Document G 702 and Continuation Sheets G 703 as the form for Application for Payment.

D. Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Owner. Incomplete applications will be returned without action.

1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.

E. Transmittal: Submit 8 executed copies of each Application for Payment to the Architect by means ensuring receipt within 24 hours; three copies shall be complete, when required.

1. Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Architect.

F. Payment Approval: At each Monthly Progress Meeting a 'Preliminary' Partial Payment Request will be submitted to Architect and Engineers for reviewal, at which time it will be reviewed, modified if required, and approved by the A/E based on 'on-site' inspection and proper documentation for materials and items properly stored. Payment will be withheld if 'as-built' drawings are not current and acceptable to A/E. Payment request will then be finalized and submitted to Architect for further action.

G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of Values.
3. Contractor's Construction Schedule (preliminary if not final).
4. Submittal Schedule (preliminary if not final).
5. List of Contractor's staff assignments.
6. List of Contractor's principal consultants.
7. Copies of building permits
8. Copies of authorizations and licenses from governing authorities for performance of the Work.
9. Initial progress report.
10. Report of pre-construction meeting.

H. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment; this application shall reflect any Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

I. Administrative actions and submittals that shall proceed or coincide with this application include:

1. Occupancy permits and similar approvals.
2. Warranties (guarantees) and maintenance agreements.
3. Test/adjust/balance records.
4. Maintenance instructions.
5. Meter readings.
6. Start-up performance reports.
7. Change-over information related to Owner's occupancy, use, operation and maintenance.
8. Final cleaning.
9. Advice on shifting insurance coverages.
10. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion.

J. Final Payment Application: Administrative actions and submittals which must precede or coincide with submittal of the final payment Application for Payment include the following:
1. Completion of Project closeout requirements.
2. Completion of items specified for completion after Substantial Completion.
3. Assurance that unsettled claims will be settled.
4. Transmittal of required Project construction records to Owner.
5. Certified property survey.
6. Proof that taxes, fees and similar obligations have been paid.
7. Removal of temporary facilities and services.
8. Removal of surplus materials, rubbish and similar elements.
9. Change of door locks to Owner's access.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01 3100

PROJECT COORDINATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

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

B. Field engineering is included in Section "Field Engineering".

C. Progress meetings, coordination meetings and pre-installation conferences are included in Section "Project Meetings".

D. Requirements for the Contractor's Construction Schedule are included in Section "Submittals".

1.03 COORDINATION

A. Coordination: Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.
   1. Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
   2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
   3. Make adequate provisions to accommodate items scheduled for later installation.

B. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
   1. Prepare similar memoranda for the Owner and separate Contractors where coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
   1. Preparation of schedules.
   2. Installation and removal of temporary facilities.
   3. Delivery and processing of submittals.
   4. Progress meetings.
   5. Project Close-out activities.

1.04 SUBMITTALS

A. Coordination Drawings: Prepare and submit coordination drawings where close and careful coordination is required for installation of products and materials fabricated off-site by separate entities, and where limited space availability necessitates maximum utilization of space for efficient installation of different components.
   1. Show the interrelationship of components shown on separate Shop Drawings.
   2. Indicate required installation sequences.
   3. Comply with requirements contained in Section "Submittals".

4. Refer to Mechanical/Electrical drawings for specific coordination drawing requirements for mechanical and electrical installations.

B. Staff Names: Within 15 days of Notice to Proceed, submit a list of the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.
   1. Post copies of the list in the Project meeting room, the temporary field office, and each temporary telephone.

PART 2 - PRODUCTS (NOT APPLICABLE).

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION PROVISIONS

A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.

C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.

D. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.

E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.

F. Recheck measurements and dimensions, before starting each installation.

G. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.

H. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.

I. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision.

3.02 CLEANING AND PROTECTION

A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
   1. Excessive static or dynamic loading.
   2. Excessive internal or external pressures.
   3. Excessively high or low temperatures.
   4. Thermal shock.
   5. Excessively high or low humidity.
   6. Air contamination or pollution.
   7. Water or ice.
   8. Solvents.

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

END OF SECTION

SECTION 01 3200

PROJECT MEETINGS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section specifies administrative and procedural requirements for project meetings including but not limited to:
   1. Pre-Construction Conference.
   2. Pre-Installation Conferences.
   3. Progress Meetings.

1.03 PRE-CONSTRUCTION CONFERENCE

A. Schedule a pre-construction conference and organizational meeting at the Project site or other convenient location no later than 15 days after execution of the Agreement and prior to commencement of construction activities. Conduct the meeting to review responsibilities and personnel assignments.

B. Attendees: The Owner, Architect and their consultants, the Contractor and its superintendent, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the Work.

C. Agenda: Discuss items of significance that could affect progress including such topics as:
   1. Tentative construction schedule
   2. Critical Work sequencing
   3. Designation of responsible personnel
   4. Procedures for processing field decisions and Change Orders
   5. Procedures for processing Applications for Payment
   6. Distribution of Contract Documents
   7. Submittal of Shop Drawings, Product Data and Samples
   8. Preparation and maintenance of record drawings ('as-builts')
   9. Use of the premises
   10. Office, Work and storage areas
   11. Equipment deliveries and priorities
   12. Safety Procedures
   13. First Aid
   14. Security
   15. Housekeeping
   16. Working hours

1.04 PRE-INSTALLATION CONFERENCES

A. Conduct a pre-installation conference at the site before each major construction activity that requires coordination with other construction. The Installer and representatives of manufacturers and fabricators involved in or affected by the installation, and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise the Architect of scheduled meeting dates.

B. Review the progress of other construction activities and preparations for particular activity under consideration at each pre-installation conference, including requirements for:
   1. Contract Documents
   2. Options
   3. Related Change Orders and applicable Field Orders
   4. Purchases

5. Deliveries
6. Shop Drawings, Product Data and quality control Samples
7. Possible conflicts
8. Compatibility problems
9. Time schedules
10. Weather limitations
11. Manufacturer's recommendations
12. Compatibility of materials
13. Acceptability of substrates
14. Temporary facilities
15. Space and access limitations
16. Governing regulations
17. Safety
18. Inspection and testing requirements
19. Required performance results
20. Recording requirements
21. Protection

C. Record significant discussions and agreements and disagreements of each conference, along with the approved schedule. Distribute the record of the meeting to everyone concerned, promptly, including the Owner and Architect.

D. Do not proceed if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of Work and reconvene the conference at the earliest feasible date.

1.05 PROGRESS MEETINGS

A. Progress meetings are held bi-weekly at regularly scheduled times in the owner's conference room.

B. Attendees: In addition to representatives of the Owner and Architect, each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at these meetings by persons familiar with the Project and authorized to conclude matters relating to progress.

C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the Project.

D. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

E. Review the present and future needs of each entity present, including such items as:
1. Record drawings.
2. Interface requirements.
3. Time.
4. Sequences.
5. Deliveries.
6. Off-site fabrication problems.
7. Access.
8. Site utilization.
9. Temporary facilities and services.
10. Hours of Work.
11. Hazards and risks.
12. Housekeeping.
13. Quality and Work standards.

14. Change Orders.
15. Documentation of information for payment requests.

F. Reporting: No later than 3 days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

G. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01 4000

QUALITY CONTROL SERVICES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section specifies administrative and procedural requirements for quality control services.

B. Quality control services include inspections and tests and related actions including reports, performed by independent agencies, governing authorities, and the Contractor. They do not include Contract enforcement activities performed by the Architect.

C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the Contractor of responsibility for compliance with Contract Document requirements.

D. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.

1. Specific quality control requirements for individual construction activities are specified in the Sections that specify those activities. Those requirements, including inspections and tests, cover production of standard products as well as customized fabrication and installation procedures.
2. Inspections, testing and related actions specified are not intended to limit the Contractor's quality control procedures that facilitate compliance with Contract Document requirements.
3. Requirements for the Contractor to provide quality control services required by the Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.03 RESPONSIBILITIES

A. Testing: The Owner will engage and pay a testing agency for all quality control testing. The Contractor will be responsible for coordination and scheduling of the required inspections. Costs of retesting, where initial test results prove unsatisfactory and do not indicate compliance with Contract Document requirements, will be paid by the Contractor.

B. Retesting: The Contractor is responsible for retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the Contractor's responsibility.

1. Cost of retesting construction revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original construction.

C. Associated Services: The Contractor shall cooperate with all authorized agencies performing inspections, tests and similar services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:

1. Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
2. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
3. Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.
4. Providing the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
5. Security and protection of samples and test equipment at the Project site.

D. Duties of the Testing Agency: The independent testing agency engaged to perform inspections, sampling and testing of materials and construction specified in individual Specification Sections

shall cooperate with the Architect and Contractor in performance of its duties, and shall provide qualified personnel to perform required inspections and tests.

1. The agency shall notify the Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. The agency is not authorized to release, revoke, alter or enlarge requirements of the Contract Documents, or approve or accept any portion of the Work.
3. The agency shall not perform any duties of the Contractor.

E. Coordination: The Contractor and each agency engaged to perform inspections, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition the Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.

1. The Contractor is responsible for scheduling times for all inspections, tests, taking samples and similar activities.

1.04 SUBMITTALS

A. The independent testing agency shall submit a certified written report of each inspection, test or similar service, to the Architect, in duplicate, unless the Contractor is responsible for the service. If the Contractor is responsible for the service, submit a certified written report of each inspection, test or similar service through the Contractor to the architect and structural engineer, in duplicate.

1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
2. Report Data: Written reports of each inspection, test or similar service shall include, but not be limited to:
   a. Date of issue.
   b. Project title and number.
   c. Name, address and telephone number of testing agency.
   d. Dates and locations of samples and tests or inspections.
   e. Names of individuals making the inspection or test.
   f. Designation of the Work and test method.
   g. Identification of product and Specification Section.
   h. Complete inspection or test data.
   i. Test results and an interpretations of test results.
   j. Ambient conditions at the time of sample-taking and testing.
   k. Comments or professional opinion as to whether inspected or tested Work complies with Contract Document requirements.
   l. Name and signature of laboratory inspector.
   m. Indicate that the test passed or failed.
   n. If appropriate, indicate that test is a retest.
   o. Names of contractor and architect advised of failing tests.
   p. Recommendations on retesting.

PART 2 - PRODUCTS (NOT APPLICABLE).

PART 3 - EXECUTION

3.01 REPAIR AND PROTECTION

A. General: Upon completion of inspection, testing, sample-taking and similar services, repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes.

B. Protect construction exposed by or for quality control service activities, and protect repaired construction.

C. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection.

B. Temporary utilities required include but are not limited to:
   1. Water service and distribution.
   2. Temporary electric power and light.
   3. Telephone service.

C. Temporary construction and support facilities required include but are not limited to:
   1. Temporary heat.
   2. Field offices and storage sheds.
   3. Temporary roads and paving.
   4. Sanitary facilities, including drinking water.
   5. Temporary enclosures.
   6. Temporary signs and bulletin boards.
   7. Waste disposal services.
   8. Construction aids and miscellaneous services and facilities.

D. Security and protection facilities required include but are not limited to:
   1. Temporary fire protection.
   2. Barricades, warning signs, lights.
   3. Environmental protection.

1.03 QUALITY ASSURANCE

A. Regulations: Comply with industry standards and applicable laws and regulations if authorities having jurisdiction, including but not limited to:
   1. Building Code requirements.
   2. Health and safety regulations.
   3. Utility company regulations.
   4. Police, Fire Department and Rescue Squad rules.
   5. Environmental protection regulations.

B. Standards: Comply with NFPA Code 241, "Building Construction and Demolition Operations", ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and NECA Electrical Design Library "Temporary Electrical Facilities."
   1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", prepared jointly by AGC and ASC, for industry recommendations.
   2. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA 70).

C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.04 PROJECT CONDITIONS

A. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of the permanent service.

B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not

overload facilities, or permit them to interfere with progress. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

PART 2 - PRODUCTS

2.01 EQUIPMENT

A. General: Provide new equipment; if acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.

B. Water Hoses: Provide 3/4" heavy-duty, abrasion-resistant, flexible rubber hoses 100 ft. long, with pressure rating greater than the maximum pressure of the water distribution system; provide adjustable shut-off nozzles at hose discharge.

C. Electrical Outlets: Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with groundfault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.

D. Electrical Power Cords: Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.

E. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.

F. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM or another recognized trade association related to the type of fuel being consumed.

G. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for normal loading.

H. Temporary Toilet Units: Provide self-contained single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.

I. First Aid Supplies: Comply with governing regulations.

J. Fire Extinguishers: Provide hand-carried, portable UL-rated, class "A" fire extinguishers for temporary offices and similar spaces. In other locations provide hand-carried, portable, UL-rated, class "ABC" dry chemical extinguishers, or a combination of extinguishers of NFPA recommended classes for the exposures.

1. Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.

3.02 TEMPORARY UTILITY INSTALLATION

A. General: Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.

1. Arrange with the company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary services.

2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
3. Obtain easements to bring temporary utilities to the site, where the Owner's easements cannot be used for that purpose.
4. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner or Architect, and will not be accepted as a basis of claims for a Change Order.

B. Water Service: Install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use.
1. Sterilization: Sterilize temporary water piping prior to use.

C. Temporary Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload protected disconnects, automatic ground-fault interrupters and main distribution switch gear.
1. Power Distribution System: Install wiring overhead, and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, AC 20 ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.

D. Temporary Lighting: Whenever overhead floor or roof deck has been installed, provide temporary lighting with local switching.
1. Install and operate temporary lighting that will fulfill security and protection requirements, without operating the entire system, and will provide adequate illumination for construction operations and traffic conditions.

E. Sewers and Drainage: If sewers are available, provide temporary connections to remove effluent that can be discharged lawfully. If sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds and similar facilities. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off the site in a lawful manner.
1. Maintain temporary sewers and drainage facilities in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.

F. Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of storm water from heavy rains.

3.03 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

A. Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access.
1. Maintain temporary construction and support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.

B. Temporary Heat: Provide temporary heat required by construction activities, for curing or drying of completed installations or protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.
1. Use of gasoline-burning space heaters, open flame, or salamander type heating units is prohibited.

C. Field Offices: Provide insulated, weathertight temporary offices of sufficient size to accommodate contractor's office personnel at the Project site, and similar separate office for architect and owner's representative. Keep the office clean and orderly for use for small progress meetings. Furnish and equip offices as follows:
1. Contractor's offices: Furnish suitably with not less than a desk and chairs, a 4-drawer file cabinet, plan table and plan rack and a 6-shelf bookcase.

D. Storage and Fabrication Sheds: Install storage and fabrication sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on the site.

E. Temporary Paving: Construct and maintain temporary roads and paving to adequately support the indicated loading and to withstand exposure to traffic during the construction period. Locate temporary paving for roads, storage areas and parking where the same permanent facilities will be located.

F. Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
   1. Provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Provide covered waste containers for used material.

G. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.

H. Drinking Water Facilities: Provide containerized tap-dispenser bottled-water type drinking water units, including paper supply.

I. Temporary Enclosures: Provide temporary enclosure for protection of construction in progress and completed, from exposure, foul weather, other construction operations and similar activities.
   1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
   2. Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 square feet or less with plywood or similar materials.
   3. Close openings through floor or roof decks and horizontal surfaces with load-bearing wood-framed construction.

J. Project Identification Sign: Furnished by Owner--NIC.

K. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.

L. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F (27 deg C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner.

3.04 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations."
   1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
   2. Store combustible materials in containers in fire-safe locations.
   3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas.
   4. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.

B. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.

C. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.
   1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.

D. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result.

E. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site.

3.05 OPERATION, TERMINATION AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.

B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
   1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour day basis where required to achieve indicated results and to avoid possibility of damage.

C. Protection: Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

D. Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.

E. Remove temporary paving that is not intended for or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that does not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances which might impair growth of plant materials or lawns.

F. Repair or replace street paving, curbs and sidewalks at the temporary entrances, as required by the governing authority.

G. At Substantial Completion, clean and renovate permanent facilities that have been used during the construction period, including but not limited to:
   1. Replace air filters and clean inside of ductwork and housings.
   2. Replace significantly worn parts and parts that have been subject to unusual operating conditions.
   3. Replace lamps that are burned out or noticeably dimmed by substantial hours of use.

END OF SECTION

SECTION 01 5100

FIELD ENGINEERING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. General: This Section specifies administrative and procedural requirements for field engineering services, including, but not necessarily limited to, the following:
   1. Land survey work.
   2. Underground systems certification.

1.03 SUBMITTALS

A. Certificates: Submit a certificate signed by the Land Surveyor or Professional Engineer certifying that the location and elevation of improvements comply with the Contract Documents.

B. Final Property Survey: Submit three (4) copies and one (1) CAD disk of both the final property survey and the certification of underground systems, signed and sealed by Land Surveyor.

C. Project Record Documents: Submit a record of Work performed and record survey data as required under provisions of Sections "Submittals" and "Project Closeout".

1.04 QUALITY ASSURANCE

A. Surveyor: Engage a Land Surveyor or Professional Engineer experienced and specializing in land survey work, who is registered in the State of Florida, to perform land surveying services specified in this section.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify layout information shown on the Drawings, in relation to the property survey and existing benchmarks before proceeding to layout the Work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.
   1. Do not change or relocate benchmarks or control points without prior written approval. Promptly report lost or destroyed reference points, or requirements to relocate reference points because of necessary changes in grades or locations.
   2. Promptly replace lost or destroyed project control points. Base replacements on the original survey control points.

B. Establish and maintain a minimum of two permanent benchmarks on the site, referenced to data established by survey control points.
   1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

C. Existing utilities and equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction.
   1. Prior to construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer and water service piping.

3.02 PERFORMANCE

A. Working from lines and levels established by the property survey, establish benchmarks and markers to set lines and levels at each story of construction and elsewhere as needed to properly locate each element of the Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimensions.
   1. Advise entities engaged in construction activities, of marked lines and levels provided for their use.

2. As construction proceeds, check every major element for line, level and plumb.

B. Surveyor's Log: Maintain a surveyor's log of control and other survey Work. Make this log available for reference.
   1. Record deviations from required lines and levels, and advise the Architect when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted and not corrected.
   2. On completion of foundation walls, major site improvements, and other Work requiring field engineering services, prepare a certified survey showing dimensions, locations, angles and elevations of construction and sitework.

C. Site Improvements: Locate and lay out site improvements, including pavements, stakes for grading, fill and topsoil placement, utility slopes and invert elevations by instrumentation and similar appropriate means.

D. Building Lines and Levels: Locate and lay out batter boards for structures, building foundations, column grids and locations, floor levels and control lines and levels required for mechanical and electrical Work.

E. Final Property Survey: Before Substantial Completion, prepare a final property survey showing significant features (real property) for the Project. Include on the survey a certification, signed by the Surveyor, to the effect that principal metes, bounds, lines and levels of the Project are accurately positioned as shown on the survey.

F. Certification of Underground Systems: In addition to the Final Property Survey, the surveyor must certify to the as-built locations and elevations of all underground systems as specified in individual sections of Divisions 2 through 16.

END OF SECTION

SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Transportation, handling, storage and protection.

B. Product option requirements.

C. Substitution limitations and procedures.

1.02 RELATED SECTIONS

A. Refer to CODB Instructions to Bidders for Product options and substitution procedures prior to bid date.

B. Section 01 4000 - Quality Requirements: Product quality monitoring.

1.03 REFERENCES

A. NFPA 70 - National Electrical Code; National Fire Protection Association; 2005.

1.04 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

B. Do not use products having any of the following characteristics:
   1. Made, using or containing CFC's or using HCFC's in the manufacturing process.
   2. Made of wood from newly cut old growth timber.

C. Where all other criteria are met, General Contractor shall give preference to products that:
   1. Are extracted, harvested, and/or manufactured closer to the location of the project.
   2. Have longer documented life span under normal use.
   3. Result in less construction waste.
   4. Are made of vegetable materials that are rapidly renewable.

D. Provide interchangeable components of the same manufacture for components being replaced.

E. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Size terminal lugs to NFPA 70, include lugs for terminal box.

F. Cord and Plug: Provide minimum 6 foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

2.02 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section.

B. Hall & Ogle Architects, Inc. will consider requests for substitutions only within 30 days after date of Agreement.

C. Substitutions may be considered when a product becomes unavailable through no fault of the contractor.

D. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

E. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Will provide the same warranty, at minimum, for the substitution as for the specified product.
   3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to City of Daytona Beach.
   4. Waives claims for additional costs or time extension which may subsequently become apparent.
   5. Will reimburse City of Daytona Beach and Hall & Ogle Architects, Inc. for review or redesign services associated with re-approval by authorities.
   6. Will allow cost savings associated with substitution to reduce Contract Sum.

F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

G. Substitution Submittal Procedure:
   1. Submit four copies of request for substitution for consideration. Limit each request to one proposed substitution.
   2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
   3. Hall & Ogle Architects, Inc. will notify General Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

B. Transport and handle products in accordance with manufacturer's instructions.

C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

D. For exterior storage of fabricated products, place on sloped supports above ground.

E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 6100

SUBMITTALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work including;
   1. Contractor's construction schedule
   2. Submittal schedule
   3. Product Data
   4. Daily construction reports
   5. Shop Drawings
   6. Samples

B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
   1. Permits
   2. Performance and payment bonds
   3. List of Subcontractors
   4. The Schedule of Values submittal is included in Section "Applications for Payment"
   5. Inspection and test reports are included in Section "Quality Control Services"
   6. Applications for Payment
   7. Insurance certificates

1.03 SUBMITTAL PROCEDURES

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
   2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
      a. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
   3. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
      a. Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Architect will promptly advise the Contractor when a submittal being processed must be delayed for coordination.
      b. If an intermediate submittal is necessary, process the same as the initial submittal.
      c. Allow two weeks for reprocessing each submittal.
      d. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.

B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
   1. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
   2. Include the following information on the label for processing and recording action taken.
      a. Project name.
      b. Date.

c. Name and address of Architect.
d. Name and address of Contractor.
e. Name and address of subcontractor.
f. Name and address of supplier.
g. Name of manufacturer.
h. Number and title of appropriate Specification Section.
i. Drawing number and detail references, as appropriate.

C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.
1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements. Submittals without Contractor Certification of compliance will be returned without review.
2. Transmittal Form: Use AIA Document G 810.

1.04 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart type Contractor's construction schedule. Submit within 7 days of the date established for "Commencement of the Work".
1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values".
2. Within each time bar indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.
3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the Work.
5. Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
6. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.

B. Distribution: Following response to the initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project meeting room and temporary field office.
1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

C. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.05 SUBMITTAL SCHEDULE

A. After development and acceptance of the Contractor's construction schedule, prepare a complete schedule of submittals. Submit the schedule within 10 days of the date required for establishment of the Contractor's construction schedule.
1. Coordinate submittal schedule with the list of subcontracts, schedule of values and the list of products as well as the Contractor's construction schedule.

2. Prepare the schedule in chronological order; include submittals required during the first 90 days of construction. Provide the following information:
    a. Scheduled date for the first submittal.
    b. Related Section number.
    c. Submittal category.
    d. Name of subcontractor.
    e. Description of the part of the Work covered.
    f. Scheduled date for resubmittal.
    g. Scheduled date the Architect's final release or approval.

B. Distribution: Following response to initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.
    1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

C. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.06 DAILY CONSTRUCTION REPORTS

A. Prepare a daily construction report, recording the following information concerning events at the site:
    1. List of subcontractors at the site.
    2. Approximate count of personnel at the site.
    3. High and low temperatures, general weather conditions.
    4. Accidents and unusual events.
    5. Meetings and significant decisions.
    6. Stoppages, delays, shortages, losses.
    7. Meter readings and similar recordings.
    8. Emergency procedures.
    9. Orders and requests of governing authorities.
    10. Change Orders received, implemented.
    11. Services connected, disconnected.
    12. Equipment or system tests and start-ups.
    13. Partial Completions, occupancies.
    14. Substantial Completions authorized.

1.07 SHOP DRAWINGS

A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
    1. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" but no larger than 24" x 36".

B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:
    1. Dimensions.
    2. Identification of products and materials included.
    3. Compliance with specified standards.
    4. Notation of coordination requirements.
    5. Notation of dimensions established by field measurement.

C. Submittal: Submit a minimum of 6 sets of blue- or black-line prints. Three prints will be retained; the remainder will be returned. Submit additional copies as required for contractor's use.

1. Maintain one of the marked-up prints returned, as a "Record Document".
2. Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.
3. Only Final reviewed shop drawings which have been reviewed by the Architect and the design Structural Engineer shall be used for fabrication and the field installation of products or assemblies of products. Modification of reviewed shop drawings by the manufacturer or fabricator for “Field Use” is prohibited unless proposed modifications have been reviewed by the Architect.

D. Coordination drawings are a special type of Shop Drawing that show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or function as intended.
   1. Preparation of coordination Drawings is specified in section "Project Coordination" and may include components previously shown in detail on Shop Drawings or Product Data.
   2. Submit coordination Drawings for integration of different construction elements. Show sequences and relationships of separate components to avoid conflicts in use of space.

1.08 PRODUCT DATA

A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."
   1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
      a. Manufacturer's printed recommendations.
      b. Compliance with recognized trade association standards.
      c. Compliance with recognized testing agency standards.
      d. Application of testing agency labels and seals.
      e. Notation of dimensions verified by field measurement.
      f. Notation of coordination requirements.

B. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.

C. Submittals: Submit 3 copies of each required submittal; submit 4 copies where required for maintenance manuals. The Architect will retain two, and will return the other marked with action taken and corrections or modifications required.
   1. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

D. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
   1. Do not proceed with installation until an applicable copy of Product Data applicable is in the installer's possession.
   2. Do not permit use of unmarked copies of Product Data in connection with construction.

1.09 SAMPLES

A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
   1. Mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. Prepare Samples to match the Architect's Sample. Include the following:
      a. Generic description of the Sample.
      b. Sample source.
      c. Product name or name of manufacturer.

d. Compliance with recognized standards.
e. Availability and delivery time.

B. Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
1. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.
2. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.

C. Preliminary submittals: Where Samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.
1. Preliminary submittals will be reviewed and returned with the Architect's mark indicating selection and other action.

D. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, submit 2 sets; one will be returned marked with the action taken.

E. Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of construction.
1. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
2. Sample sets may be used to obtain final acceptance of the construction associated with each set.

F. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work. Show distribution on transmittal forms.

G. Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.
1. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.10 ARCHITECT'S ACTION

A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal, mark to indicate action taken, and return promptly.
1. Compliance with specified characteristics is the Contractor's responsibility.

B. Action Stamp: The Architect will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:
1. Final Unrestricted Release: Where submittals are marked "Reviewed," that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
2. Final-But-Restricted Release: When submittals are marked "Furnish as Corrected," that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
3. Returned for Resubmittal: When submittal is marked "Rejected or Revise and Resubmit," do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.

a. Do not permit submittals marked "Rejected or Revise and Resubmit" to be used at the Project site, or elsewhere where Work is in progress.

4. Other Action: Where a submittal is primarily for information or record purposes, special processing or other activity, the submittal will be returned, marked "Review Not Required". Where a submittal is marked also "Submit Specified Item", further submittal information is required.

PART 2 - PRODUCTS (NOT APPLICABLE).

PART 3 - EXECUTION (NOT APPLICABLE).

END OF SECTION

SECTION 01 7000

PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
   1. Inspection procedures.
   2. Project record document submittal.
   3. Operating and maintenance manual submittal.
   4. Submittal of warranties.
   5. Final cleaning.
   6. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions-2 through -16.

1.03 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
   1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
      a. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
   2. Advise Owner of pending insurance change-over requirements.
   3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
   4. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.
   5. Submit record drawings, maintenance manuals, final project photographs, damage or settlement survey, property survey, and similar final record information.
   6. Deliver tools, spare parts, extra stock, and similar items.
   7. Make final change-over of permanent locks and transmit keys to the Owner. Advise the Owner's personnel of change-over in security provisions.
   8. Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
   9. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.

B. Inspection Procedures: On receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
   1. The Architect will repeat inspection when requested and assured that the Work has been substantially completed.
   2. Results of the completed inspection will form the basis of requirements for final acceptance.

C. Occupancy Inspection:

1. The Architect, contractor and owner's representative, will conduct an inspection of the work to be occupied. Upon approval, the owner may occupy that portion of the work. The contractor shall cooperate, and participate in this inspection.

1.04 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
   1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
   2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
   3. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Architect.
   4. Submit consent of surety to final payment.
   5. Submit a final liquidated damages settlement statement.
   6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Reinspection Procedure: The Architect will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Architect.
   1. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
   2. If necessary, reinspection will be repeated.

1.05 RECORD DOCUMENT SUBMITTALS

A. General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's reference during normal working hours.

B. Record Drawings (As-built Plans): Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
   1. Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.
   2. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.
   3. Note related Addenda, Field Order and Change Order numbers where applicable.
   4. The Contractor shall employ a Drafting Service at or near completion of the project for conversion of the marked-up As-built plans to CAD drawings compatible with Architect’s/Owner's CAD capabilities. Coordinate with Architect to verify compatibility and obtain electronic copy of drawing documents.
   5. The document changes shall be kept up-to-date and will be reviewed by the Architect/Engineer at the monthly progress meetings. Monthly progress payments will not be approved until changes to "as-built" drawings are current.

C. The Contractor shall record all changes made in the field as a “hard copy” set, and shall forward both the completed electronic and “hard-copy” versions of "as-built" Construction Record documents to the Architect's office for the Owner's records. Also reference and include the final property survey and certification of underground systems as required by Section 01050.

D. Record Specifications: Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.
   1. Upon completion of the Work, submit record Specifications to the Architect for the Owner's records.

E. Maintenance Manuals: Organize operating and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual heavy-duty 2-inch, 3-ring vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Include the following types of information:
   1. Emergency instructions.
   2. Spare parts list.
   3. Copies of warranties.
   4. Wiring diagrams.
   5. Recommended "turn around" cycles.
   6. Inspection procedures.
   7. Shop Drawings and Product Data.
   8. Fixture lamping schedule.
   9. Submit three (3) sets of all maintenance manuals.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.01 CLOSEOUT PROCEDURES

A. Operating and Maintenance Instructions: Arrange for each installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:
   1. Maintenance manuals.
   2. Record documents.
   3. Spare parts and materials.
   4. Tools.
   5. Lubricants.
   6. Fuels.
   7. Identification systems.
   8. Control sequences.
   9. Hazards.
   10. Cleaning.
   11. Warranties and bonds.
   12. Maintenance agreements and similar continuing commitments.

B. As part of instruction for operating equipment, demonstrate the following procedures:
   1. Start-up.
   2. Shutdown.
   3. Emergency operations.
   4. Noise and vibration adjustments.
   5. Safety procedures.
   6. Economy and efficiency adjustments.
   7. Effective energy utilization.

C. Submit three (3) sets of all closeout documents (Maintenance Manuals, Warranties, and other similar documents).

3.02 FINAL CLEANING

A. General: General cleaning during construction is required by the General Conditions and included in Section "Temporary Facilities".

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

1. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.
    a. Remove labels that are not permanent labels.
    b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
    c. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.
    d. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
    e. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.
2. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
3. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.
    a. Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.

END OF SECTION

SECTION 03 3500
CONCRETE FINISHING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Single application sealer-hardener for existing concrete floors.
   2. Precautions for avoiding staining concrete before and after application.

1.02 REFERENCES

A. American National Standards Institute (ANSI):
   1. ANSI B101.1 Test Method for Measuring Wet SCOF of Common Hard-Surface Floors.
   2. ANSI B101.3 Test Method for Measuring Wet DCOF of Common Hard-Surface Floors.

B. ASTM International (ASTM):
   1. ASTM C39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
   2. ASTM C779 Standard Test Method for Abrasion Resistance of Horizontal Concrete Surfaces.
   3. ASTM C805 Standard Test Method for Rebound Number of Hardened Concrete.
   4. ASTM C1028 Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method.
   5. ASTM D3359 Standard Test Methods for Measuring Adhesion by Tape Test.
   6. ASTM G23 Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials (Withdrawn 2000).

C. National Floor Safety Institute (NFSI):
   1. Certified as High Traction by the National Floor Safety Institute (NFSI), Phase 2 testing.

1.03 SUBMITTALS

A. Product Data: Submit product data, including manufacturer's Spec-Data® sheet, installation instructions and technical bulletins for specified products.

B. Certificates: Manufacturer's certification that the installer is acceptable.

C. Maintenance Data: Maintenance instructions, including precautions for avoiding staining after application.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Acceptable to the manufacturer.

1.05 DELIVERY, STORAGE & HANDLING

A. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

B. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

C. Handling: Protect materials from dirt, corrosion, oil, grease and other contaminants.

PART 2 PRODUCTS

2.01 MATERIAL

A. Basis of Design Manufacturer: Curecrete Distribution, Inc. or equal as approved by the architect.
   1. Contact: 1203 W. Spring Creek Place, Springville, UT 84663-0551; Telephone: (800) 998-5664, (801) 489-5663; Fax: (801) 489-3307; Email: info@ashfordformula.com; Website: www.ashfordformula.com.

B. Cure-Seal-Hardener: Ashford Formula, a water-based, chemically reactive penetrating sealer and hardener that densifies concrete to seal against water molecules, but allows air and water vapor to pass, so that concrete can achieve full compressive strength for minimized surface crazing and elimination of dusting.

1. Abrasion Resistance to Revolving Disks: At least a 32.5% improvement over untreated samples when tested in accordance with ASTM C779.
2. Surface Adhesion: At least a 22% increase in adhesion for epoxy when tested in accordance with ASTM D3359.
3. Hardening: As follows when tested in accordance with ASTM C39:
   a. After 7 Days: An increase of at least 40% over untreated samples.
   b. After 28 Days: An increase of at least 38% over untreated samples.
4. Coefficient of Friction: 0.86 dry, 0.69 wet when tested in accordance with ASTM C1028.
5. Rebound Number: An increase of at least 13.3% over untreated samples when tested in accordance with ASTM C805.
6. Light Exposure Degradation: No evidence of adverse effects on treated samples when tested in accordance with ASTM G23.
7. Test Method for Measuring Wet SCOF of Common Hard-Surface Floors in accordance with ANSI B101.1.
8. Test Method for Measuring Wet DCOF of Common Hard-Surface Floors in accordance with ANSI B101.3.
9. Certified as High Traction by the National Floor Safety Institute (NFSI), Phase 2 testing.

2.02 PRODUCT SUBSTITUTIONS

A. Equal products from other manufactures as determined by the architect.
   1. Substitutions: Substitutions in accordance with Section 01 6000 Product Requirements.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.02 EXAMINATION

A. Do not begin installation until substrates have been properly prepared and are suitable for application of product.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.03 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Do not use frozen material. Thaw and agitate prior to use.

D. If construction equipment must be used for application, diaper all components that might drip oil, hydraulic fluid or other liquids.

3.04 INSTALLATION

A. New Concrete: Apply cure-seal hardener to new concrete as soon as the concrete is firm enough to work on after troweling; with colored concrete, wait a minimum of 30 days before application.
   1. Spray on at rate of 200 ft2/gal (5 m2/L).
   2. Keep surface wet with cure-seal-hardener for a minimum soak-in period of 30 minutes without allowing it to dry or become slippery. If slipperiness occurs before the 30 minute time period has elapsed, apply additional cure-seal-hardener, as needed, to keep the entire surface in a non-slippery state for the first 15 minutes; for the remaining 15 minutes, mist the surface as needed with water to keep the material in a non-slippery state. In hot weather conditions, follow manufacturer's special application procedures.
   3. When the treated surface becomes slippery after this period, lightly mist with water until slipperiness disappears.

4. Wait for surface to become slippery again, and then flush entire surface with water to remove all cure-seal-hardener residue.
5. Squeegee surface completely dry, flushing any remaining slippery areas until no residue remains.
6. Wet vacuum or scrubbing machines can be used in accordance with manufacturer's instructions to remove residue.

B. Existing Concrete: Apply cure-seal-hardener only to clean, bare concrete.
1. Thoroughly remove previous treatments, laitance, oil and other contaminants.
2. Saturate surface with cure-seal-hardener; respray or broom excess onto dry spots.
3. Keep surface wet with cure-seal-hardener for a minimum soak-in period of 30-40 minutes.
4. If most of the material has been absorbed after the 30 minute soak-in period, remove all excess material, especially from low spots, using broom or squeegee.
5. If most of the material remains on the surface after the 30 minute soak-in period, wait until the surface becomes slippery and then flush with water, removing all cure-seal-hardener residue. Squeegee completely dry, flushing any remaining slippery areas until no residue remains.
6. If water is not available, remove residue using squeegee.

3.05 PROTECTION

A. Protect installed floors for at least 3 months until chemical reaction process is complete.
1. Do not allow traffic on floors for 3 hours after application.
2. Do not allow parking of vehicles on concrete slab.
3. If vehicles must be temporarily parked on slab, place drop cloths under vehicles during entire time parked.
4. Do not allow pipe cutting using pipe cutting machinery on concrete slab.
5. Do not allow temporary placement and storage of steel members on concrete slabs.
6. Clean up spills immediately and spot-treat stains with degreaser or oil emulsifier.
7. Clean floor regularly in accordance with manufacturer's recommendations.

END OF SECTION

SECTION 06 4100
ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specially fabricated cabinet units.

B. Countertops.

C. Cabinet hardware.

D. Preparation for installing utilities.

1.02 RELATED REQUIREMENTS

A. Section 092600 - Gypsum Board Assemblies.

B. Section 099000 - Paints and Coatings.

1.03 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.

C. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.

D. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

E. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

1.04 SUBMITTALS

A. See Section 01 3000 - Submittals, for submittal procedures.

B. Product Data: Provide product data for specified hardware accessories.

C. Wood for Transparent Finish: Submit three samples for approval, minimum 3" x 6" of each transparent finish to be used on wood of the same quality and species. Approved samples will be used to establish the standard for material and finish color and quality and will be used as control samples.

1.05 QUALITY ASSURANCE

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage and other types of damage.

1.07 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

1.08 EXTRA MATERIALS

A. Provide one box of each type of shelf support bracket and/or pin.

PART 2 PRODUCTS

2.01 CABINETS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

2.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.03 LAMINATE MATERIALS

A. Manufacturers - Architect shall be allowed to choose from the following:
   1. Formica Corporation; ____: www.formica.com.
   2. Nevamar Decorative Surfaces: www.nevamar.com.
   3. Wilsonart; ____: www.wilsonart.com.

4. Pionite Decorative Surfaces: www.pionite.com
5. Substitutions: Not permitted.

B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications and as follows:
1. Horizontal Surfaces: HGS, 0.048 inch nominal thickness, through color, colors as scheduled, finish as scheduled.
2. Vertical Surfaces: VGS, 0.028 inch nominal thickness, through color, colors as scheduled, finish as scheduled.
3. Post-Formed Horizontal Surfaces: HGP, 0.039 inch nominal thickness, through color, colors as scheduled, finish as scheduled.
4. Flame Retardant Surfaces: HGF, 0.048 inch nominal thickness, through color, colors as scheduled, finish as scheduled.
5. Cabinet Liner: CLS, 0.020 inch nominal thickness, through color, colors as scheduled, finish as scheduled.
6. Laminate Backer: BKL, 0.020 inch nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.

2.04 COUNTERTOPS

A. Plastic Laminate for Countertops and Cabinets: Medium density fiberboard substrate covered with HPDL, conventionally fabricated and self-edge banded.

2.05 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Fasteners: Size and type to suit application.

C. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations.

D. Concealed Joint Fasteners: Threaded steel.

E. Grommets: plastic material for cut-outs. 2-inch size unless noted otherwise on drawings. Locate as indicated on drawings.

F. Closet Shelf Bracket: Type indicated on drawings. Prime painted for field finishing.

G. Coat Rod: 1" diameter chrome finished steel rod or pipe, lengths to fit application.

H. Door and Drawer Silencers: Rubber or neoprene "button" type, installed at all locations.

I. Counter Supports: Provide steel as indicated on drawings to provide support of counter tops. Include additional steel as needed to provide necessary support when not shown.

2.06 HARDWARE

A. Shelf Standards and Rests: recessed metal shelf standards. Install at all locations indicated on drawings, unless noted otherwise.

B. Shelf Standards and Rests: multiple holes for pin supports. Install only at specific locations indicated on drawings.

C. Drawer and Door Pulls: Aluminum with saitin finish, unless indicated otherwise on drawings.
1. "U" Shape Pull, 4" centers, Hafele, Model 116.05.922, or equal. Install at all locations except as listed below.
2. Extruded Pull, 4" wide, Hafele, Model 124.02.920, or equal. Install only as indicated on drawings. Fully mortise into top of drawer front.

D. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with satin finish. Provide all parts and pieces necessary for a full and complete installation. Determine model number by application.
1. Single Doors/Drawers: Hafele, Cylinder Module System, Dead Bolt Lock, or equal.
2. Double Doors: Hafele, Cylinder Module System, Double Dead Bolt Lock, or equal.

3. Multiple Drawers: Hafele, Cylinder Module System, Central Locking Single Pedestal, Front Mount, or equal.
4. Keying:
   a. Key all cabinets within a room identically.
   b. Furnish 5 keys for each room.
   c. Furnish 5 master keys.

E. Catches: Touch type.
1. Hafele, Model 245.50.301, or equal. Install where indicated on drawings.

F. Hinges: Frameless concealed (European) type, 95 degrees of opening.
1. Hafele, Model 329.01.509, or equal. Self-closing type. Install at all locations except as listed below.
2. Hefele, Model 329.00.502, or equal. Free-swinging type. Install at flipper/pocket doors only.

2.07 SHOP TREATMENT OF WOOD MATERIALS

A. Provide UL (DIR) listed and approved identification on fire retardant treated material.

B. Deliver fire retardant treated materials cut to required sizes. Minimize field cutting.

2.08 FABRICATION

A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.

B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.

C. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.

D. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.
1. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
2. Cap exposed plastic laminate finish edges with scheduled solid surfacing edging.

E. Provide cutouts for louvers, plumbing fixtures, inserts, appliances, outlet boxes, and fixtures and fittings. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

C. Verify location and sizes of utility rough-in associated with work of this section.

3.02 INSTALLATION

A. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

B. Use fixture attachments in concealed locations for wall mounted components.

C. Use concealed joint fasteners to align and secure adjoining cabinet units and countertops.

D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.

E. Secure cabinets to floor using appropriate angles and anchorages.

F. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

3.03 ADJUSTING

A. Test installed work for rigidity and ability to support loads.

B. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

A. Clean casework, counters, shelves, hardware, fittings, drawer and cabinet interiors, and fixtures.

END OF SECTION

SECTION 07 4100

PREFORMED METAL STANDING SEAM ROOFING

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. This section covers the pre-finished, pre-fabricated Architectural standing seam roof system. All metal trim, accessories, fasteners, insulation and sealants indicated on the drawings as part of this section.

B. Drawings and general provisions of the Contract, including general and Supplementary Conditions and Division 01 Specifications, apply to this section.

C. Related Work Specified Elsewhere
   1. Flat roof systems, perimeter edge systems.

1.02 SUMMARY

A. Section Includes
   1. Factory formed Standing Seam metal roof panels

B. Related work specified elsewhere.
   1. Section 076100 - Flashing and Sheet Metal

1.03 DEFINITIONS

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

B. References:
   1. American Society for Testing and Materials (ASTM)
      a. ASTM A 653: Steel Sheet, Zinc Coated by the Hot Dip Process
      b. ASTM A 792: Steel Sheet, Aluminum-Zinc Alloy Coated by the Hot Dip Process
      c. ASTM B 209: Aluminum and Aluminum Alloy Sheet and Plate
      d. ASTM B370 Standard Specification for Copper Sheet and Strip for Building Construction
   2. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
      a. SMACNA Architectural Sheet Metal Manual, 1993 edition
   3. American Iron and Steel Institute (AISI)
      a. AISI Cold Formed Steel Design Manual
   4. Aluminum Association
      a. Aluminum Design Manual
   5. Metal Construction Association
      a. Preformed metal Wall Guidelines
   6. Code References
      a. ASCE, Minimum Loads for Buildings and Other Structures
      b. BOCA National Building Codes
      c. UBC Uniform Building Code
      d. SBC Standard Building Code

1.04 QUALITY ASSURANCE

A. Petersen Aluminum Corp, Acworth, GA, 800-272-4482 products establish a minimum of quality required.

B. Manufacturer and erector shall demonstrate experience of a minimum of five (5) years in this type of project.

1.05 SUBSTITUTIONS

A. The material, products and equipment specified in this section establish a standard for required function, dimension, appearance and quality to be met by any proposed substitution.

1.06 SYSTEM DESCRIPTION

A. Material to comply with:
   1. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate

1.07 ROOF SYSTEM PERFORMANCE TESTING

A. General Performance: Metal roof panels shall comply with performance requirements without failure due to defective manufacture, fabrication, installation or other defects in construction.

B. Roof System shall be designed to meet Wind Load requirements as specified on the structural documents.

C. Provide current Florida Product Approval Number or local product approval as required by building department.

D. Panels to meet:
   1. Water Penetration: When tested per ASTM E-283/1680 and ASTM E-331/1646 there shall be no uncontrolled water penetration or air infiltration through the panel joints.
   2. Roof System shall be designed to meet a UL Class 90 wind uplift in accordance with UL standard 580 and panel system shall be ASTM 1592 Tested and approved
   3. UL 2218 - Impact Resistance rated

1.08 WARRANTIES

A. Weathertight warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace standing seam metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
   1. Warranty Period: 20 Years from date of Substantial Completion

B. Finish warranty: Manufacturer's standard form in which manufacturer agrees to repair finish or replace standing seam metal roof panels that show evidence of deterioration of factory-applied finish within specified warranty period.
   1. Exposed Panels Finish - deterioration includes the following:
      a. Color fading more than 5 hunter units when tested according to ASTM D 2244
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214
      c. Cracking, checking, peeling or failure of a paint to adhere to a bare metal.
   2. Warranty Period: 20 Years from the date of substantial completion

C. Applicator shall furnish written warranty for a two (2) year period from date of substantial completion of building covering repairs required to maintain roof and flashings in watertight condition.

1.09 SUBMITTALS

A. Furnish detailed drawings showing profile and gauge of exterior sheets, location and type of fasteners, location, gauges, shape and method of attachment of all trim locations and types of sealants, and any other details as may be required for a weather-tight installation.

B. Provide finish samples of all colors specified.

C. Shop drawings: Show fabrication and installation layouts of metal roof panels, metal wall panels or metal soffit panels, details of edge conditions, side-seam joints, panel profiles, corners, anchorages, trim, flashings, closures and accessories, and special details. Distinguish between factory and field-assembled work

D. Coordination Drawings: Roof plans, drawn to scale, on which the following are shown and coordinated with each other, base don input from installer of the items involved:
   1. Roof panels and attachments
   2. Metal trusses, bracings and supports
   3. Roof-mounted items including snow guards and items mounted on roof curbs.

1.10 DELIVERY, STORAGE AND HANDLING

A. Ordering: Comply with manufacturer's ordering instruction and lead time requirements to avoid construction delays.

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

C. Unload, store and erect metal roof panels in a manner to prevent bending, warping, twisting and surface damage.

D. Stack metal roof panels on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal roof panels to ensure dryness. Do not store metal roof panels in contact with other materials that might cause staining, denting or other surface damage.

E. Protect strippable protective coating on any metal coated product from exposure to sunlight and high humidity, except to the extent necessary for material installation.

1.11 PROJECT CONDITIONS

A. Weather Limitations: proceed with installation only when existing and forecasted weather conditions permit metal roof panel work to be performed.

B. Field Measurements: Verify actual dimensions of construction contiguous with metal roof panels by field measurements before fabrication.

1.12 COORDINATION

A. Coordinate sizes and locations of roof curbs, equipment supports and roof penetrations with actual equipment provided.

B. Coordinate metal roof panels with rain drainage work, flashing, trim and construction of decks, parapet walls and other adjoining work to provide a leakproof, secure and noncorrosive installation.

PART 2 - PRODUCTS

2.01 PANEL DESIGN

A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates and accessories required for a weathertight installation.

B. Roof panels shall be standing seam Tite-Loc Plus in 18" widths with 2" high seams that are mechanically seamed together @ 180 degrees.

C. Panels to be produced with Factory supplied hot melt mastic in the seams.

D. Panels to be produced Smooth - Factory Standard.

E. Panels to be designed for attachment with concealed fastener clips, spaced as required by the manufacturer to provide for both positive and negative design loads, while allowing for the expansion and contraction of the entire roof system resulting from variations in temperature.

F. Forming: Use continuous end rolling method. No end laps on panels.

2.02 ACCEPTABLE MANUFACTURERS

A. This project is detailed around the roofing product of Petersen Aluminum Corporation Petersen Aluminum Corp, Acworth, GA, 800-272-4482, Tite-Loc Plus.

B. Alternate Manufacturers:
   1. Merchant and Evans
   2. Bemo Usa
   3. Imetco

2.03 MATERIALS AND FINISHES

A. Preformed roofing panels shall be fabricated of .040 Aluminum

B. Color shall be as selected by Architect.

C. Finish shall be Kynar 500 or Hylar 5000 Fluorocarbon coating with a top side film thickness of 0.70 to 0.90 mil over a 0.25 to 0.3 mil prime coat to provide a total dry film thickness of 0.95 to

1.25 mil, to meet AAMA 621. Bottom side shall be coated with a primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesions, flexibility and longevity as specified by Kynar 500 or Hylar 5000 finish supplier.

D. If Strippable coating to be applied on the pre-finished panels to the top side to protect the finish during fabrication, shipping and handling, film shall be removed before installation.

E. Trim: Trim shall be fabricated of the same material and finish to match the profile, and will be press broken in lengths of 10 to 12 feet. Trim shall be formed only by the manufacturer of their approved dealer. Trim to be erected in overlapped condition. Use lap strips only as indicated on drawings. Miter conditions shall be factory welded material to match the sheeting.

F. Closures: use composition or metal profiled closures at the top of each elevation to close ends of the panels. Metal closures to be made in the same material and finish as face sheet.

G. Fasteners: Fasteners shall be of type, material, size, corrosion resistance, holding power and other properties required to fasten miscellaneous framing members to substrates.

H. Substrate shall be Plywood

I. Roofing Underlayment
   1. On all surfaces to be covered with roofing material, furnish and install a 40 mil "Peel & Stick membrane", required as outlined by metal panel manufacturer. Membrane to be a minimum of 40 mil thickness, smooth, non-granular, by one of the following manufacturers:
      a. W.R Grace "Ice & water Shield"
      b. Cetco Strongseal
      c. Carlisle CCW WIP 300HT
      d. Interwrap Titanium PSU
      e. MFM Corp "Wind & Water Shield"
      f. Polyguard Deck Guard HT of Polyglas HT
      g. Tamko TW Tile and Metal Underlayment
   2. Underlayment shall be laid in horizontal layers with joints lapped toward the eaves a minimum of 6", and well secured along laps and at ends as necessary to properly hold the felt in place. All underlayment shall be preserved unbroken and whole.
   3. Ice and Water Shield shall lap all hips and ridges at least 12" to form double thickness and shall be lapped 6" over the metal of any valley or built-in gutters and shall be installed as required by the Standing Seam Panel Manufacturer to attain the desired 20 Year Weathertightness Warranty.

J. Sealants
   1. Provide two-part polysulfide class B non-sag type for vertical and horizontal joints or
   2. one part polysulfide not containing pitch or phenolic extenders or
   3. Exterior grade silicone sealant recommended by roofing manufacturer or
   4. One part non-sag, gun grade exterior type polyurethane recommended by the roofing manufacturer.

2.04 FABRICATION

A. Comply with dimensions, profile limitations, gauges and fabrication details shown and if not shown, provide manufacturer's standard product fabrication.

B. Fabricate components of the system in factory, ready for field assembly.

C. Fabricate components and assemble units to comply with fire performance requirements specified.

D. Apply specified finishes in conformance with manufacturer's standard, and according to manufacturer's instructions.

PART 3 - EXECUTION

3.01 INSPECTION

A. Examine alignment of structural steel and related supports, primary and secondary roof framing, solid roof sheathing, prior to installation.

B. For the record, prepare written report, endorsed by installer, listing conditions detrimental to performance of the Work.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 FASTENERS

A. Secure units to supports per FPA testing.

B. Place fasteners as indicated in manufacturer's standards and as required by testing.

3.03 INSTALLATION

A. Panels shall be installed plumb and true in a proper alignment and in relation to the structural framing. The erector must have at least five years successful experience with similar applications.

B. Install metal panels, fasteners, trim and related sealants in accordance with approved shop drawings and as may be required for a weather-tight installation.

C. Remove all strippable coating and provide a dry-wipe down cleaning of the panels as they are erected.

3.04 DAMAGED MATERIAL

A. Upon determination of responsibility, repair or replace damaged metal panels and trim to the satisfaction of the Architect and Owner.

END OF SECTION

SECTION 07 5500

MODIFIED BITUMEN MEMBRANE ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES:

A. Preparation of Substrate to Receive Roofing Materials

B. Base Sheet Application to Prepared Substrate

C. Roof Membrane Application

D. Roof Flashing Application

E. Incorporation of Sheet Metal Flashing Components and Roofing Accessories into the Roof System

1.02 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

A. Sheet Metal Flashing and Trim

B. Sheet Metal Roofing Specialties

1.03 RELATED SECTIONS

A. Section 076100 - Flashing and Sheet Metal

1.04 REFERENCE STANDARDS

A. References in these specifications to standards, test methods and codes, are implied to mean the latest edition of each such standard adopted. The following is an abbreviated list of associations, institutions, and societies which may be used as references throughout these specifications.

1. ASTM - American Society for Testing and Materials
   Philadelphia, PA
2. FM - Factory Mutual Engineering and Research
   Norwood, MA
3. NRCA - National Roofing Contractors Association
   Rosemont, IL
4. OSHA - Occupational Safety and Health Administration
   Washington, DC
5. SMACNA - Sheet Metal and Air Conditioning Contractors National Association
   Chantilly, VA
6. UL - Underwriters Laboratories
   Northbrook, IL

1.05 SUBMITTALS

A. All submittals which do not conform to the following requirements will be rejected.

1. Two 3 inch x 5 inch samples of the primary roofing and flashing sheets.
2. Latest edition of the roofing system manufacturer's specifications and installation instructions.
3. Descriptive list of the materials proposed for use.
4. Evidence of Underwriters' Laboratories Class A acceptance of the proposed roofing system (including mopping asphalt or cold adhesive) without additional requirements for gravel or coatings. No other testing agency approvals will be accepted.
5. Letter from the proposed primary roofing manufacturer confirming that a phased roof application, with only the modified bitumen base ply in place for a period of up to 10 weeks, is acceptable and approved for this project.
6. Sample copy of the specified guarantee.

B. Submittals Prior to Contract Award:

1. Letter from the proposed primary roofing manufacturer confirming that the bidder is an acceptable installer authorized to install the proposed system.

2. Letter from the primary roofing manufacturer stating that the proposed application will comply with the manufacturer's requirements in order to qualify the project for the specified guarantee.

C. Submittals Prior to Project Close-out:
   1. Certificate Of Analysis from the testing laboratory of the primary roofing materials manufacturer, confirming the physical and mechanical properties of the roofing membrane components. Testing shall be in accordance with the parameters published in ASTM D 5147 and ASTM D 6298* and indicate Quality Assurance/Quality Control data as required to meet the specified properties. A separate Certificate Of Analysis for each production run of material shall indicate the following information:
      a. Material type
      b. Lot number
      c. Production date
      d. Dimensions and Mass (indicate the lowest values recorded during the production run);
         1) Roll length
         2) Roll width
         3) Selvage width
         4) Total thickness
         5) Thickness at selvage (coating thickness)
         6) Weight
      e. Physical and Mechanical Properties;
         1) Low temperature flexibility
         2) Maximum load
         3) Elongation @ 5% Maximum Load (ultimate elongation)
         4) Dimensional stability
         5) High Temperature Stability
         6) Granule embedment
         7) Resistance to thermal shock* (foil faced products)
   2. Manufacturer's printed recommendations for proper maintenance of the specified roof system including inspection frequencies, penetration addition policies, temporary repairs, and leak call procedures.

1.06 QUALITY ASSURANCE

A. Acceptable Products: Primary roofing products, including each type of sheet, all manufactured in the United States, shall be supplied by a single manufacturer which has been successfully producing the specified types of primary products for not less than 10 years. The primary roofing products shall have maintained a consistent composition for a minimum of five years.

B. Agency Approvals: The proposed roof system shall conform to the following requirements. No other testing agency approvals will be accepted.
   1. Underwriters Laboratories Class A acceptance of the proposed roofing system (including mopping asphalt or cold adhesive) without additional requirements for gravel or coatings.
   2. Factory Mutual Approval Standard 4470 listing for the proposed roof system. The roof system shall be approved by FM for Class 1-SH (severe hail) exposure. The entire roof system (including lightweight insulating concrete, fastening of base sheet or insulation, membrane, & paver system where applicable) shall be approved by FM for minimum 1-150 windstorm construction.

C. Acceptable Contractor: Contractor shall have a minimum of 5 years experience in successfully installing the same or similar roofing materials and be certified in writing by the roofing materials manufacturer to install the primary roofing products.

D. Scope of Work: The work to be performed under this specification shall include but is not limited to the following: Attend necessary job meetings and furnish competent and full time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the roof installation in accordance with this specification. Comply with the latest written application instructions of the manufacturer of the primary roofing

products. In addition, application practice shall comply with requirements and recommendations contained in the latest edition of the Handbook of Accepted Roofing Knowledge (HARK) as published by the National Roofing Contractor's Association, amended to include the acceptance of a phased roof system installation.

E. Local Regulations: Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.

F. Manufacturer Requirements: Ensure that the primary roofing materials manufacturer provides direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conducts a final inspection upon successful completion of the project.

1.07 PRODUCT DELIVERY STORAGE AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.

B. Storage: Store materials out of direct exposure to the elements. Store roll goods on a clean, flat and dry surface. All material stored on the roof overnight shall be stored on pallets. Rolls of roofing must be stored on ends. Store materials on the roof in a manner so as to preclude overloading of deck and building structure. Store materials such as solvents, adhesives and asphalt cutback products away from open flames, sparks or excessive heat. Cover all material using a breathable cover such as a canvas. Polyethylene or other non-breathable plastic coverings are not acceptable.

C. Handling: Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.

D. Damaged Material: Any materials that are found to be damaged or stored in any manner other than stated above will be automatically rejected, removed and replaced at the Contractor's expense.

1.08 PROJECT/SITE CONDITIONS

A. Requirements Prior to Job Start
   1. Notification: Give a minimum of 5 days notice to the Owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.
   2. Permits: Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.
   3. Safety: Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

B. Environmental Requirements
   1. Precipitation: Do not apply roofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied roofing, and building interiors are protected from possible moisture damage or contamination.
   2. Temperature Restrictions - asphalt: At ambient temperatures of 40F (4C) and below, special precautions must be taken to ensure that the specified Type IV asphalt maintains a minimum acceptable 400F (204C) at the point of sheet application. The asphalt must not be overheated to compensate for cold conditions. The use of insulated handling equipment is strongly recommended. Hot luggers, mop carts, and kettle-to-roof supply lines should be insulated. Hand mops should be constructed with a smaller yarn head to facilitate short moppings. Luggers and mop carts should never be more than half filled at all times.

C. Protection Requirements
   1. Membrane Protection: Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces throughout this project.

2. Torch Safety: Crew members handling torches shall be trained by an Authorized Certified Roofing Torch Applicator (CERTA) Trainer, be certified according to CERTA torch safety guidelines as published by the National Roofing Contractor's Association (NRCA), and follow torch safety practices as required by the contractor's insurance carrier. Designate one person on each crew to perform a daily fire watch. The designated crew member shall watch for fires or smoldering materials on all areas during roof construction activity, and for the minimum period required by CERTA guidelines after roofing material application has been suspended for the day.
3. Limited Access: Prevent access by the public to materials, tools and equipment during the course of the project.
4. Debris Removal: Remove all debris daily from the project site and take to a legal dumping area authorized to receive such materials.
5. Site Condition: Complete, to the owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by the construction.

1.09 GUARANTEE/WARRANTY

A. Roof System Guarantee: Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the roof system manufacturer's 20 year labor and materials roof system guarantee. The roof system guarantee shall include both the roofing and flashing membranes, and base sheet fasteners. All repair or replacement costs covered under the guarantee, including removal/replacement of paver system, shall be borne by the roofing membrane manufacturer. The guarantee shall be a term type, without deductibles or limitations on coverage amount, and be issued at no additional cost to the Owner. Specific items covered under the roof system guarantee include:

PART 2 PRODUCTS

2.01 ROOFING SYSTEM ASSEMBLY/PRODUCTS

A. Base Sheet
   1. Base Sheet: A fiberglass reinforced, asphalt coated sheet with a polyolefin film backing, having a minimum weight of 20 lb/sq. The sheet shall conform to ASTM D 4601, Type II requirements.
      a. Siplast Parabase FS
   2. Gypsum Sheathing Panel for Wood/Plywood Substrates to Receive Flashing Coverage: A panel composed of a gypsum based, non-structural water resistant core material integrally bonded with fiberglass mats on both sides having a nominal thickness of 1/4 inch. The panel surface shall be factory primed with a non-asphaltic primer. Acceptable types are as follows:
      a. DensDeck Prime Gypsum Roof Board, by Georgia Pacific Corporation; Atlanta, GA or equal.

2.02 DESCRIPTION OF SYSTEMS

A. Roofing Membrane Assembly: A roof membrane assembly consisting of two plies of a prefabricated, reinforced, homogeneous Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane, applied over a prepared substrate. Both reinforcement mats shall be impregnated/saturated and coated each side with an SBS modified bitumen blend and coated one side with a torch grade SBS bitumen blend adhesive layer. The adhesive layer shall be manufactured using a process that embosses the surface with a grooved pattern to provide optimum burn-off of the plastic film and to maximize application rates. The roof system shall pass 500 cycles of ASTM D 5849 Resistance to Cyclic Joint Displacement (fatigue) at 14F (-10C). Passing results shall show no signs of membrane cracking or interply delamination after 500 cycles. The roof system shall pass 200 cycles of ASTM D 5849 after heat conditioning performed in accordance with ASTM D 5147. The assembly shall possess waterproofing capability, such that a phased roof application, with only the modified bitumen base ply in place, can be achieved for prolonged periods of time without detriment to the watertight integrity of the entire roof system.
   1. Siplast Paradiene 20 TG/30 FR TG torchable roof system

2. Modified Bitumen Base, Stripping Ply, and Flashing Reinforcing Ply
    a. Thickness (avg): 114 mils (2.9 mm) (ASTM D 5147)
    b. Thickness (min): 110 mils (2.8 mm) (ASTM D 5147)
    c. Weight (min per 100 ft² of coverage): 76 lb (3.7 kg/m²)
    d. Maximum filler content in elastomeric blend: 35% by weight
    e. Low temperature flexibility @ -13 F (-25 C) - PASS (ASTM D 5147)
    f. Maximum Load (avg) @ 73F (23C): 30 lbf/inch (5.3 kN/m) (ASTM D 5147)
    g. Maximum Load (avg) @ 0F (-18C): 75 lbf/inch (13.2 kN/m) (ASTM D 5147)
    h. Elongation @ 5% Maximum Load (avg.) @ 73F (23C): 50% (ASTM D 5147)
    i. Dimensional Stability (max): 0.1% (ASTM D 5147)
    j. High Temperature Stability (min): 250F (121C) (ASTM D 5147)
    k. Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
    l. Reinforcement: fiberglass mat or other meeting the performance and dimensional stability criteria
        1) Siplast Paradiene 20 - torchable grade
3. Modified Bitumen Finish Ply
    a. Thickness (avg): 150 mils (3.8 mm) (ASTM D 5147)
    b. Thickness at selvage (coating thickness) (avg): 118 mils (3.0 mm) (ASTM D 5147)
    c. Thickness at selvage (coating thickness) (min): 114 mils (2.9 mm) (ASTM D 5147)
    d. Weight (min per 100 ft² of coverage): 112 lb (5.4 kg/m²)
    e. Maximum filler content in elastomeric blend: 35% by weight
    f. Low temperature flexibility @ -13F (-25C): PASS (ASTM D 5147)
    g. Maximum Load (avg) @ 73F (23C): 30 lbf/inch (5.3 kN/m) (ASTM D 5147)
    h. Maximum Load (avg) @ 0F (-18C): 75 lbf/inch (13.2 kN/m) (ASTM D 5147)
    i. Elongation @ 5% Maximum Load (avg.) @ 73F (23C): 55% (ASTM D 5147)
    j. Dimensional Stability (max): 0.1% (ASTM D 5147)
    k. High Temperature Stability (min): 250F (121 C) (ASTM D 5147)
    l. Granule Embedment (max loss): 2.0 grams per sample (ASTM D 5147)
    m. Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
    n. Reinforcement: fiberglass mat or other meeting the performance and dimensional stability criteria
    o. Surfacing: ceramic granules
        1) Siplast Paradiene 30 FR - torchable grade

B. Roofing Membrane Assembly: A roof membrane assembly consisting of two plies of a prefabricated, reinforced, homogeneous Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane, applied over a prepared substrate. Both reinforcement mats shall be impregnated/saturated and coated each side with an SBS modified bitumen blend. The roof system shall pass 500 cycles of ASTM D 5849 Resistance to Cyclic Joint Displacement (fatigue) at 14F (-10C). Passing results shall show no signs of membrane cracking or interply delamination after 500 cycles. The roof system shall pass 200 cycles of ASTM D 5849 after heat conditioning performed in accordance with ASTM D 5147. The assembly shall possess waterproofing capability, such that a phased roof application, with only the modified bitumen base ply in place, can be achieved for prolonged periods of time without detriment to the watertight integrity of the entire roof system.
1. Siplast Paradiene 20/30 FR roof system
2. Modified Bitumen Base, Stripping, and Flashing Reinforcing Ply
    a. Thickness (avg): 91 mils (2.3 mm) (ASTM D 5147)
    b. Thickness (min): 87 mils (2.2 mm) (ASTM D 5147)
    c. Weight (min per 100 ft² of coverage): 62 lb (3.0 kg/m²)
    d. Maximum filler content in elastomeric blend - 35% by weight
    e. Low temperature flexibility @ -13F (-25C): PASS (ASTM D 5147)
    f. Maximum Load (avg) @ 73F (23C): 30 lbf/inch (5.3 kN/m) (ASTM D 5147)
    g. Maximum Load (avg) @ 0F (-18C): 70 lbf/inch (12.3 kN/m) (ASTM D 5147)
    h. Elongation @ 5% Maximum Load (avg.) @ 73F (23C): 50% (ASTM D 5147)

i. Dimensional Stability (max): 0.1% (ASTM D 5147)
j. High Temperature Stability (min): 250F (121C) (ASTM D 5147)
k. Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
l. Reinforcement: fiberglass mat or other meeting the performance and dimensional stability criteria
1) Siplast Paradiene 20

3. Modified Bitumen Finish Ply
a. Thickness (avg): 130 mils (3.3 mm) (ASTM D 5147)
b. Thickness at selvage (coating thickness) (avg): 98 mils (2.5 mm) (ASTM D 5147)
c. Thickness at selvage (coating thickness) (min): 94 mils (2.4 mm) (ASTM D 5147)
d. Weight (min per 100 ft² of coverage): 90 lb (4.4 kg/m²)
e. Maximum filler content in elastomeric blend: 35% by weight
f. Low temperature flexibility @ -13 F (-25 C): PASS (ASTM D 5147)
g. Maximum Load (avg) @ 73F (23C): 30 lbf/inch (5.3 kN/m) (ASTM D 5147)
h. Maximum Load (avg) @ 0F (-18C): 75 lbf/inch (13.2 kN/m) (ASTM D 5147)
i. Elongation @ 5% Maximum Load (avg.) @ 73F (23C): 55% (ASTM D 5147)
j. Dimensional Stability (max): 0.1% (ASTM D 5147)
k. High Temperature Stability (min): 250F (121 C) (ASTM D 5147)
l. Granule Embedment (max loss): 2.0 grams per sample (ASTM D 5147)
m. Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
n. Reinforcement: fiberglass mat or other meeting the performance and dimensional stability criteria
o. Surfacing: ceramic granules
1) Siplast Paradiene 30 FR

C. Flashing Membrane Assembly: A flashing membrane assembly consisting of a prefabricated, reinforced, Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane with a continuous, channel-embossed metal-foil surfacing. The finish ply shall conform to ASTM D 6298 and the following physical and mechanical property requirements.
1. Siplast Veral flashing system, aluminum finish
2. Cant Backing Sheet for Wood/Plywood Surfaces to Receive Flashing Coverage
a. Thickness (avg): 102 mils (2.6 mm) (ASTM D 5147)
b. Thickness (min): 98 mils (2.5 mm) (ASTM D 5147)
c. Weight (min per 100 ft² of coverage): 72 lb (3.5 kg/m²)
d. Maximum filler content in elastomeric blend: 35% by weight
e. Low temperature flexibility @ -13 F (-25 C) - PASS (ASTM D 5147)
f. Maximum Load (avg) @ 73F (23C): 30 lbf/inch (5.3 kN/m) (ASTM D 5147)
g. Maximum Load (avg) @ 0F (-18C): 75 lbf/inch (13.2 kN/m) (ASTM D 5147)
h. Elongation @ 5% Maximum Load (avg.) @ 73F (23C): 50% (ASTM D 5147)
i. Dimensional Stability (max): 0.1% (ASTM D 5147)
j. High Temperature Stability (min - sheet): 250F (121C) (ASTM D 5147)
k. High Temperature Stability (min – adhesive coating): 212F (100C) (ASTM D 5147)
l. Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
m. Reinforcement: fiberglass mat or other meeting the performance and dimensional stability criteria
n. Back Surfacing: polyolefin film
1) Siplast Paradiene 20 SA

3. Metal-Clad Modified Bitumen Flashing Sheet
a. Thickness (avg): 142 mils (3.6 mm) (ASTM D 5147)
b. Thickness (min): 138 mils (3.5 mm) (ASTM D 5147)
c. Weight (min per 100 ft² of coverage): 92 lb (4.5 kg/m²)
d. Coating Thickness – back surface (min): 40 mils (1 mm) (ASTM D 5147)
e. Maximum filler content in elastomeric blend: 35% by weight
f. Low temperature flexibility @ 0 F (-18 C): PASS (ASTM D 5147)
g. Maximum Load (avg) @ 73F (23C): 85 lbf/inch (15 kN/m) (ASTM D 5147)

h. Maximum Load (avg) @ 0F (-18C): 180 lbf/inch (31.7 kN/m) (ASTM D 5147)
i. Elongation @ 5% Maximum Load (avg) @ 73F (23C): 45% (ASTM D 5147)
j. Tear-Strength (avg): 120 lbf (0.54 kN) (ASTM D 5147)
k. Dimensional Stability (max): 0.2% (ASTM D 5147)
l. High Temperature Stability (min): 225F (107C) (ASTM D 5147)
m. Cyclic Thermal Shock Stability (maximum): 0.2% (ASTM D 6298)
n. Approvals: UL Approved, FM Approved (products shall bear seals of approval)
o. Reinforcement: fiberglass scrim mat or other meeting the performance and dimensional stability criteria
p. Surfacing: aluminum metal foil
1) Siplast Veral Aluminum

D. Catalyzed Acrylic Resin Flashing System: A specialty flashing system consisting of a liquid-applied, fully reinforced, multi-component acrylic membrane installed over a prepared or primed substrate. The flashing system consists of a catalyzed acrylic resin primer, basecoat and topcoat, combined with a non-woven polyester fleece. The resin and catalyst are pre-mixed immediately prior to installation. The use of the specialty flashing system shall be specifically approved in advance by the membrane manufacturer for each application.
1. Parapro 123 Flashing System by Siplast; Irving, TX

2.03 ROOFING ACCESSORIES

A. Roofing Adhesives
1. Mopping Asphalt: Type IV asphalt certified for full compliance with the requirements listed in Table I, ASTM D 312. Each container or bulk shipping ticket shall indicate the equiviscous temperature, EVT, the finished blowing temperature, FBT, and the flash point, FP. Mopping asphalt shall be approved in writing by the roof membrane manufacturer.
a. Siplast PA-100 Asphalt by Siplast; Irving, TX

B. Bituminous Cutback Materials
1. Primer: An asphalt, solvent blend conforming to ASTM D 41 requirements.
a. Siplast PA-1125 Asphalt Primer by Siplast; Irving, TX
2. Mastics: An asphalt cutback mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges conforming to ASTM D 4586 Type II requirements.
a. Siplast PA-1021 Plastic Cement by Siplast; Irving, TX

C. Sealant: A moisture-curing, non-slump elastomeric sealant designed for roofing applications. The sealant shall be approved by the roof membrane manufacturer for use in conjunction with the roof membrane materials. Acceptable types are as follows:
1. Siplast PS-304 Elastomeric Sealant by Siplast; Irving, TX

D. Ceramic Granules: No. 11 grade specification ceramic granules of color scheme matching the granule surfacing of the finish ply.

E. Metallic Powder: A finely graded metal dust as supplied or approved by the membrane manufacturer, used for covering of bitumen overruns over the foil surfaced membrane.

F. Perlite Cant Strips: A cant strip composed of expanded volcanic minerals combined with waterproofing binders. The top surface shall be pre-treated with an asphalt based coating. The face of the cant shall have a nominal 4 inch dimension.

G. Fasteners
1. Base Sheet Fasteners: Base sheet fasteners shall be approved by the manufacturer of the primary roofing products. Acceptable base sheet fasteners for specific substrate types are listed below.
a. Lightweight Concrete Substrates
1) A single unit, precision formed, electro zinc coated steel fastener having a 2.7 inch diameter rib reinforced cap and 1.7 inch long rectangular legs, designed to expand when fully driven into the lightweight concrete. Fasteners for lightweight concrete shall meet FM Standard 4470 requirements for corrosion resistance.
(a) Zono-tite Base Sheet Fasteners by Siplast; Irving, TX

2) A single unit, precision formed, electro zinc coated steel fastener having a 2.7 inch diameter rib reinforced cap and 1 inch long rectangular legs, designed to expand when fully driven into the lightweight concrete. Fasteners for lightweight concrete shall meet FM Standard 4470 requirements for corrosion resistance.
(a) NVS Base Sheet Fasteners by Siplast; Irving, TX

2. Gypsum Sheathing Panel Fasteners for Wood/Plywood Substrates to Receive Flashing Coverage: Gypsum sheathing panel fasteners and plates shall be FM Approved, and/or approved by the manufacturer of the primary roofing products. The fastening pattern for each panel to be used shall be as recommended by the panel manufacturer and approved by the manufacturer of the primary roofing products. Acceptable panel fastener manufacturers for specific substrate types are listed below.
   a. Wood/Plywood Substrates to Receive Flashing Coverage: Gypsum sheathing panel mechanical fasteners shall be factory coated for corrosion resistance. The fastener shall conform meet or exceed Factory Mutual Standard 4470 and when subjected to 30 Kesternich cycles, show less than 15% red rust. Acceptable fastener types for wood/plywood substrates are listed below.
      1) A fluorocarbon coated screw type roofing fastener having a minimum 0.220 inch thread diameter. Plates used in conjunction with the fastener shall be a metal type having a minimum 3 inch diameter, as supplied by the fastener manufacturer.
         (a) Parafast Fastener by Siplast; Irving, TX
         (b) Roofgrip with Buildex Metal Plates by ITW Buildex; Itasca, IL
         (c) Dekfast #12 with Dekfast Steel Hexagonal Plates by Construction Fasteners, Inc.; Wyomissing, PA
         (d) Standard Roofing Fastener by OMG; Agawam, MA
3. Flashing Reinforcing Sheet Fasteners for Wood/Plywood Substrates to Receive Flashing Coverage: Fasteners shall be approved by the manufacturer of the primary roofing products. Acceptable fasteners for specific substrate types are listed below.
   a. Wood/Plywood Substrates
      1) A 12 gauge, spiral or annular threaded shank, zinc coated steel roofing fastener having a minimum 1 inch head.
         (a) Square Cap by W.H. Maze Co.; Peru, IL
         (b) 12 Gauge Simplex Nail by the Simplex Nail and Manufacturing Co., Americus, GA

H. Walktread: A prefabricated, puncture resistant polyester core reinforced, polymer modified bitumen sheet material topped with a ceramic-coated granule wearing surface.
1. Thickness: 0.217 in (5.5 mm)
2. Weight: 1.8 lb/ft² (8.8 kg/m²)
3. Width: 30 in (76.2 cm)
   a. Paratread Roof Protection Material by Siplast; Irving, TX

I. Prefabricated Drainage Mat: A two-part prefabricated sheet drain and protection board consisting of a formed polystyrene core covered on one side with a woven polypropylene filter fabric, designed for high compression applications.
1. Siplast Teranap Drainage Mat by Siplast; Irving, TX

2.04 ACCEPTABLE MANUFACTURERS

A. The basis of design is Siplast, acceptable alternate manufacturers:
1. Johns Manville
2. Soprema
3. GAF

B. Requests for substitutions must be received no later than 10 days prior to Bid.

PART 3 EXECUTION

3.01 PREPARATION

A. General: Sweep or vacuum all surfaces, removing all loose aggregate and foreign substances prior to commencement of roofing.

3.02 SUBSTRATE PREPARATION

A. Preparation of Wood/Plywood Substrates to Receive Flashing Coverage: Mechanically attach the gypsum sheathing panels to all wood/plywood substrates that will be covered with the specified flashing membrane, using the specified screws/plates, at 12 inches o.c. staggered. Cut the cant backing sheet into 12 inch widths and peel the release film from the back of the sheet. Set the sheet into place extending 6 inches onto the field of the roof area and 6 inches up the gypsum sheathing panel surface utilizing minimum 3 inch side laps. Set the cant into place prior to installation of the roof membrane base ply.

B. Base Sheet Securement to Prepared Substrate: Lay the base sheet over the entire area to be roofed, lapping sides 3 inches and ends 6 inches. Using the specified fasteners, fasten each sheet every 7 1/2 inches through laps and stagger fasten the remainder of the sheet in 2 rows on nominal 12 inch centers with fasteners in each row on 10 inch centers. Increase the fastening pattern by 70% at the perimeter of the roofand by 160% at the corners.

3.03 ROOF MEMBRANE INSTALLATION

A. Membrane Application: Apply roofing in accordance with roofing system manufacturer's instructions and the following requirements. Application of roofing membrane components shall immediately follow application of base sheet and/or insulation as a continuous operation.

B. Aesthetic Considerations: An aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. Make necessary preparations, utilize recommended application techniques, apply the specified materials including granules and metallic powder, and exercise care in ensuring that the finished application is acceptable to the Owner.

C. Priming: Prime metal and concrete and masonry surfaces with a uniform coating of the specified asphalt primer.

D. Kettles And Tankers: Kettles and tankers shall be equipped with accurate, fully readable thermometers. Do not heat asphalt to or above its flash point. Avoid heating at or above the FBT, should conditions make this impractical, heating must be no more than 25ºF below the EVT and no more than 25ºF above EVT.

E. Asphalt Temperatures: If the EVT information is not provided, the following asphalt temperature shall be observed. Maximum heating temperature shall be 525ºF (274ºC). Minimum application temperature shall be 400ºF (204ºC).

F. Asphalt Moppings: Ensure that all moppings do not exceed a maximum of 25 lb/sq. Mopping shall be total in coverage, leaving no breaks or voids.

G. Bitumen Consistency: Cutting or alterations of bitumen, primer, and sealants will not be permitted.

H. Roofing Application: Apply all layers of roofing free of wrinkles, creases or fishmouths. Exert sufficient pressure on the roll during application to ensure prevention of air pockets.

1. Apply all layers of roofing perpendicular to the slope of the deck.
2. Fully bond the base ply to the prepared substrate, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the asphalt or torch applicator. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger end laps a minimum of 3 feet.
3. Fully bond the finish ply to the base ply, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the asphalt or torch applicator. Stagger end laps of the finish ply a minimum 3 feet. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet

application. Stagger side laps of the finish ply a minimum 12 inches from side laps in the underlying base ply. Stagger end laps of the finish ply a minimum 3 feet from end laps in the underlying base ply.

4. Maximum sheet lengths and special fastening of the specified roof membrane system may be required at various slope increments where the roof deck slope exceeds 1/2 inch per foot. The manufacturer shall provide acceptable sheet lengths and the required fastening schedule for all roofing sheet applications to applicable roof slopes.

I. Granule Embedment: Broadcast mineral granules over all bitumen overruns on the finish ply surface, while the bitumen is still hot or the adhesive is soft, to ensure a monolithic surface color.

J. Flashing Application - masonry surfaces: Flash masonry parapet walls and curbs using the reinforcing sheet and the metal foil flashing membrane. After the base ply has been applied to the top of the cant, fully adhere the reinforcing sheet, utilizing minimum 3 inch side laps and extend a minimum of 3 inches onto the base ply surface and 3 inches up the parapet wall above the cant. After the final roofing ply has been applied to the top of the cant, prepare the surface area that is to receive flashing coverage by torch heating granular surfaces or by application of asphalt primer; allowing primer to dry thoroughly. Torch apply the metal foil-faced flashing into place using three foot widths (cut off the end of roll) always lapping the factory selvage edge. Stagger the laps of the metal foil flashing layer from lap seams in the reinforcing layer. Extend the flashing sheet a minimum of 4 inches beyond the toe of the cant onto the prepared surface of the finished roof and up the wall to the desired flashing height. Exert pressure on the flashing sheet during application to ensure complete contact with the wall/roof surfaces, preventing air pockets; this can be accomplished by using a damp sponge or shop rag. Check and seal all loose laps and edges. Nail the top edge of the flashing on 9 inch centers. (See manufacturer's schematic for visual interpretation).

K. Flashing Application – surfaces sheathed with gypsum sheathing panels: After the gypsum sheathing panel and cant backing sheet have been installed, flash parapet walls and curbs with the specified reinforcing sheet and the metal foil flashing membrane. The reinforcing sheet shall have minimum 3 inch side laps and extend a minimum of 3 inches onto the base ply surface and to the top of the parapet wall or curb. Using the specified fasteners, mechanically attach the reinforcing sheet through the field of the sheet to the vertical flashing surface on 12 inch centers from the top of the cant to the top of the wall or curb. Fully adhere the remainder of the flashing reinforcing sheet that extends over the cant and roof level. Using a Leister Hand Welding Tool, seal the laps between flashing reinforcing sheets. After the final roofing ply has been applied to the top of the cant, prepare the surface area that is to receive flashing coverage by torch heating granular surfaces or by application of asphalt primer; allowing primer to dry thoroughly. Torch apply the metal foil-faced flashing into place using three foot widths (cut off the end of roll) always lapping the factory selvage edge. Stagger the laps of the metal foil flashing layer from lap seams in the reinforcing layer. Extend the flashing sheet a minimum of 4 inches beyond the toe of the cant onto the prepared surface of the finished roof and up the wall to the desired flashing height. Exert pressure on the flashing sheet during application to ensure complete contact with the wall/roof surfaces, preventing air pockets; this can be accomplished by using a damp sponge or shop rag. Check and seal all loose laps and edges. Nail the top edge of the flashing on 9 inch centers. (See manufacturer's schematic for visual interpretation).

L. Catalyzed Acrylic Resin Flashing System: Install the liquid-applied primer and flashing system in accordance with the membrane system manufacturer’s printed installer’s guidelines and other applicable written recommendations as provided by the manufacturer.

M. Use of Metallic Powder: Broadcast metallic powder over all bitumen overruns on the metal foil membrane surface while the bitumen is still hot to ensure a monolithic surface color.

N. Water Cut-Off: At end of day's work, or when precipitation is imminent, construct a water cut-off at all open edges. Cut-offs can be built using asphalt or plastic cement and roofing felts, constructed to withstand protracted periods of service. Cut-offs must be completely removed prior to the resumption of roofing.

3.04 ROOF SYSTEM INTERFACE WITH RELATED COMPONENTS

A. Edge Metal: Completely prime metal flanges and allow to dry prior to installation. Turn the base ply down 2 inches past the roof edge and over the nailer. After the base ply and continuous cleat (if applicable) have been installed, set the flange in mastic and stagger nail every 3 inches on center. Strip-in the flange using the stripping-ply material, extending a minimum of 4 inches beyond the edge of the flange. Terminate the finish ply at the gravel-stop rise of the edge metal. SEE ITEM: SEALANT, for finish of this detail.

B. Lead Pipe Flashings: Completely prime the lead flanges and allow to dry prior to installation. After the base ply has been applied, set the flange in mastic and strip-in the flange using the stripping-ply material, extending a minimum of 4 inches beyond the edge of the flange. Terminate the finish ply at the flange-sleeve juncture of the pipe flashing. SEE ITEM: SEALANT for finish of this detail.

C. Lead Drain Flashings: Completely prime the lead drain flashing and allow to dry prior to installation. After the base ply has been applied, set the lead flashing sheet in mastic and form to turn down inside of the drain bowl. Ply-in the perimeter of the lead flashing using an additional layer of the base ply material, overlapping the perimeter of the lead a minimum of 4 inches. Terminate the finish ply to extend beneath the clamping ring seal. Install the clamping ring with all bolts in place.

D. Roof Moisture Relief Vents - vented lightweight insulating concrete substrates: Completely prime the metal flanges and allow to dry prior to installation. After the base ply has been applied, mark the venting designations. Cut a 2 inch diameter core from the roof membrane assembly. Set the vent flange in mastic, centered over the core cut. Strip-in the flange using the stripping-ply material, extending a minimum of 4 inches beyond the edge of the flange. Terminate the finish ply at the flange-throat juncture of the vent. SEE ITEM: SEALANT for finish of this detail.

E. Roof Moisture Relief Vents – non-vented lightweight insulating concrete substrates: Completely prime the metal flanges and allow to dry prior to installation. After the base ply has been applied, mark the venting designations. Cut a 2 diameter core from the roof assembly down to the top surface of the embedded Insulperm expanded polystyrene panels. Fill the resulting void with fiberglass insulation. Set the vent flange in mastic, centered over the core cut. Strip-in the flange using the stripping-ply material, extending a minimum of 4 inches beyond the edge of the flange. Terminate the finish ply at the flange-throat juncture of the vent. SEE ITEM: SEALANT for finish of this detail.

F. Walktread: Cut the walktread into maximum 5 foot lengths and allow to relax until flat. Adhere the sheet using the specified plastic cement. Apply the specified cement in a 3/8 inch thickness to the back of the product in 5 inch by 5 inch spots in accordance with the pattern as supplied by the walktread manufacturer. Walk-in each sheet after application to ensure proper adhesion. Use a minimum spacing of 2 inches between sheets to allow for proper drainage.

G. Sealant: Apply a smooth continuous bead of the specified sealant at the exposed finish ply edge transition to metal flashings incorporated into the roof system.

3.05 3.05 FIELD QUALITY CONTROL AND INSPECTIONS

A. Site Condition: Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.

B. Notification Of Completion: Notify the manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.

C. Final Inspection

1. Post-Installation Meeting: Hold a meeting at the completion of the project, attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the Contractor and the manufacturer's representative. Complete, sign, and mail the punch list form to the manufacturer's headquarters.

D. Issuance Of The Guarantee: Complete all post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

END OF SECTION

SECTION 07 6100

FLASHING AND SHEET METAL

PART 1 - GENERAL:

1.01 RELATED DOCUMENTS

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

B. Conform to profiles and sizes shown on drawings, and comply with "Architectural Sheet Metal Manual" by SMACNA, for each general category of work required.
   1. Metal flashing and counter flashing.
   2. Gravel stops and trim.
   3. Miscellaneous sheet metal accessories.

PART 2 - PRODUCTS:

2.01 ALUMINUM SHEET: ASTM B 209, ALLOY 3003-H14; 0.050 INCH.

A. Finish: Fluorocarbon coating with inhibitive thermo-cured primer, 0.2 mil minimum dry film thickness and thermo-cured fluorocarbon coating containing "Kynar 500" resin, 1.0 mil minimum thickness; custom color to match composite aluminum panel system.

B. Fabricate sheet metal with flat-lock seams; seal aluminum seams with epoxy metal seam cement and, where required for strength, rivet seams and joints.

C. Provide for thermal expansion of running sheet metal work by overlaps of expansion joints in fabricated work. Where required for water-tight construction, provide hooked flanges filled with polyisobutylene mastic for 1-inch embedment of flanges. Space joints at intervals of not more than 30 feet for aluminum. Conceal expansion provisions where possible.

D. Separate aluminum from contact with cementitious and absorptive surfaces, and from dissimilar metals, by a 15-mil coating of bituminous mastic (SSPC - Paint 12) or other permanent separation.

2.02 METAL ACCESSORIES:

A. Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gage required for performance.

PART 3 - EXECUTION:

3.01 INSTALLATION

A. Anchor work in place with noncorrosive fasteners, adhesives, setting compounds, tapes and other materials and devices as recommended by manufacturer of each material or system. Provide for thermal expansion and building movements. Comply with recommendations of "Architectural Sheet Metal Manual" by SMACNA.

B. Seal moving joints in metal work with elastomeric joint sealants, complying with requirements specified in Division 7 Section "Joint Sealants."

C. Clean metal surfaces of soldering flux and other substances which could cause corrosion.

D. Performance: Water-tight and weatherproof performance of flashing and sheet metal work is required.

END OF SECTION

SECTION 07 8400
FIRESTOPPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Firestopping systems.

B. Firestopping of all penetrations and interruptions to fire rated assemblies, whether indicated on drawings or not, and other openings indicated.

1.02 RELATED REQUIREMENTS

A. Section 09 2116 - Gypsum Board Assemblies: Gypsum wallboard fireproofing.

B. Mechanical/Electrical specifications on drawings requiring firestopping at mechanical, plumbing and electrical Work.

1.03 REFERENCE STANDARDS

A. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2015.

B. ASTM E814 - Standard Test Method for Fire Tests of Through-Penetration Fire Stops; 2013a.

C. ITS (DIR) - Directory of Listed Products; current edition.

D. FM 4991 - Approval Standard for Firestop Contractors; 2013.

E. FM (AG) - FM Approval Guide; current edition.

F. UL (FRD) - Fire Resistance Directory; current edition.

1.04 SUBMITTALS

A. See Section 016100 - Submittals for submittal procedures.

B. Schedule of Firestopping: List each type of penetration, fire rating of the penetrated assembly, and firestopping test or design number.

C. Product Data: Provide data on product characteristics.

D. Manufacturer's Installation Instructions: Indicate preparation and installation instructions.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Certificate from authority having jurisdiction indicating approval of materials used.

G. Installer Qualification: Submit qualification statements for installing mechanics.

1.05 QUALITY ASSURANCE

A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.
   1. Listing in UL (FRD), FM (AG), or ITS (DIR) will be considered as constituting an acceptable test report.
   2. Submission of actual test reports is required for assemblies for which none of the above substantiation exists.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

C. Installer Qualifications: Company specializing in performing the work of this section and:
   1. Approved by Factory Mutual Research Corporation under FM 4991, or meeting any two of the following requirements:.
   2. With minimum 3 years documented experience installing work of this type.
   3. Able to show at least 5 satisfactorily completed projects of comparable size and type.
   4. Licensed by authority having jurisdiction.
   5. Approved by firestopping manufacturer.

D. Installing Mechanic's Qualifications: Trained by firestopping manufacturer and able to provide evidence thereof.

1.06 FIELD CONDITIONS

A. Comply with firestopping manufacturer's recommendations for temperature and conditions during and after installation. Maintain minimum temperature before, during, and for 3 days after installation of materials.

B. Provide ventilation in areas where solvent-cured materials are being installed.

PART 2 PRODUCTS

2.01 FIRESTOPPING SYSTEMS

A. Firestopping: Any material meeting requirements.
   1. Fire Ratings: Use any system that is listed by FM (AG), ITS (DIR), or UL (FRD) and tested in accordance with ASTM E814 or ASTM E119 with F Rating equal to fire rating of penetrated assembly and minimum T Rating Equal to F Rating and in compliance with other specified requirements.

2.02 MATERIALS

A. Type required for tested assembly design.

B. Fiber Firestopping: Mineral fiber insulation used in conjunction with elastomeric surface sealer forming airtight bond to opening, USG Thermafiber or equal.

C. Firestopping: 3M FireDam Spray 200

D. Safing Clips: USG Safing Impaling "Z" Clip.
   1. Manufacturers:
      a. Basis of design: USG; Thermafiber, 3M; Product FireDam Spray 200.
      b. Tremco; Product Tremstop SP
      c. Substitutions: See Section 01 6000 - Product Requirements.

E. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Type required for tested assembly design.

END OF SECTION

SECTION 07 9005
INTERIOR JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sealants and joint backing.

B. Precompressed foam sealers.

C. Hollow gaskets.

1.02 RELATED SECTIONS

A. Section 07 8400 - Firestopping: Firestopping sealants.

B. Section 08 8000 - Glazing: Glazing sealants and accessories.

C. Section 09 2116 - Gypsum Board Assemblies: Acoustic sealant.

1.03 REFERENCES

A. ASTM C 834 - Standard Specification for Latex Sealants; 2005.

B. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants; 2005.

C. ASTM C 1193 - Standard Guide for Use of Joint Sealants; 2005a.

D. ASTM D 1667 - Standard Specification for Flexible Cellular Materials--Poly(Vinyl Chloride) Foam (Closed-Cell); 2005.

E. BAAQMD 8-51 - Bay Area Air Quality Management District Regulation 8, Rule 51, Adhesive and Sealant Products; www.baaqmd.gov; current edition.

F. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition; www.aqmd.gov.

1.04 SUBMITTALS

A. See Section 016100 - Submittals for submittal procedures.

B. Product Data: Provide data indicating sealant chemical characteristics, substrate preparation, limitations, and color availability.

C. Manufacturer's Installation Instructions: Indicate special procedures, surface preparation, and perimeter conditions requiring special attention.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the work of this section with minimum five years experience.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.07 COORDINATION

A. Coordinate the work with all sections referencing this section.

1.08 WARRANTY

A. Refer to applicable Division 1 specifications sections for any additional warranty requirements and for required warranty submittals at project closeout.

B. Correct defective work within a five year period after Date of Substantial Completion.

C. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal, exhibit loss of adhesion or cohesion, or do not cure.

D. The warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Silicone Sealants:
   1. Bostik, Inc: www.bostik-us.com.
   2. GE Plastics: www.geplastics.com.
   3. Pecora Corporation: www.pecora.com.
   4. BASF Construction Chemicals, Inc: www.chemrex.com.
   5. Substitutions: See Section 01 6000 - Product Requirements.

B. Polyurethane Sealants:
   1. Bostik, Inc: www.bostik-us.com.
   2. Pecora Corporation: www.pecora.com.
   3. BASF Construction Chemicals, Inc: www.chemrex.com.
   4. Substitutions: See Section 01 6000 - Product Requirements.

C. Acrylic Emulsion Latex Sealants:
   1. Bostik, Inc: www.bostik-us.com.
   2. Pecora Corporation: www.pecora.com.
   3. BASF Construction Chemicals, Inc: www.chemrex.com.
   4. Substitutions: See Section 01 6000 - Product Requirements.

D. Preformed Compressible Foam Sealers:
   1. Emseal Joint Systems, Ltd: www.emseal.com.
   2. Sandell Manufacturing Company, Inc: www.sandellmfg.com.
   3. Dayton Superior Corporation: www.daytonsuperior.com.
   4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 SEALANTS

A. Sealants and Primers - General: Provide only products having lower volatile organic compound (VOC) content than required by the more stringent of the South Coast Air Quality Management District Rule No.1168.

B. Type 4 - General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C 834, Type OP, Grade NF single component, paintable.
   1. Color: Standard colors matching finished surfaces.
   2. Applications: Use for:
      a. Interior wall and ceiling control joints.
      b. Joints between door and window frames and wall surfaces.
      c. Other interior joints for which no other type of sealant is indicated.

C. Type 5 - Bathtub/Tile Sealant: Silicone; ASTM C 920, Uses I, M and A; single component, mildew resistant.
   1. Color: Standard colors matching finished surfaces.
   2. Applications: Use for:
      a. Joints between plumbing fixtures and floor and wall surfaces.
      b. Joints between kitchen and bath countertops and wall surfaces.

D. Type 9 - Nonsag Polyurethane Sealant: ASTM C 920, Grade NS, Type M, Class 12.5, Uses NT, M, A ; multi component, chemical curing, non-staining, non bleeding, capable of continuous water immersion, non-sagging type.
   1. Color: Standard colors matching finished surfaces.
   2. Product: Dynaflex manufactured by Pecora, or approved equal.
   3. Movement Capability: Plus and minus 12 percent.
   4. Shore A Hardness Range: 40 to 45.
   5. Applications: Use for:

a. Sealants at detention and evidence areas.

2.03 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

A. Remove loose materials and foreign matter which might impair adhesion of sealant.

B. Clean and prime joints in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C 1193.

D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C 1193.

C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer.

D. Install bond breaker where joint backing is not used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

G. Tool joints concave.

H. Precompressed Foam Sealant: Do not stretch; avoid joints except at corners, ends, and intersections; install with face 1/8 to 1/4 inch below adjoining surface.

3.04 CLEANING

A. Clean adjacent soiled surfaces.

3.05 PROTECTION OF FINISHED WORK

A. Protect sealants until cured.

END OF SECTION

SECTION 07 9010

EXTERIOR JOINT SEALANTS

GENERAL

1.01 RELATED DOCUMENTS

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

B. Section 07910 INTERIOR JOINT SEALERS

1.02 SUBMITTALS: IN ADDITION TO PRODUCT DATA SUBMIT THE FOLLOWING:

A. Samples of each type and color of joint sealant required.

B. Certified test reports for joint sealants evidencing compliance with requirements.

1.03 PRODUCTS

A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application conditions, as demonstrated by testing and field experience.

B. Colors: Provide color indicated of exposed joint sealants or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.

C. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated complying with ASTM C 920 requirements.

D. One-Part, Neutral-Curing Silicone Sealant: Type S, Grade NS, Class 25, and as follows:
   1. Product:
      a. Dow Corning 791 Silicone Perimeter Sealant
      b. Tremco Sprectrem II
      c. Or Approved equal
   2. Uses:
      a. Exterior joints in vertical surfaces and non-traffic horizontal surfaces:
      b. Exposed joints in composite aluminum panel system.
      c. Joints between composite aluminum panels and aluminum curtain wall, storefront and fixed glass frames.
      d. Perimeter joints between masonry and metal frames.
      e. Control and expansion joints in masonry.
      f. Other joints where indicated.

E. One-Part, Pourable Urethane Sealant for Use T: Type S, grade P, Class 25:
   1. Product:
      a. "Urexpan" NR-201, Pecora Corp.
      b. Vulkem 45SSL, Tremco
      c. Or Approved equal
   2. Uses:
      a. Control and expansion joints in cast-in-place concrete slabs, where indicated.

F. Plastic Foam Joint Fillers: Preformed, compressible, resilient, nonwaxing, nonextruding strips of plastic foam of material indicated below, and of size, shape, and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
   1. Closed-cell polyethylene foam, nonabsorbent to liquid water and gas, nonoutgassing in unruptured state.
   2. Proprietary, reticulated, closed-cell polymeric foam, nonoutgassing, with a density of 2.5 pcf and tensile strength of 35 psi per ASTM D 1623, and with water absorption less than 0.02 gram/cubic centimeter per ASTM C 1083.
   3. Any material indicated above, subject to approval of sealant manufacturer.

G. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing bond between sealant and joint filler or other materials at back of joint.

H. Primer: As recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

1.04 EXECUTION

A. General: Comply with joint sealant manufacturer's instructions applicable to products and applications indicated.

B. Sealant Installation Standard: Comply with ASTM C 1193.

END OF SECTION

SECTION 08 1113

HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-fire-rated hollow metal doors and frames.

B. Hollow metal frames for wood doors.

C. Fire-rated hollow metal doors and frames.

D. Hollow metal borrowed lites glazing frames.

E. Accessories, including glazing, louvers, and matching panels.

1.02 RELATED REQUIREMENTS

A. Section 08 1416 - Flush Wood Doors.

B. Section 08 7110 - Finish Hardware.

C. Section 08 8000 - Glazing: Glass for doors and borrowed lites.

D. Section 09 9000 - Painting: Field painting.

1.03 REFERENCE STANDARDS

A. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2011.

B. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2014.

C. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2011.

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

E. ITS (DIR) - Directory of Listed Products; current edition.

F. NAAMM HMMA 840 - Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames; 2007.

G. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2016.

H. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2012.

I. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.

J. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 01 6100 - Submittals for submittal procedures.

B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced standards/guidelines.

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.

D. Manufacturer's Certificate: Certification that products meet or exceed specified requirements.

E. Provide Florida Product Approval Numbers for each exterior assembly.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document that prescribes installation requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 DESIGN CRITERIA

A. Hollow Metal Panels: Same construction, performance, and finish as doors.

B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.03 HOLLOW METAL DOORS

A. Type ___, Exterior Doors: Thermally insulated.
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 1 - Standard-duty.
      b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 20 gage, 0.032 inch, minimum.
   2. Core Material: Manufacturers standard core material/construction and in compliance with requirements.
   3. Door Thickness: 1-3/4 inch, nominal.
   4. Galvanizing: All components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness.
   5. Weatherstripping: Refer to Section 08 7100.

B. Interior Doors, Non-Fire-Rated, Types DI-1A, DI-2A, DI-3A:
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 1 - Standard-duty.
      b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 20 gage, 0.032 inch, minimum.
   2. Core Material: Manufacturers standard core material/construction and in compliance with requirements.
   3. Galvanizing: All components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness.
   4. Door Thickness: 1-3/4 inch, nominal.

C. Interior Doors, Non-Fire-Rated, Types DI-1B, DI-2B:
   1. Grade: ANSI A250.8 Level 3, physical performance Level A, Model 2, seamless.
   2. Core: Cardboard honeycomb.
   3. Thickness: 1-3/4 inches.

D. Interior Doors, Fire-Rated, Types As Scheduled:
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 1 - Standard-duty.
      b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 20 gage, 0.032 inch, minimum.
   2. Fire Rating: As indicated on Door Schedule, tested in accordance with UL 10C and NFPA 252 ("positive pressure fire tests").

3. Fire Rating: As indicated on Door and Frame Schedule, with temperature rise ratings as required by code, tested in accordance with NFPA 252.
    a. Provide units listed and labeled by UL (DIR) or ITS (DIR).
    b. Attach fire rating label to each fire rated unit.
4. Smoke and Draft Control Doors : In addition to required fire rating, provide door assemblies tested in accordance with UL 1784 with maximum air leakage of 3.0 cfm per sq ft of door opening at 0.10 inch w.g. pressure at both ambient and elevated temperatures; with "S" label; if necessary, provide additional gasketing or edge sealing.

2.04 HOLLOW METAL FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.

B. General:
1. Comply with the requirements of grade specified for corresponding door, except:
    a. ANSI A250.8 Level 2 Doors: 16 gage frames.
    b. ANSI A250.8 Level 3 Doors: 14 gage frames.
    c. Frames for Wood Doors: Comply with frame requirements indicated on frame types drawing and in opening schedule.
2. Finish: Same as for door.
3. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.
4. Frames in Masonry Walls: Size to suit masonry coursing with head member 4 inches high to fill opening without cutting masonry units, except as follows:
5. Frames Wider than 48 Inches: Reinforce with steel channel fitted tightly into frame head, flush with top.

C. Exterior Door Frames: Knock-down type.
1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with A40/ZF120 coating.
2. Weatherstripping: Separate, see Section 08 7100.

D. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.

E. Door Frames, Fire-Rated: Knock-down type.
1. Fire Rating: Same as door, labeled.

F. Frames for Wood Doors: Comply with frame requirements in accordance with corresponding door.

G. Borrowed Lites Glazing Frames: Construction and face dimensions to match door frames, and as indicated on drawings.

H. Transom Bars: Fixed, of profile same as jamb and head.

2.05 ACCESSORIES

A. Louvers: Roll formed steel with overlapping frame; finish same as door components; factory-installed.
1. In Fire-Rated Doors: UL (DIR) or ITS (DIR) listed fusible link louver, same rating as door.
2. Style: Weather resistant type at exterior locations, standard straight slat blade at interior locations.
3. Fasteners: Exposed, tamper proof fasteners.
4. Size: As indicated on the drawings.

B. Glazing: As specified in Section 08 8000, factory installed.

C. Removable Stops: Formed sheet steel, mitered corners; prepared for countersink style tamper proof screws. Refer to Section 08750 for security fastener requirements.

D. Astragals for Double Doors: Specified in Section 08 7110.

E. Grout for Frames: Portland cement grout with maximum 4 inch slump for hand troweling; thinner pumpable grout is prohibited.

F. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.

G. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

2.06 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

B. Bituminous Coating: Asphalt emulsion or other high-build, water-resistant, resilient coating.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 PREPARATION

A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.03 INSTALLATION

A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.

B. Install fire rated units in accordance with NFPA 80.

C. Coordinate frame anchor placement with wall construction.

D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.

E. Install door hardware as specified in Section 08 7100.

F. Comply with glazing installation requirements of Section 08 8000.

G. Coordinate installation of electrical connections to electrical hardware items.

H. Coordinate the installation of access control system components and wiring at frames where such are intended to be installed at face of door jamb.

I. Touch up damaged factory finishes.

3.04 TOLERANCES

A. Clearances Between Door and Frame: Comply with related requirements of specified door and frame standards or custom guidelines indicated.

B. Maximum Diagonal Distortion: 1/16 in measured with straight edge, corner to corner.

3.05 ADJUSTING

A. Adjust for smooth and balanced door movement.

END OF SECTION

SECTION 08 1416
FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush wood doors; flush and flush glazed configuration; fire-rated, non-rated, acoustical, and special function.

1.02 RELATED REQUIREMENTS

A. Section 08 1113 - Hollow Metal Doors and Frames.

B. Section 08 7110 - Finish Hardware.

C. Section 08 8000 - Glazing.

D. Section 099000 - Painting.

1.03 REFERENCE STANDARDS

A. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2016.

B. UBC Std 7-2, Part II - Test Standard for Smoke- and Draft-control Assemblies; International Conference of Building Officials; 1997.

C. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

D. UL 1784 - Standard for Air Leakage Tests of Door Assemblies; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 01 6100 - Submittals for submittal procedures.

B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

C. Specimen warranty.

D. Samples: Submit two samples of door veneer, 8 x 10 inch in size illustrating wood grain, stain color, and sheen.

E. Manufacturer's Installation Instructions: Indicate special installation instructions.

F. Warranty, executed in City of Daytona Beach's name.

1.05 QUALITY ASSURANCE

A. Maintain one copy of the specified door quality standard on site for review during installation and finishing.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.

C. Installed Fire Rated Door and Transom Panel Assembly: Conform to NFPA 80 for fire-rating as indicated.

D. Smoke and Draft Control Doors : In addition to required fire rating, comply with air leakage requirements of UBC Std 7-2, Part II; with "S" label; if necessary, provide additional gasketing or edge sealing.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Package, deliver and store doors in accordance with specified quality standard.

B. Accept doors on site in manufacturer's packaging. Inspect for damage.

C. Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges of doors immediately. Break seal on site to permit ventilation.

1.07 PROJECT CONDITIONS

A. Coordinate the work with door opening construction, door frame and door hardware installation.

1.08 WARRANTY

A. Refer to applicable Division 1 specifications sections for any additional warranty requirements and for required warranty submittals at project closeout.

B. Interior Doors: Provide manufacturer's warranty for the life of the installation.

C. Provide warranty for the following term:
   1. Interior Doors: Life of installation.

D. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Wood Veneer Faced Doors:
   1. Algoma Hardwoods, Inc.: www.algomahardwoods.com
   2. Graham Wood Doors: www.grahamdoors.com.
   3. Eggers Industries: www.eggersindustries.com
   4. Haley Brothers: www.haleybros.com
   5. Marshfield Door Systems, Inc.: www.marchfielddoors.com

2.02 DOORS

A. Doors: Refer to drawings for locations and additional requirements.
   1. Wood Veneer Faced Doors: 7-ply unless otherwise indicated.

B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at each location.
   2. Fire Rated Doors: Tested to ratings indicated on drawings in accordance with UL 10C - Positive Pressure; Underwriters Laboratories Inc (UL) or Intertek/Warnock Hersey (WHI) labeled without any visible seals when door is open.
   3. Smoke and Draft Control Doors (Indicated as "S" on Drawings): In addition to required fire rating, provide door assemblies tested in accordance with UL 1784 with maximum air leakage of 3.0 cfm per sq ft of door opening at 0.10 inch wg pressure at both ambient and elevated temperatures for "S" label; if necessary, provide additional gasketing or edge sealing.
   4. Wood veneer facing for field transparent finish as indicated on drawings.

2.03 DOOR CORES

A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.

B. Fire-Rated Doors: Mineral core type, with fire resistant composite core (FD), plies and faces as indicated above; with core blocking as required to provide adequate anchorage of hardware without through-bolting.

C. Sound Resistant Doors: Equivalent to type, with particleboard core (PC) construction with core as required to achieve STC rating specified; plies and faces as indicated above.

2.04 DOOR FACINGS

A. Veneer Facing for Transparent Finish: Red oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
   1. Vertical Edges: Same species as face veneer.
   2. "Pair Match" each pair of doors; "Set Match" pairs of doors within 10 feet of each other when doors are closed.

B. Facing Adhesive: Type I - waterproof.

2.05 ACCESSORIES

A. Glazing Stops: Wood, of same species as door facing, butted corners; prepared for countersink style tamper proof screws.

B. Astragals for Fire Rated Double Doors: Steel, T shaped, overlapping and recessed at face edge, specifically for double doors.

2.06 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Cores Constructed with stiles and rails:

C. Provide solid blocks at lock edge for hardware reinforcement.
   1. Provide solid blocking for other throughbolted hardware.

D. Fit door edge trim to edge of stiles after applying veneer facing.

E. Vertical Exposed Edge of Stiles - Veneer Faces: Of same species as veneer facing.

F. Fit door edge trim to edge of stiles after applying veneer facing.

G. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
   1. At existing frames that are scheduled to receive new doors, fabricator shall field verify existing hardware locations at frame and adapt new doors to existing hardware locations.

H. Factory machine openings as scheduled for glazing as indicated on Door Types drawing.

I. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.

J. Provide edge clearances in accordance with the quality standard specified.

2.07 FACTORY FINISHING - WOOD VENEER DOORS

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and specified quality standard.
   1. Install fire-rated doors in accordance with NFPA 80 requirements.

B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.

C. Trim door height by cutting bottom edges to a maximum of 3/4 inch (19 mm).

D. Use machine tools to cut or drill for hardware.

E. Coordinate installation of doors with installation of frames and hardware.

F. Coordinate installation of glazing.

3.03 TOLERANCES

A. Conform to specified quality standard for fit and clearance tolerances.

B. Conform to specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

A. Adjust doors for smooth and balanced door movement.

B. Adjust closers for full closure and opening force maximum limits prescribed by code and ADA..

END OF SECTION

SECTION 08 3326

OVERHEAD COILING GRILLES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Overhead coiling metal grilles and operating hardware, electric operation.

B. Wiring from electric circuit disconnect to operator to control station.

1.02 REFERENCE STANDARDS

A. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.

B. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.

C. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2014.

D. NEMA ICS 2 - Industrial Control and Systems Controllers, Contactors and Overload Relays Rated 600 Volts; 2000 (R2005), with errata, 2008.

E. NEMA MG 1 - Motors and Generators; 2014.

F. UL (EAUED) - Electrical Appliance and Utilization Equipment Directory; Underwriters Laboratories Inc.; current edition.

G. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems; Current Edition, Including All Revisions.

1.03 SUBMITTALS

A. See Section 01 6100 - Submittals for submittal procedures.

B. Product Data: Provide general construction, component connections and details, electrical equipment.

C. Shop Drawings: Indicate pertinent dimensioning, anchorage methods, hardware locations, and installation details.

D. Manufacturer's Instructions: Indicate installation sequence and procedures, adjustment and alignment procedures.

E. Maintenance Data: Indicate lubrication requirements and frequency.

1.04 REGULATORY REQUIREMENTS

A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: Overhead Door Corporation Model 670
   1. Other Acceptable Manufacturers:
      a. Alpine Overhead Doors, Inc: www.alpinedoors.com.
      b. Cornell Iron Works, Inc: www.cornelliron.com.
      c. The Cookson Company: www.cooksondoor.com.
      d. Wayne-Dalton Corporation: www.waynedalton.com.
      e. Substitutions: See Section 01 6000 - Product Requirements.

2.02 GRILLE AND COMPONENTS

A. Grille: Aluminum; horizontal bar curtain, coiling on overhead counterbalanced shaft.
   1. Finish: Anodized, clear color.
   2. Electric operation.
   3. Mounting: As indicated.

B. Curtain: Round horizontal bars connected with vertical links.

1. Horizontal bars: 5/16 inch diameter.
2. Bar spacing: 1 1/2 inch on center.
3. Tube spacers: 1/2 inch diameter.
4. Spacer spacing: 3 1/4 inch on center.
5. Link spacing: 6 inch on center.
6. Bar Ends: Provide with nylon runners for quiet operation.
7. Bottom Bar: Back-to-back angles with tubular resilient cushion.

C. Guides: Extruded aluminum angles, of profile to retain grille in place with snap-on trim, mounting brackets of same metal.

D. Hood Enclosure: 18 gage aluminum sheet; internally reinforced to maintain rigidity and shape.
1. Finish: Anodized, Clear color.

E. Hardware:

F. Roller Shaft Counterbalance: Steel pipe and helical steel spring system, capable of producing torque sufficient to ensure smooth operation of curtain from any position and capable of holding position at mid-travel; with adjustable spring tension; requiring 25 lb nominal force to operate.

2.03 MATERIALS

A. Aluminum: ASTM B221 (ASTM B221M).

2.04 ELECTRIC OPERATION

A. Operator, Controls, Actuators, and Safeties: Comply with UL 325; provide products listed by a testing agency acceptable to authorities having jurisdiction.
1. Provide interlock switches on motor operated units.
2. Provide tamperproof operation cycle counter.

B. Electric Operators:
1. Mounting: Side mounted.
2. Motor Enclosure:
a. Interior grilles: NEMA MG 1 Type 1; open drip proof.
3. Motor Rating: 1/2 hp; continuous duty.
4. Motor Voltage: 120 volt, single phase, 60 Hz.
5. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
6. Controller Enclosure: NEMA 250 Type 1.
7. Opening Speed: 12 inches per second.
8. Brake: Adjustable friction clutch type, activated by motor controller.
9. Manual override in case of power failure.

C. Control Station: Standard key operation (OPEN-STOP-CLOSE) momentary control for each operator.
1. 24 volt circuit.
2. Flush mounted.

D. Safety Edge: Located at bottom of curtain, full width, electro-mechanical sensitized type, wired to stop operator upon striking object, hollow neoprene covered.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that opening sizes, tolerances and conditions are acceptable.

3.02 INSTALLATION

A. Install grille unit assembly in accordance with manufacturer's instructions.

B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.

C. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.

D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.

E. General Contractor is responsible for installing electrical raceways between recessed control stations and door motor locations. Door installer is responsible for installation of controller wiring.

3.03 TOLERANCES

A. Maintain dimensional tolerances and alignment with adjacent work.

B. Maximum Variation From Plumb: 1/16 inch.

C. Maximum Variation From Level: 1/16 inch.

D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch per 10 ft straight edge.

3.04 ADJUSTING

A. Adjust grille, hardware and operating assemblies for smooth and noiseless operation.

3.05 CLEANING

A. Clean grille and components.

B. Remove labels and visible markings.

END OF SECTION

SECTION 08 4113

ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.01 WORK INCLUDED

A. Furnish all necessary materials, labor, and equipment for the complete instatllation of the aluminum storefront framing system as shown on the drawings and specified herein.

1.02 SUMMARY

A. Section includes: Aluminum Storefront Systems
   1. YKK AP Series YHS 50 TU Impact Resistant Storefront System (Insulated Glazing) or equal as approved by the architect.

1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide aluminum storefront systems that meet all requirements of South Florida Building Code Protocols TAS 201, TAS 202, and TAS 203 comply with the following specific performance requirements indicated.
   1. Air Infiltration: Completed storefront systems shall have 0.06 CFM/FT² (1.10 m³/h·m²) maximum allowable infiltration when tested in accordance with ASTM E 283 at differential static pressure of 6.24 psf (299 Pa).
   2. Water Infiltration: No uncontrolled water when tested in accordance with ASTM E 331 at test pressure differential of: 12 PSF (575 Pa) (or when required, field tested in accordance with AAMA 503). Fastener Heads must be seated and sealed against Sill Flashing on any fasteners that penetrate through the Sill Flashing.
   3. Wind Loads: Completed storefront system shall withstand wind pressure loads normal to wall plane indicated:
      a. Exterior Walls:
         1) Positive Pressure: 70 psf.
         2) Negative Pressure: 70 psf.
   4. Deflection: Maximum allowable deflection in any member when tested in accordance with ASTM E 330 with allowable stress in accordance with AAMA Specifications for Aluminum Structures.
      a. For spans less than 13'-6" (4.1m): L/175 or 3/4" (19.1mm) maximum.
      b. For spans greater than 13'-6" (4.1m) but less than 40'-0" (12.2m): L/175 or L/240 + 1/4" (6.4mm).
   5. Thermal Movement: Provide for thermal movement caused by 180 degrees F. (82.2 degrees C.) surface temperature, without causing buckling stresses on glass, joint seal failure, undue stress on structural elements, damaging loads on fasteners, reduction of performance, or detrimental effects.
   6. Thermal Performance for YHS 50 TU shall be:
      a. Condensation Resistance Factor (CRF): A minimum of 59 when tested in accordance with AAMA 1503.1.
      b. Thermal Transmittance U-Factor: 0.45 BTU/HR/FT²/°F or less when tested in accordance with NFRC 102.

      Note: Thermal performance depends on glass specified. U-Factor shown for system when using a 1-5/16" insulating glass unit - 1/4" heat strengthened as required with 0.034 low emmissivity coating on surface #2, 1/2" air space with glass unit - 1/4" heat strengthened as required with 0.034 low emmissivity coating on surface #2, 1/2" air space with aluminum spacer, 1/4" heat strengthened / 0.090 PVB interlayer / 1/4" heat strengthened. Size: 2000mm x 2000mm (78.7 inches x 78.7 inches).
   7. Acoustical Performance: Acoustical Performance: When tested in accordance with ASTM E 1425:
      a. Sound Transmission Class (STC) shall not be less than 39
      b. Outdoor–Indoor Transmission Class (OITC) shall not be less than 33

1.04 SUBMITTALS

A. General: Prepare, review, approve, and submit specified submittals in accordance with "Conditions of the Contract" and Division 1 Submittals Section. Product data, shop drawings, samples, and similar submittals are defined in "Conditions of the Contract".

B. Product Data: Submit product data for each type storefront series specified.

C. Substitutions: Whenever substitute products are to be considered, supporting technical data, samples and test reports must be submitted ten (10) working days prior to bid date in order to make a valid comparison.

D. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, accessories, finish colors, and textures.

E. Samples: Submit verification samples for colors on actual aluminum substrates indicating full color range expected in installed system.

F. Quality Assurance / Control Submittals:
   1. Test Reports: Submit certified test reports showing compliance with specified performance characteristics and physical properties.
   2. Installer Qualification Data: Submit installer qualification data.

G. Close-out Submittals:
   1. Warranty: Submit warranty documents specified herein.
   2. Project Record Documents: Submit project record documents for installed materials in accordance with Division 1 Project Close-out (Project Record Documents) Section.

1.05 QUALITY ASSURANCE

A. Qualifications:
   1. Installer Qualifications: Installer experienced (as determined by contractor) to perform work of this section who has specialized in the installation of work similar to that required for this project. If requested by Owner, submit reference list of completed projects.
   2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction process.

1.06 PRODUCT CONDITIONS / SITE CONDITIONS

A. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.

1.07 WARRANTY

A. Project Warranty: Refer to "Conditions of the Contract" for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by an authorized company official.

C. Warranty Period: Manufacturer’s one (1) year standard warranty commencing on the substantial date of completion for the project provided that the warranty, in no event, shall start later than six (6) months from the date of shipment by YKK AP America Inc.

PART 2 PRODUCTS

IT IS THE INTENT OF THIS SPECIFICATION TO HAVE A SINGLE SOURCE RESPONSIBILITY FOR THE SUPPLY OF THE ALUMINUM DOORS AND FRAMING SYSTEMS ON THIS PROJECT.

2.01 MANUFACTURERS

A. Basis of Design: YKK AP America Inc.
   270 Riverside Parkway, Suite A
   Austell, GA 30168
   Telephone: (678) 838-6000; Fax: (678) 838-6001
   Storefront System: YKK AP YHS 50 FS Impact Resistant Storefront System.

1. Equal products from other manufacturers will be considered but must be approved by the architect.

B. Storefront Framing Systems:
   1. Description: Center set, exterior flush glazed; jambs and vertical mullions continuous; head, sill, intermediate horizontal attached by screw spline joinery. Continuous and wept sill flashing.
   2. Components: Manufacturer's standard extruded aluminum mullions, entrance doors, framing, and indicated shapes, perimeter anchor fillers and steel reinforcing as required.
   3. Glazing: Manufacturer's standard glazing stops with EPDM glazing gaskets to prevent water infiltration at the exterior and Dow Corning® 995 Structural Silicone Sealant with fixed stops at the interior.
   4. Thermal Barrier: Provide continuous thermal barrier by means of a poured and debridged pocket consisting of a two-part, chemically curing high density polyurethane which is bonded to the aluminum by YKK ThermaBond Plus®. Systems employing non structural thermal barriers are not acceptable.

2.02 MATERIALS

A. Extrusions: ASTM B 221 (ASTM B 221M), 6063-T5 Aluminum Alloy.

B. Aluminum Sheet:
   1. Anodized Finish: ASTM B 209 (ASTM B 209M), 5005-H14 Aluminum Alloy, 0.050" (1.27 mm) minimum thickness.

2.03 ACCESSORIES

A. Manufacturer's Standard Accessories:
   1. Fasteners: Zinc plated steel concealed fasteners; Hardened aluminum alloys or AISI 300 series stainless steel exposed fasteners.
   2. Glazing: Setting blocks, edge blocks, and spacers in accordance with ASTM C 864, shore durometer hardness as recommended by manufacturer; Glazing gaskets in accordance with ASTM C 864.
   3. 0.050 Aluminum Sill Flashing End Dams featuring 3 point attachment.

2.04 RELATED MATERIALS (SPECIFIED IN OTHER SECTIONS)

A. Aluminum swing doors: Section 08 41 20 35H Impact Resistant Heavy Duty Swing Doors.

2.05 FABRICATION

A. Shop Assembly: Fabricate and assemble units with joints only at intersection of aluminum members with hairline joints; rigidly secure, and sealed in accordance with manufacturer's recommendations.

2.06 FINISHES AND COLORS

A. YKK AP America Anodized Plus® Finish:
   1. Clear Anodized Plus®

B. Anodized Finishing: Prepare aluminum surfaces for specified finish; apply shop finish in accordance with the following:
   1. Anodic Coating: Electrolytic color coating followed by an organic seal applied in accordance with the requirements of AAMA 612. Aluminum extrusions shall be produced from quality controlled billets meeting AA-6063-T5.
   2. Exposed Surfaces shall be free of scratches and other serious blemishes.
   3. Extrusions shall be given a caustic etch followed by an anodic oxide treatment and then sealed with an organic coating applied with an electrodeposition process.
   4. The anodized coating shall comply with all of the requirements of AAMA 612-02: Voluntary Specifications, Performance Requirements and Test Procedures for Combined Coatings of Anodic Oxide and Transparent Organic Coatings on Architectural Aluminum. Testing shall demonstrate the ability of the finish to resist damage from mortar, salt spray, and chemicals commonly found on construction sites, and to resist the loss of color and gloss.
   5. Overall coating thickness for finishes shall be a minimum of 0.7 mils.

PART 3 EXECUTION

3.01 3.01 MANUFACTURER'S INSTRUCTIONS / RECOMMENDATIONS

A. Compliance: Comply with manufacturer's product data, including product technical bulletins, installation instructions, and product carton instructions. The latest installation instructions are available at www.ykkap.com.

3.02 EXAMINATION

A. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions.

3.03 PREPARATION

A. Adjacent Surfaces Protection: Protect adjacent work areas and finish surfaces from damage during product installation.
   1. Aluminum Surface Protection: Protect aluminum surfaces from contact with lime, mortar, cement, acids, and other harmful contaminants.

3.04 INSTALLATION

A. General: Install manufacturer's system in strict accordance with shop drawings, and within specified tolerances.
   1. Shim and brace aluminum system before anchoring to structure.
   2. Provide sill flashing at exterior storefront systems. Extend extruded flashing continuous with splice joints; set in continuous beads of sealant and wept.
   3. Verify storefront system allows water entering system to be collected in gutters and wept to exterior. Verify metal joints are sealed in accordance with the manufacturer's instructions.
   4. Seal metal to metal storefront system joints using sealant recommended by system manufacturer.

3.05 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Upon request, provide manufacturer's field service consisting of site visit for inspection of product installation in accordance with manufacturer's instructions.

B. Field Test: Conduct field test to determine watertightness of storefront system. Conduct test in accordance with AAMA 501.2.

3.06 ADJUSTING AND CLEANING

A. Adjusting: Adjust operating items as recommended by manufacturer.

B. Cleaning: The General Contractor shall clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance, and remove construction debris from project site. Legally dispose of debris.

C. Protection: The General Contractor shall protect the installed product's finish surfaces from damage during construction.

END OF SECTION

SECTION 08 4120

ALUMINUM-FRAMED ENTRANCES

PART 1 GENERAL

1.01 WORK INCLUDED

A. Furnish all necessary materials, labor, and equipment for the complete installation of the aluminum swing doors, door frames, and hardware as shown on the drawings and specified herein.

1.02 SUMMARY

A. Section includes: Aluminum Swing Doors, including:
   1. 1. YKK AP Model 35H Impact Resistant and Blast Mitigating Heavy Duty Swing Doors or equal as approved by the architect.

1.03 SYSTEM PERFORMANCE DESCRIPTION

A. Performance Requirements: Aluminum swing doors shall meet all requirements of ASTM E 1886, ASTM E 1996 and South Florida Building Code Protocols TAS 201, TAS 202, and TAS 203 and comply with the following specific
performance requirements indicated.
   1. Air Infiltration (Single Acting Butt Hinges, Continuous Hinges, or Offset Pivots): Air infiltration shall be tested in accordance with ASTM E 283 at static pressure of 1.57 PSF (75 Pa). Infiltration shall not exceed 0.50 CFM/FT² for single door or 1.00 CFM/FT² for pair doors.
   2. Water Infiltration: No uncontrolled water other than condensation on indoor face of any component tested in accordance with ASTM E 331 at a test pressure differential of 10.5 psf (503 Pa). Water test to be performed immediately after design pressure test. Standard 35H Entrances are intended for 1st floor applications.
   3. Structural: Door corner structural strength shall be tested per YKK AP's dual moment test procedure and certified by an independent testing laboratory to ensure corner integrity and weld compliance. Certified test procedures and results are available upon request.
   4. Structural Uniform Load Test:
      a. Doors:
         1) Positive Pressure: 70 PSF - Air and Water Threshold; insulating glazing.
         2) Negative Pressure: 90 PSF
   5. Forced Entry Resistance: Tests performed simultaneously with 300 lb. forces applied to the active door panel within 3" of the locks in the direction that would tend to open the door while 150 lb. forces are applied in both perpendicular directions to the 300 lb. force simultaneously.
   6. Thermal Performance: When tested in accordance with AAMA 1503 and NFRC 102:
      a. Condensation Resistance Factor (CRFf): A minimum of 28.
      b. Thermal Transmittance U Value: 0.77 BTU/HR/FT²/ºF or less.

1.04 SUBMITTALS

A. General: Prepare, review, approve, and submit specified submittals in accordance with "General Conditions" and Division 1 Submittals Section. Product data, shop drawings, samples, and similar submittals are defined in "General Conditions".

B. Product Data: Submit product data for each entrance series specified.

C. Substitutions: Whenever substitute products are to be considered, supporting technical data, samples, and test reports must be submitted ten (10) working days prior to bid date in order to make a valid comparison.

D. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, accessories, and finish colors.

E. Samples: Submit verification samples for colors. Minimum 2½ inch by 3 inch (61mm by 73 mm) samples on actual aluminum substrates indicating full color range expected in installed system.

F. Quality Assurance / Control Submittals:
   1. Test Reports: Submit certified test reports showing compliance with specified performance characteristics and physical properties.
   2. Installer Qualification Data: Submit installer qualification data.

G. Close-out Submittals:
   1. Warranty: Submit executed warranty documents specified herein, endorsed by YKK AP authorized official and installer.
   2. Project Record Documents: Submit project record documents, including operation and maintenance data for installed materials in accordance with Division 1 Project Close-out (Project Record Documents) Section.

1.05 QUALITY ASSURANCE

A. Qualifications:
   1. Installer Qualifications: Installer experienced (as determined by contractor) to perform work of this section who has specialized in the installation of work similar to that required for this project. If requested by Owner, submit reference list of completed projects.
   2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction process.

B. Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements.

1.06 PRODUCT CONDITIONS / SITE CONDITIONS

A. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.

1.07 WARRANTY

A. Project Warranty: Refer to "Conditions of the Contract" for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by an authorized company official.
   1. Warranty Period: Manufacturer’s one (1) year standard warranty commencing on the substantial date of completion for the project provided that the warranty, in no event, shall start later than six (6) months from the date of shipment by YKK AP America Inc.

PART 2 PRODUCTS

IT IS THE INTENT OF THIS SPECIFICATION TO HAVE A SINGLE SOURCE RESPONSIBILITY FOR THE SUPPLY OF THE ALUMINUM DOORS AND FRAMING SYSTEMS ON THIS PROJECT.

2.01 MANUFACTURERS

A. Basis of Design:
   1. YKK AP America Inc.
      270 Riverside Parkway, Suite A
      Austell, GA 30168
      Telephone (678)838-6000
   2. Equal products from other manufacturers will be considered but must be approved by the architect.

B. Impact Resistant and Blast Mitigating Entrances:
   1. YKK AP Model 35H Impact Resistant and Blast Mitigating Entrances.
      a. 35H Description: 3-7/8" (98.36 mm) Door Stile, 2-3/8" thick.
   2. Corner Construction: Fabricate door corners joined by concealed reinforcement secured with screws and sigma deep penetration welding.

3. Glazing: Manufacturer's standard glazing stops with EPDM glazing gaskets to prevent water infiltration at the exterior and structural silicone sealant for wet glazing, EPDM silicone compatible gasket for dry glazing with fixed stops at the interior.
4. Weather-stripping: Manufacturer's standard elastomer type in replaceable rabbets for stiles and rails.
5. Standard Hardware:
    a. Roton® 780-226HD continuous hinge(s) or equal as approved by the architect.
    b. Type "A" standard YKK AP push/pull.
    c. LCN 4040XP surface mounted closer.
    d. Von Duprin® CVR (98 / 99 series) US26D Finish, Provide cylinder dogging

2.02 MATERIALS

A. Extrusions: ASTM B 221 (ASTM B 221M), 6063-T5 Aluminum Alloy.

B. Aluminum Sheet:
1. Anodized Finish: ASTM B 209 (ASTM B 209M), 5005-H14 Aluminum Alloy, 0.050" (1.27 mm) minimum thickness.

2.03 ACCESSORIES

A. Manufacturer's Standard Accessories:
1. Fasteners: Zinc plated steel concealed fasteners; Hardened aluminum alloys or AISI 300 series less steel exposed fasteners, countersunk, finish to match aluminum color.
2. Perimeter Sealant: Non-skinning type, AAMA 803.3.
3. Glazing: Setting blocks, edge blocks, and spacers in accordance with ASTM C 864, shore durometer hardness as recommended by manufacturer. Glazing gaskets in accordance with ASTM C 864.
4. Glazing Adhesive: Dow Corning® 995 Structural Silicone Sealant.

2.04 FABRICATION

A. Shop Assembly: Fabricate and assemble units with joints only at intersection of aluminum members with uniform hairline joints; rigidly secure, and sealed in accordance with manufacturer's recommendations.

B. Hardware: Drill and cut to template for hardware. Reinforce frames and door stiles to receive hardware in accordance with manufacturer's recommendations.

C. Welding: Conceal welds on aluminum members in accordance with AWS recommendations or methods recommended by manufacturer. Members showing welding bloom or discoloration on finish or material distortion will be rejected.

2.05 FINISHES AND COLORS

A. A. YKK AP America Anodized Plus® Finish:
1. Clear Anodized Plus®

B. Anodized Finishing: Prepare aluminum surfaces for specified finish; apply shop finish in accordance with the following:
1. Anodic Coating: Electrolytic color coating followed by an organic seal applied in accordance with the requirements of AAMA 612-02. Aluminum extrusions shall be produced from quality controlled billets meeting AA-6063-T5.
2. Exposed Surfaces shall be free of scratches and other serious blemishes.
3. Extrusions shall be given a caustic etch followed by an anodic oxide treatment and then sealed with an organic coating applied with an electrodeposition process.
4. The anodized coating shall comply with all of the requirements of AAMA 612-02: Voluntary Specifications, Performance Requirements and Test Procedures for Combined Coatings of Anodic Oxide and Transparent Organic Coatings on Architectural Aluminum. Testing shall demonstrate the ability of the finish to resist damage from mortar, salt spray, and chemicals commonly found on construction sites, and to resist the loss of color and gloss.
5. Overall coating thickness for finishes shall be a minimum of 0.7 mils.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS / RECOMMENDATIONS

A. Compliance: Comply with manufacturer's product data, including product technical bulletins, installation instructions, and product carton instructions. The latest installation instructions for this product are available at www.ykkap.com.

3.02 EXAMINATION

A. Site Verification of Conditions: Verify conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions.
   1. Verify location of preset anchors, perimeter fasteners, and block-outs are in accordance with shop drawings.

3.03 PREPARATION

A. Adjacent Surfaces Protection: Protect adjacent work areas and finish surfaces from damage during product installation.
   1. 1. Aluminum Surface Protection: Protect aluminum surfaces from contact with lime, mortar, cement, acids, and other harmful contaminants.

3.04 INSTALLATION

A. General: Install manufacturer's system in accordance with shop drawings, and within specified tolerances.

3.05 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Upon request, provide manufacturer's field service consisting of site visit for inspection of product installation in accordance with manufacturer's instructions.

3.06 ADJUSTING AND CLEANING

A. Adjusting: Adjust swing doors for operation in accordance with manufacturer's recommendations.

B. Cleaning: The General Contractor shall clean installed products in accordance with manufacturer's instructions prior to owner's acceptance, and remove construction debris from project site. Legally dispose of debris.

C. Protection: The General Contractor shall protect the installed product's finish surfaces from damage during construction.

END OF SECTION

SECTION 08 5113

ALUMINUM WINDOWS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Fixed & Operable Aluminum Window Systems:
   1. YKK AP Series YOW 225H Fixed Aluminum Window System.
   2. YKK AP Series YOW 225H Operable Aluminum Window System.

1.02 SYSTEM PERFORMANCE DESCRIPTION

A. All test unit sizes and configurations shall conform to the minimum sizes in accordance with AAMA/WDMA/CSA 101/I.S.A440-05 with a performance class of AW, performance grade 65 (Operable), 100 (Fixed). Windows shall also meet all requirements of South Florida Building Code Protocols TAS 201, TAS 202, and TAS 203 and comply with the following specific performance requirements indicated.
   1. Air Infiltration: When tested in accordance with ASTM E 283 and TAS 202 at differential static pressure of 6.24 PSF (299 Pa), completed window systems shall have maximum allowable infiltration of 0.30 CFM/FT2 (1.85 m3/h·m2).
   2. Water Infiltration: No uncontrolled water on indoor face of any component when tested in accordance with ASTM E 331 and TAS 202 at a static pressure of 12 PSF (575 Pa) operable, 15 PSF (718 Pa) fixed.
   3. Static Load: There shall be no damage to fasteners, hardware, accessories, or any other damage that would render the window inoperable when tested in accordance with ASTM E 330 and TAS 202 at a differential static pressure as follows:
      a. Operable windows: Large & Small Missile: ±65 psf
      b. Fixed windows:
         1) Large Missile +70/-90 psf
         2) Small Missile ± 100 psf.
   4. Forced Entry Resistance: Windows shall meet all test requirements of AAMA 1302.5 and TAS 202.
   5. Large & Small Missile Impact: Windows shall successfully pass the test requirements of both ASTM E 1886/E 1996 and South Florida Protocols TAS 201.
   6. Cyclic Load: Windows shall successfully pass the test requirements of both ASTM E 1886/E 1996 and South Florida Protocols TAS 203.
   7. Acoustical Performance: When tested in accordance with ASTM E 90 and ASTM E 1332, the Sound Transmission
      a. Class (STC), and Outdoor-Indoor Transmission Class (OITC) shall not be less than 36 STC and 27 OITC.
   8. Life Cycle Testing: When tested in accordance with AAMA 910, there shall be no damage to fasteners, hardware parts, or any other damage that would cause the specimen to be inoperable. Resistance to air leakage and water penetration resistance test results shall not exceen the gateway performance.

B. Note: Performance based on lab testing and will vary by configuration and glass type; contact YKK AP engineering for job specific analysis at higher performance levels.

1.03 SUBMITTALS

A. General: Prepare, review, approve, and submit specified submittals in accordance with “General Conditions” and Division 1 Submittals Sections. Product data, shop drawings, samples, and similar submittals are defined in “Conditions of the Contract.”

B. Product Data: Submit product data for each type window series specified.

C. Substitutions: Whenever substitute products are to be considered , supporting technical data, samples, and test reports must be submitted ten (10) working days prior to bid date in order to make a valid comparison.

D. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, accessories, finish colors and textures.

E. Samples: Submit verification samples for colors on actual aluminum substrates indicating full color range expected in installed system.

F. Quality Assurance / Control Submittals:
   1. Test Reports: Submit certified test reports showing compliance with specified performance characteristics and physical properties.

G. Closeout Submittals:
   1. Warranty: Submit warranty documents specified herein.
   2. Project Record Documents: Submit project record documents for installed materials in accordance with Division 1 Project Closeout (Project Record Documents) Section.

1.04 QUALITY ASSURANCE

A. Qualifications:
   1. Installer Qualifications: Installer experienced (as determined by contractor) to perform work of this section who has specialized in the installation of work similar to that required for this project. If requested by Owner, submit reference list of completed projects.
   2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction process.
   3. Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements.

1.05 PROJECT CONDITIONS / SITE CONDITIONS

A. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.

1.06 WARRANTY

A. Project Warranty: Refer to "Conditions of the Contract" for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by an authorized company official.

C. Warranty Period: Manufacturer's one (1) year standard warranty commencing on the substantial date of completion for the project provided that the warranty, in no event, shall start later than six (6) months from the date of shipment by YKK AP America Inc.

PART 2 PRODUCTS

2.01 MANUFACTURERS (ACCEPTABLE MANUFACTURERS/PRODUCTS)

A. Basis of Design: YKK AP America Inc.
   1. 270 Riverside Parkway, Suite A
   2. Austell, GA 30168
   3. Telephone: (678) 838-6000; Fax: (404) 838-6001
   4. Operable Window System: YKK AP YOW 225H Aluminum Window System.
   5. Fixed Window System: YKK AP YOW 225H Aluminum Window System
      a. Window Framing System:
   6. AAMA Designation: AW-65 (Operable), AW-100 (Fixed).
   7. Description: The windows shall be extruded aluminum; 2-1/4" frame depth;
      a. Vents shall be flush with frame and have mitered corner construction; Factory-assembled.

B. Configuration: The windows shall be Fixed and Casement Outswing.
   1. Glazing:

a. Large Missile Impact: Exterior glazing tape with silicone cap bead; 9/16" monolithic units; Interior silicone compatible setting blocks & structural silicone sealant; Aluminum interior glazing beads; Factory or bench glazed.

C. Equal products from other manufacturers will be considered but must be approved by the architect.

2.02 MATERIALS

A. Extrusions: ASTM B 221 (ASTM B 221M), 6063-T5 and 6063-T6 Aluminum Alloys.

B. Aluminum Sheet:
1. Anodized Finish: ASTM B 209 (ASTM B 209M), 5005-H14 Aluminum Alloy, 0.050” (1.27 mm) minimumthickness.
2. Painted Finish: ASTM B 209 (ASTM B 209M), 3003-H14 Aluminum Alloy, 0.080” (1.95 mm) minimum thickness.

2.03 ACCESSORIES

A. Manufacturer’s Standard Accessories:
1. Hardware: Standard concealed stainless steel 4 bar hinges for casement outswing and projected vents, white bronze cam handles and strikes.
2. Fasteners: All fasteners to be AISI 300 series (except for self-drilling which are to to be AISI 400 series) stainless steel.
3. Sealant: Non-skinning type, AAMA 803.3
4. Glazing: Setting blocks, edge blocks, and spacers in accordance with ASTM C 864, shore durometer hardness as recommended by manufacturer; Glazing gaskets in accordance with ASTM C 864.
5. Glazing Adhesive: Structural silicone sealant.

2.04 FABRICATION

A. Shop Assembly: Fabricate and assemble units with joints only at intersection of aluminum members with hairline joints; rigidly secure, and sealed in accordance with manufacturer’s recommendations.

B. Fabrication Tolerance:
1. Material Cuts: Square to 1/32 inch (0.8 mm) off square, over largest dimension; proportionate amount of
1/32 inch (0.8 mm) on the two dimensions.
2. Maximum Offset: 1/64 inch (0.4 mm) in alignment between two consecutive members in line, end to end.
3. Maximum Offset: 1/64 inch (0.4 mm) between framing members at glazing pocket corners.
4. Joints (Between adjacent members in same assembly): Hairline and square to adjacent member.
5. Variation (In squaring diagonals for doors and fabricated assemblies): 1/16 inch (1.6 mm).
6. Flatness (For doors and fabricated assemblies): +/- 1/16 inch (1.8 mm) off neutral plane.

2.05 FINISHES AND COLORS

A. A. YKK AP America Anodized Plus® Finish:
1. DESCRIPTION
a. Clear Anodized Plus®

PART 3 EXECUTION

3.01 MANUFACTURER’S INSTRUCTIONS / RECOMMENDATIONS

A. Compliance: Comply with manufacturer’s product data, including product technical bulletins, installation instructions,and product carton instructions.

3.02 EXAMINATION

A. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer’s instructions.

3.03 PREPARATION

A. Adjacent Surfaces Protection: Protect adjacent work areas and finish surfaces from damage during product installation.

3.04 INSTALLATION

A. General: Install manufacturer's system in accordance with shop drawings, and within specified tolerances.
   1. Protect aluminum members in contact with masonry, steel, concrete, or dissimilar materials using nylon pads or bituminous coating.
   2. Shim and brace aluminum system before anchoring to structure.
   3. Verify window system allows water entering system to be collected in gutters and wept to the exterior.
      a. Verify weep holes are open, and metal joints are sealed in accordance with manufacturers installation instructions.
   4. Seal metal to metal window system joints using sealant recommended by system manufacturer.

3.05 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Upon request, provide manufacturer's field service consisting of site visit for inspection of product installation in accordance with manufacturer's instructions.

B. Field Test: Conduct field test to determine watertightness of window system. Conduct test in accordance with AAMA 502-02 at locations selected by Architect.

3.06 ADJUSTING AND CLEANING

A. Adjusting: Adjust operating items as recommended by manufacturer.

B. Cleaning: The General Contractor shall clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance, and remove construction debris from project site. Legally dispose of debris.

C. Protection: The General Contractor shall protect installed product's finish surfaces from damage during construction.

END OF SECTION

SECTION 08 7110

FINISH HARDWARE

SUMMARY

1.01 SECTION INCLUDES:

A. Mechanical and electrified door hardware for:
   1. Swinging doors.
   2. Sliding doors.
   3. Gates.
      a. Electronic access control system components, including:
         1) Biometric access control reader.
         2) Electronic access control devices.

B. REFERENCES
   1. DHI - Door and Hardware Institute
      a. Sequence and Format for the Hardware Schedule
      b. Recommended Locations for Builders Hardware
      c. Key Systems and Nomenclature
   2. ANSI - American National Standards Institute
      a. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties

C. SUBMITTALS
   1. General:
      a. Submit in accordance with General Conditions and Division 01 requirements.
      b. Highlight, encircle, or otherwise specifically identify on submittals deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.
      c. Prior to forwarding submittal, comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, “EXAMINATION” article.
   2. Action Submittals:
      a. Product Data: Product data including manufacturers’ technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
      b. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
         1) Wiring Diagrams: For power, signal, and control wiring and including:
            (a) Details of interface of electrified door hardware and building safety and security systems.
            (b) Schematic diagram of systems that interface with electrified door hardware.
            (c) Point-to-point wiring.
            (d) Risers.
      c. Samples for Verification: If requested by Architect, submit production sample or sample installations of each type of exposed hardware unit in finish indicated, and tagged with full description for coordination with schedule.
         1) Samples will be returned to supplier in like-new condition. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.
      d. Door Hardware Schedule: Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:
         1) Door Index; include door number, heading number, and Architects hardware set number.

2) Opening Lock Function Spreadsheet: List locking device and function for each opening.
3) Type, style, function, size, and finish of each hardware item.
4) Name and manufacturer of each item.
5) Fastenings and other pertinent information.
6) Location of each hardware set cross-referenced to indications on Drawings.
7) Explanation of all abbreviations, symbols, and codes contained in schedule.
8) Mounting locations for hardware.
9) Door and frame sizes and materials.
10) Name and phone number for local manufacturer's representative for each product.
11) Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and access control components). Operational description should include how door will operate on egress, ingress, and fire and smoke alarm connection.
    (a) Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work that is critical in Project construction schedule.

e. Key Schedule:
1) After Keying Conference, provide keying schedule listing levels of keying as well as explanation of key system's function, key symbols used and door numbers controlled.
2) Use ANSI/BHMA A156.28 “Recommended Practices for Keying Systems” as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
3) Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
4) Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
5) Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion.
    (a) Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
6) Prepare key schedule by or under supervision of supplier, detailing Owner’s final keying instructions for locks.

f. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory prepared for door hardware installation.

3. Informational Submittals:
a. Qualification Data: For Supplier, Installer and Architectural Hardware Consultant.
b. Product Certificates for electrified door hardware, signed by manufacturer:
1) Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
c. Certificates of Compliance:
1) Certificates of compliance for fire-rated hardware and installation instructions if requested by Architect or Authority Having Jurisdiction.
2) Installer Training Meeting Certification: Letter of compliance, signed by Contractor, attesting to completion of installer training meeting specified in “QUALITY ASSURANCE” article.
3) Electrified Hardware Coordination Conference Certification: Letter of compliance, signed by Contractor, attesting to completion of electrified hardware coordination conference, specified in “QUALITY ASSURANCE” article.

d. Product Test Reports: For compliance with accessibility requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by qualified testing agency, for door hardware on doors located in accessible routes.
e. Florida Building Code; Windload: Submit certified independent lab test or NOA report on each type of exterior opening. All exterior opening submittals shall include door number, door and frame elevations and all finish hardware as tested as an assembly. These reports are to be forwarded to the building department.
f. Warranty: Warranty specified in this Section.

4. Closeout Submittals:
   a. Operations and Maintenance Data : Provide in accordance with Division 01 and include:
      1) Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
      2) Catalog pages for each product.
      3) Name, address, and phone number of local representative for each manufacturer.
      4) Parts list for each product.
      5) Final approved hardware schedule, edited to reflect conditions as-installed.
      6) Final keying schedule
      7) Copies of floor plans with keying nomenclature
      8) As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.
      9) Copy of warranties including appropriate reference numbers for manufacturers to identify project.

D. QUALITY ASSURANCE
1. Product Substitutions: Comply with product requirements stated in Division 01 and as specified.
   a. Where specific manufacturer's product is named and accompanied by "No Substitute," including make or model number or other designation, provide product specified. (Note: Certain products have been selected for their unique characteristics and particular project suitability.)
      1) Where no additional products or manufacturers are listed in product category, requirements for "No Substitute" govern product selection.
   b. Where products indicate "acceptable manufacturers", provide product from specified manufacturers, subject to compliance with specified requirements and "Single Source Responsibility" requirements stated.
2. Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
   a. Warehousing Facilities: In Project's vicinity.
   b. Scheduling Responsibility: Preparation of door hardware and keying schedules.
   c. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
   d. Coordination Responsibility: Coordinate installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.
      1) Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.
3. Installer Qualifications: Qualified tradesmen, skilled in application of commercial grade hardware with record of successful in-service performance for installing door hardware similar in quantity, type, and quality to that indicated for this Project.

4. Architectural Hardware Consultant Qualifications: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
    a. For door hardware, DHI-certified, Architectural Hardware Consultant (AHC).
    b. Can provide installation and technical data to Architect and other related subcontractors.
    c. Can inspect and verify components are in working order upon completion of installation.
    d. Capable of producing wiring diagrams.
    e. Capable of coordinating installation of electrified hardware with Architect and electrical engineers.
5. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.
    a. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated.
    b. Manufacturers that perform electrical modifications and that are listed by testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.
6. Fire-Rated Door Openings: Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.
7. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
    a. Air Leakage Rate: Maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.
8. Hurricane and Windload tested Hardware: Provide hardware that meets the hurricane and windload test requirements in accordance with the Florida Building code and are in compliance with the local authority having jurisdiction. All openings required to meet either the impact test or windload test as indicated by the architect shall be tested as systems with the finish hardware, hollow metal doors, and frames.
9. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.
10. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release latch. Locks do not require use of key, tool, or special knowledge for operation.
11. Accessibility Requirements: For door hardware on doors in an accessible route, comply with governing accessibility regulations cited in “REFERENCES” article, herein.
    a. Provide operating devices that do not require tight grasping, pinching, or twisting of wrist and that operate with force of not more than 5 lbf (22.2 N).
    b. Maximum opening-force requirements:
        1) Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
        2) Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
    c. Bevel raised thresholds with slope of not more than 1:2. Provide thresholds not more than 1/2 inch (13 mm) high.
    d. Adjust door closer sweep periods so that, from open position of 70 degrees, door will take at least 3 seconds to move to 3 inches (75 mm) from latch, measured to leading edge of door.
12. Keying Conference: Conduct conference at Project site
    a. Attendees: Owner, Contractor, Architect, Installer,and Supplier’s Architectural Hardware Consultant.

b. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
    1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
    2) Preliminary key system schematic diagram.
    3) Requirements for key control system.
    4) Requirements for access control.
    5) Address for delivery of keys.

13. Pre-installation Conference: Conduct conference at Project site
    a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
    b. Inspect and discuss preparatory work performed by other trades.
    c. Inspect and discuss electrical roughing-in for electrified door hardware.
    d. Review sequence of operation for each type of electrified door hardware.
    e. Review required testing, inspecting, and certifying procedures.
14. Coordination Conferences:
    a. Installation Coordination Conference: Prior to hardware installation, schedule and hold meeting to review questions or concerns related to proper installation and adjustment of door hardware.
        1) Attendees: Door hardware supplier, door hardware installer, Contractor.
        2) After meeting, provide letter of compliance to Architect, indicating when meeting was held and who was in attendance.
    b. Electrified Hardware Coordination Conference: Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.
        1) Attendees: electrified door hardware supplier, doors and frames supplier, electrified door hardware installer, electrical subcontractor, Owner, Architect and Contractor.
        2) After meeting, provide letter of compliance to Architect, indicating when coordination conference was held and who was in attendance.

E. DELIVERY, STORAGE, AND HANDLING
1. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site.
2. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
    a. Deliver each article of hardware in manufacturer’s original packaging.
3. Project Conditions:
    a. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
    b. Provide secure lock-up for door hardware delivered to Project, but not yet installed. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.
4. Protection and Damage:
    a. Promptly replace products damaged during shipping.
    b. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work.
    c. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.
5. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.
6. Deliver keysand permanent coresto Owner by registered mail or overnight package service.

F. COORDINATION

1. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.
2. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
3. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.
4. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.
5. Direct shipments not permitted, unless approved by Contractor.

G. WARRANTY
1. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
   a. Warranty Period: Years from date of Substantial Completion, for durations indicated.
      1) Closers:
         (a) Mechanical: 10 years.
      2) Exit Devices:
         (a) Mechanical: 3 years.
         (b) Electrified: 1 year.
      3) Locksets:
         (a) Mechanical: 3 years.
      4) Continuous Hinges: Lifetime warranty
      5) Key Blanks: Lifetime
   b. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

H. MAINTENANCE
1. Maintenance Tools:
   a. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

1.02 PRODUCTS

A. MANUFACTURERS
1. The Owner requires use of certain products for their unique characteristics and particular project suitability to insure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: “No Substitute.”
   a. Where “No Substitute” is noted, submittals and substitution requests for other products will not be considered.
2. Approval of manufacturers and/or products other than those listed as ”ScheduledManufacturer ” or “AcceptableManufacturers” in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article.
3. Approval of products from manufacturers indicated in “Acceptable Manufacturers” is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer’s product.
4. Hand of Door: Drawings show direction of slide, swing, or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.
5. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

B. MATERIALS
1. Fasteners

a. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
b. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
c. Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru-bolts are required.
d. Install hardware with fasteners provided by hardware manufacturer.

2. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.
   a. Where fasteners are exposed to view: Finish to match adjacent door hardware material.
3. Cable and Connectors: Hardwired Electronic Access Control Lockset and Exit Device Trim:
   a. Data: 24AWG, 4 conductor shielded, Belden 9843, 9841 or comparable.
   b. DC Power: 18 AWG, 2 conductor, Belden 8760 or comparable.
   c. Provide type of data and DC power cabling required by access control device manufacturer for this installation.
   d. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with sufficient number and wire gauge with standardized Molex plug connectorsto accommodate electric function of specified hardware. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge,electrified pivot, and electric power transfer for connection to power supplies.

C. HINGES
1. Manufacturers and Products:
   a. Scheduled Manufacturer and Product: Ives 5BB series
   b. Acceptable Manufacturers and Products: Hager BB series, McKinney TA/T4A series,
2. Requirements:
   a. Provide five-knuckleball bearing hingesconforming to ANSI/BHMA A156.1.
   b. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches(914 mm) wide:
      1) Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches(114 mm) high
      2) Interior: Standard weight, steel, 4-1/2 inches(114 mm) high
   c. 1-3/4 inch(44 mm) thick doors over 36 inches(914 mm) wide:
      1) Exterior: Heavy weight, bronze/stainless steel, 5 inches(127 mm) high
      2) Interior: Heavy weight, steel, 5 inches(127 mm) high
   d. Provide three hinges per door leaf for doors 90 inches(2286 mm) or less in height, and one additional hinge for each 30 inches(762 mm) of additional door height.
   e. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
   f. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
      1) Steel Hinges: Steel pins
      2) Out-Swinging Exterior Doors: Non-removable pins
   g. Width of hinges: 4-1/2 inches(114 mm) at 1-3/4 inch(44 mm) thick doors, and 5 inches(127 mm) at 2 inches(51 mm) or thicker doors. Adjust hinge width as required for door, frame, and wall conditions to allow proper degree of opening.
   h. Doors 36 inches(914 mm) wide or less furnish hinges 4-1/2 inches(114 mm) high; doors greater than 36 inches(914 mm) wide furnish hinges 5 inches(127 mm) high, heavy weight or standard weight as specified.

D. CONTINUOUS HINGES
   1. Aluminum Geared
      a. Manufacturers:
         1) Scheduled Manufacturer: Ives.
         2) Acceptable Manufacturers: Markar, Stanley.
      b. Requirements:
         1) Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
         2) Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum, with 0.25-inch(6 mm) diameter Teflon coated stainless steel hinge pin.
         3) Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
         4) Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
         5) On fire-rated doors, provide aluminum geared continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
         6) Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
         7) Install hinges with fasteners supplied by manufacturer.
         8) Provide hinges 1 inch(25 mm)shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

E. ELECTRIC POWER TRANSFER
   1. Manufacturers:
      a. Scheduled Manufacturer: Von Duprin EPT-10
      b. Acceptable Manufacturers: ABH PT1000, Securitron CEPT-10
   2. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires sufficient to accommodate electric function of specified hardware.
   3. Locate electric power transfer per manufacturer’s template and UL requirements, unless interference with operation of door or other hardware items.

F. SURFACE BOLTS
   1. Manufacturers:
      a. Scheduled Manufacturer: Ives
      b. Acceptable Manufacturers: Burns, Rockwood
   2. Requirements:
      a. Surface bolt s to have 1” throw for maximum security with concealed mounting that prevents vandalism. Units to be constructed of heavy duty steel and cUL listed up to three (3) hours when used on the inactive door of a pair up to 8’ in height.

G. CYLINDRICAL LOCKS - GRADE 1
   1. Manufacturers and Products:
      a. Scheduled Manufacturer and Product: Schlage ND Series
      b. Acceptable Manufacturers and Products: Sargent 11-Line, Corbin-Russwin CL3100 Series
   2. Requirements:
      a. Provide cylindrical locks conforming to the following standards and requirements:
         1) ANSI/BHMA A156.2 Series 4000, Grade 1.
         2) UL 10C for 4’-0” x 10’-0” 3-hour fire door.
         3) Florida Building Code (ASTM E330, E1886, E1996) and Miami Dade (TAS 201, 202, 203) requirements for hurricanes.
      b. Cylinders: Refer to “KEYING” article.

c. Provide cylindrical locksets exceeding the ANSI/BHMA A156.2 Grade 1 performance standards for strength, security, and durability in the categories below:
    1) Abusive Locked Lever Torque Test - minimum 3,100 inch-pounds without gaining access
    2) Cycle life - tested to minimum 10 million cycles per ANSI/BHMA A156.2 Cycle Test with no visible lever sag or use of performance aids such as set screws or spacers.
d. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2 inch latch throw. Provide proper latch throw for UL listing at pairs.
e. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
f. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
g. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
h. Provide electrified options as scheduled in the hardware sets.
i. Lever Trim: Solid cast levers without plastic inserts, and wrought roses on both sides.
    1) Lever Design: Schlage Rhodes.

H. AUXILIARY LOCKS
1. Aluminum Door Deadbolt - Narrow Style:
    a. Manufacturers and Products:
        1) Scheduled Manufacturer and Product: Adams Rite MS1850 Series
        2) Acceptable Manufacturers and Products: No Substitute.
    b. Requirements:
        1) Provide narrow style aluminum door deadbolts as specified. Cylinders: Refer to “KEYING” article, herein.
        2) Provide deadbolts with 1-1/2 inches (38 mm)backset with full 1-13/32 inches(36 mm) throw deadbolt.
        3) Provide manufacturer’s standard strikes unless extended lip strikes are necessary to protect trim.

I. EXIT DEVICES
1. Manufacturer and Product:
    a. Scheduled Manufacturer: Von Duprin 98 series
    b. Acceptable Manufacturers and Products: No Substitute.
2. Requirements:
    a. Provide exit devices tested to ANSI/BHMA A156.3-2014 Grade 1, and UL listed for Panic Exit or Fire Exit Hardware. Cylinders: Refer to “KEYING” article, herein.
    b. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
    c. Quiet Operation: Incorporate fluid damper or other device that eliminates noise of exit device operation.
    d. Touchpad: Extend minimum of one half of door width, but not the full length of exit device rail. Provide end-cap with two-point attachment to door. Match exit device finish, stainless steel for US26, US26D, US28, US32, and US32D finishes; and for all other finishes, provide compatible finish to exit device. Provide compression springs in devices, latches, and outside trims or controls; tension springs prohibited.
    e. Provide rim devices with a dual cylinder or inside thumb turn cylinder option with a visual security indicator that identifies the trims locked/unlocked status of the door from the inside of the room. Indicator in unlocked state presents a 1/2 inch x 1/2 inch white metal flag with black icon at top of device head. Indicator in locked state has no flag present. Provide rim devices without the dual cylinder or inside thumb turn cylinder option capable of being retrofitted with the visual security indicator.
    f. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrical requirements.

g. Provide exit devices with manufacturer's approved strikes.
h. Provide exit devices cut to door width and height. Locate exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
i. Mount mechanism case flush on face of doors, or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
j. Provide hex dogging at non-fire-rated exit devices, unless specified less dogging.
k. Removable Mullions: 2 inches(51 mm) x 3 inches(76 mm) steel tube. Where scheduled as keyed removable mullion that is removed by use of a keyed cylinder, which is self-locking when re-installed.
l. Where lever handles are specified as outside trim for exit devices, provide heavy-duty lever trims with forged or cast escutcheon plates. Provide vandal-resistant levers that will travel to 90-degree down position when more than 35 pounds of torque are applied, and which can easily be re-set.
    1) Lever Style: Match lever style of locksets.
    2) Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.
m. Provide UL labeled fire exit hardware for fire rated openings.
n. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
o. Provide electrified options as scheduled in the hardware sets.

J. ELECTRIC STRIKES
1. Manufacturers and Products:
    a. Scheduled Manufacturer and Product: Von Duprin 6000 series
    b. Acceptable Manufacturers and Products: Folger Adam 300 series, HES 1006 series
2. Requirements:
    a. Provide electric strikes designed for use with type of locks shown at each opening.
    b. Provide electric strikes UL Listed as burglary-resistant.
    c. Where required, provide electric strikes UL Listed for fire doors and frames.
    d. Provide fail-secure type electric strikes, unless specified otherwise.
    e. Coordinate voltage and provide transformers and rectifiers for each strike as required.

K. MAGNETIC LOCKS
1. Magnetic Locks - Surface Type:
    a. Manufacturers:
        1) Scheduled Manufacturer and Product: Schlage M450P Series
        2) Acceptable Manufacturers and Products: No Substitute
    b. Requirements:
        1) Provide magnetic locks conforming to ANSI/BHMA A156.23 classification criteria including minimum holding force of 1000 LBF. Provide magnetic locks equipped with SPDT Magnetic Bond Sensing device, where specified, to monitor whether sufficient magnetic holding force exists to ensure adequate locking and SPDT Door Status Monitor device, where specified, to monitor whether door is open or closed. Provide bond sensors fully concealed within electromagnet to resist tampering or damage.
        2) Provide fasteners, mounting brackets, and spacer bars required for mounting and details.
        3) Provide power supply recommended and approved by manufacturer of magnetic locks.
        4) Where magnetic locks are scheduled, provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of magnetic locks for each individual leaf. Switches

control both doors simultaneously at pairs. Locate controls as directed by Architect.

5) Cylinders: Refer to “KEYING” article, herein.

L. POWER SUPPLIES

1. Manufacturers and Products:
   a. Scheduled Manufacturer and Product: Schlage or Von Duprin PS900 series
   b. Acceptable Manufacturers and Products: Securitron BPS series, Security Door Controls 600 series
2. Requirements:
   a. Provide power supplies, recommended and approved by manufacturer of electrified locking component, for operation of electrified locks, electrified exit devices, magnetic locks, electric strikes, and other components requiring power supply.
   b. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
   c. Provide regulated and filtered 24 VDC power supply , and UL class 2 listed.
   d. Options:
      1) Provide power supply, where specified, with internal capability of charging sealed backup batteries 24 VDC, in addition to operating DC load.
      2) Provide sealed batteries for battery back-up at each power supply where specified.
      3) Provide keyed power supply cabinet.
   e. Provide power supply in an enclosure, complete, and requiring 120VAC to fused input.
   f. Provide power supply with emergency release terminals, where specified, that allow release of all devices upon activation of fire alarm system complete with fire alarm input for initiating “no delay” exiting mode.

M. CYLINDERS

1. Manufacturers:
   a. Scheduled Manufacturer: Schlage
   b. Acceptable Manufacturers: Corbin-Russwin, Sargent
2. Requirements:
   a. Provide cylinders/cores,from the same manufacturer of locksets, compliant with ANSI/BHMA A156.5; latest revision, Section 12, Grade 1; permanent cylinders; cylinder face finished to match lockset, manufacturer’s series as indicated. Refer to “KEYING” article, herein.
   b. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
      1) Conventional Patented Restricted: cylinder with interchangeable core with patented, restricted keyway.
   c. Patent Protection: Cylinders/cores requiring use of restricted, patented keys, patent-protected until the year, 2029.
   d. Nickel silver bottom pins.
   e. Replaceable Construction Cores.
      1) Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
         (a) 3 construction control keys
         (b) 12 construction change (day) keys.
      2) Owner or Owner’s Representative will replace temporary construction cores with permanent cores.

N. KEYING

1. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
2. Requirements:
    a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
        1) Existing Schlage E Master Keying system as directed by the Owner.
    b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements shall be cause for replacement of cylinders/cores involved at no additional cost to Owner.
    c. Provide keys with the following features:
        1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
    d. Identification:
        1) Mark permanent cylinders/cores and keys with applicable blind code per DHI publication “Keying Systems and Nomenclature” for identification. Blind code marks shall not include actual key cuts.
        2) Identification stamping provisions must be approved by the Architect and Owner.
        3) Stamp cylinders/cores and keys with Owner’s unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with “DO NOT DUPLICATE”.
        4) Failure to comply with stamping requirements shall be cause for replacement of keys involved at no additional cost to Owner.
        5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
    e. Quantity: Furnish in the following quantities.
        1) Change (Day) Keys: 3 per cylinder/core.
        2) LFIC:Permanent Control Keys: 3.
        3) Master Keys: 6.

O. KEY CONTROL SYSTEM
1. Manufacturers:
    a. Scheduled Manufacturer: Telkee
    b. Acceptable Manufacturers: HPC, Lund
2. Requirements:
    a. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
        1) Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
        2) Provide hinged-panel type cabinet for wall mounting.

P. DOOR CLOSERS
1. Manufacturers and Products:
    a. Scheduled Manufacturer and Product: LCN 4040XP series.
    b. Acceptable Manufacturers and Products: Sargent 281/281P10/281TJ series factory assembled (without PRV)
2. Requirements:
    a. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
    b. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
    c. Cylinder Body: 1-1/2 inch(38 mm) diameter with 3/4 inch(19 mm) diameter double heat-treated pinion journal.
    d. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.

e. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
f. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
g. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
h. Pressure Relief Valve (PRV) Technology: Not permitted.
i. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
j. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

Q. DOOR TRIM
1. Manufacturers:
a. Scheduled Manufacturer: Ives
b. Acceptable Manufacturers: Burns, Rockwood
2. Requirements:
a. Provide push plates 4 inches(102 mm) wide by 16 inches(406 mm) high by 0.050 inch(1 mm) thick and beveled 4 edges. Where width of door stile prevents use of 4 inches(102 mm) wide plate, adjust width to fit.
b. Provide push bars of solid bar stock, diameter and length as scheduled. Provide push bars of sufficient length to span from center to center of each stile. Where required, mount back to back with pull.
c. Provide offset pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
d. Provide pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
e. Provide pull plates 4 inches(102 mm) wide by 16 inches(406 mm) high by 0.050 inch(1 mm) thick, beveled 4 edges, and prepped for pull. Where width of door stile prevents use of 4 inches(102 mm) wide plate, adjust width to fit.

R. PROTECTION PLATES
1. Manufacturers:
a. Scheduled Manufacturer: Ives
b. Acceptable Manufacturers: Burns, Rockwood
2. Requirements:
a. Provide kick plates, mop plates, and armor plates minimum of 0.050 inch(1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
b. Sizes of plates:
1) Kick Plates: 10 inches(254 mm) high by 2 inches(51 mm) less width of door on single doors, 1 inch(25 mm) less width of door on pairs
2) Mop Plates: 4 inches(102 mm) high by 2 inches(51 mm) less width of door on single doors, 1 inch(25 mm) less width of door on pairs

S. OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS
1. Manufacturers:
a. Scheduled Manufacturers: Glynn-Johnson
b. Acceptable Manufacturers: Rixson, Sargent
2. Requirements:
a. Provide medium duty surface mounted overhead stop for doors and at any door that swings more than 140 degrees before striking wall, open against equipment, casework, sidelights, and where conditions do not allow wall stop or floor stop presents tripping hazard.

T. DOOR STOPS AND HOLDERS

1. Manufacturers:
    a. Scheduled Manufacturer: Ives
    b. Acceptable Manufacturers: Burns, Rockwood
2. Provide door stops at each door leaf:
    a. Provide wall stops wherever possible. Provide convex type where mortise type locks are used and concave type where cylindrical type locks are used.
    b. Where a wall stop cannot be used, provide universal floor stops for low or high rise options.
    c. Where wall or floor stop cannot be used, provide medium duty surface mounted overhead stop.

U. THRESHOLDS, SEALS, DOOR SWEEPS, AND GASKETING
1. Manufacturers:
    a. Scheduled Manufacturer: Zero International
    b. Acceptable Manufacturers: National Guard, Reese
2. Requirements:
    a. Provide thresholds, weather-stripping (including door sweeps, seals, and astragals) and gasketing systems (including smoke, sound, and light) as specified and per architectural details. Match finish of other items.
    b. Size of thresholds:
        1) Saddle Thresholds: 1/2 inch(13 mm) high by jamb width by door width
        2) Bumper Seal Thresholds: 1/2 inch(13 mm) high by 5 inches(127 mm) wide by door width
    c. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.

V. SILENCERS
1. Manufacturers:
    a. Scheduled Manufacturer: Ives
    b. Acceptable Manufacturers: Burns, Rockwood
2. Requirements:
    a. Provide "push-in" type silencers for hollow metal or wood frames.
    b. Provide one silencer per 30 inches(762 mm) of height on each single frame, and two for each pair frame.
    c. Omit where gasketing is specified.

W. DOOR POSITION SWITCHES
1. Manufacturers:
    a. Scheduled Manufacturer: GE-Interlogix
    b. Acceptable Manufacturers: No Substitution
2. Requirements:
    a. Provide recessed or surface mounted type door position switches as specified.
    b. Coordinate door and frame preparations with door and frame suppliers. If switches are being used with magnetic locking device, provide minimum of 4 inches(102 mm) between switch and magnetic locking device.

X. DOOR VIEWERS
1. Manufacturers:
    a. Scheduled Manufacturer: Ives
    b. Acceptable Manufacturers: Burns, Rockwood
2. Provide appropriate door viewer for door type and rating with minimum of 180-degree view area.

Y. LATCH PROTECTORS
1. Manufacturers:
    a. Scheduled Manufacturer: Ives
    b. Acceptable Manufacturers: Burns, Rockwood
2. Provide stainless steel latch protectors of type required to function with specified lock.

Z. FINISHES
1. General: Refer to the Hardware Groups.

1.03 EXECUTION

A. EXAMINATION
1. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
2. Existing Door and Frame Compatibility: Field verify existing doors and frames receiving new hardware and existing conditions receiving new openings. Verify that new hardware is compatible with existing door and frame preparation and existing conditions.
3. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
4. Proceed with installation only after unsatisfactory conditions have been corrected.

B. PREPARATION
1. Where on-site modification of doors and frames is required:
   a. Carefully remove existing door hardware and components being reused. Clean, protect, tag, and store in accordance with storage and handling requirements specified herein.
   b. Field modify and prepare existing door and frame for new hardware being installed.
   c. When modifications are exposed to view, use concealed fasteners, when possible.
   d. Prepare hardware locations and reinstall in accordance with installation requirements for new door hardware and with:
      1) Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
      2) Wood Doors: DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."
      3) Doors in rated assemblies: NFPA 80 for restrictions on on-site door hardware preparation.

C. INSTALLATION
1. Mounting Heights: Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
   a. Standard Steel Doors and Frames: ANSI/SDI A250.8.
   b. Custom Steel Doors and Frames: HMMA 831.
   c. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
2. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.
3. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.
4. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
5. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
6. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
7. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
8. Lock Cylinders: Install construction cores to secure building and areas during construction period.
   a. Replace construction cores with permanent cores as indicated in cylinder section.
9. Wiring: Coordinate with Division 26, ELECTRICAL sections for:

a. Conduit, junction boxes and wire pulls.
b. Connections to and from power supplies to electrified hardware.
c. Connections to fire/smoke alarm system and smoke evacuation system.
d. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
e. Testing and labeling wires with Architect's opening number.

10. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
11. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Closers shall not be visible in corridors, lobbies and other public spaces unless approved by Architect.
12. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
13. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.
    a. Configuration: Provide least number of power supplies required to adequately serve doorswith electrified door hardware.
14. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
15. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.
16. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
17. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

D. FIELD QUALITY CONTROL
1. Architectural Hardware Consultant: Engage qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
    a. Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

E. ADJUSTING
1. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
    a. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
    b. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
2. Occupancy Adjustment: Approximately threemonths after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors, door hardware, and electrified door hardware.

F. CLEANING AND PROTECTION
1. Clean adjacent surfaces soiled by door hardware installation.
2. Clean operating items as necessary to restore proper function and finish.
3. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

G. DEMONSTRATION
1. Provide training for Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes.

H. DOOR HARDWARE SCHEDULE FOLLOWS:

1. Locksets, exit devices, and other hardware items are referenced in the following hardware sets for series, type and function. Refer to the above-specifications for special features, options, cylinders/keying, and other requirements.

Door/Hardware Index

Mark #	HWSet #
01	01
02	11
03	19
04	19
05	14
06	19
07	21
08	21
09	19
10	14
11	19
12	11
13	05
14	17
15	17
16	23
17	21
18	22
19	12
20	19
21	13
22	03
23	11
24	02
25	09
26	12
27	10
28	20
29	25
30	25
31	11
32	11
33	11
34	11
35	16
37	12
38	12
39	11
40	05

Mark #	HWSet #
41	24
42	17
43	22
44	22
45	22
46	15
47	02
48	15
49	18
50	06
51	04
52	17
53	22
54	17
55	17
56	01
57	07
58	05
59	08
60	08
61	24
62	24
63	17
64	22
65	22
66	22
67	22
68	12
69	11
70	11
71	11
72	11
73	20
74	12
75	10
GATE	26

Hardware Group No. 01

Provide each PR door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
2	EA	CONT. HINGE	224HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	FIRE RATED REMOVABLE MULLION	KR9954	689	VON
1	EA	ELEC PANIC HARDWARE	RX-HH-98-EO-299F-CON-SNB	626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-HH-98-NL-OP-110MD299F-CON-SNB	626	VON
1	EA	MORTISE CYLINDER	20-059	626	SCH
1	EA	RIM HOUSING	20-079	626	SCH
2	EA	FSIC CORE	23-030	626	SCH
2	EA	90 DEG OFFSET PULL	8190EZHD 10" O	630-316	IVE
2	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
2	EA	FLOOR STOP	FS18S	BLK	IVE
2	EA	WIRE HARNESS	CON-32		SCH
2	EA	WIRE HARNESS	CON-6W		SCH
1	EA	POWER SUPPLY	PS902 900-2RS		VON
1	EA	CREDENTIAL READER	ICLASS SE READER BY SECURITY PROVIDER		HID

BALANCE OF HARDWARE BY DOOR MANUFACTURER.
PRESENTATION OF VALID CREDENTIAL TO CARD READER MOMENTARILY RELEASES ACTIVE LEAF LATCHBOLT.
AIPHONE SYSTEM BY OTHERS

Hardware Group No. 02

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
1	EA	CONT. HINGE	224HD EPT	628	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-HH-98-NL-OP-110MD299F-CON-SNB	626	VON
1	EA	RIM HOUSING	20-079	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	90 DEG OFFSET PULL	8190EZHD 10" O	630-316	IVE
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	FLOOR STOP	FS18S	BLK	IVE
1	EA	WIRE HARNESS	CON-32		SCH
1	EA	WIRE HARNESS	CON-6W		SCH
1	EA	POWER SUPPLY	PS902 900-2RS		VON
1	EA	CREDENTIAL READER	ICLASS SE READER BY SECURITY PROVIDER		HID

BALANCE OF HARDWARE BY DOOR MANUFACTURER.
PRESENTATION OF VALID CREDENTIAL TO CARD READER MOMENTARILY RELEASES LATCHBOLT.
ADD ALTERNATE FOR AIPHONE SYSTEM

Hardware Group No. 03

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
1	EA	CONT. HINGE	224HD	628	IVE
1	EA	DEADBOLT X TOP AND BOTTOM BOLT	MS1850 X MS 4015 X MS 4016	628	ADA
1	EA	MORTISE CYLINDER	20-062	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	MAGNETIC LOCK	M452P	628	SCE
1	EA	PUSH/PULL BAR	9190EZHD-10"-NS	630-316	IVE
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	FLOOR STOP	FS18S	BLK	IVE
1	EA	PUSH BUTTON	621GREX	626	SCE
1	EA	REQUEST TO EXIT DUAL TECH SENSOR	RCR-REX-W		UNK
1	EA	CREDENTIAL READER	ICLASS SE READER BY SECURITY PROVIDER		HID

BALANCE OF HARDWARE BY DOOR MANUFACTURER.
PRESENTATION OF VALID CREDENTIAL TO CARD READER MOMENTARILY RELEASES MAGNETIC LOCK.

Hardware Group No. 04

Provide each PR door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
6	EA	HINGE	5BB1HW 5 X 4.5 NRP	630	IVE
2	EA	SURFACE BOLT	SB360 12" T	604	IVE
1	EA	CLASSROOM LOCK	ND70TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	MAGNETIC LOCK	M452P	628	SCE
2	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	328AA-S	AA	ZER
1	EA	THRESHOLD	65A-223	A	ZER
1	EA	PUSH BUTTON	621GREX	626	SCE
2	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	REQUEST TO EXIT DUAL TECH SENSOR	RCR-REX-W		UNK
1	EA	CREDENTIAL READER	ICLASS SE READER BY SECURITY PROVIDER		HID

FLAT ASTRAGAL BY DOOR MANUFACTURER.
PRESENTATION OF VALID CREDENTIAL TO CARD READER MOMENTARILY RELEASES MAG LOCK.
AIPHONE SYSTEM BY OTHERS..

Hardware Group No. 05

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	ND80TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	ELECTRIC STRIKE	6211 FSE DS	630	VON
1	EA	LOCK GUARD	LG10	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	328AA-S	AA	ZER
1	EA	THRESHOLD	65A-223	A	ZER
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	CREDENTIAL READER	ICLASS SE READER BY SECURITY PROVIDER		HID

PRESENTATION OF VALID CREDENTIAL TO CARD READER MOMENTARILY RELEASES ELECTRIC STRIKE.
REQUEST TO EXIT BY OTHERS.

Hardware Group No. 06

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	ND80TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	ELECTRIC STRIKE	6211 FSE DS	630	VON
1	EA	LOCK GUARD	LG10	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	328AA-S	AA	ZER
1	EA	THRESHOLD	65A-223	A	ZER
1	EA	VIEWER	U698	626	IVE
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	CREDENTIAL READER	ICLASS SE READER BY SECURITY PROVIDER		HID

PRESENTATION OF VALID CREDENTIAL TO CARD READER MOMENTARILY RELEASES ELECTRIC STRIKE.
REQUEST TO EXIT BY OTHERS.

Hardware Group No. 07

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	HH-98-L-NL-06-299F	626	VON
1	EA	RIM HOUSING	20-079	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	328AA-S	AA	ZER
1	EA	THRESHOLD	65A-223	A	ZER

Hardware Group No. 08

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	ND80TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	LOCK GUARD	LG10	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	328AA-S	AA	ZER
1	EA	THRESHOLD	65A-223	A	ZER

Hardware Group No. 09

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	PRIVACY LOCK	ND40S RHO	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	328AA-S	AA	ZER
1	EA	THRESHOLD	65A-223	A	ZER

Hardware Group No. 10

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	98-L-NL-06	630	VON
1	EA	ELECTRIC STRIKE	9600	630	HES
1	EA	RIM HOUSING	20-079	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	CREDENTIAL READER	ICLASS SE READER BY SECURITY PROVIDER		HID

PRESENTATION OF VALID CREDENTIAL TO CARD READER MOMENTARILY RELEASES ELECTRIC STRIKE.
REQUEST TO EXIT BY OTHERS.

Hardware Group No. 11

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	ELECTRIC STRIKE	6211 FSE DS	630	VON
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	CREDENTIAL READER	ICLASS SE READER BY SECURITY PROVIDER		HID

PRESENTATION OF VALID CREDENTIAL TO CARD READER MOMENTARILY RELEASES ELECTRIC STRIKE.
REQUEST TO EXIT BY OTHERS.

Hardware Group No. 12

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 13

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 14

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	OH STOP	450S	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 15

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ND70TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 16

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ND70TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE

3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 17

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ND70TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 18

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ND70TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	FLOOR STOP	FS436	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 19

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE LOCK	ND53TD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 20

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	ND40S RHO	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 21

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	ND40S RHO	626	SCH
1	EA	OH STOP	450S	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 22

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	ND40S RHO	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 23

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 24

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PUSH PLATE	8200 4" X 16"	630	IVE
1	EA	PULL PLATE	8302 10" 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	MOP PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 25

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PUSH PLATE	8200 4" X 16"	630	IVE
1	EA	PULL PLATE	8302 10" 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	MOP PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 26

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
1	EA	ELEC PANIC HARDWARE	RX-98-EO-ALK-WH	630	VON
1	EA	MORTISE CYLINDER	20-059	626	SCH
1	EA	FSIC CORE	23-030	626	SCH

EXIT ONLY. ALARM TO SOUND WHEN DOOR IS OPENED.
BALANCE OF HARDWARE BY GATE DOOR SUPPLIER.

END OF SECTION

SECTION 08 8000
INTERIOR GLAZING

PART 1 GENERAL

1.01 RELATED SECTIONS

A. Section 07 9005 - Interior Joint Sealers: Sealant and back-up material.

B. Section 08 1113 - Hollow Metal Doors and Frames: Glazed doors and borrowed lites.

C. Section 08 1416 - Flush Wood Doors: Glazed doors.

D. Section 08 8100 - Exterior Glazing.

E. Section 10 2800 - Toilet, Bath, and Laundry Accessories: Mirrors.

1.02 REFERENCES

A. ASTM C 864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005.

B. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants; 2005.

C. ASTM C 1036 - Standard Specification for Flat Glass; 2001.

D. ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass; 2004.

E. ASTM C 1172 - Standard Specification for Laminated Architectural Flat Glass; 2003.

F. ASTM C 1193 - Standard Guide for Use of Joint Sealants; 2005a.

G. ASTM E 773 - Standard Test Method for Accelerated Weathering of Sealed Insulating Glass Units; 2001.

H. ASTM E 774 - Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units; 1997.

I. GANA (GM) - GANA Glazing Manual; Glass Association of North America; 2004.

J. GANA (SM) - FGMA Sealant Manual; Glass Association of North America; 1990.

K. GANA (LGDG) - Laminated Glazing Reference Manual; Glass Association of North America; 2006.

L. SIGMA TM-3000 - Glazing Guidelines for Sealed Insulating Glass Units; Sealed Insulating Glass Manufacturers Association; 2004.

M. SIGMA TM-3000 and TB-3001 - Recommended Practices for Vertical and Basic Field Glazing of Organically Sealed Insulating Glass Units; Sealed Insulating Glass Manufacturing Association; 1990.

1.03 PERFORMANCE REQUIREMENTS

A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or defects in construction.

B. Glass Design: Glass thicknesses indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites for various size openings in nominal thicknesses indicated but not less than thicknesses and strengths required to meet or exceed criteria established in this specification.

C. Provide kind FT (fully tempered) float glass in place of annealed glass where indicated on drawings.

1.04 SUBMITTALS

A. See Section 01 6000 - Submittals for submittal procedures.

B. Product Data on all specified Glass types: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.

C. Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.

D. Samples for Verification:
   1. Flat Glass Materials: Two 4" x 4" samples of each glass type specified.

E. Certificates: Certify that products, fabricator and installer meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

A. Perform Work in accordance with GANA Glazing Manual and FGMA Sealant Manual for glazing installation methods.

B. Manufacturer, Flat Glass Materials: Company specializing in performing the work of this section with minimum five (5) years documented experience.

C. Installer Qualifications: Company specializing in performing the work of this section with minimum five (5) years documented experience.
   1. Who has completed glazing similar in material, design and extent to that indicated for this Project.
   2. Whose work has resulted in glass installations with a record of successful in-service performance.
   3. Who employs glass installers for this Project who are certified under the National Glass Association Glazier Certification Program as Level 2 (Senior Glazier) or Level 3 (Master Glazier).

D. Source Limitations for Flat Glass Materials: Obtain all flat glass materials from one primary glass manufacturer.

E. Source Limitations for Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.

1.06 DELIVERY, STORAGE AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Do not install glazing when ambient temperature is less than 50 degrees F.

B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.08 WARRANTY

A. Refer to applicable Division 1 specifications sections for any additional warranty requirements and for required warranty submittals at project closeout.

B. Provide a ten (10) year warranty to include coverage for delamination of laminated glass and replacement of same.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer, Flat Glass Materials:
   1. Pilkington Building Products North America
      Address:816 Ridge Crest Drive; Burleson, TX 76028.
      Contact: Greg Thomas
      Telephone: (817) 447-7662.
      Facsimile: (817) 447-7949..
      Website: www.pilkington.com

B. Alternate Manufacturers, subject to compliance with requirements and as approved by Architect:

1. AFG Industries, Inc: www.afgglass.com.
2. Guardian Industries Corp: www.guardian.com.
3. PPG Industries, Inc: www.ppg.com.
4. Visteon Glass Systems: www.visteon.com.
5. Substitutions: Refer to Section 01600 - Product Requirements.

2.02 FLAT GLASS MATERIALS

A. Clear Uncoated Float Glass
   1. Acceptable Product: Pilkington Optifloat Clear Float.
   2. Description: Clear uncoated float glass meeting requirements of ASTM C 1036, Type 1, Class 2, Quality q3.
   3. Nominal Glass Thickness: 1/4 inch (6 mm).
   4. Glass Color: Clear.
   5. Performance Characteristics:
      a. Visible Light Transmittance: 88 %
      b. Visible Light Reflectance: 8%
      c. Total Solar Energy Transmittance: 77 %
      d. Total Solar Energy Reflectance: 7%
      e. UV Transmittance: 62 %
      f. Summer U-Value: 0.93
      g. Winter U-Value: 1.02
      h. Solar Heat Gain Coefficient: 0.81
      i. Shading Coefficient: 0.94

2.03 GLAZING COMPOUNDS

A. Manufacturers:
   1. GE Plastics: www.geplastics.com.
   2. Pecora Corporation: www.pecora.com.
   3. Substitutions: Refer to Section 01 6000 - Product Requirements.

B. Silicone Sealant : Single component; neutral curing; capable of water immersion without loss of properties; non-bleeding, non-staining; ASTM C 920, Type S, Grade NS, Class 25, Uses M, A, and G; cured Shore A hardness of 15 to 25; color as selected.

C. Provide glazing compound(s) recommended by the manufacturer for application compatibility with materials.

2.04 GLAZING ACCESSORIES

A. Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness, ASTM C 864 Option I. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.

B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness, ASTM C 864 Option I. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.

C. Glazing Tape: Preformed butyl compound with integral resilient tube spacing device; 10 to 15 Shore A durometer hardness; coiled on release paper; widths required for specified installation; black color.

D. Glazing Gaskets: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C 864 Option I; black color.

E. Glazing Clips: Manufacturer's standard type.

2.05 FABRICATION

A. Fabricate glass and other glazing products covered by this section in sizes required to glaze openings indicated for Project, with edge and surface conditions, and bite complying with written instructions of product manufacturer and reference glazing standard, to comply with system performance requirements.

B. Clean-cut or flat-grind vertical edges of butt glazed monolithic lites in a manner that produces square edges with slight kerfs at junctions with indoor and outdoor faces.

C. Grind smooth and polish exposed glass edges.

D. Tempered Glass:
   1. Cut float glass materials to indicated sizes and provide cut-outs and holes, if indicated, before heat strengthening.
   2. Fully temper float glass materials in accordance with ASTM C 1048, Kind FT.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that openings for glazing are correctly sized and within tolerance.

B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and ready to receive glazing.

C. Verify effective sealing between joints of glass-framing members.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Clean contact surfaces with solvent and wipe dry.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant.

D. Install sealants in accordance with ASTM C 1193 and FGMA Sealant Manual.

E. Install sealant in accordance with manufacturer's instructions.

3.03 INSTALLATION - GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Glazing channel dimensions, as indicated on Drawings, provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by Project conditions during installation.

C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damage glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.

D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glazing manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

F. Provide spacers for glass lites as required.

G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in reference glazing publications.

H. Set glass lites in each series with uniform pattern, draw, bow and similar characteristics.

I. Where wedge shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

J. Square-cut wedge shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corners and butt joints with sealant recommended by gasket manufacturer.

K. Install transparent mirror glazing with pyrolytic coating on subject side and away from observer side.

3.04 INSTALLATION - INTERIOR DRY METHOD (GASKET GLAZING)

A. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.

B. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.

C. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.05 INSTALLATION - INTERIOR DRY METHOD (TAPE AND TAPE)

A. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch (1.6 mm) above sight line.

B. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.

C. Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.

D. Place glazing tape on free perimeter of glazing in same manner described above.

E. Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.

F. Knife trim protruding tape.

3.06 INSTALLATION - INTERIOR WET/DRY METHOD (TAPE AND SEALANT)

A. Cut glazing tape to length and install against permanent stops, projecting 1/16 inch (1.6 mm) above sight line.

B. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.

C. Rest glazing on setting blocks and push against tape to ensure full contact at perimeter of pane or unit.

D. Install removable stops, spacer shims inserted between glazing and applied stops at 24 inch intervals, 1/4 inch below sight line.

E. Fill gaps between pane and applied stop with appropriate type sealant to depth equal to bite on glazing, to uniform and level line.

F. Trim protruding tape edge.

3.07 INSTALLATION - INTERIOR WET METHOD (COMPOUND AND COMPOUND)

A. Install glazing resting on setting blocks. Install applied stop and center pane by use of spacer shims at 24 inch centers, kept 1/4 inch below sight line.

B. Locate and secure glazing pane using glazers' clips.

C. Fill gaps between glazing and stops with glazing compound until flush with sight line. Tool surface to straight line.

3.08 CLEANING

A. Remove glazing materials from finish surfaces.

B. Remove labels after Work is complete.

C. Clean glass and adjacent surfaces just prior to substantial completion inspection.

D. Clean glass with pyrolytic coating per manufacturer's recommendations.

3.09 PROTECTION OF FINISHED WORK

A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

B. At heat absorbing or reflective glass units, attach removable plastic tape to framing members so that tape stands off of glass surface. Do not use tape that will damage finish of framing members.

C. Prior to substantial completion inspection, remove all tape and/or paste from glass surfaces and framing members.

END OF SECTION

SECTION 08 8100
EXTERIOR GLAZING

GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DEFINITIONS:

A. Deterioration of Coated Glass: Defects developed from normal use that are attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning coated glass contrary to manufacturer's directions. Defects include peeling, cracking, and other indications of deterioration in metallic coating.

B. Deterioration of Laminated Glass: Defects developed from normal use that are attributed to the manufacturing process and not to glass breakage and practices for maintaining and cleaning laminated glass contrary to manufacturer's directions. Defects include edge separation, delaminating materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated glass standard.

C. Deterioration of Insulating Glass: Failure of the hermetic seal under normal use due to causes other than glass breakage and improper practices for maintaining, and cleaning of insulating glass. Evidence of failure is the obstruction of vision by dust, moisture, or film on the interior surfaces of glass. Improper practices for maintaining and cleaning glass do not comply with the manufacturer's directions.

1.03 SYSTEM PERFORMANCE REQUIREMENTS:

A. Provide glazing systems capable of withstanding normal thermal movement, wind loading, and impact loading, without failure including loss or glass breakage attributable to: defective manufacture, fabrication, and installation; deterioration of glazing materials; and other defects in construction.

1.04 SUBMITTALS:

A. In addition to product data, submit 12-inch-square samples of each type of glass indicated, except for clear monolithic glass products, and 12-inch-long samples of each color required (except black) for each type of sealant or gasket exposed to view.

B. Product certificates signed by glazing materials manufacturers certifying that their products comply with specified requirements.

C. Compatibility and adhesion test reports from sealant manufacturer indicating that glazing materials were tested for compatibility and adhesion with glazing sealants.

D. Compatibility test report from insulating glass edge sealant manufacturer indicating glass edge sealants were tested for compatibility with other glazing materials.

1.05 GLAZING PUBLICATIONS:

A. Comply with published recommendations of glass product manufacturers, "FGMA Glazing Manual," and publications of AAMA, LSGA, and SIGMA as applicable to products indicated, except where more stringent requirements are indicated.

1.06 SAFETY GLASS:

A. Products complying with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for Category II materials.

1.07 INSULATING GLASS CERTIFICATION PROGRAM:

A. Provide insulating glass units permanently marked with appropriate certification label of inspecting and testing agency indicated below:
   1. Insulating Glass Certification Council (IGCC).
   2. Associated Laboratories, Inc. (ALI).

3. National Certified Testing Laboratories (NCTL).

B. Comply with the following:
   1. ASTM C 1036-90, Standard Specification for Flat Glass.
   2. ASTM C 1048-90, Standard Specification for Heat-Treated Flat Glass: Kind HS, Kind FT, coated and uncoated.
   3. ASTM E773-83 and E774-86, Test Methods.

1.08 WARRANTY

A. General: Warranties specified in this article shall not deprive the Owner of the rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

B. Manufacturer's Warranty on Coated Glass Products: Submit written warranty signed by coated glass manufacturer agreeing to furnish replacements for those coated glass units that deteriorate as defined in "Definitions" article, f.o.b. point of manufacture, freight allowed Project site, within specified warranty period indicated below. Warranty covers only deterioration due to normal conditions of use and not to handling, installing, and cleaning practices contrary to glass manufacturer's published instructions.
   1. Warranty Period: Manufacturer's standard but not less than 10 years after date of Substantial Completion.

C. Manufacturer's Warranty on Laminated Glass: Submit written warranty signed by insulating glass manufacturer agreeing to furnish replacements for those laminated glass units that deteriorate as defined in "Definitions" article, f.o.b. point of manufacture, freight allowed Project site, within specified warranty period indicated below. Warranty covers only deterioration due to normal conditions of use and not to handling, installing, and cleaning practices contrary to glass manufacturer's published instructions.
   1. Warranty Period: Manufacturer's standard but not less than 10 years after date of Substantial Completion.

D. Manufacturer's Warranty on Insulating Glass: Submit written warranty signed by manufacturer of insulating glass manufacturer agreeing to furnish replacements for insulating glass units that deteriorate as defined in "Definitions" article, f.o.b. point of manufacture, freight allowed Project site, within specified warranty period indicated below. Warranty covers only deterioration due to normal conditions of use and not to handling, installing, protecting, and cleaning practices contrary to glass manufacturer's published instructions.
   1. Warranty Period: Manufacturer's standard but not less than 10 years after date of Substantial Completion.

PART 2 PRODUCTS

2.01 COMPONENTS

A. Approved Glass Fabricator - AGC Glass Company North America or equal as approved by the architect.

B. Float Glass: ASTM C 1036, Type I, Class as indicated below, and Quality q3:
   1. Class 1 (clear) unless otherwise indicated.

C. Heat Treated Float Glass, Fabrication: Fabricate heat-treated float glass by the following method:
   1. Horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed, unless otherwise indicated.

D. Heat-Treated Float Glass Products: As follows:
   1. Uncoated, Clear, Heat-Treated Float Glass: ASTM C 1048, Condition A, Type I, Class 1, Quality q3, kind as indicated below:
      a. Kind HS where indicated.
      b. Kind FT where indicated.

2. Coated, Clear, Heat-Treated Float Glass: ASTM C 1048, Condition C, Type I, Class 1, Quality q3, with coating type and performance characteristics complying with requirements specified under coated glass products; kind as indicated below:
    a. Kind HS where indicated.
    b. Kind FT where indicated.
3. Heat-strengthening of glass shall be at the low end of the range for surface compression. Peak to valley roller hearth distortion shall not exceed 0.005 inch. Allowable bow and warp shall not exceed 1/16" per linear inch.

E. Laminated Glass Products: Comply with ASTM C 1172. Refer to primary and heat-treated glass requirements relating to properties of glass products comprising laminated glass products.
1. Product: AGC Standard Clear Laminated Glass or equal
    a. For use at all Aluminum Storefront Doors

F. Sealed Insulating Glass Units: Preassembled units complying with ASTM E 774 and with other requirements indicated.
1. Product: AGC Energy Select 23 Solar Control Low-E or equal as approved by the architect.
    a. NOTE: For storefront door sidelights use laminated glass with clear inboard and outboard lights.

G. Elastomeric Glazing Sealants: Products complying with ASTM C 920 requirements, compatible with other materials they will contact and as follows:
1. Dow Corning 795 Silicone Structural Glazing or approved equal. Use for structural glazing in Fixed Glass Framing and for butt glazing in Fixed Glass Framing and Aluminum Curtain Walls. Color: Black.

H. Back-Bedding Mastic Glazing Tape: Preformed, butyl-based elastomeric tape, with or without spacer rod as recommended by tape and glass manufacturers for application indicated, and complying with AAMA 800 for products indicated below:
1. AAMA 804.1.
2. AAMA 806.1.
3. AAMA 807.1.

I. Expanded Cellular Glazing Tape: Closed-cell, polyvinyl chloride foam tape, factory coated with adhesive on both surfaces, and complying with AAMA 800 for product 810.5.

J. Glazing Gaskets: See the following Division 8 Sections:
1. Section 08 4113 - Aluminum-Framed Storefronts:
2. Section 08 4120 - Aluminum-Framed Entrances.

K. Miscellaneous Glazing Materials: Products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials involved for glazing application indicated, and with a proven record of compatibility with surfaces contacted in installation. Include cleaners, primers and sealers, setting blocks, spacers and edge blocks as required.

L. Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with recommendations of product manufacturer and referenced glazing publications as required to comply with system performance requirements.

M. Clean cut or flat grind vertical edges of butt-glazed monolithic lights in a manner that produces square edges with slight kerfs at junctions with indoor and outdoor faces.

PART 3 EXECUTION

3.01 INSTALLATION

A. Comply with combined recommendations of manufacturers of glass, sealants, gaskets, and other glazing materials, except where more stringent requirements are indicated, including those in "FGMA Glazing Manual."

B. Protect glass from edge damage during handling and installation.

C. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lights.

D. Set glass lights in each series with uniform pattern, draw, bow, and similar characteristics.

E. Lock Strip Gasket Glazing: Comply with ASTM C 716 and gasket manufacturer's printed recommendations. Provide supplementary wet seal and weep system unless otherwise indicated.

F. Protect glass from contact with contaminating substances resulting from construction operations including weld splatter.

G. Remove and replace glass that is broken, chipped, cracked, abraded, or damaged in any way, including natural causes, accidents and vandalism, during construction period.

H. Wash glass on both faces in each area of Project not more than 4 days prior to date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended by glass manufacturer.

END OF SECTION

SECTION 08 9100
LOUVERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Louvers, frames, and accessories.

1.02 RELATED REQUIREMENTS

A. Section 07 6100 - Flashing and Sheet Metal.

B. Section 07 9010 - Exterior Joint Sealants.

C. Section 08 1113 - Hollow Metal Doors and Frames: Door and frame louvers.

D. Section 09 2116 - Gypsum Board Assemblies

E. Section 09 9000 - Painting

F. Mechanical specifications on drawings referencing louvers and associated mechanical equipment.

1.03 REFERENCE STANDARDS

A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2012.

B. AMCA 500-L - Laboratory Methods of Testing Louvers for Rating; 2012.

C. AMCA 511 - Certified Ratings Program for Air Control Devices; 2010.

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

1.04 SUBMITTALS

A. See Section 01 6100 - Submittals for submittal procedures.

B. Product Data: Provide data describing design characteristics, maximum recommended air velocity, design free area, materials and finishes.

C. Shop Drawings: Indicate louver layout plan and elevations, opening and clearance dimensions, tolerances; head, jamb and sill details; blade configuration, screens, blankout areas required, and frames.

D. Test Reports: Independent agency reports showing compliance with specified performance criteria. Provide Florida Product Approval numbers.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with minimum three years of documented experience.

1.06 PROJECT CONDITIONS

A. Coordinate work of this section with installation of work by other trades.

1.07 WARRANTY

A. Refer to applicable Division 1 specifications sections for any additional warranty requirements and for required warranty submittals at project closeout.

B. Provide twenty year manufacturer warranty against distortion, metal degradation, and failure of connections.
   1. Finish: Include coverage against degradation of exterior finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 LOUVERS

A. Louvers: Factory fabricated and assembled, complete with frame, mullions, and accessories; AMCA Certified in accordance with AMCA 511.
   1. Wind Load Resistance: Design to resist positive and negative wind load as required by code without damage or permanent deformation.
   2. Intake Louvers: Design to allow maximum of 0.01 oz/sq ft water penetration at calculated intake design velocity based on design air flow and actual free area, when tested in accordance with AMCA 500-L.
   3. Drainable Blades: Continuous rain stop at front or rear of blade aligned with vertical gutter recessed into both jambs of frame.
   4. Burglar Bars: Provide manufacturer's standard type of burglar bars where scheduled on mechanical drawings.

B. Stationary Louvers : Horizontal blade, see below for construction types, with intermediate mullions matching frame.
   1. Free Area: As required by mechanical drawings or specifications, minimum. At locations required by architectural, 50 percent, minimum.
   2. Blades: Straight.
   3. Frame: 4 inches deep, channel profile; corner joints mitered and, with continuous recessed caulking channel each side.
   4. Exterior Type and Finish: Extruded aluminum construction, Clear anodized; finish welded units after fabrication.
   5. Interior Type and Finish: Galvanized sheet steel construction, Primed, finished after installation. Finish to match adjacent surfaces.
   6. Color: As selected from manufacturer's standard colors.

2.03 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M).
   1. Clear Anodizing: AAMA 611 Class I, AA-M12C22A41.

B. Steel Sheet: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.

C. Primer: Zinc chromate, alkyd type.

2.04 ACCESSORIES

A. Blank-Off Panels: Aluminum face and back sheets, polyisocyanurate foam core, 1-1/2 inch thick, painted black on exterior side; provide where duct connected to louver is smaller than louver frame, sealing off louver area outside duct.

B. Fasteners and Anchors: Galvanized steel.

C. Flashings: Of same material as louver frame, formed to required shape, single length in one piece per location.

D. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that prepared openings and flashings are ready to receive this work and opening dimensions are as indicated on shop drawings.

B. Verify that field measurements are as indicated.

C. Coordinate installation of blocking required for sucessful installation.

3.02 INSTALLATION

A. Install louver assembly in accordance with manufacturer's instructions.

B. Install louvers level and plumb.

C. Install flashings and align louver assembly to ensure moisture shed from flashings and diversion of moisture to exterior.

D. Secure louver frames in openings with concealed fasteners.

E. Install perimeter sealant and backing rod in accordance with Section 07 9005.

3.03 CLEANING

A. Strip protective finish coverings.

B. Clean surfaces and components.

3.04 SCHEDULES

A. Exterior Locations - Refer to mechanical drawings and specifications for additional requirements and specified equipment for exterior louvers.

END OF SECTION

SECTION 09 2116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Acoustic insulation and sealant.

B. Gypsum wallboard.

C. Glass mat faced gypsum board.

D. Joint treatment and accessories.

1.02 REFERENCE STANDARDS

A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.

B. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.

C. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.

D. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2014a.

1.03 SUBMITTALS

A. See Section 01 6100 - Submittals for submittal procedures.

B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

C. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.

1.04 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 5 years of documented experience.

PART 2 PRODUCTS

2.01 GYPSUM BOARD MATERIALS

A. Manufacturers:
   1. BPB America Inc: www.bpb-na.com.
   2. Continental Building Products: www.continental-bp.com.
   3. G-P Gypsum Corporation: www.gp.com/gypsum.
   4. National Gypsum Company: www.nationalgypsum.com.
   5. USG: www.usg.com.
   6. Substitutions: See Section 01 6000 - Product Requirements.

B. Gypsum Wallboard: ASTM C 1396/C 1396M. Sizes to minimize joints in place; ends square cut.
   1. Regular Type:
      a. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
      b. Thickness: 5/8 inch, as indicated.
      c. Edges: Tapered.
   2. Fire Resistant Type: Complying with Type X requirements; UL or WH rated.
      a. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X.
      b. Thickness: 5/8 inch.
      c. Edges: Tapered.

C. Water-Resistant Gypsum Backing Board: ASTM C 1396/C 1396M; ends square cut.
   1. Application: Vertical surfaces behind thinset tile.

a. Product: DensShield manufactured by Georgia Pacific or equal.
2. Core Type: Type X.
3. Thickness: 5/8 inch.
4. Edges: Tapered.

2.02 FIBERGLASS REINFORCED BOARD MATERIALS

A. Glass Mat Gypsum Board: Gypsum panels with moisture-resistant core and coated inorganic fiberglass mat back surface designed to resist growth of mold and mildew, per ASTM D 3273.
1. Fiberglass Mat Surface Board: Comply with performance requirements of ASTM C 1396/C 1396M for water-resistant gypsum backing board; tapered long edges.
a. Product: DensArmor Plus manufactured by Georgia Pacific.
b. Standard Type: Thickness 5/8 inch.
c. Locations: Install at interior side of all exterior walls.
d. May be used at other locations where board is installed at partial building dry-in.

2.03 ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness: 3-1/2 inch.

B. Acoustic Insulation: ASTM C 665; preformed glass fiber, friction fit type, unfaced. Thickness: 3-1/2 inch.

C. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.

D. Acoustic Sealant: Non-hardening, non-skinning, for use in conjunction with gypsum board.

E. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
1. Types: As detailed or required for finished appearance.
2. Special Shapes: In addition to conventional galvanized steel cornerbead and control joints, provide U-bead and L-bead at exposed panel edges.

F. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
2. Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
3. Ready-mixed vinyl-based joint compound.
4. Chemical hardening type compound.

G. High Build Drywall Primer-Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish: Sheetrock Primer-Surfacer Tuff-Hide

H. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
1. Place two beads continuously on substrate before installation of perimeter framing members.
2. Place continuous bead at perimeter of each layer of gypsum board.

3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

3.03 GYPSUM BOARD AND GLASS MAT FACED BOARD INSTALLATION

A. Comply with ASTM C 840 and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of non-rated double-layer assemblies, which may be installed by means of adhesive lamination.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.05 JOINT TREATMENT

A. Glass Mat Faced Gypsum Board and Exterior Glass Mat Faced Sheathing: Use fiberglass joint tape, bedded and finished with chemical hardening type joint compound.

B. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.

C. Finish gypsum board in scheduled areas in accordance with levels defined in ASTM C 840 and as scheduled below.

D. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.
   2. Taping, filling and sanding is not required at base layer of double layer applications.

E. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

F. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.06 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

3.07 FINISH LEVEL SCHEDULE

A. Level 1: Above finished ceilings concealed from view.

B. Level 2: Utility areas and areas behind cabinetry.

C. Level 5: Walls and ceilings scheduled to receive paint finish.

END OF SECTION

SECTION 09 2600

GYPSUM SHEATHING BOARD

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Exterior Gypsum Sheathing

1.02 RELATED SECTIONS

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

PART 2 PRODUCTS

2.01 GYPSUM SHEATHING BOARD

A. Glass-Fiber-Surfaced Gypsum Sheathing Board: Proprietary product surfaced on face and back with inorganic glass fiber mats and alkali-resistant coating, and with unsurfaced square edges; thickness and sizes as indicated; complying with ASTM C 1177 for board with water-resistant core, type and product as follows:

B. Type: Georgia Pacific Densglass Regular (not Type X), 5/8 inch thick by 4' by 8', 9' or 10'.

C. Acceptable substitution:
   1. Securock Glass-Mat Sheathing as manufactured by USG
   2. E2XP as manufactured by National Gypsum

PART 3 EXECUTION

3.01 INSTALLATION

A. Install Gypsum Sheathing Board to exterior steel studs with #6 Type S-12 wafer or bugle head self-tapping corrosion resistant screws as recommended by manufacturer. Space screws a maximum of 8" on center around the perimeter and in the field of the board. Fasteners must be installed flush with the surface of the board, not countersunk. Locate fasteners at least 3/8" away from the edges and ends of the board.

END OF SECTION

SECTION 09 3000

TILE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 REFERENCES

A. ANSI Tile Standards: Comply with ANSI A13.1 Standard Specification for Ceramic Tile and ANSI 108 series of tile installation standards included under "American National Standard Specifications for the Installation of Ceramic Tile."

B. TCNA Installation Guidelines: TCNA "Handbook for Ceramic Tile Installation"; comply with TCNA installation methods indicated.

C. Submittals: With manufacturer's product data and installation instructions for tile work, submit samples of each type, color, and texture of tile mounted on 12-inch-square backing with joints grouted.

PART 2 - PRODUCTS

2.01 COLORS, TEXTURES, AND PATTERNS

A. Provide selections made by Architect from manufacturer's full range of standard colors, textures, and patterns for products of type indicated.

B. Sizes and Thicknesses: As indicated or, if not indicated, as selected by Architect from manufacturer's standard sizes and thicknesses.

C. Tile Grade: "Standard Grade" unless otherwise indicated.

D. Glazed Ceramic Floor Tile as follows:
   1. Dal-Tile Vitrestone Select 12" x 12". Use for floors where scheduled.
   2. Acceptable alternate: Interceramic Metallic II

E. Glazed Ceramic Wall Tile as follows:
   1. Dal-Tile Designer Colours 8" x 8". Use for walls where scheduled.
   2. Acceptable alternate: Interceramic Retro line

F. Trim Shapes: Same material, size, color, and texture as field tile.

G. Trim for Ceramic Mosaic Tile:
   1. Cove Base and inside corner.
   2. Bullnose cap at vertical and horizontal corners and terminations.
   3. Marble Thresholds: Group "A"; ASTM C 503, for exterior use with minimum hardness of 10.0 per ASTM C 241; white with honed finish unless otherwise indicated.

H. Setting Materials: Provide setting materials as follows:
   1. Portland Cement Mortar: Materials complying with ANSI A 108.1 and as follows:
      a. Cleavage Membrane: Asphalt felt,ASTM D 226, Type I (NO. 15); or polyethylene sheeting ASTM D 4397, 4.0 mils thick.
      b. Reinforcing Wire Fabric: Galvanized welded wire fabric, 2 inches by 2 inches - WO.3 by WO.3 (16 ASW gage or 0.0625-inch diameter); comply with ASTM A 185 and ASTM A 82 except for minimum wire size.
      c. Latex additive (water emulsion) as follows, replacing part or all of gauging water, specifically recommended by latex additive manufacturer for use with job-mixed portland cement and aggregate mortar bed.
         1) Manufacturer's standard.
   2. Dry-Set Portland Cement Mortar: ANSI A118.1.
   3. Latex-Portland Cement Mortar: ANSI A118.4.

I. Grouting Materials: Provide grouting materials as follows:
   1. Commercial Portland Cement Grout: ANSI A118.6.

2. Dry-Set Grout: ANSI A118.6.
3. Latex-Portland Cement Grout: ANSI A118.6.

J. Elastomeric Sealants: Manufacturer's standard chemically curing, elastomeric sealants of base polymer indicated that comply with requirements of Division 7 Section "Joint Sealers" including ASTM C 920 as referenced by Type, Grade, Class, and Uses.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Comply with ANSI A108.1 and 108.4 through A108.10, as applicable for type of tile, setting materials, grout, and methods of installation indicated. Comply with manufacturer's instructions for application of proprietary materials. Comply with TCNA installation methods indicated below.
   1. Floor Installation Methods:
      a. Over interior concrete substrates, install in accordance with TCNA Handbook Method F-113, dry-set or latex-portland cement bond coat, with standard grout, unless otherwise indicated.
   2. Wall Installation Method:
      a. Over masonry walls, install in accordance with TCNA Handbook, Method W-211, mortar bed, bond coat, with standard grout, unless otherwise indicated.

B. Joint Pattern: Use 1/4" for all tile.

C. Expansion, Control, Contraction, and Isolation Joints: As indicated.

D. Seal tile joints with elastomeric sealants to comply with Division 7 Section "Joint Sealers."

E. Marble Thresholds: Install marble thresholds at locations indicated; set in same type setting bed as abutting field tile unless otherwise indicated.

F. Set thresholds in latex-portland cement mortar for locations where mortar bed would otherwise be exposed above adjacent non-tile floor finish.

3.02 CLEANING

A. Upon completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

B. Remove latex-portland cement grout residue from tile as soon as possible.

C. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's printed instructions but no sooner than 14 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.

END OF SECTION

SECTION 09 5100

ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

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

1.02 SUMMARY:

A. Extent of each type of acoustical ceiling is shown and scheduled on drawings.

B. Type of acoustical ceiling specified in this section is Acoustical panels, exposed suspension.

1.03 SUBMITTALS:

A. Product Data: Submit manufacturer's technical data for each type of acoustical ceiling unit and suspension system required.

B. Samples : Submit manufacturers' standard size samples of acoustical units, but not less than 12" square, and of exposed ceiling suspension members including wall and special moldings. Provide samples showing full range of colors, textures and patterns available for each type of component required.

C. Certificates: Submit certificates from manufacturers of acoustical ceiling units and suspension systems attesting that their products comply with specification requirements.

1.04 QUALITY ASSURANCE:

A. Fire Performance Characteristics: Provide acoustical ceiling components that are identical to those tested for the following fire performance characteristics, according to ASTM test method indicated, by UL or other testing and inspecting agency acceptable to authorities having jurisdiction. Identify acoustical ceiling components with appropriate marking of applicable testing and inspecting agency.
   1. Surface Burning Characteristics: Class A, as follows, tested per ASTM E 84:
      a. Flame Spread: 25 or less.
      b. Smoke Developed: 450 or less.

B. Provide materials and installation in conformance to FBC 2001 § 804 criteria.

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

1.05 DELIVERY, STORAGE AND HANDLING:

A. Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination or other causes.

B. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.

C. Handle acoustical ceiling units carefully to avoid chipping edges or damaging units in any way.

1.06 PROJECT CONDITIONS:

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

1.07 EXTRA MATERIALS:

A. Deliver extra materials to Owner. Furnish extra materials described below matching products installed, packaged with protective covering for storage and identified with appropriate labels.
   1. Acoustical Ceiling Units: Furnish two cartons

PART 2 - PRODUCTS

2.01 ACOUSTICAL CEILING UNITS:

A. ACT Type A - USG Astro 8227, 24" x 24" x 5/8", FLB Edge, NRC .55, CAC 35, Flame Spread 0-25, (ASTM-E-84), Class A (Fed. Spec.SS-S-118B).

B. ACT Type B - USG Sheetrock Brand vinyl faced 3260, 24" x 24" x 1/2", SQ Edge.

C. ACT Type C - USG Astro 8227, 24" x 24" x 5/8", FLB Edge, NRC .55, CAC 35, Flame Spread 0-25, (ASTM-E-84), Class A (Fed. Spec.SS-S-118B) with hold down clips.

2.02 METAL SUSPENSION SYSTEMS, GENERAL:

A. Standard for Metal Suspension Systems: Provide metal suspension systems of type, structural classification and finish indicated which comply with applicable ASTM C 635 requirements.

B. Finishes and Colors: Provide manufacturer's standard factory- applied finish for type of system indicated. For exposed suspension members and accessories with painted finish, provide color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's full range of standard colors.

C. Attachment Devices: Size for 5 x design load indicated in ASTM C 635, Table 1, Direct Hung.

D. Hanger Wire: Galvanized carbon steel wire, ASTM A 641, soft temper, prestretched, Class 1 coating, sized so that stress at 3- times hanger design load (ASTM C 635, Table 1, Direct Hung), will be less than yield stress of wire, but provide not less than 12 gage.

E. Edge Moldings and Trim: Manufacturer's standard molding for edges and penetrations of ceiling which fits with type of edge detail and suspension system indicated.

F. Provide hold down clips for ACT Type C, refer to the drawings for locations.

2.03 EXPOSED METAL DIRECT-HUNG SUSPENSION SYSTEM:

A. Non-Fire-Resistance-Rated Double Web Steel Suspension System: All main beams and cross tees shall be commercial quality hot dipped galvanized steel with minimum G30 coating per ASTM A653. Main beams and cross tees are double-web steel construction with 15/16" wide exposed flange; other characteristics as follows:

B. Structural Classification: Heavy Duty System.

C. Finish: Painted, white.

D. Manufacturers: Subject to compliance with requirements, provide products of one of the following:
   1. Basis of Design:
      a. USG Donn Brand DX/DXL 15/16" white grid at all ceiling tile locations except kitchen.
      b. USG Donn Brand AX/AXCE 15/16" Aluminum grid system at kitchen only.

E. Other approved manufacturers:
   1. Chicago Metallic Corp.
   2. Armstrong World Industries, Inc.

PART 3 - EXECUTION

3.01 PREPARATION:

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

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

3.02 INSTALLATION:

A. General: Install materials in accordance with manufacturer's printed instructions, and to comply with governing regulations, fireresistance rating requirements as indicated, and CISCA standards applicable to work.

B. Arrange acoustical units and orient directionally-patterned units (if any) in manner shown by reflected ceiling plans.
   1. Install tile with pattern running in one direction.
   2. Install tile with pattern running in alternating directions to form "checkerboard" layout.

C. Install suspension systems to comply with ASTM C 636, with hangers supported only from building structural members. Locate hangers not less than 6" from each end and spaced 4'-0" along each carrying channel or direct-hung runner, unless otherwise indicated, leveling to tolerance of 1/8" in 12'-0".

D. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eye-screws, or other devices which are secure and appropriate for substrate, and which will not deteriorate or fail with age or elevated temperatures.

E. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum which are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal force by bracing, countersplaying or other equally effective means.

F. Install edge moldings of type indicated at perimeter of acoustical ceiling area and at locations where necessary to conceal edges of acoustical units.

G. Sealant Bed: Apply continuous ribbon of acoustical sealant, concealed on back of vertical leg before installing moldings.

H. Screw-attach moldings to substrate at intervals not over 16" o.c. and not more than 3" from ends, leveling with ceiling suspension system to tolerance of 1/8" in 12'-0". Miter corners accurately and connect securely.

I. Install acoustical panels in coordination with suspension system, with edges concealed by support of suspension members. Scribe panels to fit accurately at borders and at penetrations.

3.03 CLEANING:

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

END OF SECTION

SECTION 09 6500
RESILIENT ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Resilient base.

1.02 REFERENCE STANDARDS

A. ASTM F1861 - Standard Specification for Resilient Wall Base; 2008 (Reapproved 2012).

B. BAAQMD 8-51 - Bay Area Air Quality Management District Regulation 8, Rule 51, Adhesive and Sealant Products; www.baaqmd.gov; 2002.

C. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition; www.aqmd.gov.

1.03 SUBMITTALS

A. See Section 01 6100 - Submittals for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Selection Samples: Submit manufacturer's complete set of color samples for Hall & Ogle Architects, Inc.'s initial selection.

D. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Protect roll materials from damage by storing on end.

1.05 FIELD CONDITIONS

A. Maintain temperature in storage area between 55 degrees F and 90 degrees F.

B. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.01 RESILIENT BASE

A. Resilient Base: ASTM F1861, Type TS rubber, vulcanized thermoset; top set Standard Profile.
   1. Height: 4 inch.
   2. Thickness:.25 inch thick.
   3. Finish: Satin.
   4. Length: Roll.
   5. Color: Color as selected from manufacturer's standards.
   6. Accessories: Premolded external corners and internal corners.
   7. Manufacturers:
      a. Burke Flooring: www.burkemercer.com.
      b. Johnsonite, Inc: www.johnsonite.com.
      c. Roppe Corp: www.roppe.com.
      d. Substitutions: See Section 01 6000 - Product Requirements.

2.02 ACCESSORIES

A. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.
   1. Provide only products having lower volatile organic compound (VOC) content than required by the more stringent of the South Coast Air Quality Management District Rule No.1168 and the Bay Area Air Quality Management District Regulation 8, Rule 51.

B. Filler for Coved Base: Plastic.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

3.02 PREPARATION

A. Clean substrate.

B. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.

3.03 INSTALLATION - GENERAL

A. Install in accordance with manufacturer's written instructions.

3.04 INSTALLATION - RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.

B. Miter internal corners. At external corners, use premolded units. At exposed ends, use premolded units.

C. Install base on solid backing. Bond tightly to wall and floor surfaces.

D. Scribe and fit to door frames and other interruptions.

3.05 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

C. Clean, seal, and wax resilient flooring products in accordance with manufacturer's instructions.

3.06 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 09 6519
RESILIENT TILE FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Heavy duty tile flooring.

B. Installation accessories:
   1. Adhesives and adhesive encapsulators.

1.02 REFERENCE STANDARDS

A. ASTM D2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine; 2011.

B. ASTM D4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser; 2014.

C. ASTM F137 - Standard Test Method for Flexibility of Resilient Flooring Materials with Cylindrical Mandrel Apparatus; 2008 (Reapproved 2013).

D. ASTM F386 - Standard Test Method for Thickness of Resilient Flooring Materials Having Flat Surfaces; 2011.

E. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.

F. ASTM F1700 - Standard Specification for Solid Vinyl Tile; 2013a.

G. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2011.

H. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2011.

I. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 2015.

1.03 SUBMITTALS

A. See Section 01 6100 - Submittals for submittal procedures.

B. Manufacturer's documentation for flooring and accessories:
   1. Technical Data.
   2. Installation and Maintenance.
   3. Warranty.
   4. Material Safety Data Sheets (MSDS) for accessories.

C. Selection Samples: Submit manufacturer's complete set of color samples for Hall & Ogle Architects, Inc.'s initial selection.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.

B. Store all materials flat off of the floor in an acclimatized, weather-tight space between 65 to 85 degrees F.

C. Do not double stack pallets.

1.05 FIELD CONDITIONS

A. Acclimate material at jobsite between 65 to 85 degrees F and 35 percent to 85 percent relative humidity for 48 hours prior to installation. Temperature and relative humidity should also be maintained at the same levels during installation, and after installation.

B. Spread unopened cartons no more than 6 cartons high and at least 4 inches apart.

C. Keep away from heating and cooling ducts and direct sunlight.

D. If permanent HVAC is not operational, temporary means should be used to maintain the recommended temperature and relative humidity levels.

E. Close areas to traffic during installation of flooring and accessories.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

B. Installer Qualifications: UPOFLOOR should only be installed by professional flooring mechanics that have demonstrated successful installations of jobs in similar size and scope.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: UPOFLOOR; Heavy Duty Quartz: www.upofloor.com. or equal as approved by the architect.

B. Substitutions: See Section 01 6000 - Product Requirements.

2.02 HEAVY DUTY QUARTZ TILE FLOORING

A. Provide all colors of Marble Collection and Mosaic Collection for selection by owner. Size of tiles to be 24" x 24".

B. There will be one "field color" and a minimum of four "accent colors" selected, refer to the floor pattern drawings for layout. Once colors have been selected, a pattern key will be provided for the color locations.

2.03 ACCESSORIES

A. Adhesive and Adhesive Encapsulators:
   1. 1. Acrylic Adhesive: For dry areas with no spillage, use UPOFLOOR 5900, a one-part, water-based, acrylic adhesive as recommended by manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION .

A. Install flooring and accessories after other operations (including painting) have been completed.

B. Acceptance of Conditions: Carefully examine all installation areas with installer/applicator present, for compliance with requirements affecting work performance.
   1. Verify that field measurements, product, adhesives, substrates, surfaces, structural support, tolerances, levelness, temperature, humidity, moisture content level, pH, cleanliness and other conditions are as required by the manufacturer, and ready to receive work.

C. Verify that substrate is contaminant-free, including old adhesives and abatement chemicals.

D. Test substrates as required by manufacturer to verify proper conditions exist.
   1. Concrete:
      a. Check for concrete additives such as fly ash, curing compounds, hardeners, or other surface treatments that may prevent proper bonding of floor coverings.
      b. Moisture testing: Perform either the In-Situ Relative Humidity (RH) test (ASTM F2170) or Moisture Vapor Emission Rate (MVER) test (ASTM F1869). Refer to the Manufacturer's Installation Guide/Manual for the maximum allowable substrate moisture content. Substrates above the maximum allowable moisture content will require a moisture mitigation system.
      c. Perform alkalinity testing to verify pH level is between 7 to 10 per ASTM F710.
      d. Check substrate for absorbency per manufacturer's recommendations.
      e. Perform bond testing per ASTM F710 to determine compatibility of adhesive to concrete substrate.
   2. Wood:
      a. Shall be dry, clean, structurally sound and installed per underlayment manufacturer’s installation instructions.

b. Test wood subfloors and underlayment panels using a suitable wood moisture pin-meter. Readings between the subfloor and underlayment panels should be within 3 percent prior to installing the underlayment panels.
c. The maximum moisture content should be 14 percent.
d. Proceed with installation only after satisfactory conditions have been met.

E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Quartz Tile flooring shall be installed over subfloors conforming to ASTM F710 for concrete and other monolithic floors or ASTM F1482 for wood subfloors.

B. Moisture Testing: Moisture emissions from concrete subfloors must not exceed 5 lbs per 1000sf per 24 hours (2.25 kg H2O/24 hr/93 m2) via the Calcium Chloride Test Method (ASTM F1869) and not to exceed 85% internal concrete relative humidity as tested in accordance with ASTM F2170-02. If subfloor moisture exceeds the allowable maximum for installing UPOFLOOR Quartz Tile, please call your local UPOFLOOR distributor for advice.

C. Wood subfloors shall not exceed 10% moisture content when measured with a Delmhorst Wood Moisture Tester.

D. The pH level of the subfloor surface shall not be higher than 9.9. If higher, subfloor must be neutralized.

E. Underlayment and Patching Compounds: Use only gray colored Portland cement based underlayments; patching compounds are used for filling cracks, holes and leveling. White gypsum materials are not acceptable.

3.03 INSTALLATION

A. Quartz Tile Installation: Install UPOFLOOR Quartz Tile in accordance with the current published UPOFLOOR Installation Guide. Failure to install UPOFLOOR Quartz Tile in accordance with recommended procedures will void the UPOFLOOR Limited Product Warranty.

3.04 FIELD QUALTITY CONTROL

A. Site tests and inspections per Section 01 4000 and as follows:
1. Inspect flooring installation for non-conforming work including, but not limited to, the following:
a. Lack of adhesion.
b. Bubbles, loose tiles or raised edges.
c. Dirt and debris underneath flooring.
d. Excessive gaps.
e. Improper substrate preparation as indicated by telegraphing.
f. Damage to tiles, including: dents/indentations, cuts, cracks, burns or punctures.

B. Non-conforming work per General Conditions and as follows:
1. Repair or replace damaged material if not acceptable to the Hall & Ogle Architects, Inc..

3.05 CLEANING

A. Provide progress cleaning per manufacturer's written instructions, Section 01 7000, and as follows:
1. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the work.
a. Clean and protect completed construction until Date of Substantial Completion.
b. During installation, remove wet adhesive from surface of flooring per manufacturer's instructions.
2. Site: Maintain project site free of waste materials and debris.

B. Provide final cleaning immediately prior to Date of Substantial Completion inspection per manufacturer's written instructions and Section 01 7000.
1. Protection: Remove manufacturer's and other installed protection immediately prior to Date of Substantial Completion inspection, unless required otherwise.

2. Clean floor with a neutral 6-8 pH cleaner.

3.06 MAINTENANCE

A. Initial maintenance per flooring manufacturer's written instructions and as follows:
   1. Allow the adhesive to cure for at least 48 hours prior to wet cleaning the floor.
   2. Sweep, dust mop or vacuum the floor thoroughly to remove all loose dirt, dust, grit and debris.
   3. Remove any dried adhesive residue from the surface with Black Scuff and Adhesive Remover or mineral spirits applied to a clean, lint-free cloth.
   4. Damp mop the floor using a cleaner recommended by the flooring manufacturer.
   5. If necessary, scrub the floor using an auto scrubber or rotary machine (300 rpm or less) with a cleaner recommended by the flooring manufacturer. Maintain the proper dilution ratio and use the appropriate scrubbing brush or pad.
   6. Thoroughly rinse the entire floor with fresh, clean water. Remove the dirty residue with a wet-vacuum or clean mop and allow the floor to dry completely.

3.07 PROTECTION

A. Protect materials from construction operations until Date of Substantial Completion or Owner occupancy, whichever occurs first.
   1. Protect finished floor from abuse and damage by using heavy non-staining kraft paper, drop cloths or equivalent. Use additional, non-damaging protective materials as needed.
   2. Light foot traffic on a newly installed floor can be permitted after 24 hours.
   3. Keep heavy traffic and rolling loads off the newly installed LVT flooring for 48 hours.
   4. Protect the floor from rolling traffic by covering with protective boards.

END OF SECTION

SECTION 09 6720

DECORATIVE LAMINATE EPOXY FLOORING

PART 1 - GENERAL

1.01 1.01 DESCRIPTION OF WORK

A. Furnish and install the decorative functional laminate epoxy flooring system as specified and indicated. Prior to installation, provide decontamination and cleaning as specified. The term “laminate epoxy flooring system” as used in this section will include the primers, resin systems and aggregate materials, topcoats, cove building materials, and any related materials for the project.

B. Complete the laminate epoxy flooring system installation in strict accordance with these specifications, the coating system manufacturer's most current requirements for surface preparation, application and inspection, and the instructions for safety. In the event of a conflict between these specifications and the manufacturer's instructions, the more stringent requirements will apply.

C. The Contractor shall be responsible for providing ventilation, initial cleaning, inspection, supervision, dust control and equipment protection as specified herein and related sections for the work associated with this Section. The Contractor is responsible for all other work associated with this Section including protection of existing equipment and structures in the work area, surface preparation, flooring application, curing, coating repair, rework, inspection and supervision.

1.02 RELATED SECTIONS

A. Division 1 General Requirements

1.03 REFERENCES:

A. Society for Protective Coatings (SSPC) Specifications and Standards:
   1. SSPC-PA-3:“A Guide to Safety in Paint Application”.
   2. SSPC-SP-13:“Surface Preparation of Concrete”.

B. NACE (National Association of Corrosion Engineers)
   1. NACE Publication 6D-173, “A Manual for Painter Safety”.
   2. NACE Publication 6G-164, “Surface Preparation Abrasives for Industrial Maintenance Painting”.

C. ASTM (American Society for Testing and Materials)
   1. ASTM D4541 - L.R. “Standard Method for Pull-Off Strength of Coatings using Portable Adhesion Testers”.
   2. ASTM E337 - L.R. “Standard Practice Test Method for Measuring Humidity with a Psychrometer”.
   3. ASTM D4263-83 (1999), “Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method”.
   4. ASTM F1869-98, “Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride”.
   5. ASTM D4414-95, “Standard Practice for Measurement of Wet Film Thickness by Notched Gages”.
   6. ICRI Guide No. 03732, “Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings and Polymer Overlays,” International Concrete Repair Institute, Sterling, VA.
   7. ASTM 4262, “Standard Test Method for Measuring Surface pH of Acid Etched Concrete”.
   8. ASTM D4259, “Standard Practice for Abrading Concrete”.

1.04 DEFINITIONS

A. Terms used in this Section are defined as follows:

Decorative Epoxy Flooring Work	The aspects involved with proper application of the specified high solids flooring system, including but not limited to cleaning, surface preparation, mixing, application, curing, and quality control.
Approved Materials	The coating system, blast media, and other specified materials for this coating work.
Wet Film Thickness	The primer or coating films' actual thickness immediately following application. Wet film thickness is measured in mils or thousandths of an inch (0.001") and is abbreviated WFT.
Dry Film Thickness	The primer or coating films' actual thickness following curing and drying. Dry film thickness is measured in mils or thousandths of an inch (0.001") and is abbreviated DFT.
Coating System Manufacturer	Refers to the approved coating Manufacturer abbreviated as CSM in this section
Manufacturer's Technical Representative(s)	Refers to the technical representative(s) of the Approved CSM
A/E	Architectural or Engineering Firm

1.05 QUALITY ASSURANCE

A. The Contractor shall meet the following requirements:
   1. The Contractor is ultimately responsible for the workmanship and quality of the decorative epoxy flooring system installation. Inspections by the Owner, the Engineer, or others do not limit the Contractor's responsibility.
   2. Do not use or retain contaminated, outdated, or diluted materials for flooring. Do not use materials from previously opened containers.
   3. Use only products of the approved CSM. Provide the same products for repairs as for the original coating.
   4. If any requirements of this specification are contradicted by a referenced standard or vice-versa, the matter shall be resolved in writing by the A/E or its representative.
   5. Make available at all times all locations and phases of the work for access and inspection by the Engineer, the Owner, or other personnel designated by the Owner. The Contractor shall provide ventilation, egress, and whatever other means are required for the Owner, Engineer, or designated personnel to access and exit the work areas safely.
   6. Conduct work so that the decorative laminate epoxy flooring system is installed as specified herein. Inspect work continually to ensure that the coating system is installed as specified herein. The A/E shall inspect the work to determine conformance with the contract documents.
   7. The Contractor's Supervisor shall be on site at all times and will be thoroughly familiar with the work in progress. This Supervisor shall have authority to receive and execute all direction provided by the A/E or the Owner.
   8. The methods of construction shall be in accordance with all requirements of this specification and the best trade practices. Any changes in the decorative epoxy flooring system installation requirements shall be allowed only with the written approval of the A/E.
   9. Installation shall be performed by an applicator having satisfactory experience in the application of these or similar materials or with on-site consultation by a qualified field service representative of the CSM.

1.06 SUBMITTALS

A. Submit the following prior to commencing with any phase of the work covered by this Section:
   1. Manufacturer's current printed recommendations and product data sheets for all decorative laminate epoxy flooring system products including performance criteria, surface

preparation and applications, volatile organic compound (V.O.C.) data, and safety requirements.

2. Material Safety Data Sheets (MSDS) for any materials brought on-site including all coating system materials, solvents, and abrasive blast media.
3. Contractor's written verification that the personnel who will perform this work have the required experience as specified in Section 1.05. This document must list the names of all of the Contractor's supervisors and tradespeople who will work on the project covered by this Section.
4. List of cleaning and thinner solutions allowed by the CSM.
5. Storage requirements including temperature, humidity, and ventilation for Coating System Materials.

B. Owner, contractor, and manufacturer's representative shall review and mutually agree upon color, grade, and final texture of coating system before starting installation. The acceptance of a sample will constitute the job standard by which installation will proceed.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Material shall be delivered to project site in manufacturer's original unopened containers.

B. Materials shall be stored indoors, protected from damage, moisture, direct sunlight and temperatures below 400F or above 900F.

C. Store all materials only in area or areas designated by the Owner solely for this purpose. Confine mixing, thinning, clean-up and associated operations, and storage of coating materials related debris before authorized disposal, to these areas. All materials are to be stored on pallets or similar storage/handling skids off the ground.

D. Mix all coating materials in a designated enclosed mixing area. This enclosed area must protect the mixing operation and materials from direct sunlight, inclement weather, freezing, or other means of damage or contamination. Protect all other concrete and metallic surfaces and finishes from any spillage of material(s) within the mixing area.

E. Do not use drain piping for disposal of coating materials.

F. The Contractor shall take all precautions and implement all measures necessary to avert potential hazards associated with the decorative epoxy flooring system materials as described on the pertinent Material Safety Data Sheets or container labels.

G. Deliver all materials to the job site in new, unopened containers. Each container shall bear the CSM's name and label.
   1. Labels on all material containers must show the following information:
      a. Name or title of product.
      b. Manufacturer's batch number.
      c. Manufacturer's name.
      d. Generic type of material.
      e. Application and mixing instructions.
      f. Hazardous material identification label.
      g. Shelf life date.
   2. All containers shall be clearly marked indicating any personnel safety hazards associated with the use of or exposure to the materials.
   3. All materials shall be handled and stored to prevent damage or loss of label.
   4. Do not use or retain contaminated, outdated, prematurely opened, diluted materials, or materials which have exceeded their shelf life.

1.08 ENVIRONMENTAL CONDITIONS

A. Surfaces and surrounding air temperatures must exceed 55 degrees F, but must be less than 90 degrees F, with materials at not less than 70 degrees F during application.

B. Do not apply coating materials when dust is being generated.

C. If existing facility lighting is not adequate for flooring system application, the Contractor shall provide all temporary lighting during the work equivalent to one 200 watt explosion proof incandescent lamp per 100 square feet of work area.

PART 2 - PRODUCTS

2.01 MATERIALS (BASIS OF DESIGN)

A. Primer: Series 201 Epoxoprime, two-component, moisture tolerant, penetrating modified polyamine cured epoxy primer at 6 - 10 mils dft.

B. Decorative Laminate Resinous Epoxy Flooring: Series 222 Deco-Tread consisting of a two-component modified polyamine cured epoxy liquid and a colored quartz broadcast aggregate applied by double broadcast or as a slurry broadcast to provide a minimum 1/8" thickness. Remove excess quartz and proceed.

C. Grout Coat: Series 284 Deco-Clear two-component, modified polyamine cured epoxy glaze applied at 8 - 12 mils dft. Thickness and number of coats will vary depending on desired finish.

D. Finish Coat: To obtain the desired “orange peel” texture, apply Series 285 Satinglaze, a two-component, polyamine cured epoxy finish. Series 285 provides a satin finish and orange peel texture when applied over Series 284 Deco-Clear. Apply at a rate of 4 - 6 mils dft per coat.

E. Cove Base (Optional): Series 222 Deco-Tread, a two-component, modified polyamine cured epoxy liquid, blended as a mortar with decorative quartz aggregate applied to form a cant or rolled radius cove. Apply subsequent finish coats to match the existing floor. Prime wall with Series 201.

F. Finish Coat: Apply Tnemec Series 291 CRU, two component chemical resistant aliphatic polyester polyurethane at 2 - 3 mils dft.

2.02 MANUFACTURER

A. Basis of Design: Tnemec Company, Incorporated. Represented locally by;
   1. Florida Protective Coating Consultants, Inc.
      250 Waymont Ct, ste 120
      Lake Mary, FL 32746
      Ph: 407/322-1243
      Fax: 407/322-1245

B. Alternate Materials: The following manufactures (Plexi-Chemie, Tennant, Garland, Dex-O-Tex, Polyspec, Key Resin) may be considered as an acceptable substitute providing their equivalent materials meet the following criteria;
   1. Equivalent generic type.
   2. Equivalent solids by volume.
   3. Equivalent number of coats.
   4. Equivalent film thickness per coat.
   5. Equivalent performance characteristics as listed for each product. Refer to charts 1 - 4 at the end of this section.
   6. Products to be considered for use must be submitted for verification 10 days prior to bid opening. A comparison chart must be submitted verifying data.

PART 3 - EXECUTION

3.01 GENERAL

A. Protection
   1. Mask, cover, or otherwise protect all surfaces, equipment, and finishes not to receive the decorative epoxy flooring system specified in this Section.

B. Strictly follow the approved CSM's written instructions and the requirements of this specification regarding all aspects of decorative epoxy flooring work including: mixing, application, recoat times and curing.

C. Mock-up

1. Prior to commencing the installation, the Contractor shall install with the owner's approval, a mutually agreed upon mock-up test sample to show final color and appearance of the decorative epoxy flooring system.

3.02 PREPARATION

A. Allow new concrete to cure for 28 days. Verify dryness by testing for moisture with a “plastic film tape-down test”. (Reference ASTM D4263)

B. Shot-blast or mechanically abrade to remove laitance, curing compounds, sealers and other contaminants and to provide surface profile. (Reference ASTM D4259, ICRI CSP 5 min).

C. Vacuum clean concrete to remove all dirt, dust, and other loose materials.

D. After mechanically abrading, verify that all surfaces are clean, dry and free of any contaminants, which could adversely affect the adhesion of the flooring system.

E. If between final surface preparation work and decorative epoxy flooring system application, contamination of the prepared and cleaned substrates occurs, re-cleaning shall be required until the requirements of this Section are met.

3.03 INSTALLATION

A. For Slurry or Broadcast Application: The primer shall be mechanically mixed, applied and cured in strict accordance with manufacturer's printed instructions. Apply uniformly at a film thickness of 6 to 10 dry mils.

B. Cant Cove or rolled radius cove bases shall be installed in accordance with the CSM's written instructions and as indicated on the Standard Flooring Details.

C. Decorative Laminate Epoxy Resinous Flooring: The material shall be mixed, applied and cured in strict accordance with the manufacturer's printed instructions. Apply by double broadcast (self-priming) or slurry broadcast to a minimum of 1/8" thickness.
   1. Note to Specifier: Floor and wall transitions can be formed to have a cant cove or rolled radius cove. This will provide a seamless wall to floor transition.

D. Grout Coat: The high-solids, epoxy glaze coat shall be mechanically mixed, applied and cured in strict accordance with manufacturer's printed instructions. Apply at a film thickness of 8 to 12 dry mils. Skid resistance properties can be adjusted by the film thickness and number of topcoats and should be determined at the time the mock-up is completed.

E. Finish Coat: The high-solids, orange-peel, epoxy finish coat shall be mechanically mixed, applied and cured in strict accordance with manufacturer's printed instructions. Apply at a film thickness of 4 to 6 dry mils.

F. Fill all cracks and recessed joints, such as control and construction joints with Tnemec Series 201 Epoxoprime and fumed silica. When filled, joint should be flush with the floor surface.

3.04 CLEANUP

A. Remove waste materials, rubbish, and debris and dispose of them at the owner's direction. Leave work areas in a clean and tidy condition.

3.05 PROTECTION

A. Protect the completed work from water, airborne particles or other surface contaminants until cured for a minimum of 24 hours after application.

B. Protect from traffic, physical abuse, immersion and chemical exposure until the complete system has thoroughly cured for 24 hours at 75 degrees F. For different temperatures, consult the manufacturer's representative about curing times.

3.06 FIELD QUALITY CONTROL INSPECTION AND TESTING

A. Inspection by the Engineer, Owner or others does not limit the Contractor's responsibilities for quality as specified herein or as required by the CSM's instructions.

B. The Contractor shall perform the Q.C. procedures listed below in conjunction with the requirements of this Section. The Engineer will inspect the work to determine conformance to the contract documents.

1. Degree of Cleanliness.
    a. Visually inspect the degree of cleanliness of substrates to meet the requirements of this Section. The pH of the concrete substrates will be measured using pH indicating papers. pH testing is to be performed once every 100 sq. ft. of surface area to be coated.
    b. Acceptable pH values shall be between 8.0 and 11.0 as measured by a full-range (1-12) color indicating pH paper with readable color calibrations and a scale at whole numbers (minimum). Use Hydrion Insta-Chek Jumbo 0-13 or 1-12 or equal. The paper shall be touched to the surface once using moderate finger pressure. The surface shall not be wiped or moved laterally to disturb the surface during pH testing. Following the one touch, lift the paper vertically to not “wipe” the surface. Compare the color indicated with the scale provided and record the pH.
    c. Note: If the surface of the concrete is dry, it is not possible to take a pH measurement. However, pH values are still important on dry surfaces. When a dry concrete substrate is encountered for a pH test, the surface where the pH test is to be performed shall be sprayed lightly with distilled, de-ionized water from a commercially available spray bottle that has been properly rinsed to preclude any dissolved solids. The spray shall just wet the surface to a “shiny” appearance. Wait 60 seconds to allow chemical equilibria to be established and then test the pH of the water on the surface. Perform this test in accordance with ASTM D4262.
2. Concrete Surface Profile
    a. Using the replicate rubber specimens inspect the concrete surface profile in accordance with ICRI Guide No. 03732. This should be performed once for every 100 square feet of surface area to be coated.
3. Measure and record ambient air temperature once every two hours of each shift, using a thermometer and measure and record substrate temperature once every two hours using a surface thermometer.
4. Measure and record relative humidity every two hours of each shift using a sling psychrometer in accordance with ASTM E337.
5. Inspect correct mixing of coating materials in accordance with the CSM's instructions.
6. Inspect and record that the “pot life” of coating materials used are not exceeded during installation.
7. Measure and record the thickness of the coating system using a notched gauge in accordance with ASTM D4414 for Wet Film Thickness at least once every 10 sq. ft. of coating area.
8. Perform moisture tests on concrete as follows:
    a. Once for every 500 square feet of surface area to be coated, perform the plastic sheet test in accordance with ASTM D4263. If moisture is indicated, proceed to step 2 below.
    b. Perform calcium chloride moisture tests in accordance with ASTM D1869 once for every 1000 square feet of surface area to be coated. The maximum limit for moisture vapor emissions rate should be 3.0 lbs. per 24 hours per 1000 sq. ft. If tests indicate rates higher than 3.0, consult with Tnemec's Technical Service Department for further evaluation.
9. Inspect to verify proper curing of the decorative epoxy flooring system as recommended by the CSM.

CHART 1: PRIMER PERFORMANCE CRITERIA

ABRASION RESISTANCE

Method: ASTM D 4060, (CS-17 Wheel, 1,000 grams load).

System: One coat Series 201 Epoxoprime cured thirty days at 75°F (24°C).

Requirement: 69.5 mg loss after 1,000 cycles, average of three tests.

ADHESION

Method: ASTM D 4541.

System: One coat Series 201 Epoxoprime cured seven days at 75°F (24°C).
Requirement: 400 psi (2.8 MPa) pull, average of three tests.
Note: 100% Concrete Failure
COMPRESSIVE STRENGTH
Method: ASTM D 695.
System: Series 201 Epoxoprime cured seven days at 75°F (24°C).
Requirement: 6,865.7 psi (47.34 MPa) compressive strength - neat resin.
COEFFICIENT OF FRICTION
Method: ASTM D 2407.
System: Series 201 Epoxoprime cured fourteen days at 75°F (24°C).
Requirement: 0.88 static coefficient of friction, average of 12 tests.
FLEXURAL STRENGTH AND MODULUS OF ELASTICITY
Method: ASTM D 790.
System: Series 201 Epoxoprime cured seven days at 75°F (24°C).
Requirement: 12,873.4 psi (88.76 MPa) flexural strength average of five tests.
553,832 psi (3,818.54 MPa) flexural modulus, average of five tests.
HARDNESS
Method: ASTM D 2240 (Shore D Durometer).
System: Series 201 Epoxoprime cured three days at 75°F (24°C).
Requirement: Durometer rating 68.
HUMIDITY RESISTANCE
Method: ASTM D 4585.
System: One coat Series 201 Epoxoprime cured seven days at 75°F (24°C).
Requirement: No blistering, cracking or delamination of film after 1,500 hours exposure.
IMPACT RESISTANCE
Method: ASTM D 2794.
System: One coat Series 201 Epoxoprime cured seven days at 75°F (24°C).
Requirement: 100 inch pounds (11.3 J) average, direct impact.
STAIN RESISTANCE
Method: ASTM D 1308.
System: One coat Series 201 Epoxoprime cured seven days at 75°F (24°C).
Requirement: No effect after 24 hours exposure to the following reagents:
Grape Jam Coffee Fountain Ink
Vegetable Oil Dish Soap Red Lipstick
LyscolMargarine Crayon
TENSILE STRENGTH
Method: ASTM D 638
System: Series 201 Epoxoprime cured seven days at 75°F (24°C).
Requirement: 4,871.1 psi (33.59 MPa) tensile strength, average of five tests.

CHART 2: DOUBLE BROADCAST EPOXY PERFORMANCE CRITERIA
ABRASION

Method: ASTM D 4060, (CS-17 Wheel, 1,000 grams load, 1,000 cycles).

System: Series 222 Deco-Tread cured thirty days at 75°F (24°C).

Requirement: 65.2 mg loss, average of three tests.

ADHESION

Method: ASTM D 4541.

System: Series 201 Epoxoprime/Series 222 Deco-Tread cured seven days at 75°F (24°C).

Requirement: 400 psi (2.8 MPa) pull-off strength, average of three tests.

Note: 100% concrete failure

COEFFICIENT OF FRICTION

Method: ASTM D 2047.

System: Series 201 Epoxoprime/Series 222 Deco-Tread/Series 284 Deco-Clear cured fourteen days at 75°F (24°C).

Requirement: 1.2 static coefficient of friction, average of 12 tests.

COMPRESSIVE STRENGTH

Method: ASTM C 579.

System: Series 222 Deco-Tread cured seven days at 75°F (24°C).

Requirement: 15,567 psi (107.33 MPa) compressive strength unfilled.

FLEXURAL STRENGTH AND MODULUS OF ELASTICITY

Method: ASTM D 790.

System: Series 222 Deco-Tread cured seven days at 75°F (24°C).

Requirement: 2,867.1 psi (19.768 MPa) flexural strength average of five tests. 127,876 psi (881.67 MPa) flexural modulus, average of five tests.

Method: ASTM C 580, Method A

System: Series 222 Deco-Tread cured 14 days at 75°F (24°C)

Requirement: 4,550 psi (31.4 MPa) flexural strength, average of three tests.

HARDNESS

Method: ASTM D 2240 (Shore D Durometer).

System: Series 201 Epoxoprime/Series 222 Deco-Tread/Series 284 Deco-Clear cured thirty days at 75°F (24°C).

Requirement: Durometer rating 72.3

IMPACT

Method: ASTM D 2794.

System: Series 201 Epoxoprime/222 Deco-Tread cured thirty days at 75°F (24°C).

Requirement: 160 inch pounds (18.08 J) average, direct impact.

RATE OF BURNING

Method: ASTM D 635.

System: Series 222 Deco-Tread cured 14 days at 75°F (24°C).

Requirement: HB classification. No more than 198 seconds of burning, average of 8 samples. Less than 15.8 mm/minute linear burning rate, average of three samples.

TENSILE STRENGTH

Method: ASTM D 638

System: Series 222 Deco-Tread cured seven days at 75°F (24°C).

Requirement: 2,182.9 psi (15.1 MPa) tensile strength, average of five tests.

Method: ASTM C 307

System: Series 222 Deco-Tread cured 14 days at 75°F (24°C).

Requirement: 2,100 psi (14.5 MPa) tensile strength, average of three tests.

THERMAL EXPANSION

Method: ASTM C 531.

System: Series 222 Deco-Tread cured 14 days at 75°F (24°C).

Requirement: No more than 1.85E-05 linear coefficient of thermal expansion per °F, average of two rounds of six tests.

WATER ABSORPTION

Method: ASTM C 413

System: Series 222 Deco-Tread cured seven days at 75°F (24°C).

Requirement: 0.1% water absorption, average of three tests.

CHART 3: CLEAR TEXTURED EPOXY PERFORMANCE CRITERIA

ABRASION

Method: ASTM D 4060, (CS-17 Wheel, 1,000 gram load, 1,000 cycles).

System: Series 285 Satinglaze cured thirty days at 75°F (24°C).

Requirement: 65.2 mg loss, average of three tests.

ADHESION

Method: ASTM D 4541.

System: Series 201 Epoxoprime/Series 285 Satinglaze cured seven days at 75°F (24°C).

Requirement: 400 psi (2.8 MPa) pull-off strength, average of three tests.

NOTE: 100% concrete failure

COEFFICICENT OF FRICTION

Method: ASTM D 2047.

System: Series 201 Epoxoprime/Series 222 Deco-Tread/Series 284 Deco-Clear/Series 285 Satinglaze cured fourteen days at 75°F (24°C).

Requirement: 0.88 static coefficient of friction, average of 12 tests.

COMPRESSIVE STRENGTH

Method: ASTM C 579.

System: Series 285 Satinglaze cured seven days at 75°F (24°C).

Requirement: 15,567 psi (107.33 MPa) compressive strength unfilled.

FLEXURAL STRENGTH & MODULUS OF ELASTICITY

Method: ASTM C 580, Method A.

System: Series 285 Satinglaze cured fourteen days at 75°F (24°C).

Requirement: 4,550 psi (31.4 MPa) flexural strength, average of three tests.

Method: ASTM D 790.

System: Series 285 Satinglaze cured seven days at 75°F (24°C).

Requirement: 2,867.1 psi (19.768 MPa) flexural strength average of five tests. 127,876 psi (881.67 MPa) flexural modulus, average of five tests.

HARDNESS

Method: ASTM D 2240 (Shore D Durometer).

System: Series 201 Epoxoprime/Series 222 Deco-Tread/Series 284 Deco-Clear/Series 285 Satinglaze cured thirty days at 75°F (24°C).

Requirement: Durometer rating 72.3.IMPACT

IMPACT RESISTANCE

Method: ASTM D 2794.

System: Series 201 Epoxoprime/Series 285 Satinglaze cured thirty days at 75°F (24°C).

Requirement: 160 inch pounds (18.08 J) average, direct impact.

TENSILE STRENGTH

Method: ASTM C 307.

System: Series 285 Satinglaze cured fourteen days at 75°F (24°C).

Requirement: 2,100 psi (14.5 MPa) tensile strength, average of three tests.

Method: ASTM 638.

System: Series 285 Satinglaze cured seven days at 75°F (24°C).

Requirement: 2,182.9 psi (15.1 MPa) tensile strength, average of five tests.WATER WATER ABSORPTION

Method: ASTM C 413.

System: Series 285 Satinglaze cured seven days at 75°F (24°C).

Requirement: 0.1% water absorption, average of three tests.

CHART 4: CLEAR POLYURETHANE PERFORMANCE CRITERIA

ABRASION

Method: ASTM D 4060, (CS-17 Wheel, 1,000 grams load).

System: Series 66 Hi-Build Epoxoline/Series 291 CRU cured 30 days.

Requirement: No more than 55 mg loss after 1,000 cycles.

ADHESION

Method: ASTM D 4541.

System: Series 205 Terra-Tread FC/Series 291 CRU applied to concrete and cured seven days at 75°F (24°C).

Requirement: 400 psi (2.8 MPa) pull-off strength, average of three tests.

Note: 100% concrete failure

CHEMICAL RESISTANCE

Method: TTM-59 Chemical Spot Test, Method B

System: Series 205 Terra-Tread FC/Series 291 CRU applied to brush-off blast cleaned concrete and cured 30 days at 75°F (24°C).

Requirement: No blistering, cracking or delamination of film after seven days exposure.

Note: This test is used to qualify these coatings for chemical splash and fumes.

Reagents:

Sulfuric Acid 30% Hexane Hydrogen Peroxide 30%

Hydrochloric Acid 10% Sodium Hypochlorite 6% Gasoline

Phosphoric Acid 50% Acetic Acid 10% Ethylene Glycol

Chromic Acid 5%Skydrol JP-4 Jet Fuel

Sodium Hydroxide 50%Transmission Fluid Brake Fluid

Ammonium Hydroxide 10% Aviation Gasoline

COEFFICIENT OF FRICTION

Method: ASTM D 2047.

System: Series 201 Epoxoprime/Series 281 Tneme-Glaze/Series 291 CRU applied to fiberboard

panels and cured 14 days at 75°F (24°C).

Requirement: No less than 0.74 static coefficient of friction, average of 36 tests.

FLEXIBILITY

Method: ASTM D 522 (Method A Conical Mandrel Bend).

System: Series 205 Terra-Tread FC/Series 291 CRU applied to SSPC-SP7 Brush-Off Blast Cleaned steel and cured seven days at 75°F (24°C).

Requirement: Not less than 41% elongation, average of three tests.

GRAFFITI RESISTANCE

Method: The following graffiti materials applied to coating and allowed to dry for seven days: acrylic, epoxy-ester and alkyd spray paints, crayon and lipstick. Removal first attempted with xylene, if graffiti remained then methyl ethyl ketone (MEK) was used.

System: Series 66 Hi-Build Epoxoline/Series 291 CRU cured 30 days.

Requirement: Complete and easy removal.

HARDNESS

Method: ASTM D 3363 (Pencil).

System: Series 66 Hi-Build Epoxoline/Series 291 CRU cured 30 days.

Requirement: Must pass 2H (scratch).

IMPACT RESISTANCE

Method: ASTM D 2794.

System: Series 291 CRU applied to SSPC-SP7 Brush-Off Blast Cleaned steel Q panel and cured 30 days.

Requirement: Direct-greater than 160 in. lb. Reverse-greater than 160 in. lb.

STAIN RESISTANCE

Method: TTM-071 Spot Test

System: Series 205 Terra-Tread FC/Series 291 CRU applied to cement board panels and cured 30 days at 75°F (24°C).

Requirement: No effect after 24 hours exposure to the following reagents:

Catsup Vegetable Oil Toothpaste

French Dressing Crayon Coffee

Grape Jam Fountain Ink 409 Cleaner

Margarine Dish Soap Lysol

Vinegar Lipstick Chlorox

Lime Juice Black Shoe Polish Lighter Fluid

END OF SECTION

SECTION 09 6813

TILE CARPETING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Carpet tile, fully adhered.

1.02 REFERENCE STANDARDS

1.03 SUBMITTALS

A. See Section 01 6100 - Submittals for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

C. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.

D. Manufacturer's Installation Instructions: Indicate special procedures.

E. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

F. Maintenance Materials: Furnish the following for City of Daytona Beach's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

C. Flooring contractor to provide owner a written warranty that guarantees the completed installation to be free from defects in materials and workmanship for a period of no less than two (2) years after job completion.

D. All warranties must be issued by the manufacturer as standard published warranties on all types of carpet within this document. Second source warranties that involve parties other than the carpet manufacturer are unacceptable. If the product fails to perform as warranted when installed according to the J+J Flooring Group carpet installation handbook and maintained according to J+J Flooring Group maintenance instructions, the affected area will be repaired or replaced at the expense of the manufacturer. The carpet manufacturer will provide standard published written performance warranties for the following:
   1. Lifetime warranty against excessive surface wear. Excessive wear means no more than 10% loss of pile fiber weight measured before and after use as tested under ASTM D-3936.
   2. Lifetime static protection, meaning built-in protection below 3.0 kv as tested under AATCC-134.
   3. Tuft Bind (edge ravel, yarn pulls, zippering)
   4. Delamination.
   5. Lifetime Moisture Barrier (excluding Premier Bac)
   6. Lifetime Dimensional Stability (for modular products only)

1.05 FIELD CONDITIONS

A. Store materials in area of installation for minimum period of 24 hours prior to installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design:

B. Invision, a brand of J+J Flooring Group, P.O. Box 1287, Dalton, GA, 30722. (800) 241-4586. JJ-INVISION.COM. Please contact Darrin Fritz , (407) 730-0886, Darrin.Fritz@jjflooringgroup.com

C. Substitutions - Subject to approval by Architect

2.02 MATERIALS

A. Carpet Tile Type 1:
   1. Product: Inception Accent Plank 7018 manufactured by J&J Flooring Group
   2. Color: As selected by Architect
   3. Construction: Patterned Loop
   4. Backing: Nexus® Plank
   5. Dye Method: Solution/Yarn Dyed
   6. Fiber Type: Encore® BCF (with recycled content)
   7. Face Weight: 20 oz./sy. (678 grams/m2)
   8. Pile Density: 7460 oz./y3. (276.62 kg/m3)
   9. Gauge: 1/10 (3.94 rows/cm)
   10. Stitches: 12.00 stitches/in (4.72 stitches/cm)
   11. Pattern Repeat: N/A
   12. Soil Release: Yes
   13. Stain Resistance: Yes
   14. Bleach Resistance: Yes
   15. Optional Treatments: Yes
   16. Standard Size: 18" X 36" (approx. (45.72cm x 45.72 cm)
   17. Testing Specifications - Pill Test: Yes
   18. Testing Specifications - Flooring Radiant Panel: Class 1
   19. Testing Specifications - Smoke Density: Less than 450 flaming (ASTM E 662)
   20. Testing Specifications - Static Test: Less than 3kv (AATCC-134)
   21. Testing Specifications - Lightfastness Test: 1

2.03 ACCESSORIES

A. Adhesives: Commercialon® Premium Modular Pressure Sensitive Adhesive, a premium modular flooring adhesive specifically formulated for bonding J+J Flooring Group's Nexus® Modular PVC backed carpet to the floor.

B. TileTabs® Connectors for Nexus® backed carpet tiles. A glue-free installation which eliminates the need for full spread adhesive which requires drying time. TileTabs® provide a mess-free installation and comply with CRI Green Label Plus (zero calculated emissions).

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine and verify that sub-floor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive carpet tile.

C. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to sub-floor surfaces.

3.02 PREPARATION

A. Dust, dirt, debris and noncompatible adhesive must be removed before the installation begins. Surfaces must be smooth and level with all holes and cracks filled with Portland cement-based patch reinforced with polymers or primed with TriSeal Sealer.

B. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.

C. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

D. Vacuum clean substrate.

E. CONCRETE MOISTURE TESTING and pH Testing - Substrate surfaces must be tested for moisture emission. It is the responsibility of the contractor to perform moisture testing prior to starting the installation. ASTM-F2170-2 relative humidity probe moisture testing or ASTM-F1869 calcium chloride testing can be performed on the concrete to determine the surface moisture emission rate. Acceptable relative humidity probe testing results are up to 75% RH. An acceptable result for calcium chloride moisture testing is up to 5 lbs per 1,000 SF per 24 hours. Alkalinity tests should also be performed per ASTM-F710. The maximum acceptable pH is 9.0. Invision prefers relative humidity probe moisture testing over calcium chloride testing, as the results are more accurate and reliable. For test results that determine RH test readings of 75% - 85%, moisture emission rates of 5 lbs - 8 lbs, or pH readings of 9.0 - 11.00, XL Brands DriSeal Concrete Moisture Sealer is required. NOTE: When both XL Brands TriSeal Sealer and DriSeal Concrete Moisture Sealer are required, TriSeal is applied prior to DriSeal.

F. New concrete requires a curing period of approximately 90 days.

3.03 INSTALLATION

A. Starting installation constitutes acceptance of sub-floor conditions.

B. Install flooring in strict accordance with the finish drawings, manufacturer's instructions, and CRI Carpet Installation Standard. Install carpet tile in accordance with manufacturer's instructions and CRI 104.

C. FULL SPREAD ADHESIVE SYSTEM - In accordance with manufacturer's requirements.

D. TILE PLACEMENT - Arrows are embossed or printed on the module backing to show pile direction. To ensure proper alignment, check spacing every ten modules. Measure ten modules; proper spacing should be within ¼ inch. Continue to check spacing every ten modules throughout the entire installation. Tiles to be placed in an ashlar pattern.

E. PALLET AND BUNDLE SEQUENCING - It is very important to install Invision modules in the order they were manufactured; this is easily accomplished by selecting pallets in sequential order and following the numbers located on each bundle. Typically, an installation will begin with the lowest bundle numbers and progress through the highest numbers until the project is complete. Installing modules by bundle sequence will assure the most even uniform look possible. (For layout and installation instructions refer to Invision Carpet Installation Handbook or CRI 104 Standards.)

F. FINISHED INSTALLATION- Roll entire job with 75-100 lb. roller after completion of installation.

3.04 CLEANING

A. Remove excess adhesive without damage, from floor, base, and wall surfaces.

B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09 9000

PAINTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

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

1.02 RELATED SECTIONS:

A. 096720 - Decorative Laminate Epoxy Flooring

1.03 DESCRIPTION OF WORK:

A. Extent of painting work is indicated on drawings and schedules, and as herein specified.

B. Work includes painting and finishing of interior and exterior exposed items and surfaces throughout project, except as otherwise indicated.

C. Surface preparation, priming and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of work.

D. Work includes field painting of exposed bare and covered pipes and ducts (including color coding), and of hangers, exposed steel and iron work, and primed metal surfaces of equipment installed under mechanical and electrical work, except as otherwise indicated.

E. "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.

F. Surfaces to be Painted: Except where natural finish of material is specifically noted as a surface not to be painted, paint exposed surfaces whether or not colors are designated in "schedules". Where items or surfaces are not specifically mentioned, paint the same as similar adjacent materials or areas. If color or finish is not designated, Architect will select these from standard colors or finishes available.

G. Following categories of work are not included as part of field-applied finish work.

H. Pre-Finished Items: Unless otherwise indicated, do not include painting when factory- finishing or installer-finishing is specified for such items as (but not limited to) metal toilet enclosures, prefinished partition systems, acoustic materials, architectural woodwork and casework, elevator entrance doors and frames, elevator equipment, and finish mechanical and electrical equipment, including light fixtures, switchgear and distribution cabinets.

I. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, foundation spaces, furred areas, utility tunnels, pipe spaces, duct shafts and elevator shafts.

J. Finished Metal Surfaces: Unless otherwise indicated, metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting.

K. Operating Parts: Unless otherwise indicated, moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, motor and fan shafts will not require finish painting.

L. Following categories of work are included under other sections of these specifications.

M. Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under various sections for structural steel, metal fabrications, hollow metal work and similar items.

N. Unless otherwise specified, shop priming of fabricated components such as architectural woodwork, wood casework and shop-fabricated or factory-built mechanical and electrical equipment or accessories is included under other sections of these specifications.

O. Do not paint over any code-required labels, such as Underwriters' Laboratories and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.

1.04 QUALITY ASSURANCE:

A. Single Source Responsibility: Provide primers and other undercoat paint produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer, and use only within recommended limits.

B. Coordination of Work: Review other sections of these specifications in which prime paints are to be provided to ensure compatibility of total coatings systems for various substrates. Upon request from other trades, furnish information or characteristics of finish materials provided for use, to ensure compatible prime coats are used.

1.05 SUBMITTALS:

A. Product Data: Submit manufacturer's technical information including paint label analysis and application instructions for each material proposed for use.

B. Samples: Prior to beginning work, Architect will furnish color chips for surfaces to be painted. Use representative colors when preparing samples for review. Submit samples for Architect's review of color and texture only. Provide a listing of material and application for each coat of each finish sample.

C. On 12" x 12" hardboard, provide two samples of each color and material, with texture to simulate actual conditions. Resubmit samples as requested by Architect until acceptable sheen, color, and texture is achieved.

D. On actual wood surfaces, provide two 4" x 8" samples of natural and stained wood finish. Label and identify each as to location and application.

E. On concrete masonry, provide two 4" square samples of masonry for each type of finish and color, defining filler, prime and finish coat.

1.06 DELIVERY AND STORAGE:

A. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label, and following information:

B. Name or title of material.Manufacturer's name.

C. Fed. Spec. number, if applicable.Thinning instructions.

D. Manufacturer's stock number Contents by volume, for major pigment

and date of manufacturer and vehicle constituents

E. Application instructions.Color name and number.

F. Store materials not in actual use in tightly covered containers. Maintain containers used in storage of paint in a clean condition, free of foreign materials and residue.

G. Protect from freezing where necessary. Keep storage area neat and orderly. Remove oily rags and waste daily. Take all precautions to ensure that workmen and work areas are adequately protected from fire hazards and health hazards resulting from handling, mixing and application of paints.

1.07 JOB CONDITIONS:

A. Apply water-base paints only when temperature of surfaces to be painted and surrounding air temperatures are between 50 degrees F (10 degrees C) and 90 degrees F (32 degrees C), unless otherwise permitted by paint manufacturer's printed instructions.

B. Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45 degrees F (7 degrees C) and 95 degrees F (35 degrees C), unless otherwise permitted by paint manufacturer's printed instructions.

C. Do not apply paint in snow, rain, fog or mist, or when relative humidity exceeds 85%, or to damp or wet surfaces, unless otherwise permitted by paint manufacturer's printed instructions.

D. Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Manufacturers:
   1. Coronado Paint Company/Benjamin Moore (Basis of Design)
   2. Sherwin Williams (Provide equivalent products as approved by the architect)
   3. ChemRex, Inc. (Thoro Coatings), or equal

2.02 MATERIALS:

A. Material Quality: Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying manufacturer's identification as a standard, best-grade product will not be acceptable.

B. Color Pigments: Pure, non-fading, applicable types to suit substrates and service indicated.

2.03 EXTERIOR PAINT / COATING SYSTEMS (EPS/ECS):

A. ECS 1:Exposed Concrete Tilt-up Panels (Coating System) or equal.
   1. 1st coat:Thoro CM Water-based Acrylic Primer.
   2. 2nd coat:Thoro Water-based high-build Acrylic Coating.
   3. 3rd coat:Thoro Water-based high-build Acrylic Coating.

B. EPS 1: Galvanized Metal Doors, Frames and Misc. Metal
   1. 1st coat:Coronado Acrylic DTM Primer 180-11.
   2. 2nd coat:Coronado Rust Scat Enamel 90-Line Semi-Gloss.
   3. 3rd coat:Coronado Rust Scat Enamel 90-Line Semi-Gloss.

C. EPS 2: Concrete and Concrete Block
   1. 1st coat: 43-11 Masonry Sealer Pigmented.
   2. 2nd coat: 410 Line Acrylic House Paint.
   3. 3rd coat:410 Line Acrylic House Paint.

2.04 INTERIOR PAINT SYSTEMS (IPS):

A. IPS 1:Concrete and Concrete Block
   1. 1st coat:Coronado Acrylic DTM Primer 180-11.
   2. 2nd coat:Coronado 90 Line Semi-Gloss.
   3. 3rd coat:Coronado 90 Line Semi-Gloss.

B. IPS 2:Gypsum Drywall: Walls and Ceilings
   1. 1st coat:Coronado SuperKote Latex Primer Sealer 40-11.
   2. 2nd coat:Coronado Tough Walls 60 Line Satin.
   3. 3rd coat:Coronado Tough Walls 60 Line Satin.

C. IPS 3:Epoxy Finish at Toilet Room Ceilings and Walls (where required)
   1. 1st coat:Coronado SuperKote Latex Primer Sealer 40-11.
   2. 2nd coat:Coronado Acrylic Epoxy Finish 138.
   3. 3rd coat:Coronado Acrylic Epoxy Finish 138.

D. IPS 4:Metal Doors and Frames and Misc. Metal
   1. 1st coat:Coronado Acrylic DTM Primer 180-11.
   2. 2nd coat:Coronado Corotech DTM 182 Line Semi-Gloss.
   3. 3rd coat:Coronado Corotech DTM 182 Line Semi-Gloss.

E. IPS 5:Exposed Ceiling Areas including Steel Joists, Metal Deck, Conduits and Boxes, Sprinkler Piping, Roof Drains and Piping, and HVAC Ducts, Grilles and Registers
   1. 1st coat:Coronado DTM Acrylic Dry Fall 128-1 Flat.
   2. 2nd coat:Coronado DTM Acrylic Dry Fall 128-1 Flat.

F. IPS 6:Concrete Floors*

1. 1st coat:Coronado Rust Scat Polyurethane High Gloss Enamel 31 Line.
2. 2nd coat:Coronado Rust Scat Polyurethane High Gloss Enamel 31 Line.
3. *Provide Light Sand Finish at Mechanical Rooms

PART 3 - EXECUTION

3.01 INSPECTION:

A. Applicator must examine areas and conditions under which painting work is to be applied and notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Applicator.

B. Starting of painting work will be construed as Applicator's acceptance of surfaces and conditions within any particular area.

C. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film.

3.02 SURFACE PREPARATION:

A. General: Perform preparation and cleaning procedures in accordance with paint manufacturer's instructions and as herein specified, for each particular substrate condition.

B. Provide barrier coats over incompatible primers or remove and reprime as required. Notify Architect in writing of any anticipated problems in using the specified coating systems with substrates primed by others.

C. Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for complete painting of items and adjacent surfaces. Following completion of painting of each space or area, reinstall removed items.

D. Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning.

E. Program cleaning and painting so that contaminants from cleaning process will not fall onto wet, newly-painted surfaces.

F. Cementitious Materials: Prepare cementitious surfaces of concrete, concrete block, cement plaster and cement-asbestos board to be painted by removing efflorescence, chalk, dust, dirt, grease, oils, and by roughening as required to remove glaze.

G. Determine alkalinity and moisture content of surfaces to be painted by performing appropriate tests. If surfaces are found to be sufficiently alkaline to cause blistering and burning of finish paint, correct this condition before application of paint. Do not paint over surfaces where moisture content exceeds that permitted in manufacturer's printed directions.

H. Clean concrete floor surfaces scheduled to be painted with a commercial solution of muriatic acid, or other etching cleaner. Flush floor with clean water to neutralize acid, and allow to dry before painting.

I. Wood: Clean wood surfaces to be painted of dirt, oil, or other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sandpaper smooth those finished surfaces exposed to view, and dust off. Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other recommended knot sealer, before application of priming coat. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood-filler. Sandpaper smooth when dried.

J. Prime, stain, or seal wood required to be job-painted immediately upon delivery to job. Prime edges, ends, faces, undersides, and backsides of such wood, including cabinets, counters, cases, paneling.

K. When transparent finish is required, use spar varnish for backpriming.

L. Backprime paneling on interior partitions only where masonry, plaster, or other wet wall construction occurs on backside.

M. Seal tops, bottoms, and cut-outs of unprimed wood doors with a heavy cot of varnish or equivalent sealer immediately upon delivery to job.

N. Ferrous Metals: Clean ferrous surfaces, which are not galvanized or shop-coated, of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.

O. Touch-up shop-applied prime coats wherever damaged or bare, where required by other sections of these specifications. Clean and touch-up with same type shop primer.

P. Galvanized Surfaces: Clean free of oil and surface contaminants with non-petroleum based solvent.

3.03 MATERIALS PREPARATION:

A. Mix and prepare painting materials in accordance with manufacturer's directions.

B. Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.

C. Stir materials before application to produce a mixture of uniform density, and stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.

3.04 APPLICATION:

A. General: Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.

B. Paint colors, surface treatments, and finishes, are indicated in "schedules" of the contract documents.

C. Provide finish coats which are compatible with prime paints used.

D. Apply addition coats when undercoats, stains or other conditions show through final coat of paint, until paint film is of uniform finish, color and appearance. Give special attention to insure that surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

E. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently- fixed equipment or furniture with prime coat only before final installation of equipment.

F. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint.

G. Paint back sides of access panels, and removable or hinged covers to match exposed surfaces.

H. Finish exterior doors on tops, bottoms and side edges same as exterior faces, unless otherwise indicated.

I. Sand lightly between each succeeding enamel or varnish coat.

J. Omit first coat (primer) on metal surfaces which have been shop-primed and touch-up painted, unless otherwise indicated.

K. Scheduling Painting: Apply first-coat material to surfaces that have been cleaned, pretreated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

L. Allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

M. Minimum Coating Thickness: Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.

N. Mechanical items to be painted include, but are not limited to, items which may be indicated on drawings or in Division 15 specifications section.

O. Electrical items to be painted include, but are not limited to, : items which may be indicated on drawings or in Division 16 specifications section text.the following:

P. Prime Coats: Apply prime coat of material which is required to be painted or finished, and which has not been prime coated by others.

Q. Recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn-through or other defects due to insufficient sealing.

R. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling such as laps, irregularity in texture, skid marks, or other surface imperfections.

S. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness or other surface imperfections will not be acceptable.

T. Transparent (Clear) Finishes: Use multiple coats to produce glass-smooth surface film of even luster. Provide a finish free of laps, cloudiness, color irregularity, runs, brush marks, orange peel, nail holes, or other surface imperfections.

U. Provide satin finish for final coats, unless otherwise indicated.

V. Completed Work: Match approved samples for color, texture and coverage. Remove, refinish or repaint work not in compliance with specified requirements.

3.05 CLEAN-UP AND PROTECTION:

A. Clean-Up: During progress of work, remove from site discarded paint materials, rubbish, cans and rags at end of each work day.

B. Upon completion of painting work, clean window glass and other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

C. Protection: Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.

D. Provide "Wet Paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.

E. At completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.

END OF SECTION

SECTION 10 1400

PLASTIC SIGNS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

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

1.02 DESCRIPTION OF WORK:

A. Forms of specialty signs required include the following:
   1. Panel Signs (Plastic Room Identification Signs). Signs to be installed at every room.
   2. Metal numbers.
   3. FISH signage (mounted on door frame heads)

1.03 QUALITY ASSURANCE:

A. Uniformity of Manufacturer: For each sign form and graphic image process indicated furnish products of a single manufacturer.

1.04 SUBMITTALS:

A. Shop Drawings: Submit shop drawings for fabrication and erection of specialty signs. Include plans, elevations, and large scale details of sign wording and lettering layout. Show anchorages and accessory items. Furnish location template drawings for items supported or anchored to permanent construction.

B. Furnish full-size spacing templates for individual building- mounted letters and numbers.

C. Product Data: Submit manufacturer's technical data and installation instructions for each type of sign required.

D. Samples: Submit samples of each sign form and material showing finishes, colors, surface textures and qualities of manufacturer and design of each sign component including graphics.

PART 2 - PRODUCTS

2.01 MANUFACTURERS:

A. Acceptable Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated into the Work include, but are not necessarily limited to, the following:
   1. Manufacturers of Metal Letters and Numbers:
      a. Andco Industries Corp.
      b. Mills Manufacturing Co.
      c. Nelson-Harkins Industries
      d. Multi-graphics / Metal Arts
   2. Manufacturers of Panel Signs (Plastic Room Identification Signs):
      a. Andco Industries Corp.
      b. Best Manufacturing Co.
      c. U.S. Identity Group, LLC
      d. Multi-graphics
      e. Inner-Graphic Systems

2.02 METAL NUMBERS:

A. Aluminum Castings: Provide aluminum castings of alloy and temper recommended by the aluminum producer or finisher for the casting process used and for the use and finish indicated.

B. Fasteners: Unless otherwise indicated, use concealed fasteners fabricated from metals that are non-corrosive to either the sign materials or the mounting surface.

C. Anchors and Inserts: Use non-ferrous metal or hot-dipped galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or

lead expansion bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

D. Fabrication: Provide metal letters and numbers to comply with the requirements indicated for the manufacturing process, materials, finish, style, size and message content.

E. Cast Numbers: Form numbers by casting. Produce characters with smooth, flat faces, sharp corners, precisely-formed lines and profiles, free from pits, scale, sand holes or other defects. Cast lugs into the backs of the characters and tap to receive threaded mounting studs.
   1. Metal: Aluminum.
   2. Colors and Surface Textures: For exposed sign material that requires selection of materials with integral or applied colors, surface textures or other characteristics related to appearance, provide color matches indicated, or if not indicated, as selected by the Architect from the manufacturer's standard.
   3. Metal Finishes: Comply with NAAMM "Metal Finishes Manual" for finish designations and applications recommendations.
   4. Aluminum Finishes:
      a. Baked Enamel Finish: Provide finish AA-M4xC12C42R1x (manufacturer's standard non-directional mechanical finish including sanding and filing, cleaning with inhibited chemicals, conversion coated with an acid-chromate-fluoride-phosphate treatment and painted with organic coating specified below).
         1) Organic Coating: Provide manufacturer's standard thermosetting enamel system consisting of prime coat and finish coat. Provide five year guarantee against peeling, cracking, crazing or blistering.
            (a) Color: Custom color to be selected by the Architect.
            (b) Provide the following numbers in 12" height to be installed approximately 10'-0" above finish grade:
               (1) Two (2) sets of "03"

2.03 PANEL SIGNS (PLASTIC ROOM IDENTIFICATION SIGNS):

A. Plastic Room Identification Signs shall be 8" x 8" or as otherwise indicated, with minimum 3/4" high letters and numbers (see details of specific sign types at end of this section)., with 1/32" thick raised letters, and Braille tag each (Grade 2). Sign thickness shall be 3/16". Mounting shall be SAM (Silastic Adhesive Mount). Colors to be selected. Where signs are scheduled to be mounted on glass panels, provide adhesive film on inside of glass surface of same size of sign, to cover mounting. Color same as sign.

B. Handicapped Access Signage shall be square corner, level edge, full center format featuring International Symbol for handicapped access.

C. Directional Signage (provided and installed by owner)
   1. Provide directional signage at corridor intersections, lobbies, balconies, etc. indicating direction of travel to designated rooms for emergency responders. Coordinate with architect for exact wording and locations.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. General: Locate sign units and accessories where shown or scheduled, using mounting methods of the type described and in compliance with the manufacturer's instructions.

B. Install sign units level, plumb and at the height indicated, with sign surfaces free from distortion or other defects in appearance.

C. Metal Numbers: Mount letters and numbers using standard fastening methods recommended by the manufacturer for the letter form, type of mounting, wall construction and condition of exposure indicated. Provide heavy paper template to establish letter spacing and to locate holes for fasteners.

D. Projected Mounting: Mount letters at 1/2" from the wall surface indicated.

E. Panel Signs (Plastic Room Identification Signs):

1. Attach plastic panel signs to wall, door and door frame surfaces using Mohawk SAM mounting system or equal. Use double-sided vinyl tape to hold sign in place until adhesive has been fully cured.

3.02 CLEANING AND PROTECTION:

A. At completion of the installation, clean soiled sign surfaces in accordance with the manufacturer's instructions. Protect units from damage until acceptance by the Owner.

3.03 NOTES:

A. Install the following sign on outside face of all Mechanical and Electrical Room doors, using 3/4" high letters (all caps):
   1. STORAGE NOT PERMITTED

B. Provide “FIRE ALARM PULL STATION AND FIRE EXTINGUISHER INSIDE” signs where indicated on the drawings, Architectural and Electrical, or if not so indicated, where required by applicable Code. Arrange sign on 8" x 8" plaque using appropriate size lettering. Color to be selected.

3.04 FISH SIGNAGE:

A. All mechanical and electrical room numbers and names shall be combined on one sign using 3/4" high letters (all caps) thus: 03-016 ELECTRICAL, center sign on door frame above door.

B. All other room name and room number signs shall use 1" high letters (all caps), center sign on door frame above door.

END OF SECTION

SECTION 10 2113.19
PLASTIC TOILET COMPARTMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Solid plastic toilet compartments.

B. Urinal screens.

1.02 RELATED REQUIREMENTS

A. Section 10 2800 - Toilet, Bath, and Laundry Accessories.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate the work with placement of support framing and anchors in walls and ceilings.

1.04 SUBMITTALS

A. See Section 01 6100 - Submittals for submittal procedures.

B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, door swings.

C. Product Data: Provide data on panel construction, hardware, and accessories.

D. Manufacturer's Installation Instructions: Indicate special procedures.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 COMPONENTS

A. Toilet Compartments: Solid molded phenolic plastic panels, doors, and pilasters, floor-mounted unbraced.

B. Urinal Screens: Wall mounted with two panel brackets, and floor-to-ceiling vertical upright consisting of pilaster anchored to floor and ceiling.

2.03 ACCESSORIES

A. Pilaster Shoes: Formed chromed steel with polished finish, 3 inch high, concealing floor fastenings.
   1. Provide adjustment for floor variations with screw jack through steel saddles integral with pilaster.

B. Head Rails: Hollow chrome plated steel tube, 1 x 1-5/8 inch size, with anti-grip strips and cast socket wall brackets.

C. Pilaster Brackets: Polished stainless steel.

D. Wall Brackets: Continuous type, polished stainless steel.

E. Attachments, Screws, and Bolts: Stainless steel, tamper proof type.
   1. For attaching panels and pilasters to brackets: Through-bolts and nuts; tamper proof.

F. Hardware: Polished stainless steel:
   1. Pivot hinges, gravity type, adjustable for door close positioning; two per door.
   2. Door Latch: Slide type with exterior emergency access feature.
   3. Door strike and keeper with rubber bumper; mounted on pilaster in alignment with door latch.
   4. Coat hook with rubber bumper; one per compartment, mounted on door.
   5. Provide door pull for outswinging doors.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify correct spacing of and between plumbing fixtures.

C. Verify correct location of built-in framing, anchorage, and bracing.

3.02 INSTALLATION

A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.

B. Maintain 3/8 inch to 1/2 inch space between wall and panels and between wall and end pilasters.

C. Attach panel brackets securely to walls using anchor devices.

D. Attach panels and pilasters to brackets. Locate head rail joints at pilaster center lines.

E. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

3.03 TOLERANCES

A. Maximum Variation From True Position: 1/4 inch.

B. Maximum Variation From Plumb: 1/8 inch.

3.04 ADJUSTING

A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.

B. Adjust hinges to position doors in partial opening position when unlatched. Return out-swinging doors to closed position.

C. Adjust adjacent components for consistency of line or plane.

END OF SECTION

SECTION 10 2123
CUBICLE CURTAINS AND TRACK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Suspended overhead metal curtain track and guides.

B. Surface mounted overhead metal curtain track and guides.

C. Curtains.

1.02 RELATED REQUIREMENTS

A. Section 09 5100 - Acoustical Ceilings: Suspended ceiling system to support track.

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

B. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; 2015.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data for curtain fabric characteristics.

C. Shop Drawings: Indicate a reflected ceiling plan view of curtain track, hangers and suspension points, attachment details, schedule of curtain sizes.

D. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

E. Maintenance Data: Include recommended cleaning methods and materials and stain removal methods.

F. Maintenance Materials: Furnish the following for City of Daytona Beach's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Curtains: Two of each type and size.
   3. Extra Carriers: Ten.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Accept curtain materials on site and inspect for damage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Cubicle Track and Curtains:
   1. A. R. Nelson Co: www.arnelson.com.
   2. C/S General Cubicle: www.c-sgroup.com/cubicle-track-curtains.
   3. Imperial Fastener Co., Inc: www.imperialfastener.com.
   4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 TRACKS AND TRACK COMPONENTS

A. Track: Extruded aluminum sections; one piece per cubicle track run; I-beam profile.
   1. Structural Performance: Capable of supporting vertical test load of 50 lbs without visible deflection of track or damage to supports, safely supporting moving loads, and sufficiently rigid to resist visible deflection and without permanent set.
   2. Track End Stop, Tees, Y's, and Switches: To fit track section.
   3. Track Bends: Minimum 12 inch radius; fabricated without deformation of track section or impeding movement of carriers.
   4. Suspension Rods: Tubular Aluminum sections, sized to support design loads and designed to receive attachment from track and ceiling support.
   5. Escutcheons to Suspension Rods: Aluminum.

6. Finish on Exposed Surfaces: Clear anodized finish.

B. Curtain Carriers: Nylon slider to accurately fit track; designed to eliminate bind when curtain is pulled; fitted to curtain to prevent accidental curtain removal; 3 carriers per foot of track length.

C. Wand: Aluminum hollow section, attached to lead carrier, for pull-to-close action.

2.03 CURTAINS

A. Curtain Materials:
   1. Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
   2. Naturally flame resistant or flameproofed; capable of passing NFPA 701 test.
   3. Curtain: Close weave polyester; anti-bacterial, self deodorizing, sanitized, and preshrunk.
   4. Color as selected from manufacturer's standard range.
   5. Open Mesh Cloth: Open weave to permit air circulation; flameproof material, same color as curtain.

B. Curtain Fabrication:
   1. Manufacture curtains of one piece, sized 10 percent wider than track length. Terminate curtain 15 inches from floor.
   2. Include open mesh cloth at top 12 inches of curtain for room air circulation.
   3. Curtain Heading: Triple thickness 2 inches wide, with stitched button holes for carriers 6 inches on center, double fold bottom hem 2 inches wide with lead weights included. Lock stitch seams in two rows. Turn seam edges and lock stitch.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and supports above ceiling are ready to receive work of this Section.

B. Verify that field measurements are as indicated.

3.02 INSTALLATION

A. Install curtain track to be secure, rigid, and true to ceiling line.

B. Install end cap and stop device.

C. Suspend track from ceiling system.

D. Install curtains on carriers ensuring smooth operation.

END OF SECTION

SECTION 10 2800

TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Accessories for toilet rooms and utility rooms.

B. Grab bars.

1.02 RELATED SECTIONS

A. Section 10170 - Plastic Toilet Compartments.

1.03 REFERENCES

A. ASTM A 123/A 123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2002.

B. ASTM A 269 - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service; 2004.

C. ASTM A 666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2003.

D. ASTM C 1036 - Standard Specification for Flat Glass; 2001.

E. GSA CID A-A-3002 - Mirrors, Glass; U.S. General Services Administration; 1996.

1.04 SUBMITTALS

A. See Section 01 3000 - Submittals, for submittal procedures.

B. Product Data: Provide data on accessories describing size, finish, details of function, attachment methods.

C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

1.05 COORDINATION

A. Coordinate the work with the placement of internal wall reinforcement and reinforcement of toilet partitions to receive anchor attachments.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Products listed are made by Bobrick, unless noted otherwise.

B. Other Acceptable Manufacturers, subject to compliance with the Contract Documents:
   1. American Specialties, Inc: www.americanspecialties.com.
   2. Bradley Corporation: www.bradleycorp.com.
   3. Substitutions: Section 01 6000 - Product Requirements.

C. All items of each type to be made by the same manufacturer.

2.02 MATERIALS

A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
   1. Grind welded joints smooth.
   2. Fabricate units made of metal sheet of seamless sheets, with flat surfaces.

B. Keys: Provide 20 keys for each accessory to City of Daytona Beach; master key all lockable accessories.

C. Stainless Steel Sheet: ASTM A 666, Type 304.

D. Stainless Steel Tubing: ASTM A 269, Type 304 or 316.

E. Mirror Glass: Float glass, ASTM C 1036 Type I, Class 1, Quality Q2, with silvering, copper coating, and suitable protective organic coating to copper backing in accordance with GSA CID A-A-3002.

F. Fasteners, Screws, and Bolts: Hot dip galvanized, tamper-proof, security type.

G. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.03 FINISHES

A. Stainless Steel: No. 4 satin brushed finish, unless otherwise noted.

B. Galvanizing for Items Other than Sheet: Comply with ASTM A 123/A 123M; galvanize ferrous metal and fastening devices.

2.04 TOILET ROOM ACCESSORIES

A. See drawing A2.2 for drawings & schedule showing locations and quantities of toilet accessories.

2.05 CUSTODIAL ROOM ACCESSORIES

A. At each Custodial Room, provide a Combination Utility Shelf/Mop and Broom Holder (Type A30): 0.05 inch thick stainless steel, Type 304, with 1/2 inch returned edges, 0.06 inch steel wall brackets.
   1. Drying rod: Stainless steel, 1/4 inch diameter.
   2. Hooks: 3, 0.06 inch stainless steel rag hooks at shelf front.
   3. Mop/broom holders: 4 spring-loaded rubber cam holders at shelf front.
   4. Length: 36 inches.
   5. Product: B-224x36 manufactured by Bobrick.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify exact location of accessories for installation.

C. Verify that field measurements are as indicated on drawings.

D. See Section 06100 - Rough Carpentry for installation of blocking in walls.

3.02 PREPARATION

A. When applicable, deliver inserts and rough-in frames to site for timely installation.

B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

A. Install accessories in accordance with manufacturers' instructions.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Mounting Heights and Locations: As required by accessibility regulations and as indicated on drawings.

SECTION 10 4400

LIFE SAFETY EQUIPMENT AND ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fire extinguishers.

B. Fire extinguisher cabinets.

C. Knox box.

D. Accessories.

1.02 RELATED SECTIONS

A. Section 09 2116 - Gypsum Board Assemblies.

1.03 REFERENCE STANDARDS

A. NFPA 10 - Standard for Portable Fire Extinguishers; 2013.

B. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.

1.04 PERFORMANCE REQUIREMENTS

A. Conform to NFPA 10.

B. Provide extinguishers classified and labeled by Underwriters Laboratories Inc. for the purpose specified and indicated.

1.05 SUBMITTALS

A. See Section 01 6100 - Submittals for submittal procedures.

B. Shop Drawings: Indicate locations of cabinets and cabinet physical dimensions.

C. Product Data: Provide extinguisher operational features, color and finish, and anchorage details.

D. Manufacturer's Installation Instructions: Indicate special criteria and wall opening coordination requirements.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Maintenance Data: Include test, refill or recharge schedules and re-certification requirements.

1.06 FIELD CONDITIONS

A. Do not install extinguishers when ambient temperature may cause freezing of extinguisher ingredients.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Knox Boxes:
   1. Knox Company: www.knoxbox.com
   2. Substitutions: Not permitted.

2.02 FIRE EXTINGUISHERS

A. Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.

B. Dry Chemical: Stainless steel tank, with pressure gage.

2.03 FIRE EXTINGUISHER CABINETS

A. Metal: Formed stainless steel sheet; 0.036 inch thick base metal.

B. Cabinet Configuration: Recessed type.
   1. Size to accommodate accessories.
   2. Recess Depth: 4-1/8"
   3. Trim: Returned to wall surface, with 3 inch maximum projection.

C. Door: 0.036 inch metal thickness, reinforced for flatness and rigidity with nylon catch. Hinge doors for 180 degree opening with two butt hinge.

D. Door Glazing: Float glass, clear, 1/8 inch thick, and set in resilient channel glazing gasket.

E. Cabinet Mounting Hardware: Appropriate to cabinet, with pre-drilled holes for placement of anchors.

F. Weld, fill, and grind components smooth.

G. Finish of Cabinet Exterior Trim and Door: No. 4 - Brushed stainless steel.

H. Finish of Cabinet Interior: White colored enamel.

2.04 KNOX BOXES

A. Model: Knox Box 3200 Series, Hinged Door Model.
   1. Housing: 1/4" plate steel.
   2. Door: 1/2" steel door with interior gasket seal and stianless steel hinge.
   3. Lock: 1/8" stainless stetel dust cover with tamper seal mounting capability. Double-action rotating tumblers and hardened steel pins accessed by a bias-cut key.
   4. Box and Lock shall be UL listed.
   5. Finish: Knox-Coat proprietary finishing process.

B. Mounting: Recessed.

C. Color: Dark Bronze.

2.05 ACCESSORIES

A. Extinguisher Brackets: Formed steel, chrome-plated, with latching steel strap.

B. Knox Box Recessed Mouting Kit: Manufacturer's standard kit for specified Knox Box model.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify rough openings for specified products are correctly sized and located.

3.02 INSTALLATION

A. Install all specified products in accordance with manufacturer's instructions.

B. Install Knox Box at location indicated on the drawings, plumb and level, with recessed mounting kit. Coordinate mounting height with City of Daytona Beach Fire Department requirements.

C. Secure all specified products rigidly in place.

D. Place extinguishers in cabinets and on wall brackets, as specified and located on plan.

3.03 ADJUSTING

A. Verify all specified products operate smoothly and adjust as necessary for proper operation.

3.04 CLEANING AND PROTECTION

A. Clean all specified products after installation and prior to Substantial Completion and Owner occupancy.

B. Protect all installed products from damage by subsequent construction activities.

3.05 FIRE EXTINGUISHER SCHEDULE

A. FE-A: Dry chemical, Cabinet.

B. FE-B: Dry chemical, Bracket Mounted.

END OF SECTION

SECTION 11 4000, PART 1 of 2

FOODSERVICE EQUIPMENT

PART 1 - GENERAL CONDITIONS

1.1 DESCRIPTION

A. Scope: Furnish all labor, materials, and services required in conjunction with specified foodservice equipment and foodservice plans dated June 1, 2018, including:

1. Provide new foodservice equipment as specified.
2. Deliver, uncrate, and set in place as specified.
3. Provide submittals, and field visits as required.
4. Provide training and warranty protection.

B. Related Work Specified Elsewhere:

1. All plumbing, electrical and ventilating work required in connection with commercial foodservice equipment including rough-in to points indicated on mechanical drawings, and final connections from rough-in points; electric service to points of connection and final connections; Divisions 22, 23, and 26.
2. Refrigeration work, if applicable, shall be done by the kitchen equipment supplier, including condensate drain line run for the walk-in cooler/freezer, except for electrical and plumbing connections to compressors, blower coils, controls, etc. These final connections will be made by Divisions 22 and 26.
3. All traps, steam traps, grease traps, line strainers, tail pieces, valves, stops, shut-offs and fittings necessary for equipment specified will be furnished and installed under mechanical contract by Division 23 unless specifically called for otherwise under each item.
4. All line and disconnect switches, safety cut-offs and fittings, convenience outlets, outlet boxes, wiring, conduit, control panels, fuse boxes or other electrical controls, fittings and connections will be furnished and installed under electrical contract by Division 26, unless specifically indicated otherwise in the item specifications. Starting switches for certain specified pieces of foodservice equipment, if standard, are to be provided by kitchen equipment supplier. Those starting switches, if furnished loose as standardized for foodservice manufacturers (other than fabricated items), shall be mounted and wired complete under Division 26.
5. Any sleeves, solid wall core drilling, or roof penetrations and sealing required for walk-in cooler/freezer and ice machine condensing units will be furnished and installed under Division 23. If applicable, roof mounted condensing unit(s) racks will be furnished and installed by GC/Mechanical Contractor.

6. Unless specifically called for in the following item specifications, ventilating fans and all duct work between same and ceiling rough-in openings, and from same to discharge opening in building will be furnished and installed by HVAC.

1.2 QUALITY ASSURANCE

A. Qualification of Suppliers:
   1. Foodservice Equipment Contractor, (FSEC) shall submit, if requested, satisfactory evidence of compliance with the following qualifications and conditions to be approved:
      a. Successful completion of jobs of comparable scope.
      b. Have manufacturer's authorization to distribute and install specified factory items of equipment.
      c. Maintain a permanent staff experienced in the installation of foodservice equipment and preparation of professional style shop drawings and brochures.
      d. Attend all project meetings as assembled by the General Contractor, and/or required by any other party involved in this project.

1.3 SUBMITTALS

A. Submit to the Architect/Consultant for preliminary review within three (3) weeks after notification of award 8 sets of hardcopy submittals as follows:
   1. Submittal shall include bound brochures containing itemized cut sheets, illustrations, specifications, line drawings and rough-in information on all specified items, pdf files are not acceptable. Walk-in and exhaust systems shop drawings to be full size, 24" x 36" minimum.
   2. Provide shop drawings on custom manufactured items as follows:

B. Professionally prepare detailed shop drawings at a minimum scale of 3/4-inch to the foot, plus necessary cross sections at scale of 1-1/2-inches to the foot, showing complete detail of each item of specifically fabricated equipment. These drawings shall be based on the floor plans and the following item specifications. Shop drawings to be full sized, 24" x 36" minimum, or larger, pdf files are not acceptable. Do not begin fabrication until shop drawings have been approved.
   1. Drawings shall include accurately dimensioned layouts and locations for all masonry bases or recesses if required or called for hereinafter and shall furthermore, if applicable, include accurately dimensioned details and locations of any special wall openings that are required where items of equipment extend through walls.

C. Foodservice Equipment Contractor shall furnish three (3) bound sets of dimensional prints, data sheets, spare parts list, and operating instructions for each piece of mechanical equipment. These are to be prepared and submitted to the GC, Architect and Consultant for review and approval before demonstration of equipment to the Owner. All brochures shall be in hard durable covered binders bearing the job name and date of submission.

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery: Equipment shall be delivered only after the building is weather and vandal safe.

B. Protection: Wrapping and protective coverings shall remain on all items until ready for use and in the case of stainless steel items, until installation is complete and the job is ready for cleaning by others.

1.5 GENERAL BID AND PERFORMANCE INSTRUCTIONS

A. Include all work specified. Supply and hang condensate hood, item 26. Exhaust fan and installation is by GC/Mechanical Contractor. Supply and hang exhaust hood, item 47. Supply and install wall flashing, item 46 and fire suppression system, item 47. Exhaust system ducts, fans and installation is by GC/Mechanical Contractor. Coordinate all actions with GC, other trades, and Owner, as required.

B. Provide walk-in cooler/freezer panel assembly, leveling, refrigeration line run, condensing unit set, and condensate drain line run and insulation. Provide start up of unit after utility connections by others. All required permits shall be supplied by Foodservice Equipment Contractor. In addition, 1 year service labor warranty is to be supplied from date of substantial completion. Provide, install and seal external line set covers, if required. Level slab and all panels as required. Trim to finished walls and ceiling as required. All work to be performed by Florida Licensed Mechanical Contractor, without exception. Provide roof mounted compressor rack, if applicable.

C. It will be the direct responsibility of the Foodservice Equipment Contractor to field dimension all foodservice spaces to ensure specified equipment will fit newly built areas. Also, field dimension utility rough-ins installed by others. Any discrepancy shall be reported in writing to the GC/Architect.

D. At completion of project, provide a start-up demonstration of requested foodservice equipment items to the Owner's staff. Demonstration is to be performed by the Manufacturer's Representatives and attended by the Foodservice Equipment Contractor. Notify the Architect and Foodservice Consultant of the date and time.

E. Bids on specified items shall include delivery, uncrating, and setting in place of equipment, wall mounting of equipment where required, refrigeration installation, removal of crating materials, freight and sales tax. Bidders shall initially supply a lump sum bid total. Chosen supplier will be required to itemize all costs before a contract is issued. All services required as per standard practices and as requested by Owner, GC, Architect and Foodservice Consultant.

F. Should this section cost need to be reduced, it is the duty of the Foodservice Consultant to provide any alternates, options or deletion of items. No FSEC or GC shall be permitted to make any choices or options without the direct consent of the Foodservice Consultant.

1.6 ALTERNATES

A. All of this equipment has been previously reviewed and selected by the Owner, and must be bid to as specified. Any other equipment submitted to be considered as an alternate to the specified model and manufacturer must meet or exceed the quality expected by the Owner, and specified by the Foodservice Consultant. Any bidder wishing to propose alternate equipment for consideration other than the approved and specified manufacturers shall:

1. Submit a request to the consultant at least seven (7) days prior to bid.
2. If approved, an addendum will be issued to all bidders.
3. No unapproved alternates will be permitted and considered.
4. Bids not following this procedure will be invalid and rejected.
5. Submittals not following this directive will be rejected.

1.7 WARRANTIES

A. Warrantee in writing all equipment and fabrication against defects and workmanship for a period of one (1) year from date of acceptance.
   1. Each piece of mechanical equipment shall be listed, together with the authorized service and repair agency which the owner should call should malfunctions occur within the one (1) year guarantee period.
   2. Refrigeration system compressors shall be warranted for five (5) years by the manufacturer. As stated, refrigeration service, including parts and labor, to be furnished for one (1) year from date of acceptance.
   3. Serving line equipment, if applicable, to be provided with 5 year compressor warranty and 5 years on-site parts and labor warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Refrigeration Systems:
   1. Self-contained refrigerators: Shall be started by the Foodservice Equipment Contractor and shall be tested for maintenance of temperature. Fractional-horsepower compressors remotely installed within a fabricated closed base body fixture shall be located in a partitioned compartment fitted with a louvered door. The compressor shall be anchored to #14 gauge galvanized steel channels positioned 4-inches above the bottom of fixture body and fitted with sound absorbing isolation pads.

B. Millwork/Stainless Steel Fabrication: As specified by Advance Tabco.
   1. All fabricated items to meet NSF standards. All electrical wiring, connections, interconnections and assemblies to be UL listed.
   2. Stainless steel to be type 304, gauges as specified.
   3. Where galvanized metal is specified, it shall be copper bearing galvanized iron, Armco, Toncan, or equal. Material to be re-rolled for smoothness and used in the largest possible sizes with as few joints as necessary.
   4. Provide a bituminous sound deadening coating on internal surfaces of worktables, counters, sinks, and all items as specified.
   5. Furnish stainless steel legs with adjustable feet.
   6. Fabricate sheet material for work surfaces, facings, shelves and drainboards of straight lengths in one continuous sheet when less than 12 feet in length. Fit and attach integral sinks. Weld metal joints for lengths over 12 feet.

7. Weld and form edges, ends, and joints smooth. Grind welds of stainless steel smooth and flush. Polish to match adjacent surfaces.
8. Cut and drill components for service outlets and fixtures.
9. Fix leg mounted units by dowelling to floor with 1/4-inch steel pins, where vibration or oscillation is anticipated.
10. Shop assemble work where possible.
11. Bolt and screw to be countersunk at visible or accessible surfaces. Use concealed fastenings where possible.
12. Isolate rotating or reciprocating machinery to prevent noise and vibration.
13. Provide s/s hat channel underbracing and sound deading coating.
14. Provide all welded construction.
15. Unless specified differently, worktables to have 5" high backsplash with 2" return on a 45 degree angle. Sinks and dishtables to have 11" high backsplash with 2" return on a 45 degree angle.

C. Hardware and Casters:
1. All hardware shall be of a heavy duty type, satin finished chromium plated brass, cast or forged or hi-lighted stainless steel of uniform design. All hardware shall be a well-known brand, and shall be identified by the manufacturer's name and number for each replacement of broken or worn parts.
2. Casters on custom built equipment shall be heavy duty type, ball bearing, solid or disc wheel, with grease-proof rubber, neoprene, or polyurethane tire.
3. All casters shall have sealed wheel and swivel bearings, polished plated finish and be N.S.F. approved.

2.2 ITEMIZED EQUIPMENT SPECIFICATIONS

A. See Section 11 4000, Part 2 of 2 – Foodservice Equipment Specifications.

END OF SECTION, PART ONE

Specifications

6/1/2018

Project	From
First Step Homeless Center	JAX Design Group, Inc.
Daytona Beach, Florida	John Zerebny, FCSI
	3948 S. 3rd St. #305
Foodservice Equipment	Jacksonville Beach, FL 32250
Section 11 4000, Part 2 of 2	904-543-7670
	john@jaxdesigngroup.com

All bidders shall bid as specified. Include all relevant section costs. By submitting any bid, all bidders acknowledge receipt of and compliance with section 11 4000, Part 1 of 2, General Conditions.

ITEM 1 - AIR CURTAIN (1 REQ'D)

Mars Air Systems Model STD260-1UA-PW

Standard Series 2 Air Curtain, for 60" wide door, Unheated, 115v/60/1-ph, Pearl White powder coated cabinet (Standard Production Color)

- 1 ea 5 year warranty, standard
- 1 ea Options WITHOUT control panel
- 1 ea Options WITHOUT time delay
- 1 ea Model 99-014 Steel Mechanical Universal Surface-mounted Plunger/Roller Switch

---

ITEM 2 - CAN RACK (1 REQ'D)

New Age Model 1250CK

Can Storage Rack, mobile design with casters, sloped glides for automatic can retrieval, aluminum construction, holds 162-#10 or 216-#5 cans, (4) 6" plate casters, (2) swivel with brakes, (2) rigid, NSF, Made in USA

- 1 ea Lifetime warranty against rust & corrosion, 5 year construction warranty, standard

---

ITEM 3 - WIRE SHELVING (15 REQ'D)

Metro Model 2454NK3

Super Erecta® Shelf, wire, 54"W x 24"D, plastic split sleeves are included in each carton, Metroseal 3™ epoxy-coated corrosion-resistant finish with Microban® antimicrobial protection, NSF

- 10 ea Model 2448NK3 Super Erecta® Shelf, wire, 48"W x 24"D, plastic split sleeves are included in each carton, Metroseal 3™ epoxy-coated corrosion-resistant finish with Microban® antimicrobial protection, NSF
- 5 ea Model 1836NK3 Super Erecta® Shelf, wire, 36"W x 18"D, plastic split sleeves are included in each carton, Metroseal 3™ epoxy-coated corrosion-resistant finish with Microban® antimicrobial protection, NSF
- 24 ea Model 86PK3 Super Erecta® SiteSelect™ Post, 86-1/2"H, adjustable leveling bolt, posts are grooved at 1" increments & numbered at 2" increments, double grooved every 8", Metroseal 3 epoxy coated corrosion-resistant finish with Microban® antimicrobial protection

---

ITEM 4 - WALK IN COMBINATION COOLER FREEZER (1 REQ'D)

Thermo-Kool

Walk-in cooler freezer, 19'3' x 8'9" x 8'6" high, compartment sizing as per plan. Indoor installation. Floorless cooler section with U shaped vinyl floor track. Provide freezer interior ramp and aluminum diamondtread floor. Aluminum exposed exterior with aluminum interior. 36" x 78" doors, hinged as to plan, with aluminum diamondtread kickplates, 36" high on doors and door frame panels, interior and exterior. Provide matching angle trim to seal walk-in to finished building wall opening. Provide 2 each LED light fixtures, shipped loose for field installation, 1 in each compartment, by GC/EC. Shop drawing required.

Provide 10 year panel warranty, 5 year compressor warranties, and 1 year factory parts warranty. Installer to be a Licensed Mechanical Contractor, only, and provide a 1 year service labor warranty from the date of substantial completion.

ITEM 5 - EVAPORATOR (1 REQ'D)

Thermo-Kool

Cooler evaporator coil, model TKM-0900. 120/60/1, 3/4" IW

ITEM 6 - REMOTE CONDENSER UNIT (1 REQ'D)

Thermo-Kool

Cooler remote c/u, model MOH010X63. Pre-assembled, outdoor, hermetic, air-cooled. Provide weather cover and outdoor controls. 208/60/3.

ITEM 7 - EVAPORATOR (1 REQ'D)

Thermo-Kool

Freezer evaporator coil, model TKL-0751. 208/60/1, 3/4" IW

ITEM 8 - REMOTE CONDENSER UNIT (1 REQ'D)

Thermo-Kool

Freezer remote c/u, model MOZ025L63. Pre-assembled, outdoor, hermetic, air-cooled. Provide weather cover and outdoor controls. 208/60/3.

ITEM 9 - DUNNAGE RACK (2 REQ'D)

Metro Model HP2248PDMB

Metro Bow-Tie™ Dunnage Rack, 22" x 48" x 12"H, slotted, holds up to 3,000 lb., with separate polymer tie for joining racks, Microban® antimicrobial product protection, rust & corrosion proof polymer construction, NSF

ITEM 10 - WIRE SHELVING (4 REQ'D)

Metro Model 1430NK3

Super Erecta® Shelf, wire, 30"W x 14"D, plastic split sleeves are included in each carton, Metroseal 3™ epoxy-coated corrosion-resistant finish with Microban® antimicrobial protection, NSF

4 ea	Model 2436NK3 Super Erecta® Shelf, wire, 36"W x 24"D, plastic split sleeves are included in each carton, Metroseal 3™ epoxy-coated corrosion-resistant finish with Microban® antimicrobial protection, NSF
8 ea	Model 2448NK3 Super Erecta® Shelf, wire, 48"W x 24"D, plastic split sleeves are included in each carton, Metroseal 3™ epoxy-coated corrosion-resistant finish with Microban® antimicrobial protection, NSF
12 ea	Model 2454NK3 Super Erecta® Shelf, wire, 54"W x 24"D, plastic split sleeves are included in each carton, Metroseal 3™ epoxy-coated corrosion-resistant finish with Microban® antimicrobial protection, NSF
4 ea	Model 2442NK3 Super Erecta® Shelf, wire, 42"W x 24"D, plastic split sleeves are included in each carton, Metroseal 3™ epoxy-coated corrosion-resistant finish with Microban® antimicrobial protection, NSF
32 ea	Model 74PK3 Super Erecta® SiteSelect™ Post, 74-1/2"H, adjustable leveling bolt, posts are grooved at 1" increments & numbered at 2" increments, double grooved every 8", Metroseal 3 epoxy coated corrosion-resistant finish with Microban® antimicrobial protection

---

ITEM 11 - SPARE NO.

ITEM 12 - BY OTHERS

Fire extinguisher-By GC

ITEM 13 - WIRE SHELVING (4 REQ'D)

Metro Model 2448NK3

Super Erecta® Shelf, wire, 48"W x 24"D, plastic split sleeves are included in each carton, Metroseal 3™ epoxy-coated corrosion-resistant finish with Microban® antimicrobial protection, NSF

16 ea	Model 2436NK3 Super Erecta® Shelf, wire, 36"W x 24"D, plastic split sleeves are included in each carton, Metroseal 3™ epoxy-coated corrosion-resistant finish with Microban® antimicrobial protection, NSF
20 ea	Model 74UPK3 Super Erecta® SiteSelect™ Post, 73-7/8"H, for use with stem casters, Metroseal 3 epoxy coated corrosion-resistant finish with Microban® antimicrobial protection
10 ea	Model 6MP Super Erecta® Stem Caster, swivel, 6" diameter, 1-1/4" face, polyurethane wheel tread, with donut bumpers, 400 lb. capacity
10 ea	Model 6MPB Super Erecta® Stem Caster, brake (foot operated), 6" diameter, polyurethane wheel tread, with donut bumpers, 1-1/4" face, 400 lb. capacity, brakes are foot operated

---

ITEM 14 - OVERSHELF (1 REQ'D)

Advance Tabco Model PS-15-84

Shelf with Pot Rack, wall-mounted, 84"W x 15"D, 18/430 stainless steel shelf, 2" x 1/4" stainless steel pot rack, includes: (9) plated double pot hooks

---

ITEM 15 - THREE (3) COMPARTMENT SINK (1 REQ'D)

Advance Tabco Model 93-83-60-24RL

Regaline Sink, 3-compartment, with left & right-hand drainboards, 28" front-to-back x 20"W sink compartments, 12" deep, with 8"H backsplash, stainless steel open frame base, side crossrails, 24" drainboards, 1" adjustable bullet feet, 16 gauge 304 stainless steel, overall 35" F/B x 115" L/R, NSF

- 2 ea Model K-111 T&S Heavy Duty Faucet, 8" OC, splash mounted with 14" swing spout, lead free
- 3 ea Model K-5 Drain, twist operated, 2" NPT & 1-1/2" IPS outlet connections
- 3 ea Model K-4 Support Bracket, for lever waste drain handle, (1) support required for each lever drain
- 1 ea Model K-454 Side splash, integral (welded), for NSF sinks & dish tables, height matches backsplash height (specify side)-right side at wall
  Note: Provide shop drawing for review

ITEM 16 - SHELVING, WALL-MOUNTED (1 REQ'D)

Advance Tabco Model WS-12-48

Shelf, wall-mounted, 48"W x 12"D, 1-5/8" bullnose front edge, 1-1/2"H rear up-turn, 18/430 satin finish stainless steel, NSF

ITEM 17 - ONE (1) COMPARTMENT SINK (1 REQ'D)

Advance Tabco Model 93-81-20-18RL

Regaline Sink, 1-compartment, with left & right-hand drainboards, 28" front-to-back x 20"W sink compartment, 12" deep, with 8"H backsplash, stainless steel open frame base, side crossrails, 18" drainboards, 16 gauge 304 stainless steel, 1" adjustable bullet feet, overall 35" F/B x 58" L/R, NSF

- 1 ea Model K-112 Heavy Duty Faucet, 8" OC, splash mounted with 12" swing spout, lead free
- 1 ea Model K-5 Drain, twist operated, 2" NPT & 1-1/2" IPS outlet connections
- 1 ea Model K-4 Support Bracket, for lever waste drain handle, (1) support required for each lever drain
- 1 ea Model K-454 Side splash, integral (welded), for NSF sinks & dish tables, height matches backsplash height (specify side) Right side at wall

---

ITEM 18 - HAND SINK (3 REQ'D)

Advance Tabco Model 7-PS-64

Hand Sink, wall mounted, 14" wide x 10" front to back x 5" deep bowl, 20 gauge 304 stainless steel, with tubular support, splash mounted gooseneck faucet, basket drain, wall bracket

---

ITEM 19 - ENCLOSED HOSE REEL (1 REQ'D)

T&S Brass Model B-1433

Hose Reel Assembly, enclosed, 3/8" x 30 ft. hose , wall mount mixing faucet with 8" adjustable centers, quarter-turn Eterna compression cartridges with spring checks, lever handles with color coded indexes, EasyInstall 16" & rigid 40" risers (with control valve between risers), continuous pressure vacuum breaker, 3/8" NPT x 36" flexible water hose connector with stainless steel quick disconnect, high flow blue spray valve (EB-0107), with ratcheting system & adjustable hose bumper, (2) 3/8" wall brackets (B-0109-07), epoxy coated metal hose reel, polished chrome-plated brass faucet body, 1/2" NPT female inlets

1 ea Model B-7243-C05 Provide 50' of 1/2" ID hose with front trigger spray

---

ITEM 20,21 - SPARE NO.

ITEM 22 - SHELVING, WALL-MOUNTED (1 REQ'D)

Advance Tabco Model WS-12-48

Shelf, wall-mounted, 48"W x 12"D, 1-5/8" bullnose front edge, 1-1/2"H rear up-turn, 18/430 satin finish stainless steel, NSF

ITEM 23 - DISHTABLE, CLEAN "L" SHAPED (1 REQ'D)

Advance Tabco Model DTC-K70-84L

Korner Clean Dishtable, L-shaped, right-to-left, 10-1/2" backsplash, 3" rolled front & side rims, stainless steel legs, with crossrails, 83" long, 16 gauge 304 stainless steel

1 ea SPECIFY DISH MACHINE BRAND & MODEL to ensure proper fit, refer to attached document (AQ only) or consult www.advancetabco.com for compatibility listing. Certain dish machines require modifications at additional cost not shown here

1 ea Model DTA-46 Inside mitered corner

1 ea Model MOD Modify with back corner rack glide to allow rack movement around corner of dishtable

1 ea Model DTA-SS-42 Dishtable Undershelf, 42"W x 24"D, adjustable die cast leg clamps, stainless steel (size undershelf to be at least 6" shorter than dishtable)

1 ft Model TA-9 Rear splash, 1-1/2" high, for undershelves, (per linear foot)

1 ea Model DTA-75 Provision for limit switch (limit switch by others)

Note: As per specifications, field dimension fit

Note: Provide shop drawing for review

ITEM 24 - FUTURE ITEM

Electric water booster heater for dishwasher. Not part of bid. May be needed if specified dishwasher is not purchased

---

ITEM 25 - DISHWASHER, CONVEYOR TYPE (1 REQ'D)

Hobart Model CL44EN-BAS+BUILDUP

Conveyor Dishwasher, single tank, (202) racks/hour, insulated hinged doors, .62 gallon/rack, stainless steel enclosure panels, microprocessor controls with low temperature & dirty water indicators, ENERGY STAR®

- 1 ea Standard warranty - 1-Year parts, labor & travel time during normal working hours within the USA
- 1 ea Model CL44EN-BASELE0AX 208v/60/3-ph, electric heat only
- 1 ea Model CL44EN-BASHTE15K Electric tank heat 15kW
- 1 ea Model CL44EN-BASERH30K 30kW electric booster
- 1 ea Model CL44EN-BASDIR0RL Right to left operation
- 1 ea Model CL44EN-BASHGTSTD Standard height
- 1 ea Model CL44EN-BASFETSTD Standard feet
- 1 ea NOTE: For water over 3-grains of hardness, Hobart suggests adding a water softener.
- 1 ea Model 1/2INSHK-ABSRBR Water Shock Absorber Kit (Unit w/o booster also needs PRESREG-1/20BR)
- 1 ea Model CLE/TBL-SWITCH Table LMT switch CLE-Series

ITEM 26 - CONDENSATE EXHAUST HOOD (1 REQ'D)

Captive-Aire

Model 4830 VHG-G. 9'0" long x 48" deep x 30" high. Provide field wrapper to seal top of hood to finished building ceiling. Provide on/off switch on face of hood. Fan, ducts and all installation is by GC/Mechanical Contractor. Provide shop drawing for review.

ITEM 27 - DISPOSER (1 REQ'D)

Salvajor Model 300-SA-6-MRSS

Disposer, Sink Assembly, 6-1/2" sink collar, 3 Hp motor, start/stop push button manual reversing MRSS control, includes fixed nozzle, chrome plated vacuum breaker, solenoid valve, sink stopper & flow control, heat treated aluminum alloy housing, single support leg, UL, CSA, CE (**Effective 6-1-17 all MRSS control panel dimensions will be 9-1/4" x 10-1/4" x 5-7/16"**)

- 1 ea 208v/60/3-ph, 8.8 amps

ITEM 28 - SOILED DISHTABLE (1 REQ'D)

Advance Tabco Model DTS-K70-144R

Korner-Soil Dishtable, L-shaped, right-to-left, 10-1/2"H backsplash, with pre-rinse sink, stainless steel legs, with crossrails, 143" long, 16/304 stainless steel

- 1 ea SPECIFY DISH MACHINE BRAND & MODEL to ensure proper fit, refer to attached document (AQ only) or consult www.advancetabco.com for compatibility listing. Certain dish machines require modifications at additional cost not shown here
- 1 ea Model K-508 Modification to reduce length, start with next largest size then add "K-508" to model number for sinks & dish tables- As per specifications, field dimension length, likely 11'8" or less
- 1 ea Model K-508 Modification to reduce length, start with next largest size then add "K-508" to model number for sinks & dish tables- reduce short side to 36". Field dimension to ensure fit
- 1 ea Model K-454 Side splash, integral (welded), for NSF sinks & dish tables, height matches backsplash height (specify side)- Right end against wall
- 1 ea Model K-495 Turn Down Backsplash (includes wall clips). Field dimension and turn down backsplash, as required, to clear pass-thru shelf and roll-down door, items 64 & 65.
- 1 ea Model DTA-60 Pre-Rinse Slide Bar, for 20"W x 20"D fabricated sink bowls
- 12 ft Model DTA-67 Provide stainless steel rear cross bracing (factory installation only) (per linear foot)
- 1 ea Model K-461 Install collar, with 8" x 12" control bracket

2 ea	Model K-37 Anti-Siphon vacuum breaker holes
1 ea	Model K-116 T&S Heavy Duty Pre-Rinse Faucet, 8" OC, splash mounted, includes: spray valve & hose, riser, wall bracket, overhead spring, lead free
5 ft	Model K-550 Tubular rack storage, stainless steel, under drainboards (per linear foot)
	Note: As per specifications, field dimension to ensure fit
	Note: Provide shop drawing for review

ITEM 29 - SPARE NO.

ITEM 30,31 - ICE CUBER (1 REQ'D)

Hoshizaki Model KM-600MAH

Ice Maker, Cube-Style, 22"W, air-cooled, self-contained condenser, production capacity up to 592 lb/24 hours at 70°/50° (503 lb AHRI certified at 90°/70°), stainless steel finish, crescent cube style, R-404A refrigerant, 115-120v/60/1-ph, 12.0 amps, NSF, UL

1 ea	Warranty: 3-Year parts & labor on entire machine
1 ea	Warranty: 5-Year parts & labor on evaporator
1 ea	Warranty: 5-Year parts on compressor & air-cooled condenser
1 ea	Model B-700PF Ice Bin, 44"W, top-hinged front-opening door, 700-lb ice storage capacity, for top-mounted ice makers, vinyl clad, painted legs included, protected with H-GUARD Plus Antimicrobial Agent, ETL, ETL-Sanitation
1 ea	Warranty: 3-Year parts & labor for bin
1 ea	Model HS-2035 Top Kit, 22", ABS
1 ea	Model H9320-52 Water Filtration System, twin configuration, 19.11" H (manifold & cartridge)
1 ea	Warranty: 1-Year on entire water filtration system & replaceable elements, standard
1 pk	Model H9655-06 Replacement Water Filter Cartridge (6 pack)

ITEM 32 - FLOOR TROUGH (1 REQ'D)

Advance Tabco Model FFTG-1236

Floor Trough, 36"W x 12"D x 4" deep, with fiberglass grating, stainless steel removable strainer basket, 4" O.D. waste pipe 3"L, pitched towards waste

---

ITEM 33 - UTILITY / BUSSING CART (1 REQ'D)

Metro Model MY2636-35BL

myCart™ Series Utility Cart, (3) shelves, open base, 40-1/4"D x 27-11/16"W x 36-7/8"H, heavy duty plastic shelf, with (4) swivel/resilient tread casters, 3-shelf cart has a 500 lb. capacity per unit, black, NSF

ITEM 34 - PLANETARY MIXER (1 REQ'D)

Hobart Model N50-60

100-120/60/1 Mixer with bowl, aluminum beater, whip, & dough arm; US/EXP configuration
Mixer, Planetary, Bench, 5 quart, (3) fixed speeds, gear-driven transmission, #10 taper attachment hub, manual bowl lift, Hobart Gray enamel housing, stainless steel bowl, alum "B" beater, stainless steel "D" wire whip, alum dough hook, 1/6 hp, cord with plug

- 1 ea Standard warranty: 1-Year parts, labor & travel time during normal working hours within the USA

ITEM 35 - WORK TABLE, STAINLESS STEEL TOP (2 REQ'D)

Advance Tabco Model MS-364

Work Table, 48"W x 36"D, 16 gauge 304 stainless steel top, 18 gauge stainless steel adjustable undershelf, stainless steel legs & adjustable bullet feet, NSF

- 2 st Model TA-25S-4 Casters, 5" diameter, set of 4 (2 with brakes) with stainless steel legs for standard working height of 35-1/2"
- 2 ea Model SS-2020 Deluxe Drawer, 20"W x 20"D x 5" deep drawer pan insert, stainless steel, with drawer slides
- 2 ea Model OTS-12-48 Overshelf, table mounted, single, 48"W x 12"D, 18 gauge 430 stainless steel (non-adjustable, old style)
- 2 ea Rear of table shelf location, 1" back splash is provided on table with splash

---

ITEM 36 - FOOD PROCESSOR (1 REQ'D)

Robot Coupe Model R2N

Commercial Food Processor, 2.9 liter gray polycarbonate bowl with handle, vegetable prep attachment with external ejection, kidney-shaped opening, includes: (1) "S" blade (27055), (1) 2mm grating disc (27577), (1) 4mm slicing disc (27566), continuous feed, bowl attachment designed for vertical cutting & mixing, on/off & pulse switch, single speed, 1725 RPM, 120v/60/1-ph, 7 amps, 1 HP, NEMA 5-15P, cETLus, ETL-Sanitation

- 1 ea 1 year parts & labor warranty
- 1 ea 3 year motor warranty

ITEM 37 - WORK TABLE, STAINLESS STEEL TOP (1 REQ'D)

Advance Tabco Model TMS-366

Work Table, 72"W x 36"D, 16 gauge 304 stainless steel top, stainless steel legs with side & rear crossrails, adjustable stainless steel bullet feet, NSF

- 1 st Model TA-25 Casters, 5", swivel, with rubber wheels (set of 4) (2 with brakes)
- 1 ea Model SS-2020 Deluxe Drawer, 20"W x 20"D x 5" deep drawer pan insert, stainless steel, with drawer slides
- 1 ea 12" wide
- 1 ea Model TA-229 Rear mounting provision
- 1 ea Model PT-12R-72 Overshelf, table mounted, single, 72"W x 12"D, stainless steel, uprights of shelf, rear mounted
- 1 ea Rear mount
- 1 ea Model TA-229 Rear mounting provision
- 1 ea Model SWT-72 Pot Rack, table mounted, rear or splash-mounted, semi-circular design, 72" long, stainless steel, includes: (18) plated pot hooks & (1) AUR-72 utensil rack

---

ITEM 38 - WORK TABLE, STAINLESS STEEL TOP (1 REQ'D)

Advance Tabco Model MS-366

Work Table, 72"W x 36"D, 16 gauge 304 stainless steel top, 18 gauge stainless steel adjustable undershelf, stainless steel legs & adjustable bullet feet, NSF

- 1 st Model TA-25S-4 Casters, 5" diameter, set of 4 (2 with brakes) with stainless steel legs for standard working height of 35-1/2"
- 1 ea Model SS-2020 Deluxe Drawer, 20"W x 20"D x 5" deep drawer pan insert, stainless steel, with drawer slides

1 ea 12" wide
1 ea Model TA-229 Rear mounting provision
1 ea Model PT-12R-72 Overshelf, table mounted, single, 72"W x 12"D, stainless steel, uprights of shelf, rear mounted
1 ea Rear mount
1 ea Model TA-229 Rear mounting provision
1 ea Model SWT-72 Pot Rack, table mounted, rear or splash-mounted, semi-circular design, 72" long, stainless steel, includes: (18) plated pot hooks & (1) AUR-72 utensil rack

---

ITEM 39 - INGREDIENT BIN (2 REQ'D)

Cambro Model IBS27148

Ingredient Bin, mobile, 27 gallon capacity, 1-pc seamless polyethylene bin, 2-pc sliding polycarbonate lid, S-hook on front (scoop NOT included), (4) 3" heavy duty casters (2 front swivel, 2 fixed), white with clear cover, NSF

ITEM 40 - SPARE NO.

ITEM 41 - RANGE, 72", 6 OPEN BURNERS, 36" GRIDDLE (1 REQ'D)

American Range Model AR36G-6B

Heavy Duty Restaurant Range, gas, 72", (6) 32,000 BTU open burners, (1) 36" griddle, 5/8" thick plate, manual controls, (2) 26-1/2" ovens with one rack each, stainless steel front, sides & high shelf, 6" chrome plated legs, 52.0 kW, 322,000 BTU, ETL-Sanitation, NSF, Made in USA

1 ea Standard one year limited warranty on parts & labor
1 ea Specify Gas Type
1 ea Thermostat for 36" griddle
1 ea (2) 26-1/2" standard ovens, standard
1 st Model A35115 Plate Casters, 6", heavy duty, set of 6
1 ea Dormont Model 1675KITS48PS Dormont Blue Hose™ Moveable Gas Connector Kit, 3/4" inside dia., 48" long, covered with stainless steel braid, coated with blue antimicrobial PVC, 1 SnapFast® QD, 1 Swivel MAX®, 1 full port valve, 1 elbow, 1 pair Safety Set® with adhesive foam tape and hardware mounting options, limited lifetime warranty

---

ITEM 42 - STEAMER, CONVECTION, BOILERLESS, COUNTERTOP (1 REQ'D)

Cleveland Range Model 22CET6.1

SteamChef™ 6 Convection Steamer, electric, boilerless, countertop, 1 compartment, (6) full size pan capacity, SureCook controls, 60-minute electro-mechanical timer & manual (continuous steaming) bypass switch, left-hand hinged door, controls on right, automatic drain & water level controls, KleanShield™ interior, standard treated & tap water connection, stainless steel exterior, 4" adjustable legs, ENERGY STAR®

1 ea 1-year parts & labor warranty, standard
1 ea 3 year Convection Steamer Door Warranty, standard
1 ea Performance start-up included at customer request after equipment is installed (Free Water Quality Check included) (contact Cleveland Sales Representative for details)
1 ea (VOS1) 208-240v/60/3-ph, 10.7-14.3 kW, 29.8-34.4 amps, 3-wire, standard
1 ea Model QTI1-CR Optipure Water Treatment System, dual-cartridge, reduces sediments over 0.5 microns, reduces chlorine, includes (1) CTOS-Q10 Catalytic Carbon Filter & (1) CTOS-QCR activated carbon filter
1 ea Second year limited warranty on water related parts only when purchasing a steamer and filter from Cleveland. Must include a completed Performance Start-Up (See Cleveland

warranty statement for details)

1 ea Model CTOS-QCR Optipure CTOS-QCR Water Treatment Cartridge, catalytic carbon filter, for CTI1-CR

1 ea Model UNISTAND34 (P/N 111721) Equipment Stand, 34" H, stainless steel

---

ITEM 43 - FLOOR TROUGH (1 REQ'D)

Advance Tabco Model FFTG-1830

Floor Trough, 30"W x 18"D x 4" deep, with fiberglass grating, stainless steel removable strainer basket, 4" O.D. waste pipe 3"L, pitched towards waste

5 ft Model FT-1 Anti-Splash Guard, factory installed (per linear foot)

ITEM 44 - TILTING SKILLET BRAISING PAN, GAS (1 REQ'D)

Cleveland Range Model SGL30T1

PowerPan™ Tilting Skillet, gas, 30-gallon capacity, bead blasted cooking surface, 10º tilt cooking feature, with easy manual hand tilt, spring-assisted cover with vent, gallon & liter markings, food strainer, stainless steel construction with open leg frame, CE, NSF, 125,000 BTU

1 ea 1-year parts & labor warranty, standard

1 ea Performance start-up included at customer request after equipment is installed (Free Water Quality Check included) (contact Cleveland Sales Representative for details)

1 ea Gas type to be specified

1 ea 120v/60/1-ph, 1.4 amp, standard

1 ea Model DPK13 Double Pantry Faucet, with 3/4" swing spout & mounting bracket, for T1 skillets, mounts on right side of unit (add 4.5" to width) (for SEL/SGL models)

1 st Model CS-T1 Casters Set, 2 locking, 2 swivel

1 ea Dormont Model 1675KITS48PS Dormont Blue Hose™ Moveable Gas Connector Kit, 3/4" inside dia., 48" long, covered with stainless steel braid, coated with blue antimicrobial PVC, 1 SnapFast® QD, 1 Swivel MAX®, 1 full port valve, 1 elbow, 1 pair Safety Set® with adhesive foam tape and hardware mounting options, limited lifetime warranty

2 ea Dormont Model 73-3134-48 Dormont Swirl Hose Assembly, 1/2" inside dia., 48" long, 1/2" male adapter x 1/2" male elbow

---

ITEM 45 - CONVECTION OVEN, GAS (1 REQ'D)

American Range Model M-2

Convection Oven, gas, double-deck, bakery depth, manual controls, temperature range 150° F - 500° F, one hour timer, 2-speed fans, porcelain liners, 50/50 solid doors, stainless steel front, sides, top and stacking kit with casters (2 locking), 52.0 kW, 180,000 BTU, ETL, CE, Made in USA

1 ea Standard one year limited warranty on parts & labor

1 ea Specify Gas Type

1 ea Model A23059 One Point Gas Connection, for double stacked ovens

1 ea 120v/60/1-ph, standard

1 ea Model A37800 Stacking Kit, for double oven, with casters

1 ea Dormont Model 1675KITS48PS Dormont Blue Hose™ Moveable Gas Connector Kit, 3/4" inside dia., 48" long, covered with stainless steel braid, coated with blue antimicrobial PVC, 1 SnapFast® QD, 1 Swivel MAX®, 1 full port valve, 1 elbow, 1 pair Safety Set® with adhesive foam tape and hardware mounting options, limited lifetime warranty

---

ITEM 46 - WALL FLASHING (1 REQ'D)

Captive-Aire

S/S wall flashing, installed. Flashing to extend from bottom of exhaust hood to top of flooring cove base, length of exhaust hood and fire suppression system cabinet.

ITEM 47 - EXHAUST HOOD (1 REQ'D)

Captive-Aire

Model 6630-ND-2-ACPSP-F. Overall depth 90", including 3" back standoff and 24" front mounted acpsp plenum X 17'0" overall length, including 12" fire suppression system cabinet X 30" high. Provide field wrapper to seal top of hood to finished building ceiling, Captrate solo filters, left and right vertical end panels. Provide all items, options and accessories as per drawing 3344816. Provide shop drawing for review.

ITEM 48 - BY OTHERS

Exhaust fans- By GC/Mechanical Contractor

ITEM 49 - FIRE SUPPRESSION SYSTEM (1 REQ'D)

Captive-Aire

Ansul R-102, housed in utility cabinet on right end of exhaust hood. Provide manual gas valve and remote pull station, verify location. Provide shop drawing for review.

ITEM 50 - REFRIGERATOR RACK, ROLL-IN (2 REQ'D)

New Age Model 1336

Roll-In Refrigerator/Proofer Rack, universal, open frame design, 64"H, wide angle slides for (11) 18" x 26" pans, slides on approximately 5" centers, all welded aluminum construction, end loading, (4) 5" platform casters, (2) swivel, (2) swivel with brakes, NSF, Made in USA

2 ea Lifetime warranty against rust & corrosion, 5 year construction warranty, standard

2 ea Model B Corner Bumpers, non-marking gray rubber, set of 4 (available on full frame units only)

ITEM 51,52 - SPARE NO.

ITEM 53 - MOBILE PLATE AND DISH DISPENSER (2 REQ'D)

Lakeside Manufacturing Model 774

Adjust-a-Fit® Dish Dispenser, non-heated, open tubular frame, mobile, (2) self-leveling dish dispensing tubes, Easy-Glide™ design, maximum dish size 12" diameter, stainless steel construction, 4" swivel casters (2) with brakes, NSF, UL, Made in USA

2 ea Round corner bumpers

ITEM 54 - SERVING COUNTER, HOT FOOD, ELECTRIC (2 REQ'D)

Delfield Model SH-4-NU

Shelleysteel™ Hot Food Serving Counter, Electric, 4-pan capacity, 14-gauge stainless steel top, 18-gauge stainless steel exterior, 14-gauge galvanized bottom, enclosed base with no under storage, 5" swivel casters, 1/2" drain(s) for hot food wells plumbed to common valve

- 2 ea NOTE: Freight quotes are only valid from Delfield
- 2 ea 1 year parts & labor warranty, standard
- 2 ea 36" standard height
- 2 ea 120/208-230v/60/1-ph, 22.0 amps, 4000/4800watts, NEMA 14-30P, standard
- 2 ea Model E-60 Work Shelf, 10" fold-down, stainless steel
- 2 ea Model G-60 Glass front counter protector

ITEM 55 - SERVING COUNTER, UTILITY (2 REQ'D)

Delfield Model SC-60-NU

Shelleysteel™ Solid Top Serving Counter, 60" long, 14 gauge stainless steel counter top, enclosed base, 5" swivel casters, NSF

- 2 ea NOTE: Freight quotes are only valid from Delfield
- 2 ea Model 0460000N 1 year parts & labor warranty, standard
- 2 ea Model E-60 Work Shelf, 10" fold-down, stainless steel
- 2 ea Model G-60 Glass front counter protector

ITEM 56 - PASS-THRU REFRIGERATOR (1 REQ'D)

True Manufacturing Co., Inc. Model STG1RPT-1S-1S-HC

SPEC SERIES® Pass-thru Refrigerator, one-section, stainless steel front, aluminum sides, (1) stainless steel door front & rear with locks, cam-lift hinges, digital temperature control, aluminum interior, (3) gray shelves, LED interior lights, 5" castors, R290 Hydrocarbon refrigerant, 1/4 HP, 115v/60/1, 3.8 amps, NEMA 5-15P, MADE IN USA

- 1 ea Warranty - 3 year parts and labor, please visit www.Truemfg.com for specifics
- 1 ea Warranty - 5 year compressor (self-contained only), please visit www.Truemfg.com for specifics
- 1 ea Thermometer side: Door hinged on right standard
- 1 ea Rear: Door hinged on right standard
- 1 ea Spec Kit #3 - (6) sets of universal type tray slides (specify for left, center or right section)
- 1 st 5" castors, set of 4, standard

ITEM 57 - PASS-THRU HEATED CABINET (1 REQ'D)

True Manufacturing Co., Inc. Model STG1HPT-1S-1S

SPEC SERIES® Pass-thru Heated Cabinet, one-section, stainless steel front, aluminum sides, (1) stainless steel door front & rear with locks, cam-lift hinges, digital temperature control, aluminum interior, (3) chrome shelves, 5" castors, 1.5KW, NEMA 6-15P, 208-230v/60/1, MADE IN USA

- 1 ea Warranty - 3 year parts and labor, please visit www.truemfg.com for specifics
- 1 ea Thermometer side: Door hinged on right standard
- 1 ea Rear: Door hinged on right standard
- 1 ea (3) chrome shelves and shelf supports standard per section
- 1 ea Spec Kit #3 - (6) sets of universal type tray slides (specify for left, center or right section)
- 1 st 5" castors, set of 4, standard

ITEM 58 - BY OTHERS

Coffee brewer- By Vendor

ITEM 59 - BY OTHERS

Ice tea brewer- By Others

ITEM 60 - SPARE NO.

ITEM 61 - WORK TABLE, STAINLESS STEEL TOP (1 REQ'D)

Advance Tabco Model KMS-304

Work Table, 48"W x 30"D, 16 gauge 304 stainless steel top with 5"H backsplash, 18 gauge stainless steel adjustable undershelf, stainless steel legs & adjustable bullet feet, NSF

1 st	Model TA-25 Casters, 5", swivel, with rubber wheels (set of 4) (2 with brakes)
1 ea	Model SS-2020 Deluxe Drawer, 20"W x 20"D x 5" deep drawer pan insert, stainless steel, with drawer slides

---

ITEM 62 - DUNNAGE RACK (2 REQ'D)

Metro Model HP2248PDMB

Metro Bow-Tie™ Dunnage Rack, 22" x 48" x 12"H, slotted, holds up to 3,000 lb., with separate polymer tie for joining racks, Microban® antimicrobial product protection, rust & corrosion proof polymer construction, NSF

ITEM 63 - LOCKER (2 REQ'D)

Winholt Equipment Model WL-6

Locker, Double Tier, 3 columns, 2 lockers per column, 12" x 12" x 36" compartment, doors are mesh grid vented, beige

2 ea	Model WLST-12 Slope top crown kit, 12"D, fits 3 columns wide, includes: 3 slope tops, 3-back supports, 2 end pieces, beige

---

ITEM 64 - BY OTHERS

Pass-thru shelf, 3 each- By GC

ITEM 65 - BY OTHERS

Roll-down door, 3 each- By GC

ITEM 66 - BY OTHERS

Millwork beverage/condiment counter- By GC

ITEM 67 - BY OTHERS

Coffee & ice tea dispensers- By Vendor

ITEM 68 - ICE & WATER DISPENSER (2 REQ'D)

Hoshizaki Model DCM-751BAH

Ice Maker/Water Dispenser, Cubelet-Style, air-cooled, self-contained condenser, production capacity up to 801 lb/24 hours at 70°/50° (583 lb AHRI certified at 90°/70°), 95 lb built-in storage capacity, counter model, push button operation, stainless steel bin & exterior, protected with H-GUARD Plus Antimicrobial Agent, R-404A refrigerant, 115v/60/1-ph, 7.3 amps, supplied without legs (optional stand sold separately), NSF, UL

2 ea	Warranty: 3-Year parts & labor on entire machine
2 ea	Warranty: 5-Year parts on compressor, air-cooled condenser
2 ea	Model SD-750 Equipment Stand, 34"W, for icemaker/dispensers, cabinet base with locking doors, stainless steel, corrosion resistant exterior, with flat top, with painted flanged legs, for use with Model #DCM-751 (-OS), ETL-Sanitation (Replaces SD-700)
2 ea	Model H9320-51 Water Filtration System, single configuration, 18.4" H (manifold & cartridge)
2 pk	Model H9655-06 Replacement Water Filter Cartridge (6 pack)

ITEM 69 - BY OTHERS

Millwork beverage/condiment counter- By GC

ITEM 70 - BY OTHERS

Mopsink & mop hanger- By GC

SECTION 31 3116
TERMITE CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Chemical soil treatment.

1.02 REFERENCE STANDARDS

A. Title 7, United States Code, 136 through 136y - Federal Insecticide, Fungicide and Rodenticide Act; 1947 (Revised 2001).

1.03 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing this type of work and:
   1. Having minimum of three (3) years documented experience.
   2. Approved by manufacturer of treatment materials.
   3. Licensed in Florida.

1.04 REGULATORY REQUIREMENTS

A. Conform to applicable code for requirements for application, and comply with EPA regulations.

B. Provide certificate of compliance from authority having jurisdiction indicating approval of toxicants.

1.05 SEQUENCING

A. Apply toxicant immediately prior to installation of vapor barrier under slabs-on-grade.

1.06 WARRANTY

A. See Section 01 7000 - Project Closeout for additional warranty requirements.

B. Provide five year installer's warranty against damage to building caused by termites.
   1. Include coverage for repairs to building and to contents damaged due to building damage. Repair damage and, if required, re-treat.

PART 2 PRODUCTS

2.01 CHEMICAL SOIL TREATMENT

A. Toxicant Chemical: EPA (Title 7, United States Code, 136 through 136y) approved; synthetically color dyed to permit visual identification of treated soil.

B. Manufacturers:
   1. Syngenta Professional Products; Product DemonMax: or equal www.syngentaprofessionalproducts.com.
   2. Substitutions: See Section 01 6000 - Product Requirements.

C. Toxicant Chemical: EPA approved; synthetically color dyed to permit visual identification of treated soil.

2.02 MIXES

A. Mix toxicant to manufacturer's instructions.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that soil surfaces are sufficiently dry to absorb toxicant, and ready to receive treatment.

B. Verify final grading is complete.

3.02 APPLICATION - CHEMICAL TREATMENT

A. Comply with requirements of U.S. EPA and applicable state and local codes.

B. Spray apply toxicant in accordance with manufacturer's instructions.

C. Apply extra treatment to structure penetration surfaces such as pipe or ducts, and soil penetrations such as grounding rods or posts.

D. Re-treat disturbed treated soil with same toxicant as original treatment.

E. If inspection or testing identifies the presence of termites, re-treat soil and re-test.

3.03 PROTECTION

A. Do not permit soil grading over treated work.

END OF SECTION