

HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS
*Purchasing Division and
Engineering Department*

INVITATION TO BID

18-011

Construction of the Highlands Park Estates Clubhouse
Highlands County Project No. 12056

JANUARY 2018



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**HIGHLANDS COUNTY BOARD OF
COUNTY COMMISSIONERS**
*Purchasing Division and
Engineering Department*

**DIVISION 0 - SECTION 00010
INVITATION TO BID (“ITB”)
ITB 18-011**

The Board of County Commissioners (“Board”) of Highlands County, Florida (“County”) will receive sealed Bids in the Highlands County Purchasing Division (“Purchasing Division”) for:

**ITB NO. 18-011 Construction of the Highlands Park Estates Clubhouse
Highlands County Project No. 12056**

Specifications may be obtained by downloading from our website: www.hbcc.net, or by contacting: Jamee Soto, Buyer I, 600 S. Commerce Ave., Sebring, Florida 33870, Phone: 863-402-6526; Fax: 863-402-6735; or E Mail: jasoto@hbcc.org.

A MANDATORY PRE-BID meeting will be held at 10:00 A.M. on Tuesday; January 30, 2018, in the County Engineering Training Room, 505 S. Commerce Ave., Sebring, Florida 33870.

The purpose of this meeting is to provide a forum where the Bidders can further familiarize themselves with the Specifications of the ITB. The County will only accept Bid submittals from Bidders that are represented during the entire pre-bid meeting and are signed in on the sign-in sheet as primary Bidders. The public is invited to attend this meeting. Arrival after the meeting is called to order will be noted on the sign-in sheet, and Bids will not be accepted from Bidders that arrived late.

Each submittal shall include one (1) original, one (1) exact paper copy and one (1) exact electronic copy (CD or thumb drive) of the Bid submission packet.

BIDS MUST BE DELIVERED to the Purchasing Division, 600 S. Commerce Ave., Sebring, FL 33870, to reach that office no later than **11:00 A.M., Thursday; February 15, 2018**, at which time they will be opened. The public is invited to attend this meeting. Bid envelopes must be sealed and marked with the ITB number and name to identify the enclosed Bid. Bids received later than the date and time specified will be rejected. The County will not be responsible for the late deliveries of Bids that are incorrectly addressed, delivered in person, by mail or any other type of delivery service.

One or more County Commissioners may be in attendance at the Bid opening and the Pre-Bid meeting.

The Board’s Local Preference Policy (“Local Preference Policy”) and Women/Minority Business Enterprise Policy (“W/MBE Polity”) will apply to the award of this ITB.

The County reserves the right to accept or reject any or all Bids or any parts thereof, and the determination of this Award, if an Award is made, will be made to the most responsive and responsible Bidder whose Bid and qualifications indicate that the Award will be in the best interest of the County. The County reserves the right to waive irregularities in the Bid.

A Bidder must submit a Bid on all Work to receive consideration. A Bid Bond or Cashier's Check in an amount of five percent (5%) of the Bid must be included on Bids over one hundred thousand dollars (\$100,000.00). If the successful Bid is greater than two hundred thousand dollars (\$200,000.00), a Public Construction Bond will be required. An Irrevocable Letter of Credit may be considered in lieu of the Public Construction Bond depending on its verbiage. The Bidder must be a Licensed General Contractor in the State of Florida. The Bid must be accompanied by evidence of the Bidder's qualifications to do business in the State of Florida, in accordance with Chapter 489, Florida Statutes.

The principal features of the Project are:

All work shown on the drawings and included in the Specifications. Generally, this includes all necessary mobilization, demolition and construction to build a new building including site work as noted on the drawings.

The Board does not discriminate upon the basis of any individual's disability status. This non-discrimination policy involves every aspect of the Board's functions, including one's access to, participation, employment or treatment in its programs or activities. Anyone requiring reasonable accommodation as provided for in the Americans with Disabilities Act or Section 286.26, Florida Statutes, should contact Ms. Pamela Rogers, ADA Coordinator at: 863-402-6842 (Voice), or via Florida Relay Service 711, or by e-mail: progers@hcbcc.org. Requests for CART or interpreter services should be made at least 24 hours in advance to permit coordination of the service.

Board of County Commissioners, Highlands County, FL

www.hcbcc.net

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DIVISION 0 - SECTION 00100
INSTRUCTIONS TO BIDDERS
ITB 18-011

Article 1 - Defined terms

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated below and in Section 00700 of this ITB which are applicable to both the singular and plural thereof:
- A. Alternative – Amount proposed by Bidder and stated on the Bid Form that will be added to or deducted from the base Bid amount if Engineer decides to accept a corresponding change in either Scope of Work or in products, materials, equipment, systems or installation methods described in Construction Documents.
 - B. Award – The selection by the County of the lowest responsible and responsive Bidder to perform the Work.
 - C. Bid – The Bid Form and other documents submitted by a Bidder in response to this ITB.
 - D. Bidder - The individual or entity who submits a Bid directly to the County.
 - E. Bid Form – Section 00300 of this ITB, which shall be used to submit a Bid.
 - F. Bidding Documents – This ITB, all Addenda to this ITB, and the Construction Documents.
 - G. Board – County’s Board of County Commissioners.
 - H. Construction Documents – The construction Drawings and Specifications for the CONSTRUCTION OF THE HIGHLANDS PARK ESTATES CLUBHOUSE HIGHLANDS COUNTY PROJECT NO. 12056.
 - I. County Attorney – The County’s County Attorney.
 - J. County Engineer – The County’s County Engineer.
 - K. County or Owner –Highlands County, a political subdivision of the State of Florida.
 - L. Engineer – The Engineer of Record.
 - M. Project Manager – The County Project Manager
 - N. Purchasing Division - The County’s Purchasing Division, which issues Bidding Documents and administers the bidding procedures.
 - O. Sites – The Sites described and depicted in the Construction Documents.
 - P. Work – The Work described and depicted in the Construction Documents.

Article 2 - Copies of Bidding Documents

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement or this ITB may be obtained from the Purchasing Division.

- 2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Project Manager assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 Owner and Project Manager in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

Article 3 - Qualifications of Bidders

- 3.01 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit detailed written evidence with the Bid Form as follows:
 - A. A list of a minimum of five (5) jobs that the Bidder has performed within the past three (3) years which are of equal magnitude and complexity as the type of work to be done for the Owner. The list should include the name of the entity, complete address, name, phone number, fax, and email of a responsible individual qualified to respond to questions concerning the Bidder's abilities, costs, schedules, etc. Prior successful, on-time accomplishment of such equal work will be a consideration in determining whether the Bidder is qualified to perform the Work.
 - B. Supervisory and staffing capabilities with resumes of the supervisory personnel and planned for the Work, and the number and classification of personnel required per shift.
 - C. List of equipment available for use on this Project. Identify if equipment is owned or leased.
 - D. A minimum of five (5) references of clients for whom similar work has been performed.
 - E. Each Bid must contain evidence of Bidder's qualification to do business in the State of Florida, in accordance with Chapter 489, Florida Statutes. (Copies of Licenses and Certificates)
- 3.02 In addition, to demonstrate Bidder's qualifications to perform the Work, within ten (10) days and prior to Notice of Award, Bidder shall submit detailed written evidence such as financial data (note if financial data is considered confidential it must be marked as such) and other such data as may be called for below:
 - A. A listing of all Subcontractors is required where the subcontract value exceeds ten percent (10%) of the total contract amount. Provide experience statements for these Subcontractors.
 - B. List of present commitments (workload), including name of project, location, and value of contract.

Article 4 - Examination of Bidding Documents, Other Related Data, and Sites

- 4.01 Subsurface and Physical Conditions known to Owner are shown in the Construction Documents. No Site specific subsurface studies have been done.

- 4.02 Underground Facilities known to Owner are shown on the Construction Documents. No Site specific utility locates have been done.
- 4.03 No Hazardous Environmental Condition has been identified at the Sites.
- 4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Contract Documents due to differing or unanticipated conditions appear in Paragraphs 5.03, 5.04 and 5.05 of Section 00700 Standard General Conditions of the Construction Contract as modified in Section 00800 Supplementary Conditions of the Contract Documents. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to Hazardous Environmental Conditions at the Sites, if any, and possible changes in the Contract Documents due to Hazardous Environmental Conditions uncovered or revealed at the Sites which were not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work appear in Paragraph 5.06 of Section 00700 Standard General Conditions of the Construction Contract as modified in Section 00800 Supplementary Conditions of the Contract Documents.
- 4.05 On request, the Purchasing Division will provide Bidder access to Sites to conduct such examinations, investigations, explorations, tests, and studies, as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former conditions upon completion of such explorations, investigations, tests, and studies.
- 4.06 On request, the Purchasing Division will provide to each Bidder for examination access to or copies of Contract Documents (other than portions thereof related to price) for such other work.
- 4.07 It is the responsibility of each Bidder before submitting a Bid to:
- A. Examine and carefully study the Bidding Documents, including any Addenda and the other related data identified in the Bidding Documents;
 - B. Visit the Sites and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
 - C. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the Work;
 - D. Carefully study all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Sites;
 - E. Obtain and carefully study (or assume responsibility for doing so) all additional or supplementary examinations, investigations, explorations, test, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Sites which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;

- F. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Bidding Document;
- G. Become aware of the general nature of the Work to be performed by Owner and others at the Sites that relates to the Work as indicated in the Bidding Document;
- H. Correlate the information known to Bidder, information and observations obtained from visits to the Sites, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;
- I. Promptly give Engineer and the Purchasing Division written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer and the Purchasing Division is acceptable to Bidder; and
- J. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer and the Purchasing Division written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer and the Purchasing Division are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

Article 5 - Pre-Bid Meeting

5.01 There will be a MANDATORY Pre-Bid Meeting as specified in ITB Section 00010 in the Engineering Training Room located at 505 S. Commerce Ave., Sebring FL 33870 at 2 P.M. on Tuesday; January 30, 2018.

Article 6 - Sites and Other Areas

6.01 The Site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work is to be obtained and paid for by the Contractor. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents.

Article 7 - Interpretation and Addenda

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be directed to the Purchasing Division. Interpretations or clarifications considered necessary by the Purchasing Division and Project Manager in response to such questions will be issued by Addenda and will be mailed, emailed, or delivered to all parties recorded by the Purchasing Division as having received the Bidding Documents and having attended the Mandatory Pre-Bid Meeting. Requests for Information (RFI) received after the set date may not be answered. Only RFI answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner, Engineer or the Purchasing Division.
- 7.03 Addenda will be posted to the County's website; www.hbcc.net. It is the sole responsibility of the Bidder to frequently check the County's website for Addendums.

Article 8 - Bid Security

- 8.01 A "Bid Bond" or Cashier's Check, in the amount of five percent (5%) of the Bid, must be included on each Bid over one hundred thousand dollars (\$100,000.00). If the successful Bid is greater than two hundred thousand dollars (\$200,000.00), a "Public Construction Bond" of not less than one hundred percent (100%) of the Awarded Bid amount will be required. All Bonds must be in a form acceptable to Owner and County Attorney.
- 8.02 Within thirty (30) days after the Award, Owner will return the bid securities to all Bidders whose Bids are not to be further considered in awarding the Contract. Retained bid securities will be held until the Agreement has been finally executed, after which all bid securities, other than Bidder's bond and any guarantees which have been forfeited, will be returned to the respective Bidders whose Bids they accompanied.

Article 9 - Contract Times

- 9.01 The number of days within which, or the dates by which, the Work is to be (a) Substantially Completed and, (b) also completed and ready for final payment are set forth in the Bid Form.

Article 10 - Liquidated Damages

- 10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

Article 11 - Substitute or 'Or-Equal' Items

- 11.01 The Contract, if awarded, will be on the basis of materials and equipment described in the Bidding Documents with consideration of possible substitute or "or-equal" items if allowed within the Bidding Documents. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to

Engineer, application for such acceptance will be considered by Engineer during the allotted time frame for Request for Information (RFI).

Article 12 - Subcontractors, Suppliers and Others

- 12.01 The apparent successful Bidder, and any other Bidder so requested, shall within five (5) days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identifications are required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner, Project Manager or the Purchasing Division after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent successful Bidder to submit a substitute, without an increase in the Bid.
- 12.02 If the apparent successful Bidder declines to make any such substitution, Owner may Award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner, Project Manager or the Purchasing Division makes no written objection prior to giving of the Notice of Award will be deemed acceptable to all indicated parties subject to revocation of such acceptance after the Effective Date of the Contract as provided in Paragraph 7.06 of Section 00700 Standard General Conditions of the Construction Contract as modified in Section 00800 Supplementary Conditions of the Contract Documents.
- 12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.
- 12.04 It is the responsibility of the Contractor to insure that all Subcontractors comply with all insurance requirements.

Article 13 - Bid Form

- 13.01 Bidder shall use and/or make necessary copies of Section 00300 "Bid Form" of this ITB for their Submittal Document(s).
- 13.02 All blanks on the Bid Form shall be completed by printing in black ink or by typewriter and the Bid Form shall be signed. A Bid Price shall be indicated for each unit price item listed therein, if applicable, or the words "No Bid", "No Change", or "Not Applicable" entered. All names shall be typed or printed below the signature line with all signatures in blue ink.
- 13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

- 13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership and state of organization and type of partnership shall be shown below the signature.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.
- 13.06 A Bid by an individual shall show the Bidder's name and official address, telephone number, fax number, and email address.
- 13.07 A Bid by a joint venture shall be executed by each joint venture in the manner indicated on the Bid Form. The official address of the joint venture must be shown below the signature.
- 13.08 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.09 All Bid Forms shall have the name, official address, telephone number, fax number, and email address for communications regarding the Bid.
- 13.10 Attachments to the Bid Form shall include the following:
- A. Documentation as required in Article 3 of this Section including a copy of Contractors License.
 - B. All insurance from both Contractor and Subcontractor (if applicable) required to fulfill the obligations of this Project.
 - C. Certifications from Section 00160, signed and notarized.

Article 14 - Basis of Bid; Evaluation of Bids

- 14.01 Bidders shall submit a Bid on a Lump Sum and Unit Price basis as noted on the Bid Form for the Work listed in these Bid Documents.
- 14.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowances.

Article 15 - Submittal of Bid

- 15.01 Each prospective Bidder is furnished one copy of the Bidding Documents and if required, the Bid Bond Section 00410 of this ITB. An unbound copy of the Bid Form is to be completed and submitted with the bid security and the following data:
- A. A current copy of Bidder's Certificate of Insurance and a statement of Bidder's ability to acquire the insurance limits and requirements stated in Paragraphs 6.2 and 6.3 of Section 00700 Standard General Conditions of the Construction Contract as modified in Section 00800 Supplementary Conditions of the Contract Documents.
 - B. An executed Statement of Indemnification.

- C. Acknowledgement of Addenda (if applicable).
- D. All documentation from Subcontractors (if applicable) including their ability to acquire the insurance limits and requirements stated in Paragraphs 6.2 and 6.3 of Section 00700 Standard General Conditions of the Construction Contract as modified in Section 00800 Supplementary Conditions of the Contract Documents.

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or Invitation to Bid and shall be enclosed in an opaque envelope, plainly marked with the Bid # / Project Title; (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation BID ENCLOSED – ITB 18-011 CONSTRUCTION OF THE HIGHLANDS PARK ESTATES CLUBHOUSE; HIGHLANDS COUNTY PROJECT 12056. A mailed Bid shall be addressed to the Highlands County BCC; Attn: Purchasing Division, 600 S Commerce Ave., Sebring, FL 33870.

Article 16 - Modification and Withdrawal of Bids

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of the Bids.

Article 17 - Opening of Bids

17.01 Bids will be opened at the time and place indicated in the advertisement or ITB Section 00010 and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids by means of a copy of the "Bid Opening Sheet."

Article 18 - Bids to Remain Subject to Acceptance

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form and as allowed by Section 119.071, Florida Statutes, but Owner may, in its sole discretion, release any Bid and return the Bid Security prior to the end of this period.

Article 19 - Award of Contract

19.01 All work for this ITB will be awarded to one (1) Bidder.

19.02 Owner reserves the right to reject any or all Bids, including without limitation, non-conforming, non-responsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder that it finds, after reasonable inquiry and evaluation, to be non-responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an Award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

- 19.03 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause of disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 19.04 Evaluation of Bids
- A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternatives, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. In the comparison of Bids, alternatives will be applied in the same order of priority as listed in the Bid Form. To determine the Bid prices for purposes of comparison, Owner shall announce to all Bidders a “Base Bid plus alternatives” budget after receiving all Bids, but prior to opening them. For comparison purposes alternatives will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to the Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.
 - C. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - D. In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or the entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as required by Article 12 of this Section 00100.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.
- 19.06 If the Contract is to be awarded, Owner will Award the Contract to the Bidder whose Bid is determined to be the most advantageous to Owner, taking into consideration those Bids in compliance with the requirements as set forth in this ITB.
- 19.07 Within thirty-five (35) days after the opening of Bids, unless otherwise stated in this ITB, Owner will accept one of the Bids or will act in accordance with these Instructions to Bidders or the Section 00250 General Terms and Conditions for Construction Projects. The acceptance of the Bid will be by written Notice of Intent of Award with an attached copy of the signed Bid tabulation, emailed, mailed or delivered to the office designated in the Bid, with a copy to all other Bidders. In the event of failure of the lowest responsible qualified Bidder to sign and return the Agreement, as prescribed herein, Owner may Award to the next lowest responsible and responsive qualified Bidder. Such Award, if made will be made within ninety (90) days after opening Bids.

Article 20 - Insurance

20.01 When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by the required Certificate of Insurance.

Article 21 - Signing of Agreement

21.01 When Owner gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents, which are identified in the Agreement attached thereto. Within fifteen (15) days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached Contract Documents to Owner. Within thirty (30) days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder.

Article 22 - Retainage

22.01 Provisions concerning retainage are set forth in the Contract Documents.

Article 23 - Designated Contacts and Request for Information (RFI) Deadline

23.01 All questions regarding this ITB must be submitted in writing to:

Ms. Jamee Soto
HCBCB Buyer I
600 S Commerce Ave, Sebring, Florida 33870
Phone: (863) 402-6526; Fax: (863) 402-6735
Email: jasoto@hcbcc.org

23.02 The deadline to submit questions is 5 P.M. on Wednesday, February 7, 2018. The County will release responses in the form of an Addendum to all Mandatory Pre-Bid attendees via email. This Addendum will be posted to the County's website: www.hcbcc.net.

Article 24 - Direct Material Purchase Procedure

24.01 The Owner and the Contractor will utilize the Direct Material Purchase Procedure of Paragraph 7.09 of Section 00700 Standard General Conditions of the Construction Contract as modified in Section 00800 Supplementary Conditions of the Contract Documents.

**DIVISION 0 - SECTION 00160
CERTIFICATION PURSUANT TO SECTION 287.135, FLORIDA STATUTES
ITB 18-011**

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

1. This sworn statement is submitted to the HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS

by _____
[Print individual's name and title]

for _____
[Print name and state of incorporation or other formation of the entity submitting this sworn statement]

whose business address is _____ and

whose Federal Employer Identification Number (FEIN) is _____ (hereinafter referred to as "Bidder")

2. CERTIFICATION

Bidder hereby certifies that at the time of its Bid the Bidder is not on the Scrutinized Companies that Boycott Israel list created pursuant to Section 215.4725, Florida Statutes, is not participating in a boycott of Israel, is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List and that it does not have business operations in Cuba or Syria.

THIS CERTIFICATION IS MADE PURSUANT TO SECTION 287.135(5), FLORIDA STATUTES, AND IS, UPON DELIVERY, A PUBLIC RECORD.

Print Name: _____

STATE OF _____
COUNTY OF _____

The foregoing Certification was sworn to before me this ___ day of _____, 20____, by _____, as _____, the duly authorized officer of _____, on its behalf, who is either personally known to me [] or has produced _____ as identification [].

(AFFIX NOTARY SEAL)

Print Name: _____
Notary Public, State of Florida
Commission No. _____
My Commission Expires: _____

**CERTIFICATION PURSUANT TO SECTION 287.087, FLORIDA STATUTES
PREFERENCE TO DO BUSINESS WITH DRUG FREE WORKPLACE PROGRAMS
ITB 18-011**

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

1. This sworn statement is submitted to the HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS

by _____

[Print individual's name and title]

for _____

[Print name and state of incorporation or other formation of the entity submitting this sworn statement]

whose business address is _____ and

whose Federal Employer Identification Number (FEIN) is _____ (hereinafter referred to as "Bidder")

2. CERTIFICATION

Bidder hereby certifies that at the time of its Bid the Bidder has a drug free workplace program in place. The program meets the requirements of Section 287.087, Florida Statutes.

THIS CERTIFICATION IS MADE PURSUANT TO SECTION 287.087, FLORIDA STATUTES, AND IS, UPON DELIVERY, A PUBLIC RECORD.

Print Name: _____ Date: ___/___/___

STATE OF FLORIDA
COUNTY OF _____

The foregoing Certification was sworn to before me this ___ day of _____, 20___, by _____, as _____, the duly authorized officer of _____, on its behalf, who is either personally known to me [] or has produced _____ as identification [].

(AFFIX NOTARY SEAL)

Signature: _____

Print Name: _____

Notary Public, State of _____

Commission No. _____

My Commission Expires: _____

**SWORN STATEMENT UNDER SECTION 287.133(3)(A), FLORIDA STATUTES,
ON PUBLIC ENTITY CRIMES
ITB 18-011**

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

DESCRIPTION OF CONTRACT: _____

STATE OF FLORIDA }ss
COUNTY OF _____ }

Before me, the undersigned authority, personally appeared _____ who, being by me first duly sworn, made the following statement:

1. The business address of _____ (name of bidder or contractor), is

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

3. I understand that "convicted" or "conviction" is defined by the statute to mean a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilt or nolo contendere.

4. I understand that "affiliate" is defined by the statute to mean (1) a predecessor or successor of a person or a corporation convicted of a public entity crime, or (2) an entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime, or (3) those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate, or (4) a person or corporation who knowingly entered into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months.

5. Neither the bidder or contractor nor any officer, director, executive, partner, shareholder, employee, member or agent who is active in the management of the bidder or contractor nor any affiliate of the bidder or contractor has been convicted of a public entity crime subsequent to July 1, 1989.

(Draw a line through paragraph 5 if paragraph 6 below applies.)

6. There has been a conviction of a public entity crime by the bidder or contractor, or an officer, director, executive, partner, shareholder, employee, member or agent of the bidder or contractor who is active in the management of the bidder or contractor or an affiliate of the bidder or contractor. A determination has been made pursuant to 287.133(3) by order of the Division of Administrative Hearings that it is not in the public interest for the name of the convicted person or affiliate to appear on the convicted vendor list. The name of the convicted person or affiliate is _____.

A copy of the order of the Division of Administrative Hearings is attached to this statement.

(Draw a line through paragraph 6 if paragraph 5 above applies.)

THIS SWORN STATEMENT IS MADE PURSUANT TO SECTION 287.133(3)A, FLORIDA STATUTES, AND IS, UPON DELIVERY, A PUBLIC RECORD

Signature: _____

Print Name: _____

Print Title: _____

On ____ day of _____, 20____.

Sworn and subscribed before me in the State and County first mentioned above on the _____ day of _____, 20____.

(AFFIX NOTARY SEAL)

Signature: _____

Print Name: _____

Notary Public, State of _____

Commission No. _____

My Commission Expires: _____

**CERTIFICATION PURSUANT TO SECTION 287.134, FLORIDA STATUTES
DISCRIMINATION; DENIAL OR REVOCATION OF THE RIGHT TO TRANSACT BUSINESS WITH
PUBLIC ENTITIES
ITB 18-011**

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

1. This sworn statement is submitted to the HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS

by _____
[Print individual's name and title]

for _____
[Print name and state of incorporation or other formation of the entity submitting this sworn statement]

whose business address is _____ and

whose Federal Employer Identification Number (FEIN) is _____ (hereinafter referred to as "Bidder")

2. CERTIFICATION

Bidder hereby certifies that at the time of its Bid the Bidder has not been placed on the discriminatory vendor list by the Department of Management Services.

THIS CERTIFICATION IS MADE PURSUANT TO SECTION 287.134, FLORIDA STATUTES, AND IS, UPON DELIVERY, A PUBLIC RECORD.

Print Name: _____ Date: ____/____/____

STATE OF FLORIDA
COUNTY OF _____

The foregoing Certification was sworn to before me this ____ day of _____, 20____, by _____, as _____, the duly authorized officer of _____, on its behalf, who is either personally known to me [] or has produced _____ as identification [].

(AFFIX NOTARY SEAL)

Signature: _____

Print Name: _____

Notary Public, State of _____

Commission No. _____

My Commission Expires: _____

**CERTIFICATION OF PARTICIPATION IN THE UNITED STATES CITIZENSHIP AND IMMIGRATION
SERVICE BUREAU'S E-VERIFY PROGRAM
ITB 18-011
THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER
OFFICIAL AUTHORIZED TO ADMINISTER OATHS.**

1. This sworn statement is submitted to the HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS

by _____
[Print individual's name and title]

for _____
[Print name and state of incorporation or other formation of the entity submitting this sworn statement]

whose business address is _____ and

whose Federal Employer Identification Number (FEIN) is _____ (hereinafter referred to as "Bidder")

2. **CERTIFICATION**

Bidder hereby certifies that at the time of its Bid the Bidder participates in the United States Citizenship and Immigration Services Bureau's E-Verify Program, and does not knowingly employ, hire for employment, or continue to employ an unauthorized alien.

Bidder's E-verify Company ID #: _____

THIS CERTIFICATION IS, UPON DELIVERY, A PUBLIC RECORD.

Print Name: _____ Date: ___/___/___

STATE OF FLORIDA
COUNTY OF _____

The foregoing Certification was sworn to before me this ___ day of _____, 20____, by _____, as _____, the duly authorized officer of _____, on its behalf, who is either personally known to me [] or has produced _____ as identification [].

(AFFIX NOTARY SEAL)

Signature: _____
Print Name: _____
Notary Public, State of _____
Commission No. _____
My Commission Expires: _____

**LOCAL PREFERENCE AFFIDAVIT OF ELIGIBILITY
ITB 18-011**

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

1. This sworn statement is submitted to
HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS

by _____
[Print individual's name and title]

for _____
[Print name of Company/Individual submitting sworn statement]

Whose business address is _____

(If applicable) its Federal Employer Identification Number (FEIN) is _____

(If the entity has no FEIN, include the Social Security Number of the individual signing this
Sworn statement): _____.

2. LOCAL PREFERENCE ELIGIBILITY

A. Vendor/Individual has had a fixed office or distribution point located in and having a street address within
Highlands County for at least twelve (12) months immediately prior to the issuance of the request for
quotation, competitive bids or request for proposals by the County.

YES _____ NO _____

B. Vendor/Individual holds business license required by the County, and/or if applicable, the Municipalities:

YES _____ NO _____

C. Vendor/Individual employs at least one full-time employee, or two part-time employees whose primary
residence is in Highlands County, or, if the business has no employees, the business shall be at least fifty
(50) percent owned by one or more persons whose primary residence is in Highlands County.

YES _____ NO _____

**I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH
1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM SHALL BE CONSIDERED
PUBLIC RECORD.**

[Signature and Date]

STATE OF _____
COUNTY OF _____

Subscribed and sworn before me, the undersigned notary public on this ____ day of _____, 20__.

NOTARY PUBLIC

SEAL

Commission Expiration Date

DIVISION 0 - SECTION 00250
GENERAL TERMS AND CONDITIONS FOR CONSTRUCTION PROJECTS
ITB 18-011

- A. All Bidding Documents shall become the property of the County.
- B. Compliance with Florida Statutes
- Section 287.087, on Drug Free Workplace,
 - Section 287.133(2)(a), on Public Entity Crimes,
 - Section 287.134, on Discrimination, and
 - Section 287.135, Prohibiting contracting with scrutinized companies is required.

FLORIDA STATUTES

1. Section 287.087, Florida Statutes. Preference to businesses with drug free workplace programs. In order to have a drug free workplace program, a business shall:
- a. 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.
 - b. 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 violations.
 - c. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
 - d. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, 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 contendere to, any violation of Chapter 893, Florida Statutes, or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
 - e. Impose a 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.
 - f. Make a good faith effort to continue to maintain a drug free workplace through implementation of this section.

NOTE: PLEASE INCLUDE YOUR "DRUG FREE" STATUS AS PART OF THE GENERAL COMMENTS IN YOUR PROPOSAL OR WHERE INDICATED ON THE BID FORM.

2. Section 287.133, Florida Statutes. Public entity crime; denial or revocation of the right to transact business with public entities:
 - (2)(a) A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, Florida Statutes for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted vendor list.
3. Section 287.134, Florida Statutes. Discrimination; denial or revocation of the right to transact business with public entities:
 - (2)(a) An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity.
4. Section 287.135, Florida Statutes. Prohibition against contracting with scrutinized companies:
 - (2) A company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services of \$1 million or more if at the time of bidding or submitting a proposal for a new contract or renewal of an existing contract, the company:
 - (a) Is on the Scrutinized Companies that Boycott Israel List, created pursuant to Section 215.4725, Florida Statutes, or is engaged in a boycott of Israel;
 - (b) Is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473, Florida Statutes.
 - (c) Is engaged in business operations in Cuba or Syria.
 - (5) At the time a company submits a bid or proposal for a contract or before the company enters into or renews a contract with an agency or governmental entity for goods or services of \$1 million or more, the company must certify that the company is not participating in a boycott of Israel, on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or that it does not have business operations in Cuba or Syria.

5. CERTIFICATIONS OF COMPLIANCE WITH THE ABOVE-REFERENCED STATUTES ARE LOCATED ON SECTION 00160, AND MUST BE INCLUDED WITH THE BID, SIGNED AND NOTARIZED.
- C. Bids are due and must be received in accordance with the instructions given in Section 00100 of this ITB.
 - D. Owner will not reimburse Bidder(s) for any costs associated with the preparation and submittal of any Bid.
 - E. Bidders, their agents and associates shall NOT solicit any County official. Bidders, their agents and associates shall NOT contact any County official other than the individual(s) listed in Article 23 of Section 00100 of this ITB for additional information and clarification.
 - F. Due care and diligence have been exercised in the preparation of this ITB and all information contained herein is believed to be substantially correct; however, the responsibility for determining the full extent of the service required rests solely with those making response. Neither Owner nor its representatives shall be responsible for any error or omission in the Bids submitted, nor for the failure on the part of the Bidders to determine the full extent of the exposures.
 - G. All timely responses meeting the specifications set forth in this ITB will be considered. However, Bidders are cautioned to clearly indicate any deviations from these specifications. The terms and conditions contained herein are those desired by Owner and preference will be given to those Bids in full or substantially full compliance with them.
 - H. Each Bidder is responsible for full and complete compliance with all laws, rules and regulations including those of the Federal Government, the State of Florida and the County of Highlands. Failure or inability on the part of the Bidder to have complete knowledge and intent to comply with such laws, rules and regulations shall not relieve the Bidder from its obligation to honor its Bid and to perform completely in accordance with its Bid.
 - I. County, at its discretion, reserves the right to waive minor informalities or irregularities in any Bids, to reject any and all Bids in whole or in part, with or without cause, and to accept that Bid, if any, which in its judgment will be in its best interest.
 - J. Award will be made to the Bidder whose Bid is determined to be the most advantageous to Owner, taking into consideration those Bids in compliance with the requirements as set forth in this ITB. The Board reserves the right to reject any and all Bids for any reason or make no Award whatsoever or request clarification of information from the Bidders.
 - K. Any interpretation, clarification, correction or change to this ITB will be made by written addendum issued by the Purchasing Division. Any oral or other type of communication concerning this ITB shall not be binding.
 - L. Bids must be signed by an individual of the Bidder's organization legally authorized to commit the Bidder to the performance of the product(s) and/or service(s) contemplated by this ITB.
 - M. The insurance requirements of Paragraphs 6.02, 6.03, and 6.06 of the Standard General Conditions, as amended by the Supplementary Conditions, found in Sections 00700 and 00800 of this ITB must be satisfied before delivery of goods and performance of services.

- N. If submitting a Bid for more than one ITB, each Bid must be in a separate envelope and correctly marked. Only one (1) Bid per project shall be accepted from any person, corporation or firm. Modifications will not be accepted or acknowledged.
- O. If the successful Bid is greater than two hundred thousand dollars (\$200,000.00), a Public Construction Bond will be required. Awarded Bidder must record Public Construction Bond at the Clerk's Recording Department and comply with Section 255.05, Florida Statutes. All Bonds must be in a form acceptable to Owner and County Attorney.
- P. Each Bid must contain proof of enrollment in E-Verify. See certification in Section 00160.
- Q. Board policy prohibits any County employee or members of their family from receiving any gift, benefit, and/or profit resulting from any contract or purchase. Board policy also prohibits acceptance of gifts of any kind except advertising novelties valued less than ten dollars (\$10.00).
- R. Construction Projects that are awarded for less than two hundred thousand dollars (\$200,000.00) and without a Public Construction Bond require the following:
 1. At any time prior to final completion of the Contract, Owner will not authorize or make payment to the Contractor in excess of ninety percent (90%) of the amount due on the Contract on the basis of the Work suitably completed.
 2. In case of the default by the Contractor, the laborers, materialmen, and Subcontractors, as defined in Section 713.01, Florida Statutes, making claims for unpaid bills, may be paid from the ten percent (10%) retainage.
 3. The final payment of retainage shall not be made until: (1) the Project has been inspected by the Project Manager or other person designated by the County for the purpose; (2) Project Manager or other designated person has issued a written certificate that the Project has been constructed in accordance with the approved Construction Documents and approved Change Orders; (3) the County has accepted the Project; and (4) the Contractor has supplied the County with signed and dated statements from all laborers, materialmen, and subcontractors as defined in Section 713.01, Florida Statutes, and identified under paragraph 5 of this section R, that they have no claims against the Contractor for the Work under the Contract. Said statements shall identify the Project by name and Project number.
 4. The Contractor, before beginning Work or within two (2) workdays thereafter, shall post in a conspicuous place on the Site the following notice.

"Notice is hereby made to all those concerned and affected that

_____ (Contractor's Name) is performing the
 Construction of the Highlands Park Estates Clubhouse
 Highlands County Project No. 12056

All parties furnishing labor and/or materials to said project must,
 within twenty (20) days of first providing such labor and/or materials,
 deliver notice of such in writing, by certified mail, returned receipt requested, to:

HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS
ENGINEERING DEPARTMENT
ATTN: KENYA ANDERSON
505 S. COMMERCE AVE., SEBRING, FLORIDA 33870

5. The Contractor shall provide a certified list of all Subcontractors, laborers, and material suppliers to the Owner or Designee within thirty (30) days of receiving the Notice to Proceed with the Work. This list shall be updated thereafter each month with a certified statement that the list and its updates include the names and address of all of those Subcontractors, laborers, and material suppliers furnishing labor and/or material for the Project.
 6. The Contractor shall provide a written statement with each pay request to the Project Manager which indicates how each payment will be distributed. This pay request breakdown shall define the disbursement intended for all the funds requested. When the Contractor receives any payment it shall pay such moneys received to each Subcontractor and material supplier as set forth in that written statement.
 7. The Contractor shall provide a written statement with all but the first payment request from each of the Subcontractors, laborers, and material suppliers indicated in paragraph 5 of this Section R that they have in fact received payment as indicated in paragraph 6 of this Section R. In the event a payment is not made as indicated on a prior written statement provided pursuant to paragraph 5 of this Section R, the Contractor shall furnish an explanation as to the reasons for such deviation and shall request approval from the Project Manager.
- S. Late Bids will not be accepted under any circumstances. If Bids are received after the scheduled time of the Bid Opening Meeting, the Bidder will be contacted for disposition. The Purchasing Division, at the Bidder's expense, can return the unopened envelope, or, at the Bidder's request, in writing, can destroy it.
- T. Electronically submitted Bids and faxed Bids will not be accepted. Any blank spaces on the required Bid Form or the absence of required submittals or signatures may cause the Bid to be declared non-responsive.
- U. The County is not responsible for correcting any errors or typos made on the Bid response. Incorrect calculations may cause the Bid to be declared non-responsive.
- V. Minority Owned and Women owned businesses must submit a copy of the certificate to receive credit.
- W. The Bidder shall comply with the Florida Sales and Use Tax Law as it may apply to this Contract. The quoted amount(s) shall include any and all Florida Sales and Use Tax payment obligations required by Florida Law of the successful Bidder and/or its Subcontractors or material suppliers.
- X. Public Records: Any material submitted in response to this ITB will become Public Record pursuant to Section 119(1)(b) and (c), Florida Statutes.
- Y. All pages included in or attached by reference to this ITB shall be called and constitute the Invitation to Bid.

DIVISION 0 - SECTION 00300

BID FORM

ITB 18-011

PROJECT IDENTIFICATION: Construction of the Highlands Park Estates Clubhouse
Highlands County Project No. 12056

THIS BID IS SUBMITTED TO: Highlands County Board of County Commissioners
Attn: Purchasing Division
600 S Commerce Ave., Sebring, FL 33870

BID SUBMITTED BY:

[Bidding Company's Name, 'Bidder']

[Bidder's Authorized Representative's Name]

[Bidder's Address, Building #, Street]

[Bidder's Address, City, State, Zip]

[Print Contact Person's Name for this bid]

[Contact Person's Email Address]

[Contact Person's Phone Number]

- A. The Bidder proposes and agrees, if this Bid is accepted, to furnish all labor, materials, and equipment to construct and complete the Work according to and as specified or indicated in ITB 18-011 and the Bidding Documents for the Bid Price and within the time periods stated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

B. Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for thirty (30) days after the day of Bid opening. Bidder will sign and deliver the required number of the other documents required by this ITB within fifteen (15) days after the date of County's Notice of Award.

C. In submitting this Bid, Bidder represents that:

1. Bidder has examined and carefully studied the Bidding Documents, including the following Addenda, receipt of all of which is hereby acknowledged:

Date	Number	Date	Number
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

2. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, performance, and furnishing of the Work;
3. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, performance, and furnishing of the Work.
4. Bidder acknowledges that County and Project Manager do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bidding Documents with respect to Underground Facilities at or contiguous to the Site. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all such additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise which may affect cost progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder and safety precautions and programs incident thereto. Bidder does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance and furnishing of the Work in accordance with the times, price, and other terms and conditions of the Contract Documents.
5. Bidder is aware of the general nature of the Work to be performed by County and others at the Site that relates to the Work.
6. Bidder has correlated information known to Bidder, information and observations obtained from visits to the Site and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
7. Bidder has given Project Manager written notice of all conflicts, errors, ambiguities or discrepancies that Bidder has discovered in the Bidding Documents and the written resolution

thereof by Project Manager is acceptable to Bidder, and the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

8. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid. Bidder has not solicited or induced any person, firm or corporation to refrain from Bidding, and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over County.

D. Documentation included with Bid packet

		Required?	Included (check if yes)
1.	One (1) original (signed in blue ink), one (1) exact paper copy, and one (1) exact electronic copy (CD or thumb drive) of the submitted Bid.	Yes	
2.	Certificates from Section 00160 <ul style="list-style-type: none"> • F.S. 287.135 • F.S. 287.087 • F.S. 287.133(3)(A) • F.S. 287.134 • Participation in E-Verify • Local Preference Affidavit 	Yes	
3.	Waiver of right to claim against payment/construction bond (Section 00836)	Yes	
4.	Woman or Minority Owned Business Certificate	If applicable	
5.	Qualifications (See Section 00100, Article 3) <ul style="list-style-type: none"> • List of 5 jobs of similar magnitude • Resume(s) of Bidder • List of available equipment • Five (5) reference letters • Copies of required licenses • List of sub-contractors, if applicable • List of present commitments 	Yes	
6.	Bid security in the form of _____	Yes, over \$100,000.00	

E. Pricing

1. This is a Lump Sum and Unit Price Bid. Bidder will complete the Work in accordance with the Contract Documents for the following Lump Sum and Unit Price Bid items. Award will be based on the total Lump Sum Bid Price, sum of Unit Price items, and requirements of Bidder. If the County chooses to accept the alternate(s), the amount specified for the alternate will be deducted from the lump-sum. All bidders must provide pricing for deductive alternate bid option.
2. Deductive Alternate option(s):

TABULATION OF QUANTITIES AND PRICING

Bid Item	Amount
Alternate No. 1 Delete Covered Porches	
Alternate No. 2 Delete Removal and Stump Grinding of 38" Oak Tree	

LUMP SUM BID

Lump Sum Bid [in figures]: \$	
Lump Sum Bid [in words]:	
Deductive Alternates [in figures]: \$	
Deductive Alternates [in words]:	

- F. Bidder agrees that the Work will be substantially complete within one hundred fifty (150) days and completed and ready for final payment within one hundred eighty (180) days after the date when the Contract Times commence to run. The Contract Times will commence to run on the thirteenth (13th) day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty (30) days after the Effective Date of the Agreement.

G. Communications concerning this Bid have been addressed only to the contacts listed in Article 23 of Section 00100 of ITB 18-011.

Submitted on: _____, 20_____.

If Bidder is an Individual

(SEAL)

Individual's name: _____

Signature: _____

Doing business as: _____

Business address: _____

Phone No.: _____

If Bidder is a Partnership

(SEAL)

Partnership's name: _____

State in which organized: _____

Type of partnership: _____

Name of general partner: _____

Signature: _____

Business address: _____

Phone No.: _____

If Bidder is a Corporation:

(SEAL)

Corporation's name: _____

State of incorporation: _____

Name of authorized person to sign: _____

Title: _____

Signature: _____

Date of qualification to do business: _____

Attest: _____

Business address: _____

Phone No.: _____

If Bidder is a Joint Venture

(SEAL)

Name 1: _____

Signature 1: _____

Address 1: _____

Name 2: _____

Signature 2: _____

Address 2: _____

Address for receipt of official
communications: _____

Phone number for official
communications: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above for an individual or the appropriate form of entity.)

**DIVISION 0 – SECTION 00410
BID BOND
ITB 18-011**

STATE OF FLORIDA COUNTY OF
HIGHLANDS

KNOW ALL MEN BY THESE PRESENTS, that we _____
(hereinafter called "Principal"), and _____ as Surety, (hereinafter called "Surety"),
are held and firmly bound unto the Highlands County, a political subdivision of the State of Florida
(hereinafter called "Owner"), in the sum of _____ Dollars (\$_____), lawful
money of the United States of America, for the payment of which sum well and truly to be made, we bind
ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these
presents:

WHEREAS, the "Principal" contemplates submitting or has submitted to bid to the said "Owner"
for Bid No. ITB 18-011.

**CONSTRUCTION OF THE HIGHLANDS PARK ESTATES CLUBHOUSE
HIGHLANDS COUNTY PROJECT NO. 12056**

WHEREAS, it was a condition precedent to the submission of said bid that a certified check or
bid bond in the amount of not less than five percent (5%) of the amount of bid be submitted with said
bid as a guarantee that the Bidder would, if awarded the contract, enter into a written contract with the
"Owner" within fifteen (15) consecutive calendar days after having been given notice of award of the
contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that if the bid of the
"Principal" herein be accepted and said "Principal", within fifteen (15) consecutive calendar days after
notice being given of such acceptance, enter into a written contract with the "Owner", then this obligation
shall be void; otherwise, the sum herein stated shall be due and payable to the "Owner", and the "Surety"
herein agrees to pay said sum immediately upon demand of said "Owner", in good and lawful money
of the United States of America; as liquidated damages for failure thereof said "Principal".

IN WITNESS WHEREOF, the said _____, as "Principal" herein, has caused these presents to be signed in its name by its _____ and attested by its _____ under its corporate seal, and the said _____ as "Surety" herein, has caused these presents to be signed in its _____ and attested by its _____ under its corporate seal, this _____ day of _____, A.D. 20 _____.

ATTEST:

Title: _____

CONTRACTOR, AS PRINCIPAL:

By: _____ (Seal)

Title: _____

ATTEST:

Title: _____

AS SURETY:

By: _____ (Seal)

Title: _____

DIVISION 0 - SECTION 00500

AGREEMENT

ITB 18-011

THIS AGREEMENT made this ____ day of _____, 20____, by and between Highlands County, a political subdivision of the State of Florida, 600 South Commerce Avenue, Sebring, Florida 33870 (hereinafter called "Owner" and _____(hereinafter called "Contractor"). Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1 - Work

Contractor shall provide all labor, materials, and equipment for construction of the Highlands Park Estates Clubhouse, Highlands County Project No. 12056 Project. Contractor shall complete the Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Single story concrete block building with wood roof trusses and asphalt shingle roofing. Work includes finishes and all mechanical, electrical and plumbing fixtures. Work shall include associated site work including asphalt paving, sidewalks and septic system.

The principal features, as defined above, are not intended to cover every aspect of the Project details. Contractor shall be responsible for reviewing the Contract Documents to determine the full scope of the Work and specific requirements of the Project, which include familiarity and compliance with all Laws and Regulations.

Article 2 - Project Architect and County Project Manager

- 2.01 The architect for this project is Kirk Curtis Mundy Hunnicutt Associates Architects, Inc., a Florida corporation registered to transact business in the State of Florida. Keith Hunnicutt, AIA, of Kirk Curtis Mundy Hunnicutt Associates Architects, Inc. is the Project Architect.
- 2.02 The County Project Manager is Kenya Anderson, Project Manager for the Highlands County Board of County Commissioners.

Article 3 - Contract Times

- 3.01 Contractor agrees that the Work will be substantially complete within one hundred fifty (150) days and completed and ready for final payment within one hundred eighty (180) days after the date when the Contract Times commence to run. The Contract Times will commence to run on the thirteenth (13th) day after the Effective Date of this Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty (30) days after the Effective Date of this Agreement.
- 3.02 Liquidated Damages
 - A. Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in paragraph 3.01 of this Article. In agreeing upon the daily liquidated damages amount stated in this paragraph, Owner and Contractor have considered the original Contract Price stated

in Article 4 of this Agreement, the average construction, engineering, and inspection costs experienced by Owner, and anticipated costs of project-related delays and inconveniences to Owner and the public. Owner and Contractor also recognize the delays, expense, and difficulties involved in proving the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (and not as a penalty) Contractor shall pay Owner Five Hundred Dollars (\$500.00) for each day that expires after the time specified in paragraph 3.01 of this Article until the Work is completed and ready for final payment. Liquidated damages shall be deducted by Owner from any balance due Contractor or, if the balance due Contractor is less than the amount of liquidated damages, Contractor shall pay to Owner the remaining unpaid liquidated damages within thirty (30) days after Owner's invoice is sent to Contractor.

- B. Owner does not waive its right to liquidated damages due under this Agreement by allowing Contractor to continue and to finish the Work, or any part of it, after the expiration of the Contract Time including granted time extensions.
- C. In the case of a default of this Agreement and the completion of the Work by Owner, Contractor and Contractor's surety are liable for the liquidated damages under this Agreement, but Owner will not charge liquidated damages for any delay in the final completion of Owner's performance of the Work due to any unreasonable action or delay on the part of Owner.

Article 4 - Contract Price

Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the amount determined pursuant to paragraph 4.01 below:

- 4.01 For all Work as listed on the Bid Form and described in the Drawings and Specifications, including any alternates as Exhibit "A", attached hereto and included herein by this reference, a Lump Sum of:

[USE WORDS]

[USE FIGURES]

Contractor has included all costs in the Contract Price and shall cause the Work to be completed for the Contract Price. The Contract Price shall be reduced in the manner described in SC-7.09 of Section 00800 of the Supplementary Conditions of this Agreement.

Article 5 - Payment Procedures

- 5.01 Deliverables must be received and accepted in writing by the Project Manager prior to reimbursements. Supporting documentation with the invoices must establish that the deliverables were received and accepted in writing by the Project Manager. Contractor may receive progress

payments for deliverables based on the Contractor's Schedule of Values and on a percentage of services that have been completed, approved, and accepted to the satisfaction of Owner when properly supported by detailed invoices and acceptable evidence of payment. All costs charged to the Project by Contractor shall be supported by detailed invoices, proof of payments, contracts or vouchers evidencing in proper detail the nature and propriety of the charges.

5.02 Progress Payments; Retainage: Contractor shall deliver Contractor's Applications for Payment to Project Manager on or before the third (3rd) day of each month. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment as recommended by Project Manager, on or about the twenty-sixth (26th) day of each month during construction as provided in paragraphs 5.02.A and 5.02.B below.

A. Prior to fifty percent (50%) of the Work being completed, progress payments will be made in an amount equal to the percentage indicated below, but in each case, less the aggregate of payments previously made and less such amounts as Project Manager shall determine, or Owner may withhold. Owner will withhold ten percent (10%) of each application for progress payment until:

50 % of the Work is completed, and

0 % of materials and equipment not incorporated in the Work (but delivered, suitably stored, and accompanied by documentation satisfactory to the Owner).

B. After fifty percent (50%) of the Work is completed, progress payments will be made in an amount equal to the percentage indicated below, but in each case, , less the aggregate of payments previously made and less such amounts as Project Manager shall determine, or Owner may withhold. Owner will withhold five percent (5%) of each application for progress payment until:

100 % of the Work is completed, and

100 % of materials and equipment not incorporated in the Work (but delivered, suitably stored, and accompanied by documentation satisfactory to the Owner).

5.03 Final Payment: Upon completion of the Work, Contractor shall notify Owner in writing of the completion. The certification shall state that the Work has been completed in compliance with the Drawings and Specifications. If any deviations are noted from the approved Drawings and Specifications, the certification shall include a list of all deviations along with an explanation that justifies the reason to accept each deviation. After Contractor has, in the opinion of Project Manager, satisfactorily completed all corrections identified during the final inspection and deviations not accepted by Owner and has delivered to Owner, in accordance with the Contract Documents, schedules, guarantees, Bonds, certificates or other evidence of insurance, certificates of inspection, permits, marked-up record documents, paper final as-built Drawings and Specifications, signed, sealed, and certified by a Professional Surveyor, registered in the State of Florida, and all applicable permits, final releases from Contractor and all Subcontractors and Suppliers at every level, all warranties, and all other documents reasonably required by Owner pertaining to the Work, and provided verification of compliance with the requirements of Article 12 of this Agreement, Contractor may make application for final payment.

Article 6 - Contractor's Representations

In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

- 6.01 Contractor has examined and carefully studied the Contract Documents (including any Addenda) and the other related data identified in the ITB 18-011 Documents.
- 6.02 Contractor has visited the Sites and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, performance or furnishing of the Work.
- 6.03 Contractor is familiar with and will comply with all Laws and Regulations, whether or not the Laws or Regulations may affect cost, progress, performance and furnishing of the Work.
- 6.04 Contractor has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the Sites and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Sites (except Underground Facilities). Contractor acknowledges that such reports and drawings are not Contract Documents and may not be complete for Contractor's purposes. Contractor acknowledges that Owner and Project Manager do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the Sites. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Sites or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto. Contractor does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.
- 6.05 Contractor is aware of the general nature of work to be performed by Owner and others at the Sites that relates to the Work as indicated in the Contract Documents.
- 6.06 Contractor has correlated the information known to Contractor, information and observations obtained from visits to the Sites, reports, Drawings and Specifications identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
- 6.07 Contractor has not given Project Manager written notice of any conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract Documents, and Contractor agrees that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- 6.08 Contractor certifies by signing this Agreement that no Commissioner or employee of the Highlands County Board of County Commissioners has solicited or accepted gratuities, favors, or anything of monetary value from Contractor or parties to subcontracts. Contractor and Subcontractors shall not pay any gratuities, favors, or anything of monetary value to any Commissioner or employee of the Highlands County Board of County Commissioners.

Article 7 - Contract Documents

The Contract Documents which comprise the entire Contract between Owner and Contractor concerning the Work consist of the following:

- 7.01 This Agreement (pages 00500-1 to 00500-_11, inclusive).
- 7.02 The Standard General Conditions of the Construction Contract, EJCDC C-700 (2013 Edition).
- 7.03 ITB 18-011 Section 00800 Supplementary Conditions to EJCDC C-700 (2013 Edition).
- 7.04 EXHIBIT "A"- Section 01010 – SUMMARY OF WORK, including drawings, figures and references, as augmented by bid documents titled "Highlands Park Estates Clubhouse" including drawings and specifications.
- 7.05 Except as expressly otherwise noted in this paragraph and paragraph 7.06 of this Article, there are no Contract Documents other than those listed in paragraphs 7.01 through 7.04 of this Article. In the event of a conflict among the provisions of the Contract Documents, the order of precedence shall be this Agreement, followed by the Supplementary Conditions, followed by EJCDC C-700 (2013 Edition). The Contract Documents may only be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:
 - (a) Written Amendment signed by both parties
 - (b) Change Order signed by both parties
 - (c) Work Change Directive signed by both parties
- 7.06 The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 - (a) A Field Order issued by the Project Manager
 - (b) Project Manager's approval of a Shop Drawing
 - (c) Project Manager's written interpretation or clarification

Article 8 - Miscellaneous

- 8.01 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by Laws and Regulations), and unless specifically stated to the contrary in any written consent of an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 8.02 Owner and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

- 8.03 Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- 8.04 Upon the occurrence of any event of default, all obligations on the part of Owner to make any further payments of funds pursuant to this Agreement shall, if Owner so elects, terminate but Owner may make any payments or parts of payments after the happening of any event of default without thereby waiving the right to exercise any remedy which it may have and without becoming liable to make any further payment.
- 8.05 No funds received pursuant to this Agreement may be expended for lobbying the Legislature, the judicial branch, any state agency, Owner or Owner's elected officials, employees or agents.
- 8.06 By entering into this Agreement, Contractor agrees and promises that, during and after a public emergency, disaster, hurricane, flood, or acts of God, Owner shall be given "first priority" for all goods and services under this Agreement. Contractor agrees to provide all goods and services to Owner during and after the emergency at the terms, conditions, and prices as provided in this Agreement on a "first priority" basis. Contractor shall furnish a twenty-four (24) hour phone number to Owner in the event of such an emergency. Failure to provide the stated priority during and after an emergency shall constitute a breach of Contract and make Contractor subject to sanctions from doing further business with Owner. For purposes of this paragraph, the term "first priority" means priority over all other contracts and agreements between Contractor and any person or entity other than Owner and requires Contractor to deliver the goods and services described in this Agreement to Owner prior to providing those goods and services to any other person or entity during and after the emergency.
- 8.07 Owner shall not be obligated or liable hereunder to any person, organization or entity other than Contractor. No provision in this Agreement is intended to, or shall be construed to, create any third party beneficiary or to provide any rights to any person, organization or entity not a party to this Agreement, including, but not limited to, any citizen or employees of the Owner and/or Contractor.
- 8.08 In no event shall the making by Owner of any payment to Contractor constitute or be construed as a waiver by Owner of any breach of covenant or any default which may then exist, on the part of Contractor, and the making of such payment by Owner while any such breach or default exists shall in no way impair or prejudice any right or remedy available to Owner with respect to such breach or default.
- 8.09 No waiver by either Contractor or Owner with respect to any breach or default of or with respect to any provisions or conditions of this Agreement shall be deemed to constitute a continuing waiver of any other breach or default of or with respect to the same or any other provision or condition of this Agreement. No claim or right arising out of a breach of this Agreement can be discharged in whole or in part by a waiver or renunciation of the claim or right unless the waiver or renunciation is supported by consideration and is in writing signed by the aggrieved party.

- 8.10 This Agreement, including exhibits and amendments, and all matters relating to the validity, interpretation, and performance of this Agreement (whether in contract, statute, tort, or otherwise) shall be governed and construed in accordance with the laws of the State of Florida, without giving effect to principles of conflict of laws. Venue for any legal action shall lie in Highlands County, Florida, and any proceedings to enforce or interpret any provision of the Contract Documents shall be brought exclusively in a court of competent jurisdiction in Highlands County, Florida.
- 8.11 Owner is an Equal Employment Opportunity (“EEO”) employer and as such encourages Contractor to voluntarily comply with EEO regulations with regards to gender, age, race, veteran status, country of origin, and creed. In addition, Contractor or anyone under its employ shall comply with all applicable Laws and Regulations thereby pertaining to the avoidance or appearance of sexual harassment or on the job discrimination. Contractor shall maintain a work environment free of discrimination or unwelcome action of a personal nature. Any subcontracts entered into shall make deference to this clause with the same degree of application being encouraged. When applicable, Contractor shall comply with all new Laws and Regulations.
- 8.12 Contractor may only subcontract a portion of the Work to a Subcontractor or Subcontractors approved in advance, in writing by Project Manager, but Contractor shall perform with its own employees and equipment work amounting to not less than forty percent (40%) of the total Contract amount.
- 8.13 This Agreement shall be effective upon execution by both parties and shall continue in effect and be binding on the parties until the Project is completed and accepted and payment made by Owner or this Agreement is terminated in accordance with Article 16 of Section 00700 Standard General Conditions of the Construction Contract as modified in Section 00800 Supplementary Conditions of the Contract Documents.
- 8.14 Contractor shall be responsible for all quality control testing requirements.
- 8.15 In the event there is a discrepancy between this Agreement and the Contract Documents, the provisions of this Agreement shall govern.

Article 9 - Employment Eligibility Verification

- 9.01 Definitions. As used in this Article:
- A. Employee assigned to this Agreement means an employee who was hired after November 6, 1986, who is directly performing work, in the United States, under this Agreement. An employee is not considered to be directly performing work under this Agreement if the employee
 - (a) Normally performs support work, such as indirect or overhead functions; and
 - (b) Does not perform any substantial duties applicable to the Agreement
 - B. Subcontract means any contract entered into by a Subcontractor to furnish supplies or services for performance of this Agreement or a subcontract under this Agreement. It includes but is not limited to purchase orders, and changes and modifications to purchase orders.

- C. Subcontractor means any supplier, distributor, vendor, or firm that furnishes supplies or services to or for Contractor or another subcontractor.
- D. United States, as defined in 8 U.S.C. 1101(a)(38), means the 50 States, the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands.

9.02 Enrollment and verification requirements.

- A. Contractor must be enrolled in E-Verify at time of Contract award, and Contractor shall use E-Verify to initiate verification of employment eligibility of
 - i. All new employees
 - Enrolled thirty (30) calendar days or more. Contractor shall initiate verification of employment eligibility of all new hires of Contractor, who are working in the State of Florida, whether or not assigned to this Agreement, within three (3) workdays after the date of hire; or
 - Enrolled less than thirty (30) calendar days. Within thirty (30) calendar days after enrollment in E-Verify, Contractor shall initiate verification of employment eligibility of all new hires of Contractor who are working in the State of Florida, whether or not assigned to this Agreement, within three (3) workdays after the date of hire; or
 - ii. Employees assigned to this Agreement. For each employee assigned to this Agreement, Contractor shall initiate verification of employment eligibility, to the extent allowed by the E-Verify program, within thirty (30) calendar days after date of Contract award or within thirty (30) calendar days after assignment to this Agreement, whichever date is later.
- B. Contractor shall comply, for the period of performance of this Agreement, with the requirements of the E-Verify program Memorandum of Understanding (MOU). Termination of Contractor's MOU and denial access to the E-Verify system by the Department of Homeland Security or the Social Security Administration or the U.S. Citizenship and Immigration Service is an event of default under this Agreement.

9.03 Website. Information on registration for and use of the E-Verify program can be obtained via the Internet at the U.S. Citizenship and Immigration Service's Web site: <http://www.uscis.gov>.

9.04 Individuals previously verified. Contractor is not required by this Article to perform additional employment verification using E-Verify for any employee whose employment eligibility was previously verified by Contractor through the E-Verify program.

9.05 Subcontracts. Contractor shall include, and shall require the inclusion of, the requirements of this Article, including this paragraph (9.05) (appropriately modified for identification of the parties), in each subcontract that includes work performed in the United States under this Agreement.

Article 10 - Compliance with Section 287.135(3)(c), Florida Statutes

Pursuant to Section 287.135(3)(c), Florida Statutes, Owner may terminate this Contract, at the option of its Board of County Commissioners, if the Contractor is found to have submitted a certification required by

Section 287.135(5), Florida Statutes, that is false or if Contractor is or has been placed on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel or if Contractor is or has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or if Contractor is or has been engaged in business operations in Cuba or Syria.

Article 11 - Notices and designated contact person

Any notice required or permitted by this Contract to be given shall be deemed to have been duly given if in writing and delivered personally or five (5) days after mailing by first class registered or certified mail, return receipt requested, postage prepaid or by Federal Express, UPS or other nationally recognized delivery service, with confirmation of delivery requested, and addressed as follows:

To County:

Highlands County Board of County Commissioners
Engineering Department
505 S. Commerce Ave.
Sebring, FL 33870
Attn: Kenya Anderson, Project Manager

To Contractor:

Attn: _____

The Parties shall designate a contact person who shall be the primary contact person for each Party:

The County: Kenya Anderson, Project Manager

The Contractor: _____

Article 12 - Public Records Compliance

If by providing services to Owner pursuant to this Contract, Contractor is a contractor, as defined by Section 119.0701, Florida Statutes, Contractor shall:

- 12.01 Keep and maintain public records required by the County to perform the services.
- 12.02 Upon request of the County’s custodian of public records, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at the cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.

- 12.03 Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the term of this Contract and following completion of this Contract if Contractor does not transfer the records to the County.
- 12.04 Upon completion of this Contract, transfer to the County, at no cost, all public records in possession of Contractor or keep and maintain public records required by the County to perform the services. If Contractor transfers all public records to the County upon completion of this Contract, Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If Contractor keeps and maintains public records upon completion of this Contract, Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the County upon request from the County's custodian of public records, in a format that is compatible with the information technology systems of the County.

**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, CONTACT THE
CUSTODIAN OF PUBLIC RECORDS AT:**

**Gloria Rybinski
County Public Information Officer
Telephone Number: 863-402-6836
E-mail Address: grybinski@hcbcc.org
Mailing Address: 600 South Commerce Avenue
Sebring, FL 33870**

THE REMAINDER OF THIS PAGE WAS LEFT BLANK INTENTIONALLY

IN WITNESS WHEREOF, the parties of these presents have executed this Agreement in three (3) counterparts, each of which shall be deemed an original, but all of which constitute the same Agreement, in the year and day first shown and mentioned.

OWNER: HIGHLANDS COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA,
BY ITS BOARD OF COUNTY COMMISSIONERS

R. Greg Harris, Chairman

ATTEST: [SEAL]

Robert W. Germaine, Clerk

CONTRACTOR: _____

Signature: _____ [SEAL]

Print Name: _____

Print Title: _____

ATTEST:

Signature: _____

Print Name: _____

Print Title: _____

DIVISION 0 - SECTION 00600
PUBLIC CONSTRUCTION BOND
ITB 18-011
(Section 255.05(3), Florida Statutes)

Bond No. _____

BY THIS BOND, we, _____,
whose principal business address and phone number are _____
(_____), as Principal and _____, whose principal business
address and phone number are _____ (_____), as Surety, are bound to
Highlands County, a political subdivision of the State of Florida, herein called Owner, whose principal business
address and telephone number are 600 South Commerce Avenue, Sebring, Florida 33870 (863-402-6500), in
the sum of _____ (\$_____), for payment of which we bind ourselves,
our heirs, personal representatives, successors, and assigns, jointly and severally.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the Contract dated _____, between Principal and Owner for construction of the Highlands Park Estates Clubhouse, Highlands County Project No. 12056, that Contract being made a part of this bond by reference, at the times and in the manner prescribed in the contract; and
2. Promptly makes payments to all claimants, as defined in Section 255.05(1), Florida Statutes, supplying Principal with labor, services, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in that Contract; and
3. Pays Owner all losses, damages, expenses, costs, and attorney's fees, including appellate proceedings, that Owner sustains because of a default by Principal under that Contract; and
4. Performs the Principal's guarantee of all work and materials furnished under that Contract for the time specified in that Contract, then this bond is void; otherwise it remains in full force.

Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2) and (10), Florida Statutes.

Any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with that Contract or the changes does not affect Surety's obligation under this bond.

Dated _____, 20_____.

AS SURETY:

CONTRACTOR, AS PRINCIPAL:

By: _____
(As Attorney in Fact)

By: _____

Title: _____

INSTRUCTIONS FOR PUBLIC CONSTRUCTION BOND

1. A good and sufficient Public Construction Bond, in the penal sum of not less than one hundred percent (100%) of the Contract Price, with a surety company satisfactory to Owner, will be required of Contractor guaranteeing that the Contract, including the various guarantee periods thereunder will be faithfully performed; and that Contractor will promptly make payment to all persons supplying Contractor labor, materials, supplies and services used directly or indirectly by Contractor in the prosecution of the work provided for in the Contract.
2. The surety company furnishing this bond shall be authorized to do business in the State of Florida, shall be in compliance with the provisions of the Florida Insurance Code, shall have twice the minimum surplus and capital required by the Florida Insurance Code, and shall hold a currently valid certificate of authority issued by the United States Department of Treasury pursuant to Title 31, Sections 9304-9308, of the United States Code. The surety company must have a rating of not less than "A-X" by the latest edition of the KEY RATING GUIDE as published by A.M. Best Company, Inc., Ambest Road, Oldwick, NJ 08858.
3. The Attorney-in-Fact (Resident Agent) who executes the Public Construction Bond on behalf of the surety company must attach a notarized copy of his or her power-of-attorney as evidence of his or her authority to bind the surety on the date of execution of the bonds. All signatures must be original. No copied or facsimile signatures will be accepted. All Contracts, Public Construction Bond, and respective powers-of-attorney will have the same date.
4. In the event the surety company becomes unsatisfactory to Owner, Owner may at its discretion, require from Contractor an additional or new bond in the same or lessor penal sum, satisfactory to the Owner, and to be conditioned as above required. Upon Contractor's failure to furnish such additional or new bond within ten (10) days from the date of written notice to do so, all payments under the Contract will be withheld until such additional bond is furnished.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
 1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
 1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
 1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*
 - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. abnormal weather conditions;
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
- 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part

by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

- c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
 - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings*: The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against 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. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
 - 1. include at least the specific coverages provided in this Article.
 - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 - 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 - 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the

policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct 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. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and

guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

- O. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
 - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
 - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
 - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer 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 fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
 - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
 - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

- A. Contractor shall 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 the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to

provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples:*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.
3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
 1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
 7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer 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 so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer 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, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during

or as a result of Engineer's visits or observations of Contractor's Work, Engineer 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, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer 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, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be 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 the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on

the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 Cost of the Work

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

- C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 - 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.
- E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

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

14.01 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 Tests, Inspections, and Approvals

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to 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 pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then 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 Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the 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 the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. 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.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
 2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount

remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
 - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

- A. *Application for Payment:*
 - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

DIVISION 0 - SECTION 00800
SUPPLEMENTARY CONDITIONS
ITB 18-011

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2013 Edition) and other provisions of the Contract Documents as indicated below. All references in these Supplementary Conditions to the Standard General Conditions are to the Standard General Conditions of the Construction Contract, EJCDC C-700 (2013 Edition). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions will have the meanings stated in those Standard General Conditions. Additional terms used in these Supplementary Conditions have the meanings indicated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the Standard General Conditions of the Construction Contract EJCDC C-700 (2013 Edition), with the prefix "SC" added thereto.

SC-1.01 *Defined Terms*

Delete the definition of the term Liens in Paragraph 1.01.A.24. and insert in its place the following:

24. *Liens* – Charges, security, interests, or encumbrances upon Contract – related funds, real property, or personal property and claims delivered to Owner by laborers, Subcontractors, and Suppliers who have not been paid by Contractor.

SC-2.01 *Delivery of Bonds and Evidence of Insurance*

Delete Paragraph 2.01.A. in its entirety and insert the following in its place:

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner unexecuted copies of the bonds and related powers of attorney that Contractor will be required to furnish. Within 10 days after execution of the Agreement by Owner, Contractor shall deliver to Owner fully executed bonds, accompanied by a certified copy of the signing individual's authority to bind the surety establishing that it is effective on the date the agent or attorney-in-fact signed the accompanying bond, as provided in Paragraph 5.06.B. of the Standard General Conditions.

SC-2.02 *Copies of Documents*

Delete Paragraph 2.02.A. in its entirety and insert the following in its place:

- A. Owner shall furnish Contractor with 1 printed copy of the fully executed Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

SC-2.04 *Preconstruction Conference; Designation of Authorized Representatives*

Add the following to the end of Paragraph 2.04.A.:

Contractor shall be ready, willing, and able to attend this conference within 10 calendar days after the date of the notice to proceed. The date, time, and place of this conference will be set by Engineer.

SC-4.01 *Commencement of Contract Times; Notice to Proceed*

Delete Paragraph 4.01.A. in its entirety and insert the following in its place:

- A. The Contract Times will commence to run on the day indicated in a Notice to Proceed.

SC-4.02 *Starting the Work*

Add the following new Paragraph to Paragraph 4.02:

- B. Contractor, before beginning the Work or within 2 workdays thereafter, shall post in a conspicuous place on the Site the following notice.

Notice is hereby made to all those concerned and affected that _____
_____ is performing the "Construction of the Highlands Park Estates Clubhouse; Highlands County Project No. 12056". All parties furnishing labor and/or materials to that project must, within twenty (20) days of first providing such labor and/or materials, deliver notice of such in writing, by certified mail, return receipt requested, to:

HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS
ENGINEERING DEPARTMENT
ATTN: KENYA ANDERSON
600 S. Commerce Ave., SEBRING, FLORIDA 33875-5803

SC-5.01 *Availability of Lands*

Delete the following from Paragraph 5.01.B.:

as necessary for giving notice of or filing a mechanic's or construction Lien against such lands in accordance with applicable Laws and Regulations

SC-5.02 *Use of Sites and Other Areas*

Add the following new paragraph to Paragraph 5.02:

- E. Contractor shall at all times control dust and keep the Sites free from accumulation of waste materials or rubbish caused by Contractor's employees or subcontractors, and at the completion of the Work, Contractor shall remove all Contractor's rubbish from and about the Sites and all Contractor's tools and surplus materials and shall leave Contractor's Sites and any other Work area clean. Owner may remove the rubbish and charge the cost to Contractor as the Engineer may determine to be just. In the event that Contractor does not keep the Sites and any other Work area free of rubbish or accumulations of waste materials and control dust, Owner will withhold an additional 5% from any pay request, above and beyond the standard 10% retainage.

SC-5.03 *Subsurface and Physical Conditions*

Add the following new paragraphs immediately after Paragraph 5.03.B:

- C. *Subsurface Conditions Known to Owner:* The subsurface conditions at or contiguous to the Site known to Owner are shown on the Drawings and Specifications that are Exhibit "A" of the Contract Documents. Contractor is not entitled to rely upon any other information and data known to or identified by Owner or Project Manager.
- D. *Unforeseen Physical Conditions:* Contractor shall notify Engineer in writing of any subsurface or latent physical condition at the Site differing materially from those indicated in the Contract Documents. Engineer shall promptly investigate those conditions and advise Owner in writing if additional information shall be required. Owner shall then obtain such information, and if deemed necessary, shall issue written orders to perform necessary revisions.

SC 5.05 *Underground Facilities*

Add the following new Paragraph to Paragraph 5.05:

- F. *Protection of Underground Facilities.*
 - 1. Existing utilities and other facilities such as drainage structures have been indicated on the Drawings and Specifications only to the extent that such information was made available to Owner. There is no guarantee as to the accuracy or completeness of this information, and Owner will not be responsible for such accuracy or completeness.
 - 2. Contractor shall be responsible for protecting all such utilities indicated in the manner determined necessary by the owner of such utilities. Any utilities not indicated on the

Drawings and Specifications, which do not require relocation, shall be protected by Contractor. The Work shall be performed at the original Contract Price. All visible surface facilities or underground utilities shown on the Drawings and Specifications, whether or not shown to be relocated, shall be protected or relocated by Contractor at its expense.

3. Utility relocations are not anticipated for this Project. However, existing utilities which are found during construction and determined necessary to be relocated will be considered an unknown condition. Contractor will cooperate with the appropriate authority in identifying and protecting the utility during relocation.
4. Abandoned utilities, when encountered, shall be severed and plugged at Contractor's expense.
5. Contractor shall be responsible for discovery of existing underground installations, in advance of excavating or trenching, by contacting all local utilities and by prospecting and pot holing. Any damage to facilities not shown shall be solely the responsibility of Contractor.

SC-5.06 *Hazardous Environmental Conditions at Site*

Delete Paragraphs 5.06.A. and 5.06B. in their entirety and insert the following:

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- B. Not Used.

Delete Paragraph 5.06.I. in its entirety.

SC-6.01 *Performance, Payment, and Other Bonds*

Delete Paragraph 6.01.A. in its entirety and insert the following in its place:

- A. Contractor shall furnish a payment and performance bond in an amount at least equal to the Contract Price, in complete satisfaction of the provisions of Section 255.05, Florida Statutes, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. The form of the payment and performance bond shall be in the form of the Public Construction Bond provided by Owner in Section 00600 of the ITB issued by Owner for construction of the Work. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws and Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary

Conditions or other specific provisions of the Contract. Contractor shall record that bond in the Public Records of Highlands County, Florida, as required by Section 255.05(1), Florida Statutes.

SC-6.03 *Contractor's Insurance*

Delete Paragraph 6.03.1.3. in its entirety and insert the following in its place:

3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 10 days, or such longer time period as is required by Laws and Regulations, prior written notice has been given to Contractor.

Add the following new Paragraphs to Paragraph 6.03:

- K. Contractor shall have and maintain in full force and effect the following insurance during the Term of this Contract and shall furnish to County Certificates of Insurance documenting that insurance coverage has been obtained which meets the following requirements:
 1. Workers' Compensation. Contractor shall have and maintain workers' compensation insurance for all employees for statutory limits in compliance with Laws and Regulations. This insurance policy must include Employer's Liability with a limit of \$100,000 each accident, \$500,000 disease (policy Limit), and \$100,000 disease (each employee).
 2. Commercial General Liability. Occurrence Form Required: Contractor shall have and maintain commercial general liability (CGL) insurance with a limit of not less than \$3,000,000 each occurrence. If such CGL insurance contains a general aggregate limit, it shall apply separately to this project in the amount of \$3,000,000. Products and completed operations aggregate shall be \$3,000,000. CGL insurance shall be written on an occurrence form and shall include bodily injury and property damage liability for premises, operations, independent contractors, products and completed operations, contractual liability, broad form property damage and property damage resulting from explosion, collapse or underground (x, c, u) exposures, personal injury, and advertising injury. Fire damage liability shall be included at \$100,000.
 3. Commercial Auto Liability Insurance. Contractor shall have and maintain commercial automobile liability insurance with a limit of not less than \$3,000,000 combined single limit per occurrence for bodily injury and property damage liability. That insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos). The policy shall be endorsed to provide contractual liability coverage.

4. Umbrella Excess Liability - Contractor may satisfy the required minimum liability limits with an Umbrella or Excess Liability policy. Contractor agrees to endorse Owner and its elected officials, agents, employees, and volunteers, in the manner required by Paragraph 6.03.K.7, as Additional Insureds unless the Umbrella provides "follow form" provisions of the underlying policies. This must be confirmed in writing on the Certificate of Insurance.
 5. Deductibles/Retentions - Contractor is responsible for any expenses or costs below deductibles applicable to any policies.
 6. Formal Certificates of Insurance shall be delivered by Contractor to Owner upon execution of the Agreement. Certificates of Insurance shall be signed by a person authorized by that insurer to bind coverage on its behalf. All Certificates of Insurance must be on file with and approved by Owner before commencement of any Work activities.
 7. The formal insurance certificates shall name "Highlands County, a political subdivision of the State of Florida and its elected officials, agents, employees and volunteers" as "Additional Insureds" on all policies except Workers' Compensation. Additional Insureds status for Completed Operations must be provided without time limitation or for a minimum of 5 years following completion of the Project.
 8. These are minimum requirements which are subject to modification in response to high hazard operations. Owner reserves the right to require Contractor to provide and pay for any other insurance coverage Owner deems necessary, depending upon the possible exposure to liability.
 9. The policies of insurance shall be written on forms acceptable to Owner and placed with insurance carriers authorized by the Insurance Department in the State of Florida and meet a minimum financial AM Best company rating of no less than "A- Excellent: FSC VII.
 10. All policies must include Waiver of Subrogation and any liability aggregate limits shall apply "Per Jobsite"/Per Job Aggregate. All liability insurance shall be Primary and Non-Contributory. Each Certificate of Insurance shall confirm in writing that these provisions apply.
- L. Contractor shall require each Subcontractor to have and maintain the insurance required by Paragraph 6.03.K. This requirement may be modified by Owner by written instrument on a case by case basis, in its sole discretion. It is the responsibility of the Contractor to ensure that all Subcontractors comply with all insurance requirements.

- M. Contractor shall provide notification to Owner and Engineer by overnight delivery return receipt requested, hand delivery or confirmed facsimile 30 days prior to giving and within 3 days after receiving notice of cancellation, modification, non-renewal, or any other lapse in coverage of any required insurance policies.

SC-6.05 *Property Insurance*

Delete Paragraph 6.05.B. in its entirety and insert the following Paragraph in its place:

- B *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days, or such longer time period as is required by Laws and Regulations, prior written notice has been given to the purchasing policyholder. Contractor shall provide notification to Owner and Engineer by overnight delivery return receipt requested, hand delivery or confirmed facsimile 30 days prior to giving and within 3 days after receiving notice of cancellation, modification, non-renewal, or any other lapse in coverage of any required insurance policies.

SC-6.06 *Waiver of Rights*

Delete Paragraphs 6.06.B. and C. in their entirety.

SC-7.01 *Supervision and Superintendence*

Add the following to the end of Paragraph 7.01.B.:

The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or received from the superintendent shall be binding on Contractor.

SC-7.02 *Labor; Working Hours*

Add the following new Paragraphs immediately after Paragraph 7.02.B.:

- C. In all cases, local labor shall be given preference when available.
- D. Whenever Owner shall notify Contractor that any man on the Work is, in his opinion, incompetent, unfaithful, or disorderly, or who uses threatening or abusive language to any person representing Owner when on the Work, such man shall be immediately discharged from the Work and shall not be re-employed thereon except with the consent of Owner.

SC-7.03 *Services, Materials, and Equipment*

Add the following new Paragraph immediately after Paragraph 7.03.C.:

D. The responsibility for the protection and safekeeping of equipment and materials on or near the Site will be entirely that of Contractor and that no Claim shall be made against Owner by reason of any act of an employee or trespasser. Should an occasion arise necessitating access to the sites occupied by the stored materials and equipment, Contractor shall immediately move same. No materials or equipment may be placed upon the property of Owner until Owner has approved the location contemplated by Contractor to be used for storage.

SC-7.04 *“Or Equals”*

Delete the word “considered” from Paragraph 7.04.E. and insert the word “consider” in its place.

SC-7.06 *Concerning Subcontractors, Suppliers, and Others*

Delete Paragraph 7.06.H. in its entirety and insert the following in its place:

H. Prior to submitting the first Application for Payment and within 3 workdays after any change, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

SC-7.07 *Patent Fees and Royalties*

Delete Paragraph 7.07.B. in its entirety.

SC-7.08 *Permits*

Delete Paragraph 7.08.A. in its entirety and insert the following in its place:

A. Unless otherwise provided in the Contract Documents or Section 218.80, Florida Statutes, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor’s Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

SC-7.09 *Taxes and Direct Material Purchase Procedure*

Add the following new Paragraphs immediately after Paragraph 7.09.A.:

- B. Owner is exempt from payment of sales and compensating use taxes of the State of Florida and of cities and counties thereof on all materials to be incorporated into the Work.
- C. Contractor shall provide assistance to Owner for Direct Purchases to enable Owner to purchase tangible personal property needed for this Project which Owner intends to purchase in order to realize savings of sales tax on all tangible personal property needed for this Project. Contractor will recommend direct purchases for items where those direct purchases will result in significant tax savings to Owner. Owner will either accept or reject Contractor's recommendations, and purchases will be made according to Owner's decision. Owner retains the absolute right, with or without Contractor's recommendation, to purchase any or all tangible personal property needed for this Project.
- D. Contractor will provide detailed scoping and pricing for purchase orders with a minimum value of Five Thousand Dollars (\$5,000.00), in harmony with the Subcontractors to Owner for the incorporation in Owner's purchase orders.
- E. Owner will issue purchase orders within three (3) workdays from the date of receipt of requisition, directly to the vendors and provide a copy of each purchase order to Contractor.
- F. Contractor will be responsible for the materials until they are incorporated into the Project and will purchase and/or have ample Builder's Risk insurance for the direct purchased materials.
- G. Contractor will issue a deductive subcontract adjustment to the Subcontractor which will account for the value of the material and the sales tax as it pertains to that Subcontractor's contract. All subcontracts shall include a clause incorporating, by reference, the provisions of this Paragraph 7.09.
- H. As the material is delivered to the Site, the Subcontractor will sign off on the delivery receipt/invoice for the material delivered, store and secure the material adequately at the Site, and forward the invoice to Contractor who will review, approve and forward the invoice to Owner's Representative for approval and processing.
- I. Owner will draft a check for the approved invoice amount and mail that check directly to the vendor. A list of the check numbers with related dates of issue, names of vendors, amounts paid, and paid invoice numbers will be forwarded to Contractor in order that Contractor can accurately track payment.
- J. Contractor and Owner are encouraged to take advantage of all discounts available.
- K. Owner will issue to Contractor a deductive Change Order in the amount of the direct purchased materials. The amount equal to the sales tax which would have been paid if those materials had been purchased by Contractor will be credited to Owner

through a Contingency line item on the pay application's schedule of values, and the Contract Price specified in Article 4 of the Agreement shall be reduced by an amount equal to the amounts paid directly by Owner for direct purchases made pursuant to this Article, plus an amount equal to the sales tax that would have been paid if those materials had been purchased by Contractor.

SC-7.10 *Laws and Regulations*

Delete Paragraph 7.10.B. in its entirety and insert the following in its place:

- B. It shall be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations. Contractor shall bear all costs and losses, and shall indemnify and hold harmless Owner and Owner's officers and employees from and against all liabilities, damages, losses, and costs, including, but not limited to, reasonable attorney's fees arising out of or relating to Work or other action that is contrary to Laws or Regulations.

SC-7.11 *Record Documents*

Delete the word "Engineer" at the end of Paragraph 7.11.A. and insert the word "Owner" in its place.

SC-7.12 *Safety and Protection*

Add the following new Paragraph to Paragraph 7.12:

- H. Contractor shall pay for all damages to private property, public property, and any public utilities.

SC-7.17 *Contractor's General Warranty and Guarantee*

Add the following new Paragraph to paragraph 7.17:

- E. All materials incorporated in the Work shall comply with the requirements of the Construction Documents. Any Defective Work which develop within 1 year after the date of final acceptance shall be promptly repaired by or replaced to "as new" condition by Contractor without any additional expense to Owner.

SC-7.18 *Indemnification*

Delete Paragraph 7.18 in its entirety and insert the following in its place.

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Owner's officers and employees from and against all liabilities, damages, losses, and costs, including, but not limited to, reasonable

attorney's fees to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of Contractor and persons employed or utilized by Contractor in the performance of any of the Work.

- B. In any and all claims against Owner or any of its officers or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly utilized by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall be limited to \$1,000,000 per occurrence.

SC-7.19 *Delegation of Professional Design Services*

Add the following new Paragraph immediately after Paragraph 7.19.E.:

- F. If Contractor provides professional design services as a design professional, as that term is defined in Section 725.08(4), Florida Statutes, Contractor shall indemnify and hold harmless Owner and Owner's officers and employees, from liabilities, damages, losses, and costs, including, but not limited to reasonable attorneys' fees, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of Contractor providing professional design services as a design professional and other persons employed or utilized by Contractor in the performance of the professional design services.

SC-7.20-7.29

Add the following new Paragraphs immediately after new Paragraph 7.19.F.:

SC-7.20 *Storage of Materials*

- A. The responsibility for the protection and safekeeping of equipment and materials on or near the Site will be entirely that of Contractor, and no claim shall be made against Owner by reason of any act of an employee or trespasser. Should an occasion arise necessitating access to the sites occupied by these stored materials and equipment, Contractor shall immediately move same. No materials or equipment may be placed upon the property of Owner until Owner has approved the location contemplated by Contractor to be used for storage.

SC-7.21 *Erosion and Drainage Control*

- A. Contractor shall implement Best Management Practices (BMP's) to provide for drainage of storm water and such water as may be applied or discharged on the Site in performance of the Work. Drainage facilities shall be adequate to prevent damage to the Work, the Site and adjacent property.
- B. Contractor shall prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris or other substances resulting from this work. Contractor shall clean up and isolate such materials on a continuing basis to prevent risk of washing into such drainage ways.
- C. Contractor shall determine if a Stormwater Discharge Permit or a Construction Dewatering Discharge Permit applies to the Work. Contractor shall obtain required permit(s) if necessary for completion of the Work.

SC-7.22 *Protection of Trees and Natural Conditions*

- A. No trees or shrubs shall be damaged or removed beyond delineated limits of disturbance except those flagged by Owner. No areas shall be disturbed beyond the designated limits indicated by Owner. Contractor shall install orange safety fence to delineate limits of disturbance, and Contractor shall be responsible for damage mitigation beyond these limits.

SC-7.23 *Dewatering*

- A. If dewatering is required at the Site, Contractor shall comply with all dewatering requirements of governmental agencies.

SC-7.24 *Protection of Public and Private Property*

- A. Contractor shall protect, shore, brace, support and maintain all underground pipes, conduits, drains, and other underground or above ground structures uncovered or otherwise affected by the construction of the Work performed by Contractor. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, guard posts, and other surface structures affected by construction operations, together with all trees, sod and shrubs in yards and parking lots removed or damaged, shall be restored to their original condition or replaced as determined and approved by Owner, whether within or outside Owner's right-of-way. All replacements shall be made with new materials.
- B. Contractor shall be responsible for all damages to streets, roads, highways, shoulders, ditches, embankments, culverts, facilities and utilities, bridges, property corners and monuments and other public or private property, regardless of location or character, which may be caused by construction of the Work or by transporting equipment, materials or men to or from the Work or any part or site thereof, whether by Contractor or Contractor's

Subcontractors. Contractor shall make satisfactory and acceptable arrangements with the owner of, or the agency or authority having jurisdiction over, the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.

- C. All fire hydrants and water control valves shall be kept free from obstruction and for use at all times.
- D. Contractor shall be responsible for any damage to existing structures during the course of the Work.

SC-7.25 *Maintenance of Traffic*

- A. Contractor shall provide traffic control plans as required by the controlling highway, street or road authority. Contractor shall perform the Work so as to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever necessary to cross, use, obstruct or close roads, driveways and walks, whether public or private, Contractor shall, at its own expense, provide and maintain suitable and safe bridges, detours or other temporary expedients, for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them. Such maintenance of traffic will not be required when Contractor has obtained permission from the owner and tenant of private property, or from the authority having jurisdiction over the public property involved, to obstruct traffic at the designated point. Obstructions, such as material piles and equipment, shall be provided with appropriate warning signs and lights.
- B. After completion, the roadway shall be restored to original condition, and disturbed areas shall be restored to original condition.

SC-7.26 *Testing*

- A. Contractor shall be responsible for all testing required for sampling and testing of materials to prove compliance with the Contract Documents. This shall include, but not be limited to mix design approvals for concrete and asphalt, pipe bedding gradations and Proctor tests and gradations for imported granular fill materials. Specific requirements shall be included in the applicable specification sections.
- B. Tests required to monitor control performance of the Work in accordance with the Contract Documents such as concrete cylinder tests and compaction tests shall be ordered and paid for by Contractor. Any retesting required as a result of the first test failure will be at Contractor's expense. Contractor will assist in providing locations and allowing the tests to be conducted without obstructions and in accordance with all Laws and Regulations. Contractor shall correct or modify its operations where indicated necessary by the test results.

SC-7.27 *Unfavorable Construction Conditions*

- A. During unfavorable weather, wet ground or other unsuitable construction conditions, Contractor shall confine its operations to work which will not be affected adversely by such conditions. No portion of the Work shall be constructed under conditions which affect adversely the quality or efficiency thereof, unless special means or precautions are taken by Contractor to perform the Work in a proper and satisfactory manner.

SC-7.28 *Notices to Owners and Authorities*

- A. Contractor shall notify owners of adjacent property and utilities when prosecution of Work may affect them.
- B. Utilities and other concerned agencies shall be contracted at least 48 hours prior to cutting or closing streets or other traffic areas or excavating near Underground Facilities or pole lines.

SC-7.29 *Storage of Fuel or Hazardous Materials*

- A. No fuel or other hazardous materials shall be stored on the Site. Extreme care and compliance with all regulations shall be required when handling all such materials.

SC-11.01 *Amending and Supplementing Contract Documents*

Delete the first sentence of Paragraph 11.01.A. and insert the following in its place:

The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order if approved, in writing, by Owner.

SC-14.02 *Tests, Inspections, and Approvals*

Delete Paragraph 14.02.B. in its entirety and insert the following in its place:

- B. Owner shall retain and Contractor shall pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.

SC-15 ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD.

Add the following to the end of 15.01.B.1.:

If the payment and performance of the Work is not secured by a payment and performance bond, all applications for payment shall include a written statement that indicates how the payment will be distributed. Contractor shall disburse the payment as provided in that written statement.

Add the following new Paragraph to Paragraph 15.01.B.:

4. *If Requested by Owner:*

- a. Contractor shall deliver a certified list of all Subcontractors, laborers, and material suppliers to Owner within 30 days of receiving the request. This list shall be updated by Contractor thereafter each month with a certified statement by Contractor that the list and its updates include the names and address of all of Subcontractors, laborers, and Suppliers furnishing labor and/or material for the Project.
- b. Contractor shall provide a written statement with each pay request to the Owner which indicates how each payment will be distributed. This pay request breakdown shall define the disbursement of all the funds requested.
- c. When Contractor receives any payment pursuant to this Contract, Contractor shall pay laborers and each Subcontractor and Supplier the amounts stated in Contractor's written statement delivered to Owner for that pay request.
- d. Contractor shall provide a written statement with all but the first payment request from each of the Subcontractors, laborers, and Suppliers identified in Paragraph 15.01.B.4.b., that they have in fact received payment as provided in Paragraph 15.01.B.4.c. In the event a payment will not be made as stated on a prior written statement delivered pursuant to Paragraph 15.01.B.4.b., Contractor shall furnish an explanation as to the reasons for such deviation and shall request approval from the Engineer.

Add the following new Paragraphs immediately after Paragraph 15.08.E.:

SC-15.09 *Local Government Prompt Payment Act*

- A. If the total cost of the construction services purchased by Owner pursuant to this Contract exceeds \$200,000, the provisions of this Article are subject to the provisions of the Local Government Prompt Payment Act, Sections 218.70 through 218.79, inclusive, Florida Statutes, except to the extent provided therein and in that event provisions of this Article are modified and amended to the extent required to be consistent with the Local Government Prompt Payment Act.

SC-15.10 *Interest*

A. All moneys not paid when due as provided in Paragraph 15 shall bear interest at the maximum rate of 6 percent per annum, simple.

SC-16.02 *Owner May Terminate for Cause*

Delete Paragraph 16.02 in its entirety and insert the following in its place:

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 4. Contractor's repeated disregard of the authority of Owner or Engineer; or
 5. Contractor becomes involved as a debtor in a bankruptcy proceeding, or becomes involved in a reorganization, dissolution, or liquidation proceeding, or if a trustee or receiver is appointed over all or a substantial portion of the property of Contractor under federal bankruptcy law or any state insolvency law.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten (10) days written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
1. declare Contractor to be in default, give Contractor (and any surety) notice that the Contract is terminated, and enforce the rights available to Owner under any applicable payment and performance bond; or
 2. notify Contractor of the deficiency with a requirement that the deficiency be corrected within a specified time, otherwise the Contract will be terminated at the end of such time; or
 3. take whatever action is deemed appropriate by Owner.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

- D. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraph 16.02.B.

**DIVISION 0 - SECTION 00836
WAIVER OF RIGHT TO CLAIM
AGAINST THE PUBLIC CONSTRUCTION BOND
(FINAL PAYMENT)**

The undersigned, in consideration of the final payment in the amount of \$ _____, hereby waives its right to claim against the Public Construction Bond for labor, services, or materials furnished to _____
_____ on the job of Highlands County, a political subdivision of the State of Florida, for improvements to the following described project: Construction of the Highlands Park Estates Clubhouse; Highlands County Project No. 12056

DATED ON _____, 20____.

By: _____

IN WITNESS WHEREOF _____ have (has) hereunto set hand and seal
this _____ day of _____, 20____.

WITNESS:

(Seal)

Print Name: _____

SWORN AND SUBSCRIBED TO BEFORE ME THIS _____ day of _____, 20____.

Notary Public
State of Florida-at-Large

My Commission Expires: _____

**WAIVER OF RIGHT TO CLAIM
AGAINST THE PAYMENT BOND
(PROGRESS PAYMENT)**

The undersigned, in consideration of the sum of \$_____, hereby waives its right to claim against the Public Construction Bond for labor, services, or materials furnished through (insert date) to (insert the name of your customer) on the job of (Highlands County, a political subdivision of the State of Florida), for improvements to the following described project: Construction of the Highlands Park Estates Clubhouse; Highlands County Project No. 12056. This waiver does not cover any retention or any labor, services, or materials furnished after the date specified.

DATED ON _____, 20 ____.

By: _____

IN WITNESS WHEREOF _____ have (has) hereunto set hand and seal this _____ day of _____, 20____.

WITNESS:

(Seal)

Print Name: _____

SWORN AND SUBSCRIBED TO BEFORE ME THIS ____ day of _____, 20____.

Notary Public
State of Florida-at-Large

My Commission Expires: _____

SECTION 01010
SUMMARY OF WORK
ITB 18-011

Article 1 - General

1.01 Description

- A. This Section summarizes the Work of the Project as covered in detail in the complete Contract Documents.
- B. This is a general summary and is not intended to be complete and all-inclusive of the required Work items. Furnish all labor, materials, tools, equipment and services as indicated in accord with provisions of Contract Documents.

1.02 Work covered by the contract

A. Introduction:

(1) The Highlands County Engineering Department is inviting bids from qualified general contractors for the construction of a project identified as 'Highlands Park Estates Clubhouse' located in Lake Placid, Florida..

B. The architectural firm responsible for this project is Kirk Curtis Mundy Hunnicutt Associates Architects Inc. (KCMH Architects) located at 1036 South Florida Avenue, Lakeland, Florida. Phone: 863-688-8882. Email: khunnicutt@kcmharch.com. Keith Hunnicutt, AIA, is the project architect and can be reached at the above phone number and email address.

C. The scope of this project shall include the construction of a single story concrete block and wood roof truss structure utilized as a community meeting space. Spaces shall include meeting room, kitchen, office, toilet rooms, mechanical/ electrical spaces and covered porches. Site work shall include the complete removal/ demolition of an existing single story building, including septic system, existing trees/ vegetation, and other miscellaneous items. Concrete sidewalks and septic system are included in the scope of work.

SPECIFICATIONS

FOR

HIGHLANDS PARK ESTATES CLUBHOUSE

Lake Placid, Florida

KCMH Job No. 16031

For Approval
July 21, 2017

Kirk Curtis Mundy Hunnicutt Associates Architects Inc. Architect
1036 South Florida Avenue, Lakeland, FL 33803
Tel: 863/688-8882 - Fax: 863/688-8361
AA C000772

GENERAL DESIGN GUIDELINE SPECIFICATIONS

STRUCTURAL • ARCHITECTURAL
MECHANICAL • ELECTRICAL

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None in contract.

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None in contract.

DIVISION 14 / CONVEYING SYSTEMS

None in contract.

DIVISION 15 / MECHANICAL

Refer to drawings.

DIVISION 16 / ELECTRICAL

Refer to drawings.

SECTION 01230 / ALTERNATE(S)

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. Definitions

- 1. Guaranteed Maximum Price (GMP) / Base Bid Amount: is a lump sum amount for all work described in the documents, exclusive of lump sum amounts for all of the alternates described in this section.
- 2. 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 the amount of construction to be completed. The OWNER reserves the right to accept or reject alternates in any order.

- C. Coordination

- 1. 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. Schedule

- 1. A "Schedule of Alternates" is included at the end of this section. Include as part of each alternate all miscellaneous devices, accessory objects and similar items incidental to or reasonably required for a complete installation whether or not mentioned as part of the alternate.
 - a. Alternate No. 1 – Delete construction related to the Covered Porch (109) and Covered Porch (110). Refer to Drawing Sheet S101 for description of alternate work.

END OF SECTION 01230

SECTION 01310 / PROCEDURES AND CONTROLS

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 work of this section.

1.02 COORDINATION AND MEETINGS

- A. General: Prepare and distribute to each entity performing work at project site, a written memorandum of instructions on required coordinating activities, including required notices, reports and attendance at meetings. Prepare similar memorandum for separate contractors where interfacing of work is required.
- B. Weekly Job Coordination Meeting: In addition to specific pre-installation meetings and coordination meetings for each major element of work, and regular project meetings for other purposes, hold weekly job coordination meetings at regularly scheduled times which are convenient for everyone involved. Request representation (at each meeting) by every entity currently involved in coordination or planning for work of the entire project and by a representative qualified and authorized to make binding agreements. Conduct meetings in a manner which will resolve coordination problems. Record results of meetings and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

OWNER, ARCHITECT, and when necessary, ENGINEERING CONSULTANTS, will attend weekly job coordination meetings. If deemed necessary by the ARCHITECT he will record his own separate minutes of such meetings and distribute a copy to each: OWNER, Consultants and CONTRACTOR. CONTRACTOR will be responsible for further distribution if deemed necessary.

1.03 ADMINISTRATIVE/SUPERVISORY PERSONNEL

- A. Site Superintendent: The CONTRACTOR shall employ a competent SUPERINTENDENT and necessary assistants who shall be in attendance at the Project site during performance of the Work. The SUPERINTENDENT shall represent the CONTRACTOR, and communications given to the SUPERINTENDENT shall be as binding as if given to the CONTRACTOR. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case. The CONTRACTOR shall maintain at the project job site a full-time SUPERINTENDENT who will devote 100% of this working hours to this project.
 - 1. Experience: SUPERINTENDENT shall have a minimum work experience of five (5) years on projects of similar size and scope. Submit work experience and references of proposed SUPERINTENDENT for OWNER'S and ARCHITECT'S review and approval. An approved

SUPERINTENDENT shall not be removed from the project without the prior approval of the OWNER and ARCHITECT. The CONTRACTOR shall, upon demand from OWNER, immediately remove any SUPERINTENDENT that the OWNER may consider incompetent or undesirable.

2. Locations: Contracts involving work at more than one location shall require a SUPERINTENDENT at each location unless other provisions are approved by the OWNER.
 3. Superintendent's Instructions: In the CONTRACTOR'S absence, the SUPERINTENDENT shall represent the CONTRACTOR and all written instructions directed to the SUPERINTENDENT shall be binding.
 4. Supervision: The SUPERINTENDENT shall give adequate supervision to the work.
 - a. The SUPERINTENDENT shall carefully study and compare the CONTRACT DOCUMENTS and immediately report any errors, omissions, or discrepancies to the ARCHITECT.
 - b. The SUPERINTENDENT shall not be removed without prior written notice to and written consent of the ARCHITECT and the OWNER.
- B. General: In addition to a General Superintendent and other administrative and supervisory personnel required for performance of the work, provide specific coordinating personnel as specified herein.
- C. Project Manager: Provide a Project Manager, who is experienced in administration and supervision of building construction including mechanical and electrical work, and who is hereby authorized to act as the general coordinator of interfaces between units of work. For purpose of this provision, "interface" is defined to include the scheduling and sequencing of work, sharing of access to work spaces, installation, protection of each other's work, cutting and patching, tolerances, cleaning, selections for compatibility, preparation of coordination drawings, inspections, tests and temporary facilities and services.
- D. Submittal of Staff Names and Duties: Within 14 days of Contract Commencement date, submit a listing of CONTRACTOR'S principal staff assignments and consultants, naming persons and listing their addresses and telephone numbers.
- E. The Contractor shall retain all personnel assigned to this Project until the punch list is completed, all close out documents have been reviewed and are accepted by the owner and architect. Personnel assigned to the project shall not be removed, dismissed or reassigned without the owner's knowledge and written approval.

1.04 LIMITATIONS FOR USE OF SITE

- A. In addition to site utilization limitations and requirements shown on drawings, and indicated by other contract documents, administer allocation of available space equitably among entities needing access and space, so as to produce best overall efficiency in performance of total work of project. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.
- B. Facilities, or portions of facilities shall not be occupied during construction, unless exits, fire detection and early warning systems, fire protection, and safety barriers are continuously maintained and clearly marked at all times. FBC 423.6.1 Occupancy During Construction.

1.05 TRADESPERSONS AND WORKMANSHIP STANDARDS

- A. Initiate and maintain procedures to ensure that persons performing work at site are skilled and knowledgeable in methods and craftsmanship needed to produce required quality-levels for workmanship in completed work. Remove and replace work which does not comply with workmanship standards as specified and as recognized in the construction industry for application indicated. Timely remove and replace other work damaged or deteriorated by faulty workmanship or its replacement such that final project completion date is met.

1.06 INSPECTIONS, TESTS AND REPORTS

- A. General: Required inspection and testing services are intended to assist in determination of compliances of work with requirements, but do not relieve CONTRACTOR of responsibility for those compliances, or for general fulfillment of requirements of Contract documents. Specified inspections and tests are not intended to limit CONTRACTOR'S Quality Control program. Afford reasonable access to agencies performing tests and inspections.
- B. OWNER'S Tests: Where tests or inspections are indicated as OWNER'S responsibility, OWNER will engage independent testing agency to perform required services. CONTRACTOR will be responsible for timely notification and coordination for such tests.
- C. Qualification of Testing Agencies: Except as otherwise indicated and except where manufacturer's testing facilities are indicated as acceptable, engage independent testing laboratories specializing in required services and complying with "Recommended Requirements" for Independent Laboratory Qualification" by ACIL.
- D. Reports: Submit test/inspection reports, including agency's analysis of results and recommendations where applicable, to ARCHITECTS, OWNER and Consultant except as otherwise indicated, and submit copies directly to governing authorities where required or requested.

1.07 THRESHOLD BUILDING INSPECTIONS

- A. Threshold inspection is not required for this project.
- B. A structural inspection plan providing specific inspection procedures and schedules shall be submitted to the enforcing agency prior to the issuance of a building permit for construction. The structural inspection plan shall be prepared by the engineer or architect of record.

Part 2 - EXECUTION

2.01 GENERAL INSTALLATION PROVISIONS

- A. Pre-Installation Conferences: Well in advance of installation of every major unit of work which requires coordination and interfacing with other work, meet at project site with installers and representatives of manufacturers and fabricator who are involved in or affected by units of work, and in its coordination or integration with other work which has preceded or will follow. Advise OWNER, ARCHITECT/ENGINEER of scheduled meeting dates. At each meeting review progress of other work and preparations for particular work under consideration, including requirements of Contract documents, options, related change order, purchases, deliveries, shop drawings, product data, quality control samples, possible conflicts, compatibility problems, time schedules, weather limitations, temporary facilities, space and access limitations, structural limitations, governing regulations, safety, inspection and testing requirements, required performance results, recording requirements, and protection. Record significant discussions of each conference, and record agreements and disagreement, along with final plan of action.

Distribute record of meeting promptly to everyone concerning, including ARCHITECT, ENGINEER and OWNER.

Do not proceed with the work if associated pre-installation conference cannot be concluded successfully. Instigate actions to resolve impediments to performance of the work, and reconvene conference at earliest date feasible.

- B. Installer's Inspection of Conditions: Require installer of each major unit of work to inspect substrate to receive work, and conditions under which work will be performed, and to report (in writing to CONTRACTOR) unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.
- C. Manufacturer's Instructions: Where installations include manufactured products, comply with manufacturer's applicable instructions and recommendations for installation, to the extent these are more explicit or more stringent than requirements indicated in Contract documents.

- D. Inspect each item of materials or equipment immediately prior to installation, and reject damaged and defective items.
- E. Provide attachment and connection devices and methods for securing work properly as it is installed; true to line and level, and within required tolerances if not otherwise indicated. Allow for expansions and building movements. Provide uniform joint widths in exposed work, organized for best possible visual effect. Refer questionable visual-effect choices to ARCHITECT for final decision.
- F. Recheck measurements and dimensions of the work, as an integral step of starting each installation.
- G. Install work during conditions of temperature, humidity, exposure, forecasted weather, and status of project completion which will ensure best possible results for each unit of work, in coordination with entire work. Isolate each unit of work from non-compatible work, as necessary to prevent deterioration.
- H. Coordinate enclosure (closing-in) of work with required inspections and tests, so as to minimize necessity of uncovering work for that purpose.
- I. Mounting Heights: Where mounting heights are not indicated, mount individual units of work at industry-recognized standard mounting heights for application indicated. Refer questionable mounting height choices to ARCHITECT/ENGINEER for final decision.

2.02 CUTTING AND PATCHING

- A. General: Do not cut-and-patch structural work in a manner resulting in reduction of load-carrying capacity or load-deflection ratio; submit proposed cutting and patching to ARCHITECT/ENGINEER for structural approval before proceeding. Do not cut-and-patch operational elements and safety-related components in a manner resulting in reduction of capacities to perform in a manner intended or resulting in decreased operational life, increased maintenance, or decreased safety. Do not cut-and-patch work which is exposed on exterior or exposed in occupied spaces of building, in a manner resulting in reduction of visual qualities or resulting in substantial evidence of cut-and-patch work, both as judged solely by ARCHITECT. Remove and replace work judged by ARCHITECT to be cut-and-patched in a visually unsatisfactory or otherwise objectionable manner.
- B. Materials: Except as otherwise indicated or approved by ARCHITECT/ENGINEER, provide materials for cutting-and-patching which will result in equal-or-better work than work being cut-and-patched; in terms of performance characteristics and including visual effect where applicable. Use materials identical with original materials where feasible and where recognized that satisfactory results can be produced thereby.

- C. All penetrations through fire-rated construction shall be fire stopped per NEC 300-21 using a through penetration fire stop system (XHEZ) listed in the UL fire resistance directory.
- D. Temporary Support and Protection: Provide adequate temporary support for work to be cut, to prevent failure. Do not endanger other work or persons. Provide adequate protection of other work during cut-and-patching, to prevent damage; and provide protection of the work from adverse weather exposure.
- E. Cut work by methods least likely to damage work to be retained and work adjoining.
 - 1. Where physical cutting action is required, work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings through concrete work.
 - 2. Comply with the requirements of applicable sections of Division 2 where cutting-and-patching requires excavating and backfilling.
- F. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
 - 1. Where feasible, inspect and test patched areas to demonstrate integrity of work.
- G. Restore exposed finishes of patched areas:
 - 1. Extend finish restoration onto adjacent existing areas as required, in a manner which will eliminate evidence of patching.
 - 2. Where patch occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing patch, after patched areas have received prime and base coats.

2.03 CLEANING AND PROTECTION

- A. General: During handling and installation of work at project site clean and protect in progress and adjoining work on a basis of perpetual maintenance. Apply suitable protective covering on newly installed work where reasonably required to ensure freedom from damage or deterioration at time of completion; otherwise, clean and perform maintenance on newly installed work as frequently as necessary through remainder of construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

- B. In addition to removal of rubbish and leaving the building broom clean, the Contractor shall clean and wash all glass; replace any broken glass; remove stains, spots, marks and dirt from finished work; clean hardware, remove paint spots and smears from all surfaces; and clean fixtures and wash all concrete, tile and other floors.
- C. The trades shall remove their rubbish and debris from the building site promptly upon its accumulation and in no event later than the CONTRACTOR regular cleaning schedules, and all trash shall be deposited at one central point(s), as determined by the CONTRACTOR.
- D. Burning of rubbish on site will not be permitted. Rubbish shall not be thrown through window openings or from any great heights, but shall be conducted to ground by means of approved chutes, or other means of conveyance.
- E. Cleaning: Before pre-final inspection, the project (individual areas) is to be thoroughly cleaned. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of work to the condition expected from a normal, commercial building cleaning and maintenance program. Comply with the manufacturer's instructions for operations. Provide final cleaning prior to Final Inspection.
- F. Limiting Exposures of Work: To extent possible through reasonable control and protection methods, supervise performance of work in a manner and by means which will ensure that none of the work, whether completed or in progress, will be subjected to harmful, dangerous, damaging or otherwise deleterious exposure during construction period. Such exposures include (where applicable, but not by way of limitation) static loading, dynamic temperatures, thermal shock, high or low humidity, air contamination or pollution, water, ice solvents, chemicals, light, radiation, puncture, abrasion, heavy traffic, soiling, bacterial, insect infestation, combustion, electrical current, high speed operation, improper lubrication, unusual wear, misuse, incompatible interface, destructive testing, misalignment, excessive weathering, unprotected storage, improper shipping/handling, theft and vandalism.

END OF SECTION 01310

SECTION 01330 / SHOP DRAWING REQUIREMENTS

Part 1 - REQUIREMENTS

1.01 RELATED DOCUMENTS

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

1.02 GENERAL

- A. Follow shop drawing requirements of General Conditions referenced, and amended herein.

1.03 DEFINITIONS

- A. Shop drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are prepared by CONTRACTOR or any sub-contractor, manufacturer, supplier or distributor, and which illustrate some portion of the work.

Samples are physical examples furnished by CONTRACTOR to illustrate materials, equipment or workmanship, and to establish standards by which the work will be judged.

1.04 SPECIAL SHOP DRAWING REQUIREMENTS

- A. Division 3, Concrete; Division 4, Masonry; Division 5, Metals; Section 06402/Custom Shop Fabricated Millwork; Division 7, Thermal and Moisture Protection; Division 8, Doors and Windows; Division 10, Specialties; Division 11, Equipment; Division 12, Furnishings; Division 15, Mechanical; and Division 16, Electrical where applicable, CONTRACTOR shall provide one complete set of reproducible drawings (sheet size 36" x 24") describing and detailing all shop or field fabricated work with each piece keyed to ARCHITECT'S numbering system where applicable, along with three sets of blueline or blackline prints of same.

- B. ARCHITECT will note all comments on the reproducibles, duplicate copies for ARCHITECT and OWNER and return reproducibles to CONTRACTOR for further reproductions and distributions.

- 1. For submittals not conducive to the foregoing procedure, provide a minimum of seven copies each, for the following distribution:

- 1 - OWNER
- 2 - ARCHITECT
- 1 - ENGINEER Consultant
- 2 - CONTRACTOR
- 1 - Subcontractor / Supplier

2. Additional copies may be submitted by CONTRACTOR if desired for further distribution.
3. Structural areas requiring threshold building inspections will require one additional set of submittals.
4. Each submittal is to make clear reference to Project Name, Specification Sections and Drawing Numbers.
5. No partial submittals will be accepted without prior agreement of ARCHITECT.
6. HVAC Submittals: Provide additional copies of specific data, to be retained by ARCHITECT, to be turned over to the OWNER'S selected Test & Balance agency.

1.05 CONTRACTOR'S RESPONSIBILITIES

- A. Within twenty-one calendar days of contract start date deliver to ARCHITECT a comprehensive schedule of submittals anticipated and necessary for this project.
- B. Review, stamp with CONTRACTOR'S approval and submit, with reasonable promptness and in orderly sequence so as to cause no delay in the work, all shop drawings and samples required by contract documents or subsequently by ARCHITECT as covered by modifications. Properly identify all shop drawings and samples and list name, address and telephone number of subcontractor/supplier. At time of submission, CONTRACTOR shall inform ARCHITECT in writing of any deviation in shop drawings or samples from requirements of these contract documents. **All deviations are to be marked in red on submittal. Submittals not marked correctly will be returned to CONTRACTOR for correction and re-submittal.** Submit complete shop drawings for a single trade. No partial submittals will be reviewed without prior agreement of ARCHITECT.
 1. **All products installed in the building envelope shall have the product approval number indicated on the submittal. Products shall conform to the FBC, latest edition.**
- C. By approving and submitting shop drawings and samples, CONTRACTOR thereby represents that he has determined and verified all field measurements, field construction criteria, materials, catalog numbers and similar data, or will do so, and that he has checked and coordinated each shop drawing and sample with all requirements of the work, related trades and contract documents.
- D. Make all corrections required by ARCHITECT and resubmit required number of corrected copies of shop drawings or new samples until accepted by ARCHITECT and his consulting ENGINEERS. No additional days for re-submittals, because of rejection of product or shop drawings. Direct specific attention in writing or on resubmitted shop drawings to revisions other than corrections requested by ARCHITECT on previous submissions.

- E. **ARCHITECT'S review of shop drawings or samples does not relieve CONTRACTOR of responsibility for any deviation from requirements of contract documents, unless CONTRACTOR has informed ARCHITECT in writing of such deviation at time of submission and ARCHITECT and OWNER accept the specific deviation; nor shall ARCHITECT'S review relieve CONTRACTOR from responsibility for errors or omissions in CONTRACTOR'S preparation of shop drawings or samples. ARCHITECT will not verify quantities of materials or verify dimensions except as they compare to the contract documents. Field verification of dimensions remain the responsibility of the CONTRACTOR.**
- F. Deliver no materials or equipment to project and commence no portion of work requiring shop drawing or sample submission until submission has been reviewed by ARCHITECT and returned in satisfactory manner to CONTRACTOR. All such portions of work shall be in accord with shop drawings, samples and contract documents.
- G. Unless agreed to in advance, completion of all Shop Drawing submission shall be accomplished no later than 90 calendar days after contract commencement date.

1.06 ARCHITECT'S RESPONSIBILITY

- A. ARCHITECT requires twenty-one calendar days for processing each shop drawing submittal. Those requiring color selections could require additional time and all trades, where color selection of related items is critical, will have to be submitted before final selections will be made. This requirement is particularly important for the choice of interior material colors which require simultaneous selection. ARCHITECT will review shop drawings and samples with reasonable promptness but only for conformance with design concept of project and with information given in contract documents. ARCHITECT'S review of a separate item does not indicate approval of an assembly in which item functions. **ARCHITECT'S review shall not be construed as relieving the CONTRACTOR from compliance with the plans and specifications, nor departure therefrom. The CONTRACTOR will remain responsible for details and accuracy, for confirming and correlating all quantities and dimensions for selecting fabrication processes, for techniques of assembly and for performing his work in a safe manner.**

END OF SECTION 01330

SECTION 01400 / QUALITY CONTROL SERVICES

PART 1 - REQUIREMENTS AND RESPONSIBILITIES

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification sections, apply to work of this section.
- B. This section provides for but is not limited to the following Quality Control Services:
 - 1. Materials Testing
 - a. Soils Compaction
 - b. Concrete Testing
 - c. Masonry Grout Testing
 - d. Paint Testing
 - e. Subgrade and Limerock Base
- C. HVAC Systems Testing, Adjusting and Balancing to be provided by CONTRACTOR per Section 15990 of this specification.

1.02 RESPONSIBILITIES

- A. The OWNER: will procure and pay for Quality Control Services except as specified in 1.02, B.
- B. The CONTRACTOR will give ARCHITECT, OWNER and testing agency timely notice (one working day minimum, more if specified elsewhere) of readiness and of dates arranged so the OWNER and the ARCHITECT may observe testing. Cooperate with testing agency, and permit full rights of entry and observation. Independent testing laboratory control is employed to help produce work of uniformly high quality and does not relieve CONTRACTOR of complete responsibility of furnishing and installing work equal to or greater than minimum quality specified hereinafter. If tests fail to meet specified levels then CONTRACTOR will be responsible for reworking area failing tests, then arranging to have the areas retested. The CONTRACTOR will pay for failed tests.
- C. The Testing Agency will make all tests promptly and accurately, and furnish one copy each of results, directly to OWNER, ARCHITECT, STRUCTURAL ENGINEER, THRESHOLD INSPECTOR (if applicable) and CONTRACTOR.

PART 2 - MATERIALS TESTING

2.01 SOILS COMPACTION

- A. Test compacted soil occupied by building for density equal to 98% of Standard Proctor Maximum Dry Density tested by ASTM Method D-698.
- B. Make the following tests in location directed by ARCHITECT, OWNER, and/or testing lab.
 - 1. Site compaction
 - 2. Foundation compaction
 - 3. Fill compaction under slabs on grade
 - 4. Subgrade and limerock base.
Subgrade and limerock base at paving. Refer to specific preparation instructions in Division 2.

2.02 CONCRETE

- A. Make one compression test set of four cylinders for each 50 cubic yards or less of concrete placed in one day or single pour event. Laboratory is to have complete freedom to take and make cylinders at any time and place in pour, pick up cylinders and make all test themselves. Make and cure test specimens in accord with "Standard Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Field" (A.S.T.M. designation C-31). Test in accord with "Standard Methods of Test for Compressive Strength of Molded Concrete Cylinders", (A.S.T.M. designation C-39), except as hereinafter modified. Standard age of test is to be 28 days. Minimum compressive strength of specimen cylinders is design compressive strength. Test one cylinder at 7 days, test two cylinders at 28 days and the average value is to be used as test result. Hold 4th cylinder for further testing as instructed by OWNER or ARCHITECT.
- B. Criteria for acceptance of concrete cylinder tests shall comply with FBC section 1905 and below:
 - 1. Every arithmetic average of any three consecutive strength tests equals or exceeds $f' c$.
 - 2. No individual strength test (average of two cylinders) falls below $f' c$ by more than 500 psi (3.45 MPa) when $f' c$ is 5,000 psi (34.45 MPa) or less, or by more than 0.10 $f' c$ when $f' c$ is more than 5,000 psi.

2.03 MASONRY GROUT

- A. Make one compression test set of four specimens (per paragraph 2.02) for each 20 cubic yards or less of grout placed in one day or a single pour event. Laboratory is to have complete freedom to take and make specimens at any time and place in pour, pick up specimens and make all tests themselves. Standard age of tests is to be 28 days. Minimum compressive strength of specimen is design compressive strength. Test one cylinder at 7 days, test two cylinders at 28 days and the average value is to be used as test result. Hold 4th cylinder for further testing as instructed by OWNER or ARCHITECT.

2.04 PAINT

- A. Adherence to paint specifications will be field checked at random by testing agency.

- 2.05 The CONTRACTOR shall provide to the OWNER in the close out documents, written certification that no asbestos containing materials were used in this project per the Federal Asbestos hazard Emergency Response Act (AHERA) 40 CFR, Part 763 as the latest revision.

END OF SECTION 01400

SECTION 01770 / CLOSEOUT PROCEDURES

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 work of this section.

PART 2 – INSPECTIONS

2.01 MILL OR FACTORY INSPECTION

- A. If mill or factory inspection is required by the CONTRACT DOCUMENTS, the CONTRACTOR shall notify the suppliers that the materials shall not be produced or fabricated without due notice to the ARCHITECT.

2.02 PUNCH LIST INSPECTION

- A. When the CONTRACTOR has pre-formed his own punch list inspection and believes that the Work is substantially complete, the CONTRACTOR shall submit to the OWNER and the ARCHITECT, using the REQUEST FOR PUNCH LIST INSPECTION, a list of items to be completed or corrected. When the OWNER and the ARCHITECT on the basis of the punch list inspection determine that the Work is in fact substantially complete, the ARCHITECT will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion and shall state the responsibilities of the OWNER and the CONTRACTOR for Project security, maintenance, heat, utilities, damage to the Work, and insurance, and the CONTRACTOR shall complete the items listed therein with a not to exceed time of 30 days for single source contract's and 60 days for multiple contract's, or as modified by the contract. Guarantees required by the Contract shall commence on the date of Substantial Completion of the Work. The Certificate of Substantial Completion shall be submitted to the OWNER and the CONTRACTOR for their written acceptance of the responsibilities assigned to them in such certificate. Upon Substantial Completion of the Work, and execution by both the OWNER and the CONTRACTOR of the Certificate of Substantial Completion, the OWNER shall pay the CONTRACTOR an amount sufficient to increase total payments to the CONTRACTOR to one hundred percent of the Contract Price less retainage.

- 2.03 FINAL INSPECTION: The Final Inspection will be made by the OWNER on the first work day following the Completion Date or as soon thereafter as possible.

- A. It will be the responsibility of the CONTRACTOR to complete the work for Final Inspection on the Completion Date, which work shall include, but not be limited to the following:

1. Proper completion of all items which may be listed on a pre-final inspection list which the CONTRACTOR may request from the ARCHITECT.
 2. Complete operation of all mechanical systems, fire alarms, intercom systems, and sanitary facilities.
 3. All site work.
- B. If the work is not ready for Final Inspection on the Completion Date, the Final Inspection will be held on a subsequent date when the ARCHITECT, OWNER, and CONTRACTOR have determined that the work is ready for Final Inspection. Without written prior approval, liquidated damages shall be assessed beginning the first working day after the completion date.
- C. If the work is ready for Final Inspection prior to the completion date the CONTRACTOR may request an earlier Final Inspection.

2.04 WORK COVERED UP

- A. If the work should be covered up without approval or consent of the ARCHITECT or OWNER, the ARCHITECT or the OWNER may require the work to be uncovered for examination at the CONTRACTOR'S expense.

2.05 DEFECTS OR OMISSIONS

- A. Defects or omissions remaining at the time of the Final Inspection will be noted and three times the installed and operational value of these items may be withheld pending their completion and acceptance. If defects or omissions remain thirty days after the OWNER'S acceptance of the project the OWNER may, without further notice to the CONTRACTOR, correct the defects or omissions and withhold the cost from the CONTRACTOR'S retainage.

2.06 REVIEW AND ASSIGNMENT OF WARRANTIES

- A. CONTRACTOR shall obtain and shall transmit to OWNER'S Representative all special product, system, equipment or material warranties required by the Contract Documents and the Subcontracts at time of substantial completion. CONTRACTOR shall review all such warranties to confirm that the warranties are in compliance with the requirements of the Contract Documents and Subcontracts. By execution of this Agreement, CONTRACTOR hereby assigns to OWNER all of CONTRACTOR rights, title and interest in and to any and all warranties, including Uniform Commercial Code warranties, that CONTRACTOR receives or is entitled to receive from any Subcontractor or supplier in connection with the Project.
- B. All warranties shall be placed in a three (3) ring binder separated with tabs by division.

- C. The contractor shall also furnish a JPG copy of each warranty on a compact disk. The format for the JPG picture file shall be the division followed by a short description of the item. (i.e. 15WH1.JPG or 15AHU1.JPG)

2.07 OPERATIONS AND MAINTENANCE DOCUMENTATION

- A. CONTRACTOR shall obtain and transmit to OWNER'S Representative all documentation required by the Contract Documents regarding the operation and recommended maintenance programs relating to the various elements of the Project at time of substantial completion. Two Sets of documentation shall be furnished to OWNER'S Representative in uniform three-ring binders labeled with the Project name and number on the cover. These binders shall be tabbed and labeled by Division and include each subcontractors warranty and release of lien.

2.08 REVIEW AND APPROVAL OF AS-BUILT DRAWINGS

- A. As-built drawings shall be provided as part of the closeout documents. CONTRACTOR'S final retainage shall be held until the requirements of this section are met.
- B. CONTRACTOR shall provide to the OWNER an as-built survey showing building location, finished floor elevation(s), walks, site grade elevations, storm drainage systems, inverts, utilities, etc. shall be signed and sealed by a surveyor registered in the State of Florida.
- C. CONTRACTOR shall provide as-built drawings and shall confirm to OWNER that such drawings are adequate and complete and in compliance with the requirements of the Contract Documents.

2.09 AVAILABILITY OF PROJECT-RELATED RECORDS TO OWNER

- A. All records relating directly or indirectly to the Project which are in the possession or control of CONTRACTOR shall be made available to OWNER, its designee, and any governmental authority for audit, inspection, and copying upon request of OWNER'S Representative. Such records include, without limitation: all drawings, specifications, Submittals, subcontractor bids, the Daily Log, correspondence, the Request Log, the Submittal Log, minutes, memoranda, tape or videotape recordings, or other writings or things which document the Project, its design, and its construction.

END OF SECTION 01770

SECTION 02000 / SITEWORK, GENERAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, General Requirements, which applies to all sections of this Division 2. Provisions of this Section 02000 also apply to all sections of this Division 2. The articles contained in this section may modify, delete or add to the provisions of the conditions of the Contract.

PART 2 - CONSTRUCTION STAKE-OUT

- 2.01 It shall be the duty of the CONTRACTOR to make his own construction stake-out from Bench Marks and Control Points established. Field crew(s) shall be under the direction of a registered surveyor, duly licensed in the State of Florida.

PART 3 - GUARANTEE

- 3.01 All materials and workmanship involved in this project shall be guaranteed free from defects owing to faulty material or workmanship for a period of one year, unless otherwise specified, after the date of acceptance. Any part of work proving defective from these causes, within this period, shall be replaced free of cost to the OWNER. Copies of all guarantees must be furnished the OWNER before final acceptance.

PART 4 - SCHEDULE OF WORK

- 4.01 All work shall be so scheduled as to minimize interference with traffic and convenience of the public. The ARCHITECT/ENGINEER and OWNER reserves the right to require rescheduling of the work where interference is indicated. The work shall progress as expeditiously as possible.

PART 5 - SAFETY PRECAUTIONS

- 5.01 The CONTRACTOR shall take all precautions for the safety of employees on the work, and shall comply with all applicable provisions of safety laws and building codes to prevent accidents or injury to persons on or about the premises where the work is being performed. The CONTRACTOR shall erect and properly maintain at all times, as required by the conditions and progress of the work, all necessary safeguards for the protection of workmen and the public and shall post danger signs, use blinker lights, or other means deemed appropriate to warn against the hazards created by

features of construction including off-site signs if required by governing agencies and he shall designate a responsible member of his organization on the work whose duty shall be the prevention of accidents.

- A. The CONTRACTOR shall comply with the Occupational Safety and Health Administrations (OSHA) excavation safety standards 29 CFR, Section 1926.650, Subpart P., otherwise known as "Trench Safety Act", Chapter 90-96, Florida Statutes.
 - 1. The CONTRACTOR shall provide written assurance of compliance with this law.
 - 2. A trench safety system shall be designed by the CONTRACTOR.
 - a. Provide a separate cost item identifying the cost to comply with the Trench Safety ACT.
- B. Comply with the Underground Facility Damage Prevention & Safety Act, referred to as "Sunshine State One-Call of Florida, Inc.", prior to digging. Toll Free: 1-800-432-4770.

PART 6 - PROTECTION OF PROPERTY

- 6.01 The CONTRACTOR shall be solely responsible for properly storing and protecting all materials, equipment, and the entire work furnished under this contract from the time such materials and equipment are delivered at the site of the work until final acceptance of the entire work. He shall at all times, take the necessary precautions to prevent injury or damage by water or by inclemencies of the weather to materials, equipment, and work. All injury or damage to materials, equipment, and work resulting from any cause whatsoever shall be made good by the CONTRACTOR. If it becomes necessary to remove and restack materials to avoid impeding the progress of any part of the work or interference with the work to be done by any other CONTRACTOR, the CONTRACTOR shall remove and restack such materials at his own expense.
 - A. The CONTRACTOR accepts the site as he finds it upon mobilization, unless specifically agreed to otherwise with the OWNER prior to starting work. Site features (either on site or adjacent thereto) designated to remain in place after completion of project shall be protected from damage and if damaged the CONTRACTOR will be required to replace same acceptable to OWNER, ARCHITECT or governing agencies at no additional expense to the OWNER. (Examples: streets, curbs, walks, trees, shrubs, wells, irrigation systems, utilities, buildings, etc.)

PART 7 - DEWATERING OF TRENCHES

7.01 Dewatering of trenches and excavations shall be considered an integral part of the CONTRACTOR'S responsibility if required to complete the work in this contract.

PART 8 - TESTS

8.01 The costs of all tests for soils and related compaction or concrete construction will be paid by the OWNER. Tests will be made at any time or place during the progress of construction as deemed necessary by the OWNER, ARCHITECT, ENGINEER or testing agency. Should the work fail a test, the OWNER shall withhold further progress payments until the CONTRACTOR reworks, replaces, or causes the work to meet the requirements set forth and passes a new test. **CONTRACTOR will reimburse the OWNER for the cost of failed tests.**

PART 9 - MATERIALS AND WORKMANSHIP QUALITY

9.01 The materials and quality of workmanship shall conform to current Department of Transportation Specifications and otherwise specified herein or on the drawings.

PART 10 - GEOTECHNICAL EXPLORATION

10.01 Geotechnical investigation will be performed by a licensed Testing & Environmental company. Only portions of the Geotechnical ENGINEER'S site preparation recommendations will be included in this Division.

A. A full report is available in both ARCHITECT'S, ENGINEER'S, and OWNER'S offices for review by interested parties. Copies of the full certified report must be obtained from a licensed Testing & Environmental company and CONTRACTOR will be required to comply with the requirements of the full report.

1. Boring locations are indicated on drawings and Boring Logs are bound in these specifications following Section 02301/Grading and Earthwork (Buildings and Structures). They are not intended as representation or warranty of accuracy or continuity between soil borings. It is expressly understood that OWNER will not be responsible for interpretations or conclusions drawn therefrom by CONTRACTOR. Data are made available for convenience of CONTRACTOR.

END OF SECTION 02000

SECTION 02230 / CLEARING AND DEMOLITION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 02000 and other sections of this division.

PART 2 - CLEARING, GENERAL

2.01 The site (to limits shown on drawings) shall be cleared of trees and stripped of all existing overgrowth, debris and other organic matter. Acceptable strippings may be stockpiled and later used for the site filling outside buildings, if approved by ARCHITECT and ENGINEER.

2.02 Typical piping encountered shall be removed and disposed of off site, **except** all piping to remain shall be identified by OWNER and protected from damage by CONTRACTOR during construction. Any damage to active irrigation system to remain shall be corrected by CONTRACTOR at no cost to the OWNER.

2.03 Disposal

All waste materials shall be disposed of by the CONTRACTOR in an approved manner, at regular intervals.

PART 3 - DEMOLITION, GENERAL

3.01 Extent of demolition is shown on drawings in so far as possible and includes complete removal of indicated areas and disposal of demolished material, as designated and reasonably incidental to work intended.

- A. OWNER assumes no responsibility for actual condition of structures to be demolished.

- B. Conditions existing at time of inspection for bidding purposes will be maintained by OWNER in so far as practicable.

3.02 Partial Removal: Items of salvable value to the CONTRACTOR and not specifically designated to be turned over to the OWNER may be removed from site or structure as work progresses. Transport salvaged items from site as they are removed.

- A. Storage or sale of removed items on site will not be permitted.

3.03 Traffic: Conduct demolition operations and removal of debris to ensure minimum interference with walks, drives and other adjacent occupied or used facilities. Coordination with local governmental agencies as required.

- 3.04 Protection: Ensure safe passage of persons around area of demolition. Conduct operations to prevent injury to adjacent buildings (parts), facilities and persons. Promptly repair, in kind, any damages caused to adjacent facilities by demolition or construction operations at no cost to OWNER.
- 3.05 Utilities Services: Maintain existing utilities and irrigation system indicated to remain, keep in service, and protect against damage during demolition and clearing operations.
- 3.06 Disposal and Cleaning: Remove from site all debris, rubbish, and other materials resulting from demolition and clearing operations.
 - A. Do not bury any debris on site. Over excavation of storm water retention/detention areas to dispose of debris and/or unacceptable strippings will not be allowed.

END OF SECTION 02230

SECTION 02300 / GRADING AND EARTHWORK (For site outside building area)

PART 1 -GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 02000 and other sections of this division.

PART 2 - MATERIALS

2.01 USE OF MATERIALS EXCAVATED

- A. Contractor shall review geotechnical engineers report to verify excavated soils are suitable for use as fill material. All suitable materials resulting from the excavation shall be used as far as practicable in the construction shown in the plans or required for completion of the work.
1. Excavated materials bearing in excess of 10% clay are not to be used as backfill for trenches or behind retaining walls or around underdrain features. For these areas provide more easily compactable sandy material.
 2. Excavated fill material shall have a radium Ra226 content of less than 5 spci/g to be considered suitable for use on site.

2.02 GENERAL REQUIREMENTS FOR EMBANKMENT MATERIALS

- A. Embankments shall be constructed of material containing no muck, stumps, roots, brush, vegetable matter, rubbish or other material that will not compact into a suitable and enduring manner and material designated as undesirable shall be removed and properly disposed. Utilization of material in embankment construction shall be in accordance with plan details.

2.03 GRAVEL

- A. Crushed limestone or equivalent, washed free of loam, sand, clay or other foreign substances, 3/4" to 1 1/4" range.

2.04 FILTRATION/SEPARATION FABRIC

- A. Water permeable filtration fabric of fiberglass or polypropylene fabric, continuous roll material, equivalent to "Typar" geotextile #3201, 1.8 oz./SY. Lap joints 6" minimum.

PART 3 - CONSTRUCTION METHODS

3.01 GRADING TOLERANCE

Except at specific locations requiring tighter tolerances, areas to be graded shall be brought to within ± 0.1 foot of the designated elevation after necessary allowance has been made for finishes such as topsoil, finishes, paving, sod, etc.

3.02 Where the grading work consists of only light adjustments of the shoulders and slopes, such as is occasioned by dressing of shoulders, etc., prior to the blading of any areas containing sod or heavy weeds, it shall be cut up by rotovators, pulvimixers, or other similar equipment.

3.03 EROSION AND SEDIMENTATION CONTROL

- A. The work specified herein and shown on the drawings consists of designing, providing, maintaining and removing temporary erosion and sedimentation controls as necessary, including maintenance and removal of the control features.
- B. Temporary erosion controls include, but are not limited to; grassing, mulching, seeding, watering and re-seeding on-site surfaces and spoil and disturbed area surfaces and providing interceptor ditches at ends of berms and at these locations, to control erosion during construction, or maintained, within acceptable limits as established by the Water Management District and the Florida Department of Environmental Protection (FDEP).
- C. Temporary sedimentation controls include, but are not limited to; silt curtains, traps, barriers, staked hay bales, and silt barrier at the foot of silt surfaces and extreme areas which will ensure that sedimentation pollution will either be eliminated, or maintained, within acceptable limits established by the Water Management District and the Florida Department of Environmental Protection (FDEP). The CONTRACTOR is responsible for providing effective temporary erosion sedimentation control measures during construction, or until final controls become effective.
- D. All piles of excavated materials (dirt, strippings from clearing and grubbing) shall have, effectively maintained within the base periphery, a staked silt barrier or staked hay bales in order to ensure that erosion and sedimentation control can be accomplished.

3.04 STABILITY OF EXCAVATIONS

- A. Slope sides of excavations to comply with local codes and ordinances having jurisdiction including the "Trench Safety Act". Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

- B. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights. Operate warning lights as recommended by authorities having jurisdiction. Protect structures, utilities, sidewalks, pavements, and other facilities from damage by vibration, settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

3.05 EXCAVATION FOR UTILITY TRENCHES

- A. Dig trenches to the uniform width required for particular item to be installed, sufficiently wide to provide ample working room.
Excavate trenches to depth indicated or required. Carry depth of trenches for piping to establish indicated flow lines and invert elevations. Keep bottoms of trenches sufficiently below finish grade to avoid freeze-ups.
Compact the bottom of each trench with equipment suitable to achieve 98 percent of the Standard Proctor ASTM D698 Maximum Dry Density.
Grade bottoms of trenches as indicated, notching under pipe below to provide solid bearing for entire body of pipe.

- B. Backfill and Fill: General: Do not backfill trenches until installed items have been satisfactorily tested, inspections have been made and backfilling is authorized by ARCHITECT/ENGINEER or OWNER. Use care in backfilling to avoid damage or displacement of pipe system.

1. All trench backfill located below existing or proposed pavement shall be compacted to 98% maximum density in accordance with AASHTO T-99, Method "C".
2. Backfill excavations as promptly as work permits, but not until completion of the following:
Acceptance of construction below finish grade.
Inspection, testing, and recording locations of underground utilities.
Removal of concrete formwork.
Removal of trash and debris.
3. Placement and Compaction: Place backfill and fill materials in uniform layers not more than 12" in loose depth (not more than 4" in loose depth for material compacted by hand-operated tampers).
Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Test as required in other parts of this Specification.

Place backfill and fill materials evenly adjacent to structures, to required elevations. Place indicated fill after pipe is placed 2/3 up its sides before compacting. Take care to prevent wedging action of backfill against structures by carrying material uniformly around structure to approximately same elevation in each lift.

3.06 MAINTENANCE AND PROTECTION OF WORK

- A. While construction is in progress adequate drainage for the area shall be maintained at all times. The CONTRACTOR shall maintain all earthwork construction throughout the life of the contract, unless otherwise provided, and shall take all reasonable precautions to prevent loss of materials from the area due to the action of wind or water. He shall repair at his expense, except as otherwise provided herein, any slides, washouts, settlement, subsidence, or other mishap which may occur prior to final acceptance of the work.

3.07 DEWATERING

- A. Prevent surface water, subsurface or ground water from flowing into excavations and from flooding project site and surround area.
- B. Do not allow water to accumulate in excavations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.
- C. Convey water removed from excavations and rainwater to collecting or run-off areas. Establish and maintain temporary drainage ditches and other diversions outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.
- D. Remedial dewatering is considered an integral part of this project's work, and therefore full consideration shall be given to the need for this requirement and no additional compensation will be allowed.

3.08 EXCAVATION

Excavation is unclassified and includes excavation to subgrade elevations indicated, regardless of character of materials and obstructions encountered.

END OF SECTION 02300

SECTION 02301 / GRADING AND EARTHWORK (Buildings and Structures)

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 02000 and other sections of this division.

1.02 DESCRIPTION OF WORK

- A. The extent of earthwork is shown on drawings and described herein.

1.03 TESTING AND INSPECTION SERVICE

- A. OWNER will engage soil testing and inspection service for quality control testing during earthwork operations.

1.04 SUBMITTALS

- A. Submit in accordance with General, Supplementary and Special Conditions.
- B. Test Reports: Submit following reports directly to OWNER from the testing services, with copy to ARCHITECT, ENGINEER and CONTRACTOR.
 - 1. Field density (compaction) test reports of each test made.
 - 2. One optimum moisture-maximum density curve for each type of soil encountered.
 - 3. One sieve analysis (percent passing #200 sieve) for each type of fill material.

1.05 JOB CONDITIONS

- A. Site Information: CONTRACTOR accepts the site as he finds it. OWNER has contracted for Geotechnical exploration as stated in Section 02000. A full report is available in ARCHITECT'S, ENGINEER'S and OWNER'S offices for review by interested parties. Boring locations are indicated on drawings and Boring Logs are bound in these specifications following this section. It is not intended as representation or warranty of accuracy or continuity between soil borings. It is expressly understood that OWNER will not be responsible for interpretations or conclusions drawn therefrom by CONTRACTOR. Data are made available for convenience of CONTRACTOR. Additional test borings and other exploratory operations may be made by CONTRACTOR at no cost to OWNER.
- B. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights. Operate warning lights as recommended by authorities having jurisdiction. Protect structures, utilities, sidewalks, pavements, and other facilities from damage by vibration, settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

PART 2- PRODUCTS

2.01 SOIL MATERIALS

- A. Satisfactory Soil: materials are defined as those complying with American Association of State Highway and Transportation Officials (AASHTO) M145, soil classification groups A-1, A-2-4, A-2-5, and A-3. No soil bearing clay is to be used under the buildings.
- B. Unsatisfactory Soil: materials are those defined in AASHTO M145 soil classification groups A-2-6, A-2-7, A-4, A-5, A-6 and A-7; also, clay, peat and other highly organic soils.
- C. Drainage Fill: washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, with 100% passing a 1 1/2" sieve and not more than 5% passing a No. 4 sieve.
- D. Backfill and Fill Materials: satisfactory soil materials free of clay, rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable and other deleterious matter.
- E. All imported fill material shall have a radium Ra226 content of less than 5pCi/g.

PART 3 - PREPARATION OF BUILDING BASE

- 3.01 Refer to and comply with instructions in the Geotechnical ENGINEER'S report.
- 3.02 Perform remedial dewatering prior to any earthwork operations as required.
- 3.03 Site Preparation Procedures: The existing natural surficial soils are to be prepared prior to placement of engineered fill and foundation construction on the soils, in accordance with the following site preparation recommendations.
 - A. The proposed building area, plus a margin of 6.0 feet (minimum) beyond the perimeter of any foundation system on all sides of the building shall be cleared and grubbed of any vegetation, tree root systems, and organic topsoils. Upon completion of the stripping activity, the stripped area shall be excavated to a depth of 2.0 feet below the designed underslab elevation (finished floor elevation less 2.33 feet) for typical building areas to include perimeter column pad locations.
 - B. The exposed subgrade soils shall be compacted with a medium 6 ton, steel drum, vibratory roller to a depth of 24.0 inches below the exposed surface to a minimum of 98 percent of the Standard Proctor Maximum Dry Density as determined by ASTM D-698. Any soft, yielding areas should be excavated and replaced with compacted sandy structural backfill (less than 10% passing sieve #200). A quality control testing firm will be retained to verify that required density level has been achieved. If any existing

structures/buildings are within 500 ft. of the proposed building, a vibratory roller is prohibited. Any compaction to within 25 feet of any existing structure shall be accomplished with a small steel plate compactor, or non-vibratory roller.

If the groundwater table is encountered, the area should be dewatered through the method of sump-pumping or well-pointing. The duration of the dewatering activity should be such that the groundwater table is lowered at least 3.0 feet below the bottom of the excavation.

Note: The structural fill soil is defined as clean, cohesionless, granular fine sand containing less than ten percent (10%) material by weight which can pass through sieve #200.

- C. Fill necessary to elevate the building area to desired underslab elevation shall then be placed in 12.0 inch thick layers, moisture conditioned to within $\pm 2\%$ to $\pm 3\%$ of its optimum moisture content and compacted to a minimum of 98 percent of the Standard Proctor Maximum Dry Density. All imported fill shall be structural (free of roots and debris and should contain less than 10%, by dry weight, passing sieve #200).

Building area fill soils below the upper 4.0 feet should have a maximum plasticity index (PI) of 20 and a maximum liquid limit (LL) of 50. Building areas within the upper 4.0 feet of fill should have a maximum plasticity index (PI) of 12 and a liquid limit (LL) of 40.

- D. Continuous wall footing trenches and isolated column pad footings shall then be excavated to recommended footing bottom. Bottom of excavated foundation shall be tested to ensure that soil to a depth of 12.0 inches below continuous strip/wall footings is compacted to 98 percent of the Standard Proctor Maximum Dry Density, and to a depth of 24.0 inches below isolated column footings. If compaction is found to be deficient, additional compactive effort should be applied until proper density is achieved and verified. If necessary, overexcavate bottom of footing, compact exposed soils to required depth, and provide compacted backfill (with proper density) to bottom of footing elevation.
 - E. Foundation backfill on sides of formed footings, and building slab subgrade fill is to consist of clean granular fill, free of roots and debris, which is placed in 12-inch lifts and compacted to 98 percent of the Standard Proctor Maximum Dry Density.
 - F. A qualified testing agency will be engaged by the OWNER prior to site preparation to provide field observation of site preparation steps, compaction operations on natural and fill soils, and conduct field in-place density testing to confirm that the specified requirements are met.
- 3.04 The foregoing recommended lift thicknesses and compaction criteria is applicable for the filling in any ditch or swale areas at the site which are within building, or other structural areas.

- 3.05 Perform compliance tests within the fill at a frequency of not less than one test per 2500 square feet per lift in the building areas, or at a minimum of two test locations, whichever is greater.
- A. The testing lab will determine actual test locations and frequency.

PART 4 - EXECUTION

4.01 EXCAVATION

- A. Earth Excavation: remove and dispose of pavements and other obstructions and features, roots and other organic material, underground structures and utilities indicated to be demolished and removed, material of any classification indicated in data on subsurface conditions, and other materials encountered, not suitable to remain under new construction.
1. Excavation is unclassified and includes elevation to sub-grade elevations indicated, regardless of character of materials and obstructions encountered.
- B. Unauthorized Excavation: consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of ARCHITECT and OWNER, shall be at CONTRACTOR'S expense. Under footings, foundation bases, or retaining walls, fill unauthorized excavation by extending indicated bottom elevation of footing or base to excavation bottom, without altering required top elevation. Lean concrete fill may be used to bring elevations to proper position, when acceptable to ARCHITECT. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by ARCHITECT.
- C. Additional Excavation: when excavation has reached required subgrade elevations, notify ARCHITECT. If unsuitable bearing materials are encountered at required sub-grade elevations, notify ARCHITECT for instructions. Removal of unsuitable material and its replacement as directed, if required, will be paid on basis of contract conditions relative to changes in work, and only upon acceptance of additional costs by OWNER.
- D. Stability of Excavations: slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Follow requirements of "Trench Safety Act" referenced in Section 02000. Maintain sides and slopes of excavations in safe condition until completion of backfilling.
- E. Dewatering: prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations. Convey water removed from excavations and rainwater to collecting or run-off areas. Establish and maintain temporary drainage ditches and other diversions

outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.

1. Remedial dewatering is considered an integral part of this project's work, therefore full consideration shall be given to the need for this requirement and no additional compensation will be allowed.
- F. Material Storage: stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage. Locate and retain soil materials away from edge of excavations. Dispose of excess soil material and waste materials as herein specified.
- G. Excavation for Structures: conform to elevations and dimensions shown within a tolerance of plus or minus 0.10'-0", and extending a sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, other construction, and for inspection. **Earth forms will not be acceptable.** In excavating for footings and foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete reinforcement is placed. Trim bottoms to required lines and grades to leave solid base to receive other work. Recompact bottoms of all footings and call for testing. Rework and recompact as necessary to meet specified values. **Trim footing excavations immediately before concrete is placed to remove all materials softened or loosened.**
- H. Excavation for Utility Trenches: dig trenches to the uniform width required for particular item to be installed, sufficiently wide to provide ample working room.
1. Excavate trenches to depth indicated or required. Carry depth of trenches for piping to establish indicated flow lines and invert elevations. Beyond building perimeter, keep bottoms of trenches sufficiently below finish grade to avoid freeze-ups.
 2. Grade bottoms of trenches as indicated, notching under pipe bells to provide solid bearing for entire body of pipe.
 3. Backfill trenches with concrete where trench excavations pass within 18" of column or wall footing and which are carried below bottom of such footings, or which pass under wall footings. Place concrete to 1" minimum above level of bottom of adjacent footing.
 4. Do not backfill trenches until tests and inspections have been made and backfilling is authorized by ARCHITECT/ENGINEER or OWNER. Use care in backfilling to avoid damage or displacement of pipe system.
 5. Backfill shall be placed in layers and tested for compaction as described elsewhere in these Specifications.

4.02 COMPACTION

- A. General: control soil compaction during construction providing minimum percentage of density specified for each area classification.

- B. Moisture Control: where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.
1. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory value.

4.03 BACKFILL AND FILL

- A. General: place acceptable soil material in layers to required subgrade elevations.
- B. Backfill Excavations as promptly as work permits, but not until completion of the following:
1. Acceptance of construction below finish grade.
 2. Inspection, testing, and recording locations of underground utilities.
 3. Removal of concrete formwork.
 4. Removal of trash and debris.
- C. Placement and Compaction: place backfill and fill materials in uniform layers not more than 12" in loose depth (not more than 4" in loose depth for material compacted by hand-operated tampers).
1. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification.
 2. Place backfill and fill materials evenly adjacent to structures, to required elevations. Take care to prevent wedging action of backfill against structures by carrying material uniformly around structure to approximately same elevation in each lift.

4.04 GRADING

- A. General: uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. Grading Outside Building Lines: grade areas adjacent to building lines to drain away from structures and to prevent ponding. This includes all site areas where work has been performed by this contract or otherwise disturbed by construction operations. Finish surfaces free from irregular surface changes.
- C. Grading Surface of Fill Under Building Slabs: grade smooth and even, free of voids,

compacted as specified, and to required elevation. Final grades shall provide a minimum slab thickness of 4".

- D. Compaction: after grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

4.05 FIELD QUALITY CONTROL

- A. Soils Testing: an independent engineering testing laboratory will be engaged by the OWNER to provide field observation of excavation, backfilling, and soil compaction procedures, and field density tests to confirm that project specifications are met.
- B. Quality Control Testing During Construction: allow testing service to inspect and approve subgrades and fill layers before further construction work is performed.

4.06 MAINTENANCE

- A. Protection of Graded Areas: protect newly graded areas from traffic and erosion. Keep free of trash and debris.
- B. Reconditioning Compacted Areas: where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.

4.07 DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. Remove waste materials, including unacceptable excavated material, trash and debris, and dispose of it off OWNER'S property. Earth materials suitable for non-structural site fill may be disposed of on site, at designated locations, if authorized by ARCHITECT.

END OF SECTION 02301

SECTION 02361 / SOIL POISONING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 02000 and other sections of this division.
- 1.02. Soil poisoning and all labor and materials required thereto will be furnished by a separate CONTRACTOR under direct contract with the OWNER.
 - A. Soil poisoning shall be provided per Florida Building Code section 1816 Termite Protection specification standards.

PART 2 - EXECUTION AND APPLICATION

3.01 SURFACE PREPARATION

- A. Remove foreign matter which could decrease the effectiveness of treatment on areas to be treated. Loosen, rake and level soil to be treated, except previously compacted areas under slabs and foundations.
- B. Treated areas should be covered within two (2) hours of soil treatment. Unless agreed otherwise by treatment installer and OWNER, concrete must be poured within a twenty-four (24) hour period of soil treatment.
- C. Treatment should be reapplied if treated areas are disturbed by subsequent excavation or other construction activities. Reapply soil toxicant if treated areas are not properly covered within two (2) hours of treatment or if the area treated is soaked due to inclement weather. The CONTRACTOR will reimburse the OWNER for the cost of re-treatment.

END OF SECTION 02361

SECTION 02821 / CHAIN LINK FENCING AND GATES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 02000 and other sections of this division.

PART 2 - PRODUCTS

2.01 GENERAL

- A. All fabric and fittings to be regionally recognized manufacturer's standard items produced to construct the galvanized chain link fabric fences shown on the drawings, with galvanized posts, fittings, gates and rails, conforming to ASTM B-120 for weight and coating.

2.02 CONCRETE

- A. 2500 psi test premix, or jobsite mixed concrete.

2.03 FABRIC

- A. Weave in two (2) inch chain link diamond mesh, from #9 BWG copper bearing wire to withstand 1390 pound breaking load. Twist and barb top and bottom selvages, cutting each wire on the diagonal. Galvanize after wiring and barbing with 1.2 oz. zinc per sq. ft. complying with ASTM A392. **Top and bottom wire ends to be knuckle selvage at all locations (then galvanized) to eliminate sharp edges.**

2.04 GATES

- A. Fabricate perimeter frames of 2.0" O.D. tubular members at 2.717 pounds per lineal foot. Provide additional horizontal and vertical members to ensure proper gate operation and for attachment of fabric, hardware and accessories. Assemble gates by welding all joints. Galvanize after fabrication. Use same fabric as fence, installed with stretcher bars at vertical edges and tie wires at top and bottom edges. Attach stretcher bars to frame to maximum 15" o.c. Attach hardware with bolts or welding to provide security against removal or breakage.
Provide diagonal cross bracing of 3/8" dia. adjustable length truss rods on gates of size required to prevent sag or twist.

1. Swing Gate Hardware

- a. Hinges: pressed steel or malleable iron to suit gate sizes, non-lift-off type, offset to permit 180 degree gate opening. One pair per leaf.

- b. Latch: forked or plunger bar type to permit operation from either side of gate. Provide padlock eye as integral part of latch, unless otherwise noted. Paired gates are to have appropriate keepers at meeting rails.

2. Rolling Gate Hardware

- a. Guide Rails: galvanized steel attached to gate and fence.
- b. Latch: none required.
- c. Tire: ± 12 " diameter pneumatic tire on steel wheel at leading edge of gate.

2.05 POSTS, RAILS AND BRACES

A. End, Corner and Terminal Posts

Shall be hot dip galvanized iron with zinc coating of not less than 1.2 ounces per square foot surface. Posts shall be 2.375 inches O.D. at 3.65 ounces per lineal foot. **(Schedule 40) (SS-40 IS NOT ACCEPTABLE.)**

- B. Line Posts: Shall be hot dip galvanized iron with zinc coating of not less than 1.2 ounces per square foot. Posts shall be 1.9 inches O.D. at 1.72 pounds per lineal foot. **(Schedule 40) (SS-40 IS NOT ACCEPTABLE.)**

- C. Gate Posts: Shall be hot dip galvanized, cleaned and painted with an approved zinc based paint. Posts for a single swing gate with a 6-foot maximum panel width shall be 3.0 inches O.D. at 5.79 pounds per lineal foot. Posts supporting gates with panel widths greater than 6 feet are to be increased in size proportionately to gate panel width increases as approved by ARCHITECT.

- D. Top Rail: 1.660" O.D. pipe 2.27 lbs./l.f. Hot dipped galvanized, furnished in manufacturer's standard lengths $\pm 21'-0"$ with couplings for jointing, to provide a rigid connection but allowing for expansion and contraction. **(Schedule 40) (SS-40 IS NOT ACCEPTABLE.)**

- E. Braces: All corner, terminal and gate posts shall be braced with 1.66 inch O.D. galvanized Schedule 40 pipe at 2.27 pounds per lineal foot and trussed with a 3/8" attached galvanized rod.

2.06 TENSION WIRE

- A. No. 7 gauge spring tension wire at bottom of all fabric, except on gates.

2.07 RODS

- A. Galvanized steel rod minimum 3/8" diameter, with threaded galvanized turnbuckle and positive attachment to each side post.

2.08 STRETCHER BARS

- A. Shall be 1/4" or 3/16" x 3/4" flat bar, hot dip galvanized.

2.09 TIE WIRE

- A. Shall be aluminum no. 6 gauge.

2.10 MISCELLANEOUS FITTINGS

- A. All fittings entering into the fence necessary to make a complete installation shall be pressed steel; all ferrous material shall be thoroughly galvanized by the hot dipped method.

2.11 SCOPE OF WORK

- A. Mechanical and Related Equipment Enclosures: 6'-0" high w/one 4'-0" wide gate

PART 3 - EXECUTION

3.01 TOLERANCES

- A. Both top and bottom of fence to follow grade with a maximum 2" tolerance. Fence line is outside face of fabric. Unless otherwise indicated, fence line along property lines is to be set 1'-0" inside property line.

3.02 POSTS

- A. Set into concrete footings per following schedule. Top of footing to be crowned away from post to shed water.

<u>Type of Post</u>	<u>Hole Diameter</u>	<u>Hole Depth</u>	<u>Post Embedment in Concrete</u>
Line	8"	30"	27"
Terminal	12"	38"	36"
Corner	12"	38"	36"
Gate	Post dia. x 3	38"	36"

(Post embedment is minimum and shall be measured from bottom end of post to ground level.)

- B. Place all posts at maximum of 10 foot spacing, and spacing all posts between corners and gates (or ends) uniformly. Set brace posts 4'-0" above grade against each direction of all terminal, angle, and pull posts; and extend to grade at each adjacent line post. Securely fasten with galvanized steel fittings. Install matching rod and turnbuckle back from line posts to terminal, angle, and pull posts. Install bottom tension wire, pull tightly, and secure.

- C. When fences are to be installed around equipment set on concrete slab, unless otherwise indicated fence posts are to be centered 4" inward from outer edge of slab, so that fence posts are fully embedded in slab.

3.03 TOP RAIL

- A. Provide manufacturer's standard fittings to fit with line posts. Provide means to attach rail securely and rigidly to each gate, corner, pull and end post. Top rail to form a continuous brace from end to end each run of fence.

3.04 FABRIC

- A. Attach fabric to stretcher bar. Attach bar to terminal posts with 1/8" x 1" galvanized steel bands at 1'-3" centers, fabricated to fit posts. Stretch fabric tightly between terminal, angle and pull poles.

3.05 GATES

- A. Install plumb and level, and so that swing gates will stand open in any position. Insure that all moving parts are well lubricated and operate smoothly.
- B. Construct 6" thick concrete pad beyond edge of paving as rolling surface for rolling gate.

3.06 PAINT (WHERE CALLED FOR)

- A. CONTRACTOR shall wire brush rusted areas. Apply Rustoleum primer. Apply 2 coats of a zinc-based paint.

END OF SECTION 02821

SECTION 03000 / CONCRETE, GENERAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, General Requirements, which applies to all sections of this Division 3. Provisions of this Section 03000 also apply to all sections of this Division 3. The articles contained in this section may modify, delete or add to the provisions of the conditions of the Contract.

1.02 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Division 2:	Sitework
Division 4:	Masonry
Division 5:	Metals
Division 7:	Thermal and Moisture Protection
Division 8:	Doors and Windows
Division 9:	Finishes
Division 15:	Mechanical
Division 16:	Electrical

1.03 FIELD MEASUREMENTS AND COORDINATION

- A. Verify all field dimensions to insure close fit with work of adjoining trades.
- B. Coordinate and install work in proper sequence with overall job and in cooperation with other related trades; particularly with bearing concrete masonry work.
- C. Assist other trades in setting their materials to be cast in concrete. Protect these items after setting. Insure they are not moved during concrete placement.

1.04 CONCRETE MIX

- A. Concrete must meet all requirements of ASTM C94 and those herein specified for materials, proportioning mixing and other details of manufacturer, quality and delivery.
- B. Mix Design: all mix designs shall be proportioned in accordance with 1.05 of this section. Each class of concrete shall be furnished in accordance with that scheduled in Part 2 of this section.
- C. The concrete design mix(es) of all concrete to be used during construction of the project shall be submitted to the ARCHITECT for approval prior to the placement of any concrete on the job. Only concrete of approved mix design shall be used during construction. Any concrete supplied which is not of an approved design mix shall be rejected.

1.05 APPLICABLE TECHNICAL CODES AND STANDARDS

Fabricators and CONTRACTORS are to abide by these codes:

- A. Florida Building Code requirements for reinforced concrete (ACI-318/Latest Edition).

1.06 WEATHER CONSIDERATIONS

- A. Cold Weather Requirements: Insure that all concrete materials and all reinforcement, forms, fillers, and ground with which concrete is to come in contact are free from frost. Whenever temperature of surrounding air is below 40 deg. F. all concrete placed in forms is to have a temperature of between 70 and 80 degrees F. and adequate means provided for maintaining temperature of not less than 70 deg. F. for three days or 50 deg. F. for seven days or for as much more time as is necessary to insure proper curing of concrete. Housing, covering or other protection used in connection with curing is to remain in place and intact at least 24 hours after artificial heating is discontinued. Use no salt or other chemicals for the prevention of freezing. No concrete shall be placed if it is 90° or higher or after 90 minute from the time the batch water is added.
- B. Hot Weather Placement: When hot weather conditions exist that would impair quality and strength of concrete, place concrete complying with ACI 305 and as specified.
 - 1. Cool ingredients before mixing to maintain concrete temperature at time of placement to below 90 deg. F (32 deg. C). Mixing water may be chilled or chopped ice may be used to control temperature (at no cost to the OWNER), provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is CONTRACTOR'S option.
 - 2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedding in concrete.
 - 3. Fog spray forms, reinforcing steel and subgrade just before placing concrete. Keep subgrade moisture uniform without puddles or dry areas.
 - 4. Use water-reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions, as acceptable to ARCHITECT.

1.07 TESTING

- A. Cylinder Failures: If laboratory test cylinders fail to meet minimum strength required by these specifications, ARCHITECT has the right to order such changes in mix and water-cement ratio as he deems necessary to secure strength required. If job-cylinders fail to show minimum strengths required by these conditions, ARCHITECT may require such changes of conditions and/or curing as will satisfy him that concrete in job will be of proper strength. Changes of conditions may include removal and replacement of concrete in question and retesting, all at no cost to OWNER.

- B. Load Tests: ARCHITECT also has right to order load or core tests at no cost to OWNER on any portion of structure where test cylinders fail to show minimum strengths required. Changes of conditions referred to above may include removal and replacement of concrete in question, at no cost to OWNER. If members or portions of structure show evident failure, such changes or modifications as are necessary to make structure adequate for rated capacity shall be made by CONTRACTORS as determined by ARCHITECT. This may result in removal of and rebuilding of such portions of building by CONTRACTOR without cost to OWNER. Structure shall be considered to have failed to pass test if with 24 hours after removal of test load, the slabs, beams, etc., do not show a recovery of at least 75% of maximum deflection shown during 24 hours while under load.

1.08 CONTRACT DRAWINGS

- A. Contract drawings show dimensions and forms of concrete and sizes and arrangements of reinforcing. Additional details will be furnished by ARCHITECT where necessary to fully explain work required. In case of direct conflict between drawings and schedules in size and shape of concrete members or in size and number of reinforcing bars, schedules govern. For purpose of submitting bid price, structural sheets take precedence over architectural sheets with regard to concrete foundations, walls, columns, slabs, beams, and dimensions of structural features. In case of any conflict between structural and architectural drawings, bring conflict to attention of ARCHITECT, who will issue instructions as to required revisions.

PART 2 - PRODUCTS

2.01 CONCRETE INGREDIENTS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand and source, throughout Project:
1. Portland Cement: ASTM C 150, Type I/II.
 - a. Fly Ash: ASTM C 618, Class F (Maximum of 20% of the total cementitious materials).
 - b. Ground Granulated Blast-Furnace Slag: (NOT PERMITTED).
- B. Coarse Aggregate for Cast-In-Place Concrete: Conform to ASTM C-33 (3/4" max. size) latest edition, "Standard Specification for Concrete Aggregates".
1. Use 3/8" - 1/2" smooth brown river rock aggregate for concrete placed at curb cuts and side flares in exterior walkways.
- C. Aggregate for Precast Structural Concrete: ASTM C33 or C330.
- D. Fine Aggregate: Conform to ASTM C-33 latest edition, "Standard Specification for Concrete Aggregates". Free of materials with deleterious reactivity to alkali in cement.

- E. Water: ASTM C 94/C 94M and potable.
- F. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 2. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 3. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.

2.02 CONCRETE MIXTURES

- A. Concrete Mix Designs: Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

Class of Concrete Compressive Strength at 28 days, PSI (minimum)	Size of Aggregate in Normal Concrete	Water to Cement Ratio (maximum)	Slump (±1")
Floor Slabs & Misc. 3000 PSI for 4" slab	3/4" (min.)	.50	4"
Footings 3,000 PSI	3/4" (min.)	.55	4"
Columns & Beams and Elevated Slabs 4,000 PSI	3/8" (max.)	.48	4"
Concrete Block Grout (Chatt) 3,000 PSI	3/8" (max.)	.58	9-10"
Fiber Reinforced Concrete Exterior Sidewalks/ Covered Walks 3,000 PSI	3/8" (max.)	.55	4"

(All tests shall be taken at point of placement.)

1. Concrete shall achieve a minimum compressive strength as shown above in 28 days.
2. Maximum allowable entrapped air shall be 2% by volume. Maximum allowable air entraining admixtures shall be 3% by volume. Maximum allowable total air content shall be 5% by volume.

2.03 STEEL

- A. Reinforcing Bars: Conform to ASTM A615-68 (Grade 60, $F_y = 60,000$ psi), domestically produced. Bars to be free from flaws, cracks or other defects of rolling, true to size and shape, and free of loose scales of rust. A thin coating of firmly attached rust is not cause of rejection. Bars to be free from dirt, paint, grease, oil or other destroyers of bond. Reinforcing steel should be free of kinks and not-shop bends. Field bends should only be as directed by the architect.
1. Synthetic Fiber Reinforcing: Concrete Engineered Reinforcing Fibers shall be polypropylene, collated, fibrillated fibers by Fibermesh, Inc., Chattanooga, TN, CFP Fiber by Forta Corp, or approved equal. Only fibers designed and manufactured specifically for use in concrete from virgin polypropylene and so certified by manufacturer shall be acceptable. Fiber length shall be 3/4". Use at the rate of 1 1/2 pounds per cubic yard.
 2. **Reinforced concrete with synthetic fiber may be used only on exterior concrete slabs beyond building overhangs, covered walks and sidewalks, unless otherwise approved by the OWNER and ARCHITECT. Use of fiber reinforced concrete shall be in accordance with Section 02751.**
- B. Reinforcing Mesh: required at typical installations; where noted on drawings, conform to ASTM A-185 latest edition, "Welded Wire Fabric for Concrete Reinforcement". See architectural and structural drawings.
- C. Steel Plates, Inserts and Fasteners: Conform to ASTM A-7 latest edition, "Steel for Bridges and Buildings".
- D. Structural Steel: Conform to ASTM A-36, A-572, or as noted, latest edition.
- E. Accessory Supports: Use formed steel wire manufactured items, plastic tipped for all exposed concrete work. Concrete bricks may be used to support bottom bars in earth beams. Provide chairs at reinforcing placed over metal deck.

2.04 FORMWORK

- A. Footings: Use fabricated formwork for all work. **Earth forms will not be allowed.**

- B. Formwork, General: Conform to shape, lines and dimensions of members as called for on plans. Forms for concrete to be concealed may be plywood or dressed lumber. Build all forms substantially and sufficiently tight to prevent leakage. Properly brace or tie together to maintain position and shape. Provide feature strips between concrete and masonry where exposed to view. Provide chamfers at all outside corners/edges.

2.05 MISCELLANEOUS PRODUCTS

- A. Vapor Retarder:
1. Vapor Retarder shall have the following qualities
 - a. Water Vapor Transmission Rate ASTM E96 / 0.04 Perms or lower
 - b. Water Vapor Retarder ASTM E1745 / Class C
 - c. Thickness ACI 302.1R-96 / Not less than 10 mils.
 2. Lap seams 6" minimum, all joints to be taped per vapor retarder manufactures approved material.
(FOR RADON RESISTANT CONSTRUCTION, REFER TO PARAGRAPH 3.05,A,7(a) THIS SECTION).
- B. Construction Joint: Use asphalt felt or polyethylene film as a bond breaker in areas calling for construction joints.
- C. Floor Hardener: Use fluorosilicate base liquid hardener, Sika Hardener produced by Sika Chemical Corp., Solidus liquid hardener #219-2001 produced by Lambert; Protocrete-CDS or as approved by OWNER/ARCHITECT. Apply floor hardener to floor slab surface at interior locations where such slabs are scheduled to be left exposed with no other finish.
- D. Curing Compound: (Refer to part 3.08)
- E. Other: See drawings and subsequent Division 3 specification sections.

PART 3 - EXECUTION

3.01 CONCRETE PROPORTIONING

- A. Insure proportions of cement, aggregate, and water in mix are such as to produce a plastic and workable mass suitable for economical and uniform placement. Make one slump test at time cylinders are made for compression tests. Concrete test reports are to include slump tests, and state where concrete was used. **Slump to not exceed that specified in Paragraph 2.02.** Avoid excessive fluidity which may result in segregation of materials. Insure mix has no free water, clings to coarse aggregate and upper layer of set concrete is free from laitance.

- B. Base water-concrete ratio of mix on established relationships between water-cement and strength of concrete, such as to produce required strength of concrete with least amount of water, consistent with workability of fresh concrete. Include surface water contained on aggregate as part of mixing water in computing water content.
- C. Measure moisture in aggregate by method satisfactory to ARCHITECT which will result within one pound for each 100 pounds of aggregate. Moisture in aggregate shall be a portion of mixing water allowed.
- D. Adjust proportion of fine to coarse aggregates to produce maximum workability. In no instance shall fine to coarse ratio vary more than 1/2 to 1.
- E. If it is ARCHITECT'S opinion that subsequent concrete is not equal to first mixes established, he shall have the right to reject the material and/or request additional laboratory tests and confirmation at CONTRACTOR'S expense.

3.02 CONCRETE MIXING

- A. Order load size based on method of placement and amount of time available to place. Mix ready-mixed concrete and deliver in accord with requirement set forth in "Standard Specifications for Ready-Mixed Concrete", (ASTM designation C-94, latest edition). In addition, mix for a period of not less than 10 minutes at a peripheral drum speed of approximately 200 feet per minute. Continue mixing until discharge is completed. At least 3 minutes of mixing period to be at job site. **Concrete will be rejected if not placed in final position within 1-1/2 hours after water is first added to batch.** Concrete at time of placing, to be in such condition that it can be properly placed.

When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

- B. Addition of water to ready-mixed concrete at the jobsite is not recommended and such addition will be at the sole risk of the supplier and CONTRACTOR. Such addition shall be under direct supervision and authorization of on-site quality control representative of concrete supplier, OWNER, ARCHITECT or ENGINEER reserves the right to reject any such field modified concrete, if in their opinion the quality of the concrete has been jeopardized by such modifications.
- C. Concrete shall be deposited continuously so that no concrete will be deposited on concrete which has hardened sufficiently to cause the formation of seams of weakness within the section. If a section cannot be poured continuously (and no more than 30 minutes between pours), construction joints shall be located as indicated on the contract documents or as permitted. Placing shall be carried on at such a rate that the concrete which is being integrated with fresh concrete is still plastic.
- D. See Section 01400 for concrete testing.

3.03 FORMWORK, GENERAL

- A. Design and engineering of formwork, as well as its construction, is responsibility of CONTRACTOR.
- B. Conform to shape, lines and dimensions of concrete members as shown on drawings. Brace, tie and shore to maintain position and shape and to insure safety to workmen and passerby. Make sufficiently tight to prevent leakage. Design and construct to resist pressure to which they are subjected without sag or displacement and assembled in such manner that their removal will not damage concrete.
- C. Provide temporary clean-out openings at bottom of forms for walls, columns and deep beams to facilitate cleaning and inspection immediately prior to concrete placement. Openings to provide complete access to surface on which concrete is to be cast. Reinforcing bars in filled cells shall be sized for low lift grouting, with no more than 5'-0" lifts.
- D. Edges of columns, beams, and walls **to be built with no chamfers**, unless shown otherwise on drawings.
- E. Provide openings in concrete formwork to accommodate work of other trades, determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.
- F. Construct formwork so as to insure that concrete surfaces conform to tolerances of Section 2.4, "Recommended Practice for Concrete Formwork" (ACI 347).

3.04 STEEL, GENERAL

- A. Shop Work
 - 1. Detail to conform to procedures of ACI 315 latest edition "Manual of Standard Practice for Detailing Reinforced Concrete Structures".
 - 2. Shop bend steel to shapes shown or scheduled on drawings, bend cold. **Field bend no steel except where specifically permitted by ARCHITECT.**
 - 3. Furnish bent steel to job, bundled and tagged to its proper location, as required by CONTRACTOR. Beam and column ties and stirrups are to be fabricated so that outside dimensions are small enough to insure that tolerances to all sides of forms are adhered to.
 - 4. Steel to be free from loose scale, flaking rust, oil, mud and other foreign substances when placed in forms and when covered by concrete. Steel which is not clean is to be cleaned of all foreign material, or is to be removed from forms and site.

B. Field Handling and Placing

1. CONTRACTOR is responsible for accurate placement of all reinforcement. Promptly inform ARCHITECT if any reinforcement does not fit into overall concrete configuration, with proper lap and/or coverage, who will consult with CONTRACTOR and issue equitable instruction for resolution.
2. Keep steel clean while placing concrete. Where any spilled concrete dries on steel, thoroughly clean steel before concrete is placed around it. Cleaning of steel may include sand blasting.
3. Place all metal reinforcement accurately, and hold in place to prevent displacement during placing of concrete. Mark location of vertical reinforcement on floor or blocks. All footing dowels or stubs shall be tied accurately in place before footing concrete is placed. Where steel as specified, scheduled or detailed does not provide top steel in areas where stirrups or web reinforcement is required, provide two #4 bars in top of member for support of stirrup or web reinforcement. Saddle ties are preferred. Use sufficient ties to maintain reinforcement in correct position. Set all column dowels and anchor bolts accurately by use of template.
4. Reinforcing Steel Cover: 3" for all concrete in contact with earth: 1 1/2" for all other concrete work except as shown on drawings.
5. Minimum clear spacing between parallel bars is one bar diameter. In no case shall clear spacing between bars be less than 1 inch nor less than 1 1/3 times the maximum size of the coarse aggregate used. Size of coarse aggregate determined by bar spacing. See paragraphs 2.01 B and 2.01 C of this section.
6. Support all beam and slab reinforcing on chairs as previously called for. No masonry supports will be allowed. Set chairs and spacers according to specifications for placing accessories in manual of Standard Practice of the Concrete Reinforcing Steel Institute. Max. chair spacing = 3'-0".
7. Tie all reinforcing steel firmly in place with not less than No. 18 wire or plastic ties.
8. Lap all bars at splices according to the ACI code requirements but not less than 48 bar diameters nor 24 inches. Bend all horizontal wall bars not less than 18 inches around corners. All column bars shall lap 48 diameters, 2'-6" minimum into column above.
9. At all inside corners a #5 x 6ft. bar shall be placed diagonally in the slab.

3.05 CONCRETE PLACEMENT, GENERAL

- A. Give ARCHITECT and OWNER sufficient advance notice, two working days, before starting any concrete pour, to permit inspection of forms and soil poisoning.
1. Scheduling of concrete pours shall allow one full working day after 100% completion of all form construction and steel placement prior to commencement of pour.

2. The ARCHITECT and OWNER'S inspector is to be notified at least one full working day prior to 100% completion of form construction and steel placement. The intent is to allow inspection as soon as possible after 100% completion and provide the CONTRACTOR with approximately one full working day to correct any discrepancies.
3. The testing laboratory is to be notified as soon as the concrete is scheduled or one full working day in advance, whichever is sooner.
4. Unless the CONTRACTOR is specifically notified otherwise, both the ARCHITECT and the inspector will inspect prior to each pour.
5. Pours for sidewalks and equipment pads at grade do not require testing by the laboratory or observation by the inspector or ARCHITECT provided form work and reinforcing are inspected prior to the pour.
6. **CONTRACTORS are requested to avoid scheduling any concrete pour other than those listed in item 5 above to begin later than 1:00 p.m. any day.**
7. Under-Slab Vapor Barrier: Install a single layer polyethylene vapor barrier **typically beneath all interior and exterior slabs (and sidewalks)** on grade or fill. Lap all joints six (6) inches minimum, and turn barrier up at walls to top of slab. Tape seal all joints and laps and seal all penetrations under all enclosed building areas.
8. Built-In Items: determine area to be poured: install and properly locate all conduits, pipes, sleeves, hangers, steel equipment, grounds, anchors, reglets, waterstops and other work required to be built into concrete work.
 - a. Anchor bolts and embeds shall be accurately located, set with templates, and securely held in position prior to and while casting concrete and shall be protected from construction activity until the structure above is in place. Inserting bolts into partially hardened concrete or straightening bent over bolts is prohibited.
 - b. Place dovetail slots aligned and fastened securely to formwork such that they will not be moved during placement of concrete.
9. Cleaning of Steel and Formwork: before depositing concrete, remove all water and debris from place of deposit. Thoroughly clean any reinforcement and forms coated with foreign material, or with concrete from previous operations.
10. Placement: deposit concrete as nearly as practicable to or not more than six (6) feet from its final position, to avoid segregation due to rehandling or flowing. Carry on at such rate that concrete is at all times plastic and flows readily into space between bars. Deposit no concrete partially hardened or contaminated by foreign material. Use no retempered concrete. Carry concrete placement on as continuous operation until placing of panel or section is completed. Top surfaces are to be level. If section cannot be placed continuously locate construction joints provided for in drawings or approved by ARCHITECT. Pour no concrete within twenty-five (25) feet of workmen placing or securing reinforcement. Free fall is not to exceed 5 feet.

11. Construction and Control Joints: locate as indicated on drawings. Make no other joints in any beams or cantilevers. Any control or construction joint required and not shown on plans will be as directed by, or require approval of ARCHITECT. All control jointing in floor slabs are to be field sawn to 30 percent of slab thickness as soon as workmen can work on slab and cutting operation will not damage finish or spall cut edges, and must be cut on same day of pour, maximum 10 hours after placement. Maximum joint spacing is 12'-0" each way, unless shown otherwise on drawings.
12. Control joints in all exterior slabs, walks, etc., are to be saw-cut. Cuts shall be straight and true with a deviation tolerance of 1/2" in 20'-0". Depth of saw-cut shall be a minimum of 3/8" or as detailed on structural drawings. Tooled joints may be used as shown on drawings and as approved by the OWNER.
13. Construction Joints: install bond breaker where noted on plans. If joint material is necessary (and only as approved by ARCHITECT), match profile section of adjoining concrete members and do not use material more than 1/4" thick.
14. Apply temporary protective cover to finish surfaces while placing concrete to guard against spattering.
15. Comply with ACI 304 Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.

3.06 COMPACTING CONCRETE, GENERAL

- A. Deposit concrete in horizontal layers not over 12 inches in depth and thoroughly work and compact by spading, rodding, or mechanical vibration into all parts of forms, until air pockets are worked out. Compact to insure dense, smooth concrete surfaces, the thorough filling of forms without voids or pockets, and embedment of all reinforcing and inserts, taking care to avoid vertical joints or inclined planes. Piling up of concrete in forms in such a manner as to permit escape of mortar or flow of concrete itself is not permitted.
- B. Vibrate by means of mechanical internal type concrete vibrators operating at not less than 5,000 pulsations per minute. Use at least one such vibrator for each 25 cubic yards of concrete being placed per hour. Hold vibrators in one position only until concrete has become plastic and has filled all holes or spaces but not long enough to create a pool of mortar. Do not hold vibrators against reinforcing steel, inserts or forms, but move about through mass of concrete itself until concrete has leveled out to fill thoroughly against forms and embedded steel and inserts.
- C. Externally vibrate thin walls and inaccessible sections by manual or mechanical means.
- D. Do not use mechanical vibrators as means of transporting concrete and not to move concrete horizontally in forms. Trucking, walking or handling of heavy materials over freshly placed concrete is prohibited.

- E. Revibration of concrete is not permitted.
- F. The CONTRACTOR shall have a standby vibrator on hand in case of failure.

3.07 REPAIR AND PATCHING, GENERAL

- A. Any concrete which is not formed as shown on plans, or for any reason is out of alignment or level or shows a defective surface is hereby considered as not conforming with intent of these specifications. Remove from job by CONTRACTOR at his expense and replace with concrete meeting these specifications at CONTRACTOR'S expense.
- B. Where damage or imperfection is minor, ARCHITECT/OWNER may permit repair or patching. In latter case, immediately after removing forms, inspect all concrete surfaces, interior and exterior. Patch all honeycombs, voids, stone pockets and holes at once, before concrete is thoroughly dry. Chip away defective areas to depth of not less than one (1) inch, with edges perpendicular to surface. Wet areas to be patched and a space at least 6 inches wide entirely surrounding it, to prevent absorption of water from patching mortar. Apply compatible bonding agent and allow to dry. Use patching material of same proportions as used for concrete, except omit coarse aggregate.

3.08 CURING AND PROTECTION

- A. General: protect all freshly placed concrete from elements and from damage or defacement due to building operations, or passerby.
- B. Top Surfaces: as soon as concrete has hardened sufficiently to prevent damage to it cover top surface with one of the following materials:
 - 1. A vapor barrier such as sisal kraft paper or polyethylene plastic.
 - 2. A liquid curing compound such as "Cure Seal" by Concrete Service Co., Sonosil (curing), or as approved, free from oil, paraffin, silicone, grease, or wax. The coating is to retain 95% of original mixing water after 7 days when tested in accordance with ASTM 156-40T. Apply at the rate of one gallon per 200 sq. ft. The coating is in no way to adversely affect subsequent painting, application of hardener, or flooring adhesive. If sand or a vapor barrier is used, keep continually wet by sprinkling with water for at least 7 days.
 - 3. Apply floor hardener on interior slabs scheduled to be left exposed with no other scheduled finish.
- C. Other Surfaces: leave forms in place and keep wet for as long as possible to aid in curing. As soon as they are removed, cure bottoms, tops and sides of all concrete surfaces by coating with an application of liquid curing compound as specified above.

3.09 WORK COORDINATION BETWEEN GENERAL CONTRACTOR AND DIVISION 15 & 16

- A. It is intended that the general CONTRACTOR will be responsible for providing and installing all concrete work including mechanical and electrical equipment bases, inertia blocks, gravity pads and the like, except as noted in paragraph 3.09, B hereinafter.

Unless specifically dimensioned or described in the plans and/or specifications, sizes of these items are to be verified and carefully coordinated with the trades providing and installing the equipment. Anchoring and fastening devices for the equipment are to be provided by the trades supplying such equipment and jointly set into the concrete work to assure accurate placement. Any necessary modifications to such concrete work caused by approved alternative equipment will be the joint responsibility of the general CONTRACTOR and related subcontractor as approved by ARCHITECT and at no additional cost to the OWNER.

- B. Concrete work for outside underground utility trades is assumed to be provided and installed by those respective trades where this work will be fully concealed. (Examples are manholes, grease traps and septic tanks, ductbanks, underground storage tank anchor pads, thrust blocks and the like.)
- C. Backfilling and compaction of all disturbed areas caused by these trades utility line installations under slabs and footings and beyond building lines shall conform to Division 2 requirements and shall be the responsibility of the trade involved as designated by the CONTRACTOR.

END OF SECTION 03000

SECTION 03300 / CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 03000 and other sections of this division.

PART 2 - PRODUCTS

- 2.01 All concrete shall develop a minimum ultimate strength of design mix in 28 days. This refers to concrete on the job, in the forms, at its final designated position.

PART 3 - EXECUTION

3.01 CONCRETE PROPORTIONING

- A. Refer to Section 03000/Concrete, General.

3.02 CONCRETE MIXING

- A. Refer to Section 03000/Concrete, General.

3.03 FORMWORK

- A. General

1. Refer to Section 03000/Concrete, General.
2. See drawings for configuration of cast-in-place concrete and provide exterior construction forms to produce this configuration.

- B. Foundations and Footings

1. Forming: all footings are to be formed to size shown on drawings.
2. Filling under Footings: should excavations be carried to uneven levels or deeper than called for, the CONTRACTOR shall fill same with concrete.
3. Footings Less Than Shown: if excavations have been ordered held at less depth than shown, give OWNER a credit for concrete and excavation saved.
4. Openings For Pipes: leave openings for all pipes, drains, etc., where shown or required. Later, caulk pipes in place at wall penetrations and grout slab penetrations.
5. Water In Footings: no standing water is permitted in excavations for footings when the concrete is placed. Keep water from excavation until concrete has attained initial set.

C. Form Construction

1. Set form lumber horizontal or vertical as conditions require. Lumber and plywood once used in forms to have loose nails withdrawn, and surfaces in contact with concrete to be thoroughly cleaned before reuse.
2. Before concrete is placed, thoroughly wet inside of forms (and earth at bottom of footings) with water, or coat with non-staining mineral oil or other material approved by ARCHITECT. Where any coating other than water is used, apply before reinforcement is placed.
3. Trade's Inserts Set Into Formwork: assist other trades to install their work, as Section 03000/Concrete, General. If placing of inserts disrupts proper placement, endangers shear or bearing areas, or otherwise impairs structural members, consult ARCHITECT for instructions.

D. Form Removal

1. Remove all forms and shoring completely and cut off or remove all form ties. Plug all holes resulting from form ties with appropriate matching manufactured plugs.
2. Have competent foreman in charge of form removal and do work in such manner that new concrete is not damaged by such removal or by dropping of heavy pieces of forms. Remove formwork not supporting weight of concrete, such as sides of beams, wall, columns and similar parts of work not less than 24 hours after placing concrete.
3. CONTRACTOR is fully responsible for removal of forms, but ARCHITECT'S or OWNER'S inspector has right to prohibit removal of any form or shoring when he considers it unsafe. In no case shall supporting forms or shoring be removed until members have acquired sufficient strength to safely support their weight and load thereon.
4. Removal of forms for beam soffits is prohibited unless concrete is 7 days old, has been properly cured, and is back shored for 14 additional days with minimum of 3 shores per span of beam and/or girder. At the CONTRACTOR'S option, he may pay for and obtain a cylinder to show the concrete meets the design strength after the 7 day period.
5. Removal of forms of beam soffits is prohibited unless concrete, as evidenced by compressive tests, has gained 75% of specified strength. Place back shores as specified above.
6. Formwork for columns, walls, sides of beams, and other parts not supporting the weight of concrete may be removed after 3 days, if concrete has hardened sufficiently to resist damage from removal operations, particularly when form ties will be bent by removal operations.
7. If no loads, construction or otherwise, are superimposed until after concrete gains its specified strength, back shoring may be omitted.
8. Should loads greater than design loads be superimposed, back shoring is required which is sufficient to carry superimposed loads.

9. All footing or other forms installed below grade are to be fully removed and form areas properly backfilled and compacted. Any wood grade stakes are to be removed.

3.04 STEEL HANDLING AND PLACING

- A. Refer to Section 03000/Concrete, General.

3.05 POLYETHYLENE VAPOR/MOISTURE BARRIER

- A. Install over compacted fill as outlined in Section 03000/Concrete, General. Place immediately after completion of soil poisoning, and not more than 2 hours thereafter under all floor slabs on earth.

3.06 CONSTRUCTION JOINTS

- A. Locate construction joints where anticipated stresses are low.
- B. Before placing new material against the completed side of the joint, clean the joint thoroughly and specify a bonding agent, mortar, lean grout, etc., as required to meet the definition and function of a construction joint.
- C. Structural reinforcing shall be 100% continuous across the joint.
- D. Where applicable, waterstops shall be provided for watertightness.
- E. General: make construction joints where shown on drawings. Where not shown or specified, place at points so as to least impair strength and appearance of structure. For floor slab construction joints, form edge true and level. Install smooth dowels through form as indicated, to control differential slab displacement between adjacent pours. ARCHITECT requires CONTRACTOR to jointly consult on placement, prior to concrete pours.
- F. Integral Pours: pour all beams in one pour with no joints, terminating only at a planned and approved control joint.
- G. Bonding Fresh and Hardened Cement: retighten forms before depositing fresh concrete on or against concrete which has set. Roughen surface of set concrete: clean of foreign matter and laitance thoroughly and place new concrete. Provisions of this article do not apply to joints designated as expansion and/or control joints at which locations no bond of old to new concrete is to be made.

3.07 CONTROL/EXPANSION JOINTS

- A. Control/Expansion joints in concrete shall be installed according to one of the following methods:

1. Refer to Section 03000/Concrete, General for additional requirements.
 2. Pre-manufactured joint filler cast-in-place. The joint filler shall be closed cell polyethylene foam construction "zip form" with easy tear off strip to create reveal for sealant. Refer to Section 07920/Sealants, Caulking and Seals for sealants.
 3. Saw-cutting. To be effective, saw-cutting must occur as soon as possible after concrete placement. Many factors influence the timing of saw-cutting, including weather conditions, concrete mix design, curing, and time of placement. However, the following general guidelines shall apply:
 - a. Hot/dry conditions. Saw-cut within 4- 12 hours.
 - b. Cool moist conditions. Saw-cut within 24 hours.
- B. Control/Expansion joints in concrete shall be provided at the following locations:
1. At major changes in wall heights.
 2. At changes in wall thickness.
 3. Where concrete wall abuts an exterior wall.
- C. Locate control/expansion joints to accommodate anticipated contraction, usually at a set spacing of between 15 - 30 feet.
- D. The spacing of joints is contingent on the material's capacity to sustain expansion without damage to the concrete or masonry (usually based on the amount of reinforcing).
- E. Maximum structural reinforcing shall be 50% continuous across the joint. Terminate non-continuous reinforcing a minimum of two (2) inches from the faces of the joint.
- F. Smooth reinforcing dowels properly detailed can be provided to prevent movement out of the plane of the vertical surface and for shear transfer across the joint if the normal reinforcing detailed is not adequate.
- G. The minimum control joint depth shall be 3/4 - 1 inch. Refer to Section 03000/Concrete, General.
- H. Control joints shall be sealed or as detailed in Architectural/Engineering drawings.
- I. Where applicable, waterstops shall be provided for watertightness.

3.08 CONCRETE PLACING

- A. Refer to Section 03000/Concrete, General.

- B. Cooperate with (OWNER'S) concrete testing laboratory during the concrete testing. Before beginning any concrete operation, proposed unit of pour is to be approved by ARCHITECT/OWNER, and entire unit is to be completed during concrete operation.
- C. Preparation: Place no concrete until steel has been inspected and approved by ARCHITECT/OWNER. Clean all forms free from shavings and other debris before placing concrete. Place no concrete until cleaning of forms has been inspected and approved by ARCHITECT. Prior to pour, insure that other trades' work set into concrete is accurately placed, and secured against movement during pour.

D. Interior Floor Slabs on Earth Fill

- 1. Refer to Paragraph 3.07 this section for Control/Expansion Joints.
- 2. Screed all floor slabs carefully and accurately to level, or to slopes and grades shown on drawings. Form all depressed slabs as shown on drawings. Locate so wall dimensions shown on architectural drawings will conform with edges of depression. Form all ridges and valleys to smooth plane and straight line. Curbs may be formed with slab pour if CONTRACTOR can conform to curb shape.

Set drain elevation depressed below finished slab elevation as listed below to provide proper slope to drain:

DEPRESSION	RADIUS OF AREA DRAINED
1/2"	5'-0"
3/4"	10'-0"
1"	15'-0"
1-1/4"	20'-0"
1-1/2"	25'-0"

E. Concrete Columns, Lintels and Bond Beams Poured Into/Onto Masonry

- 1. Insure all masonry work is complete, with all vertical and horizontal reinforcement properly extended into concrete space, and masonry cured sufficiently to bear stress of concrete pour without cracking of any masonry joints.
- 2. Noticeably cracked masonry joints adjoining concrete, either before or after pour, is cause for CONTRACTOR to replace work, if so directed in writing by ARCHITECT.
- 3. Take care to remove all evidences of pour from surrounding masonry walls and concrete floors.
- 4. Take extreme care during form removal not to spall or otherwise damage any work exposed as either interior or exterior finish.

F. Refer to Section 03000/Concrete, General for compacting requirements.

- G. Refer to Section 03000/Concrete, General for Repair and Patching. Insure all exposed patches conform to appearance of adjacent unpatched work, as judged by ARCHITECT.
- H. Where Welded Wire fabric is used, castle supports at 3'-0" O.C. minimum shall be provided.

3.09 CONCRETE FINISHING

- A. Screed topping and concrete to true level surface, with strike board, and work with wooden floats to thoroughly compact surface. Avoid such working as will bring water and fine particles to surface. Do no dusting of surface with cement or other material. Power floats permit use of stiffer mixes, produce better results, and are preferred. Surface grinding is required, in event rain causes damage to any floor finish. Refer to Section 09000/Finishes, General/Ledgend, to verify extent and locations of various finished concrete surfaces in building.

B. Floors

1. Slabs Covered with Resilient Tile and Carpet Flooring: screed top surface of concrete to true level. Finish with steel trowel. Troweling is to be sufficient to smooth surface without making it slick. All trowel marks to be erased and surface left level and true to horizontal plane, free of waves, humps, depressions and other irregularities.
2. Slabs after placement and finishing are to produce a uniformly true level surface which does not exceed 1/8" variation up or down in any 10 foot direction when tested with a straight edge or by instruments and the 1/8" allowable tolerance up and down shall not both occur in a single 10'-0" distance. In addition, a maximum deviation of 1/4" (up or down) from true level shall be allowed across any single building area.
Slabs found to exceed the level tolerance of 1/8" in 10'-0" are to have high spots ground down and low spots filled with an approved leveling compound. If in the opinion of the ARCHITECT tolerances are not met satisfactorily and that grinding and filling produce an unacceptable surface, the slab in question is to be removed and replaced properly, at no additional cost to the OWNER.
3. Exposed Slabs: finish to smooth uniform surface. Use light broom for all exterior surfaces, and smooth steel trowel finish for all interior surfaces. Fill all depressions and grind all fins or irregular surfaces.
4. Depressed Slabs Receiving Ceramic or Quarry Tile Finish: lightly scarify to bond to Portland cement setting bed.

END OF SECTION 03300

SECTION 04000 / MASONRY, GENERAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, General Requirements, which applies to all sections of this Division 4. Provisions of this Section 04000 also apply to all sections of this Division 4. The articles contained in this section may modify, delete or add to the provisions of the conditions of the Contract.

1.02 FIELD MEASUREMENTS, COORDINATION AND SAFE PRACTICES

- A. Furnish location information for all required dowels to be set in foundations and verify location before concrete is placed.
- B. Verify all field dimensions to insure close fit with work of other trades.
- C. Coordinate and install this division's work in proper sequence and cooperation with all other trades, to insure that total work is completed within contract time schedule.
- D. Check bearing surfaces for proper grade and lines before starting work. Report discrepancies to ARCHITECT for decision, prior to commencement of work.
- E. Obtain exact sizes and locations of openings required by other trades; and properly build around same.
- F. Build-in all required items as furnished by others.
- G. Safety during construction is the sole responsibility of the CONTRACTOR. Published standards (OSHA, etc.) and industry standards of good practices are to be followed.

1.03 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Division 3:	Concrete
Division 5:	Metals
Division 7:	Thermal and Moisture Protection
Division 8:	Doors and Windows
Division 9:	Finishes
Division 15:	Mechanical
Division 16:	Electrical

1.04 DELIVERY AND PROTECTION OF MATERIALS

- A. General: Handle all masonry units by competent careful workmen and by such methods as will prevent damage by chipping, mutilation or soiling. Avoid dumping from wheelbarrows and trucks and other rough handling.

- B. Concrete Masonry Products: Stack on planking with cells placed horizontally, keeping units freely ventilated. Deliver all units in dry condition. Keep dry during storage on job, and until 24 hours after they are laid in wall. If covered storage space is unavailable in building, cover with layer of polyethylene waterproof covering. Covering with loose sheets of felt or sisalkraft paper is not permitted.
- C. Mortar Products: Deliver materials dry. Keep dry until mixed.

1.05 WEATHER CONDITIONS

- A. During rainy weather, do all work only under cover. Do no masonry work whenever temperature drops below 40 deg. F. Protect all newly laid masonry from below 40 deg. F. temperatures for 36 hours after installation by enclosing and heating.

1.06 WORK NOT IN PROGRESS

- A. When work is stopped, whenever possible, bring continuous portions of walls to same level before stopping work. Keep tops of walls covered with non-staining non-absorbing waterproof covering. Extend covering down over two courses, on both sides. When work is resumed, clean top surfaces of loose mortar. Wet brick units thoroughly before resuming work.

PART 2 - PRODUCTS

2.01 Mortar Materials: (Use products of domestic mfg.)

- Portland Cement: Conform to ASTM C150, Type I or II
- Masonry Cement: Conform to ASTM C91, Type II
- Hydrated Lime: Conform to ASTM C-207, Type N
- Sand: Conform to ASTM C-144, and pass a #16 mesh sieve
- Water: Clean and fit to drink.
- Waterproofing Admixtures: Use one of the following
 - (1) Anti-Hydro Company "Anti-Hydro"
 - (2) A. C. Horn "Hydratite Plus"
 - (3) Toch Brothers "RIW Toxment"
 - (4) Hydrocide "Powder"

2.02 STEEL REINFORCEMENT

- A. Joint Reinforcing shall be (Dur-O-Wal or equivalent products of AA Wire Products Co., Hohmann & Barnard, Inc., National Wire.): 9 gauge deformed welded wire. Truss type, or ladder type is approved for all single wythe masonry walls, width set individually for each wall width. Provide "Ladur-Eye" type for all cavity wall locations. Provide #6 rectangular (D/A 515) pintle tie sections sized for selected veneer wythes and cavity width. Use hot-dipped galvanized members ASTM A153 -Class B2, 1.50 ounce zinc coating.
 - 1. Provide prefabricated corners and tee sections (or approved field made method) to provide continuity at corners and intersections as required by part 3.22 herein. Corners size 30" x 30", tee 30" x 30".

- B. Reinforcing Bars: conform to ASTM A-615 "Deformed Billet Steel Bars for Concrete Reinforcement" grade 60. Bars to be free from flaws, cracks or other defects of rolling, true size and shape, and free of loose scales of rust. Bars to be free from heavy dirt, paint, grease, oil, or other destroyers of bond.
- C. Steel stirrups shall conform to ASTM A82, FY-60 KSI minimum. Stirrups shall be 5/16" diameter smooth rod and be formed to manufacturer's standard profile.

2.03 PRECAST LINTELS

- A. Refer to Section 04200 / Concrete Masonry.
- B. Reinforcing and grouting shall be as detailed on structural drawings.

2.04 MASONRY WALL CLEANER

- A. "Sure-Kleen 600", or as approved.

2.05 MORTAR PREPARATION

- A. Mortar Types and Proportions: see other sections of this division.
- B. **Measuring and Mixing:** Measure ingredients accurately using measuring devices approved by the ARCHITECT.

Mix by machine, and as approved by ARCHITECT. Hand mixing is permitted only in small quantities. For grouting and pointing, mix as stiff as can be worked into joints.

1. Place one half of sand and water in mixer, then add cement, lime, remainder of sand and water. Mechanically mix ingredients in batch mixer for period of not less than three (3) minutes. Discard all mortar which remains unused 1 ½ hours after mixing time. Do not use materials containing lime where there is a possibility of "bleeding" thru finishes applied over masonry.

2.06 FLASHING

- A. Metal Flashing: 22 Gauge Type 304 stainless steel or .040 mill finish aluminum as shown on drawings, formed to profiles indicated.

2.07 WALL CONTROL/EXPANSION JOINTS

- A. Refer to Section 07920/Sealants, Caulking and Seals.
- B. Provided are general guidelines for the locations and sizes of joints. However, jointing design is dependent on the materials selected, the makeup of the materials, environmental conditions, and the architectural/structural design and detailing. Factors to be considered are:

1. Temperature effects.
 2. Shrinkage effects.
 3. Creep.
 4. Stresses caused by the architectural/structural design.
 5. Moisture effects.
- C. All expansion and contraction joints shall be shown and detailed by the Engineer or Architect.
1. Expansion joints in masonry shall be provided at the following locations:
 - a. Below shelf angles or structural frames supporting masonry walls or panels.
 - b. Above masonry walls or panels abutting structural frames.
 - c. At major changes in wall heights.
 - d. Near wall intersections.
 - e. At regular intervals, not to exceed 25'-0."
 2. Contraction joints in masonry shall be provided at the following locations:
 - a. At major changes in wall heights.
 - b. At changes in wall thickness.
 - c. Above joints in foundations.
 - d. At columns and pilasters.
 - e. At one or both sides of wall openings.
 - f. Near wall intersections.
- D. Critical construction joints shall be planned for and shown on the drawings, with guidelines for other construction joints specified in Section 03300/Cast-In-Place Concrete, to be prepared as a part of the contract documents. Other proposed construction joints as specified in Section 03300 shall be submitted by the Contractor to the Engineer for review and approval during construction.

PART 3 - EXECUTION

3.01 LAYOUT

- A. Lay all masonry by workmen who are skilled in their trade. Lay in bonding required in other sections of this division with joints plumb and courses straight. Course interior wall out to match exterior wall coursing. Shim base course or cut if necessary to course out. Mark location of all reinforcing dowels (filled cells) plainly on floor or lowest course of block.

3.02 EXECUTION

- A. Lay-up: do not move masonry units after they are mortared in place. If adjustments are required, remove units and replace using fresh mortar. Lay all masonry units with 3/8" maximum width full head and bed joints in both horizontal and vertical joints.

- B. Pattern Bond: lay CMU wall units in common-running bond with vertical joints in each course centered on units in courses above and below unless otherwise indicated. Bond and interlock each course at corners and at intersections. Do not interlock bearing walls with non bearing partitions. Use special-shaped units where shown, and as required for corners, jambs, sash, control joints, lintels, bond beams and other special conditions.
- C. Maintain vertical continuity of cell cavities. Cells which are to be reinforced and grouted to provide minimum clear dimension indicated and to provide minimum clearance and grout coverage for vertical reinforcement bars. Keep cavities free of mortar. Solidly bed webs in mortar where adjacent to reinforced cores or cells.
- D. Where horizontal reinforced beams (bond beams) are shown, use special units or modify regular units to allow for placement of continuous horizontal reinforcement bars. Place cavity cups in mortar joints under bond beam courses over cells of non-reinforced masonry.
- E. Joint Reinforcing: set in all concrete masonry walls, 6" thick and thicker, including ties to all brick veneer. Lay at 16" o.c. vertical (unless noted otherwise on drawings) in all exterior and interior walls in continuous horizontal courses in full mortar beds, and to include joint reinforcing at 1st and 2nd masonry courses above and below wall openings, building in reinforcing as work progresses. Reinforcing shall extend a minimum of 24" into wall from edge of each opening. Lay in all horizontally-bonded masonry walls. Comply with Florida Building Code, using the specified prefabricated tees and corners for all intersections of wall and all inside and outside corners. Minimum end laps shall be as specified in the structural drawings.
1. Veneer Ties at Masonry Backup: set in Ladur-O-Eye truss at 24" o.c. horizontally. Set loose eye ties at same spacing.
- F. Setting Iron Work: set all loose lintels, anchors, sleeves, inserts, etc. in exact locations; true and level in full beds of mortar set as a part of masonry work, not before. Lay brick to bear against all anchors to prevent slippage. Completely cover all anchors and other similar work with mortar or grout.
1. Construction Tolerances: the finished brick veneer plane is not to vary more than 1/4" from plumb. Shelf angle shall be sized so that the outer edge of the outstanding leg is 3/4" from exterior wall surface unless detailed otherwise. Shims, if required, are to be square horseshoe shape galvanized and placed at each embedded insert or anchor bolt and tack welded in place. Maximum shim allowable is 1". Note that lengths of bolts supporting shelf angles could vary because of differing tolerances of various components of building structure.
- G. Setting Cavity/Veneer Flashings: refer to details on drawings and provide thru wall flashing continuous at all ledger angles, loose lintels, under all window sills and other locations as shown on drawings or required to expel moisture to outside. Coordinate installation of flashings with other trades to insure that top edge of flashing is fully sealed in a permanent manner. All laps and repairs shall be 6" lap and sealed with sealant.

- H. Setting Grounds: build all grounds and nailing blocks required for fastening of all trim and other finish, into wall. Install nailing blocks for fastening of grounds, wood trim, and other materials required to be fastened to walls.
- I. Metal Frames: set frames true, plumb, level and out of wind. Use a minimum of 4 wire type anchors on each side of the door frame. Anchors should be installed at hinge areas on frame. Anchors should be designed so that wire will be completely encased in the concrete grout and/or mortar joints. Fasten door frame to floor with two pins on each side. Build masonry tight to frames. Solidly fill all voids and grout all jambs and heads **including intermediate mullions**. Build frames into masonry as work progresses. Pieces shorter than 4 inches are not permitted. Rake all mortar joints at frames $\pm 1/2$ " deep, for caulked joint specified in other section(s).
- J. Cutting and Chases: avoid cutting of masonry units. Where it cannot be avoided, cut with a masonry saw in neat and regular manner, with all edges true, and no exposed faces chipped/spalled. Cut masonry carefully and accurately to fit and conceal all heating, plumbing and electrical pipes, conduits, and ductwork; and fit neatly around all openings, equipment, and access doors and panels. Coordinate all masonry work with respective trades. Leave chases in walls as required by other trades.
- K. Setting of Lintels: install precast and/or composite steel lintels over all openings. Set lintels in place with joints pointed to match adjacent work. Build in lintels, reinforce and fill with structural concrete grout as work progresses. Refer to Section 04200 / Concrete Masonry.
- L. Placing Grout: Refer to Section 04200 / Concrete Masonry.
- M. MASONRY WALL CONTROL/EXPANSION JOINTS
1. Locate expansion joints to accommodate anticipated expansion at abrupt changes in the structure, where butting up to existing structures, and at least one corner of windows, doors, and other rectangular openings.
 2. The spacing of joints shall be contingent on the material's capacity to sustain expansion without damage to the concrete or masonry (usually based on the amount of reinforcing).
 3. Structural reinforcing shall be discontinuous across the joint. Terminate reinforcing a minimum of two (2) inches from the faces of the joint.
 4. Smooth reinforcing dowels, properly detailed, shall be provided to prevent movement out of the plane of the vertical surface and to provide for shear transfer (as required).
 5. The minimum expansion joint width shall be 1/4".
 6. Expansion joints shall be sealed. Refer to Section 07920/Caulking.
 7. Where applicable, waterstops shall be provided for watertightness.

3.03 POINTING AND CLEANING

- A. After jointing and pointing is completed and joints set up hard, clean all exposed concrete masonry surfaces with clear water and stiff fiber brushes. Leave concrete and brick masonry clean, free of mortar daubs and with tight mortar joints throughout. Do cleaning strictly according to published recommendations of Southern Brick and Tile Manufacturers Association for cleaning brick work. Acid is not permitted.
 - 1. Keep cavity clean of mortar droppings as wall is built up. Use appropriate means to avoid mortar "bridges" to back-up material and obstruction of flow to weep holes.

3.04 MASONRY WALL HEIGHTS

- A. Refer to wall sections, elevations and reflected ceiling plan and other drawings to verify all wall heights. Adequately brace and support walls in place.

3.05 JOINTS AT OVERHEAD STRUCTURE

- A. At all joints where non-bearing masonry walls are laid to underside or edge of any structural slab, joist, or beam allow 1/2" wide open unmortared joint for possible deflection. Firmly pack joint with oakum or glass fiber batt insulation material. At fire rated locations use an approved U.L. rated material.

END OF SECTION 04000

SECTION 04200 / CONCRETE MASONRY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 04000 and other sections of this division.

1.02 APPLICABLE CODES AND STANDARDS

- A. Florida Building Code - latest edition adopted by D.O.E.
Building Code Requirements for Masonry Structures (ACI 530 / ASCE 5 / TMS 402).
Specification for Masonry Structures (ACI 530.1 / ASCE 6 / TMS 602).

PART 2 - PRODUCTS

2.01 MORTAR MATERIALS

- A. Refer to Section 04000/Masonry, General.

2.02 STEEL REINFORCEMENT

- A. Refer to Section 04000/Masonry, General.

2.03 MASONRY WALL CLEANERS

- A. Refer to Section 04000/Masonry, General.

2.04 MASONRY WALL CONTROL EXPANSION JOINTS

- A. Refer to Section 04000/Masonry, General.

2.05 CONCRETE MASONRY UNITS

A. STANDARD WEIGHT CONCRETE MASONRY UNITS

1. Conform to ASTM C90-01a, grade "N", Type II, 8" x 16" modular units, thickness as indicated on the drawings, minimum 1" face shells. Units 8" or more thick must have minimum 1 1/4" face shells. Aggregate is to be gravel, air-cooled blast furnace slag, or crushed stone. Units are to be acceptable visually, structurally, and free from undesirable defects resulting from either manufacturer or handling, as judged by ARCHITECT.
The design compressive strength of the masonry, f'm = 1500 psi minimum (1900 PSI on net area).
2. Units which have not been subjected to an approved method of steam curing must be stored for 30 days prior to use.
3. Sound transmission loss through 4" unpainted unplastered wall, must not measure less than 36 decibels.

4. Linear drying shrinkage must not be greater than 0.04% when tested as prescribed by National Bureau of Standards.
5. Moisture content at time of delivery must not exceed 75% of relative humidity, as measured by approved methods of Portland Cement Association.
6. Standard brick sized units are to be solid, but otherwise conform to these paragraphs.

B. ACCESSORY UNITS

1. 8" x 16" x 8" thick header block at locations indicated.
2. 8" x 16" knock out cut-lintel units, thickness as indicated.
3. Furnish regular corner, half, and half corner units; and all lintel and half block units as required by conditions shown on architectural and structural drawings.

2.06 GROUT MATERIALS

- A. Refer to Sections 03000/Concrete, General and 03300/Cast-In-Place Concrete.

2.07 MORTAR PREPARATION

- A. Conform to ASTM C270 for procedures. Proportion as Florida Building Code, Type S, for concrete masonry, use the one bag mix as follows:
3 bags high strength masonry cement
63 shovels sand (21 shovels per bag)

2.08 PRECAST WINDOW SILLS

- A. "Thin Sill" configuration by Cast-Crete Corp. or approved equal.

2.09 PRECAST LINTELS

- A. High strength precast and prestressed concrete lintels designed to be used unfilled or filled to form a composite reinforced concrete beam using concrete masonry units equal to 'Cast-Crete'.

PART 3 - EXECUTION

3.01 GENERAL

- A. Refer to Section 04000/Masonry, General.
- B. Conform to referenced codes.
- C. No wetting of concrete masonry units is permitted. All openings in walls to have concrete-filled reinforced lintels, unless otherwise indicated on drawings.
- D. Refer to Section 04000/Masonry, General for sample panel requirement.

3.02 COURSING AND JOINTING

- A. Concrete Masonry - Lay all units plumb and true to line, with uniform 3/8" joints, and in running bond. Joints wider than 3/8" will be rejected.
Lay to course out at 8 inch centers.
- B. Strike all joints flush, after mortar has partially set, and sack or float walls head joints to give smooth uniform appearance and tool all horizontal joints concave where walls are to be left exposed. At stucco or hard tile locations delete tooling of joints.

3.03 LAYING MASONRY UNITS

- A. For bonding masonry to concrete foundation or floor slabs, concrete to be clean with laitance removed and aggregate exposed.
- B. Lay starting joint with full mortar coverage on the joint; except that areas where grout occurs are to be free of mortar so that grout will contact concrete.
- C. Units shall be laid to preserve vertical continuity of cells to be filled. The vertical alignment shall be sufficient to maintain a clean, unobstructed flue measuring not less than 3"x3". Place no units or cut pieces of masonry less than 4" nominal.
- D. In placing mortar in horizontal joints, completely cover the face shells of each unit with mortar. Solidly fill all head joints to the thickness of the face shell and shove units tightly in place. Solidly bed in mortar all head and cross web bed joints adjacent to cells to be grouted to prevent leakage of mortar.
- E. Lay designated walls in two separate wythes, with insulated cavity as indicated.
- F. Anchor and bond intersecting masonry walls with 50% masonry bond, except as noted otherwise on drawings.
- G. Install precast and/or composite steel lintels over all openings. Set lintels in place with joints pointed to match adjacent work. Build in lintels, reinforce and fill with structural concrete grout as work progresses.
 - 1. Steel lintels shall be provided with 4" minimum structural bearing each side of openings.
 - 2. Pre-cast concrete lintels shall be provided with 8" minimum structural bearing each side of openings.
 - 3. Typical steel and cut masonry lintels, even if not shown on structural or architectural drawings, shall be reinforced with a minimum of 1 #5 bar continuous (extend 12" minimum each end) and grouted solid.
 - 4. Concrete masonry work shall not proceed beyond the elevation of door and window headers until all vertical reinforced cells and reinforced horizontal lintels have been grouted.

- H. At hard tile locations take extra care in laying units such that wall will be suitable for thinset tile installation directly to wall. Grind any unevenness judged unacceptable by ARCHITECT.
- I. Install wall control/expansion joints at 20 ft. o.c. and/or as shown and detailed on architectural/engineering drawings. Refer to Sections 04000/Masonry, General and 07920/Sealants, Caulking and Seals for additional requirements.

3.04 CUTTING

- A. Do all cutting of block with carborundum or equivalent saw. To facilitate proper coursing, half blocks may be used to reduce amount of cutting. No masonry will be permitted to be used if not cut properly. Masonry broken by "blows" will be replaced, even if after the wall has been completed.

3.05 PLACING STEEL REINFORCEMENT

- A. Reinforcing steel to be straight, except for bends around corners and as detailed otherwise on drawings. **Lap reinforcing steel as shown on structural drawings.** Place vertical bars in exact center of cells, or as otherwise indicated, and hold in position at top and bottom and at intervals not to exceed 96 bar diameters. Vertical cavity rebar to be run in maximum possible lengths, 5'-0" minimum, **using low lift grouting procedures.**
- B. Completely embed joint reinforcement in mortar or grout. Lap splices 6 inches minimum at all locations.
- C. Lap dowels in footings to vertical steel in masonry columns by placing in aligned cells, then grouting cells to obtain bonded lap between wall and footings.
- D. Reinforce and grout all reinforced horizontal block courses as wall is built-up.

3.06 PLACING GROUT

- A. Insure all walls are cured minimum of three (3) days, and are solid, or braced against movement, during grouting. No one is to "walk" the walls. Notify ARCHITECT minimum of 24 hours or one full working day before start of each grouting operation.
- B. **CONTRACTOR is to use only low-lift grouting procedure unless otherwise authorized by ARCHITECT and OWNER.**
 - 1. Grout lifts that exceed 5'-0" must have prior approval of the OWNER. Contractor shall neatly saw-cut cleanout/inspection holes or provide manufactured inspection blocks at the bottom of all reinforced vertical cells for grout lifts greater than 5'-0".
- C. Grouting of reinforced vertical cells shall occur at intervals to allow grouting of all composite steel and/or precast lintels. Concrete masonry shall not be installed above lintels prior to grouting of all lintels.

- D. Consolidate all grout at time of pouring by puddling or vibrating and then reconsolidate by again puddling later before plasticity is lost. Stop grout pour 1 1/2" below top unit to form construction joint for subsequent pours. Neatly sawcut and provide cleanout/inspection hole at the bottom of all cells to be filled with grout when pour, if authorized, exceeds 5'-0" in height.
- E. CONTRACTOR has sole responsibility of completing masonry and grouting operations necessary to construct a sound load-bearing crack-free wall.
- F. Properly cure grout placed in horizontal reinforced precast concrete lintels minimum seven (7) days.

3.07 **All masonry walls, if not receiving a formed and poured concrete beam at top and even if not shown on structural or architectural drawings, are to receive as a minimum a top knockout lintel block course, reinforced with 1 #5 bar continuous and filled with concrete grout.**

3.08 WATERPROOFING

- A. Refer to Division 7 for waterproof coating installed over concrete and masonry surfaces behind face veneer and elsewhere.
- B. Masonry CONTRACTOR is responsible for providing a uniformly regular surface prior to application of coating, with full and tight joints between concrete block units and around all brick ties or other embedded items. Remove projecting mortar and fill all joints and voids.

3.09 WALL FLASHING

- A. Refer to Section 04000/Masonry, General for installation of wall flashings.

3.10 PRECAST WINDOW SILLS

- A. Install in maximum available lengths, set in full mortar bed. Thin sills are prohibited.

12 POINTING AND CLEANING

- A. Refer to Section 04000/Masonry, General.

END OF SECTION 04200

SECTION 05000 / METALS, GENERAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, General Requirements, which applies to all sections of this Division 5. Provisions of this Section 05000 also apply to all sections of this Division 5. The articles contained in this section may modify, delete or add to the provisions of the conditions of the Contract.

1.02 FIELD MEASUREMENTS AND COORDINATION

- A. Verify all field dimensions to insure close fit with work of other trades.
- B. Coordinate and install this division's work in proper sequence and cooperation with all other trades, to insure that total work is completed within contract time schedule.
- C. Verify extent of all items to be furnished including incidental items related to or necessary for a complete installation, their required shapes and sizes, and sequence with which these items are to be furnished and installed. Furnish to jobsite sorted, tagged, and grouped according to use.

1.03 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Division 2:	Site Work
Division 3:	Concrete
Division 4:	Masonry
Division 6:	Wood and Plastic Laminates
Division 7:	Thermal and Moisture Protection
Division 8:	Doors and Windows
Division 9:	Finishes
Division 10:	Specialties
Division 11:	Equipment
Division 13:	Special Construction
Division 15:	Mechanical
Division 16:	Electrical

1.04 APPLICABLE TECHNICAL CODES AND STANDARDS

- A. Conform to applicable provisions of latest editions of following reference codes, except as specifically modified hereinafter.
 - 1. American Institute of Steel Construction "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings".
 - 2. American Institute of Steel Construction "Specification For The Design of Cold Formed Steel Structural Members".
 - 3. American Welding Society - D1.1 "Structural Welding Code".

4. American Welding Society - D1.3 "Structural Welding Code - Sheet Steel".
5. Steel Structures Painting Council.
6. Metal Roof Deck Technical Institute Specification and Load Tables for Three-Span Ribbed Deck, latest edition.
7. Steel Deck Institute, "Design Manual For Floor Decks and Roof Decks".
8. **Furnish affidavit to ARCHITECT certifying materials delivered to jobsite meet requirements specified. Certification does not relieve CONTRACTOR of responsibility of complying with all requirements herein.**

1.05 SPECIAL MATERIAL DELIVERY AND HANDLING INSTRUCTIONS

- A. Protect all materials from weather, prior to and during fabrication, and before erection. Do not store materials directly on ground at any time. Insure that all abrasions in shop painted work are immediately painted with identical prime paint to insure no rusting of steel work.
- 1.06 Submit shop drawings in accordance with Section 01330/Shop Drawings Requirements of this specification.

PART 2 - PRODUCTS

2.01 STEEL ITEMS

- A. Structural Steel Beams, Plates, Channels, Angles and Bars: conform to ASTM A992, "Structural Steel", latest edition.
- B. Steel for Galvanized Corrugated Metal Deck Units - ASTM A653, Grade A.
- C. Galvanizing - ASTM A525, G60.
- D. Round, Square and Rectangular Steel Tubing: conform to ASTM A-500, "Hot-Formed Welded and Seamless Carbon Steel Structural Tubing", latest edition.
- E. Sheet Steel: prime grade cold-rolled steel, properly annealed, process leveled, with smooth clean surfaces.
- F. Bolts, Nuts and Washers: conform to ASTM A-307, "Low-Carbon Steel Externally and Internally Threaded Standard Fasteners", latest edition. ASTM A-325, "High Strength Bolts for Structural Steel Joints", including suitable nuts and plain hardened washers.
- G. Anchors, Expansion Bolts and Shields and Strap: furnish and install all necessary items required for this contract which in judgement of ARCHITECT are required, whether or not each item is specifically described in contract documents. Expansion bolts and shields must be galvanized or of non-ferrous metals, sized suitable for work to be anchored, and used where built-in place anchors are not practicable. All bolts furnished with nuts and washers. Materials normally to be identical to material being fastened.
- H. Welding Electrodes: conform to ASTM A-233, Type E 70XX electrodes, or otherwise

required for joint condition.

- I. Other Steel Items: conform to ASTM A-36, "Steel for Bridges and Buildings", latest edition.

2.02 PRIMER PAINT

- A. Zinc chromate, iron oxide, rust inhibitive metal primer, meeting SSPC P-15-68T, Type I and TT-P-63C.
- B. Electrolysis Prevention Between Dissimilar Metals: aluminum-pigmented asphalt paint produced by regionally recognized producer.
- C. Primer at spray-applied fire protection locations shall have been tested and reported by Underwriters Laboratories to be in compatible compliance.

PART 3 - EXECUTION

- 3.01 Make and erect all work square, plumb, straight and true. Fit tightly, firm, and secure against designed stresses and weights of supported materials and building occupants.
- 3.02 Furnish all supplementary parts necessary to complete each item, even though such parts are not definitely shown or specified. Include all anchors, sockets, pipe sleeves, tabs, etc., for securing work.
- 3.03 FABRICATION
 - A. Insure all material has all surfaces cleaned per the AISC Code requirements. Remove all dirt, rust, grease, mill scale, etc. Prior to layout or being worked in any way, carefully inspect all pieces for straightness and level; and straighten and level without impairment of strength, all pieces requiring same. Neatly and accurately shear, clip, cut, drill, punch and/or weld all portions of work, whether or not normally exposed to view.
 - B. Accurately fabricate all members to insure that all parts fit together on jobsite without jobsite cutting.
 - C. Accurately punch and space all bolt holes. Size and align for firm connection and bearing.
 - D. Conform all steel welding to applicable provisions of referenced code by certified welders.

- E. After fabrication is complete, clean all surfaces of rust, scale, dirt and grease.
 - 1. Shop fabrication errors shall not be corrected in the field without prior written approval of the ARCHITECT and OWNER.
 - 2. The ARCHITECT and OWNER reserves the right to have his representative inspect the fabrication or erection at any stage of completion.
 - 3. The ARCHITECT'S and OWNER'S inspectors in no way will relieve the CONTRACTOR of his responsibility in meeting the codes and specifications.

3.04 ERECTION

- A. Provide all temporary bracing required for proper alignment and stability of all steel members during erection.
- B. Temporary bracing and/or shoring shall remain as long as necessary for the safety and stability of the structure.

3.05 SHOP PAINTING

- A. Prior to painting, all steel is to be cleaned to a SSPC-SP3 surface. Deliver all structural steel to project fully coated with specified primer paint, minimum of 1 mil. thickness per, A.I.S.C. latest edition adopted by D.O.E., unless noted below.
 - 1. Areas Not to Receive Paint:
 - a. Areas within 2 inches of joints which are to be welded.
 - b. All non-ferrous surfaces not subject to electrolytic action.
 - c. All items to be embedded in concrete.
- C. Electrolysis Prevention - Dissimilar Metals and Metals In Contact With Masonry: apply one (1) coat of aluminum pigmented asphalt paint on contact surfaces of metal in contact with dissimilar metals.

3.06 JOB SITE TOUCH-UP PAINTING

- A. Clean and properly prepare all exposed surfaces after welding and paint with approved primer all welded and burned surfaces.
- B. Clean and repaint all shop painted areas after work is erected which are still accessible and which have been abraded sufficient to expose metal.
- C. All cut, drilled, burned or welded galvanized and/or painted surfaces shall be primed with approved primer.

3.07 HANDLING AND MARKING

- A. Clearly and neatly mark all members for identification and erection sequence. Bundle members as CONTRACTOR requires for erection. Deliver to jobsite without damage to members. Repair or refabricate all damaged members.

3.08 WELDING

- A. Only certified welders are to be employed on project. Submit current certificates, not over 2 years old. Welders to be qualified in accordance with Section 5 of the AWS D1.1 code, latest edition.

END OF SECTION 05000

SECTION 06000 / WOOD AND PLASTIC LAMINATES, GENERAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1 and other sections of this division.

1.02 FIELD MEASUREMENTS AND COORDINATION

- A. Verify all field dimensions to insure close fit with work of other trades.
- B. Coordinate and install this division's work in proper sequence and cooperation with all other trades, to insure that total work is completed within contract time schedule.

1.03 RELATED WORK IN OTHER DIVISIONS/SECTIONS

- Division 3: Concrete
- Division 4: Masonry
- Division 5: Metals
- Division 7: Thermal and Moisture Protection
- Division 9: Finishes
- Division 10: Specialties

1.04 MATERIAL DELIVERY AND HANDLING INSTRUCTIONS

A. Lumber

- 1. Stack all lumber delivered to the jobsite, off ground or on slab in a manner to assure proper drainage, ventilation and protection from weather and damage. Store all interior wood items indoors, and protect as hereinbefore stated.

B. Millwork and Other Plastic Laminate Items

- 1. Deliver no material to project until building is dried in and millwork installation is ready to proceed, as verified by ARCHITECT and OWNER. Store all items inside building, completely covered by heavy gauge polyethylene sheets. Store out of way of construction operations and traffic. After installation, protect countertops with corrugated box board.

END OF SECTION 06000

SECTION 06100 / ROUGH CARPENTRY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1 and other sections of this division.

PART 2 - PRODUCTS

2.01 FRAMING AND FURRING LUMBER

- A. Number 2 dimension, conforming to "Grading Rules for Southern Pine Lumber", latest edition, or equivalent grade West Coast Fir or Cedar. Show grade stamps on all lumber. Sizes are shown on drawings.
- B. Pressure treat all wood members which are installed in contact with masonry, concrete or steel with waterborne 0.40 lbs of CCA preservative per cu. ft., as manufactured by Hoover Treated Wood Products, Inc., Chemical Specialties, Inc., or approved equal in accordance with American Wood Preservers Bureau (A.W.P.B.) Standard LP-2.

2.02 PLYWOOD

- A. DFPA exterior type AC Fir. Use utility grades for all work not exposed to view.
- B. Birch veneer, 2 sides, with matching solid edge trim.

2.03 ROOF SHEATHING

- A. 5/8" Thick APA Rated 32/16, Exposure I.

2.04 NAILS AND OTHER FASTENERS

- A. Nails, bolts, lag screws and other fasteners to be standard products of types and sizes suitable for intended use. Use galvanized fasteners on all exterior work and for framing in toilet and bath areas. Use finishing nails where face nailing is required for all finish work.
 - 1. Use expansion lead shields and screws or "Tapcon" concrete fasteners for wood-to-concrete and wood-to-masonry connections.
 - 2. Use cast-in bolts for wood-to-concrete connections, wherever shown on drawings.
 - 3. Use black iron bolts, nuts, and washers; or lag bolts; for all wood-to-steel connections.

4. Use power driven fasteners sized appropriate to material thickness for certain wood-to-concrete or masonry and wood-to-steel installations where approved by the ARCHITECT and OWNER.

PART 3 - EXECUTION

3.01 GENERAL

- A. Erect all work plumb and true to line. Securely fasten in place by means of nails, bolts, screws, straps, or other appropriate fasteners. Provide washers under heads of lag screws and under both heads and nuts of bolts where both are in contact with wood. Attach wood to steel by means of bolts with heads and/or nuts countersunk where required. Neatly make joints. Carefully perform workmanship as judged by ARCHITECT. Refer to drawings for location and configuration of work.

3.02 BLOCKING, FRAMING AND FURRING

- A. Install miscellaneous framing lumber, furring, blocking, and grounds for other trades as indicated on drawings, and elsewhere as judged by ARCHITECT. This includes but is not limited to:
 1. Blocking for fascia system and roof edge blocking, if required.
 2. Continuous framing for roof penetrations, where required.
 3. Solid wood support framing minimum 2x8 in all framed wall systems for wall-hung millwork, chalkboards/tackboards, wall hung lavatories, water coolers, toilet room accessories, hardware items or other equipment.
 4. Plywood backboard for telephone/data equipment.
 5. P.T. 1x4 furring under roof sheathing.
 6. Solid wood blocking behind door stops in stud walls.

3.03 ROOF CURB CONSTRUCTION

- A. Self-Curbed Roof-Penetrating Items: install pressure treated wood blocking for proper fastening and support of equipment; bolt wood blocking to metal roof frame. See drawings for details and sizes.
- B. Set all roof curb sides plumb and tops level, unless indicated otherwise on the drawings.

END OF SECTION 06100

SECTION 06402 / CUSTOM SHOP FABRICATED MILLWORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1 and other sections of this division.

1.02 RELATED WORK IN OTHER DIVISIONS/SECTIONS

- A. Section 12300/General Casework

1.03 SCOPE OF THIS SECTION'S WORK

- A. The CONTRACTOR has the option to provide project millwork fully under this section or in combination with Section 12300/General Casework.
Some units in the documents do not lend themselves to mass-produced fabrication techniques and therefore must be covered in scope by this Section 06402.

1.04 QUALITY ASSURANCE

- A. All glazing required to be tempered, laminated or safety glass shall have etched identification.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Softwood Plywood: (not for exposed finish stain and varnish work).
Douglas Fir: Commercial Standard CS 45-48.
Western Softwoods: Commercial Standard CS 122-60.
Southern Pine: Commercial Standard CS 259-63.
- B. Particle Board: (not for exposed finish work)
High Density Type (47 lb. minimum): Commercial Standard CS 236-66, Fed. Spec LLL-B-800A, ASTM D-1037-87, ANSI A208.1, latest edition, Grade M-3.
- C. Plastic-Surfaced Work
 - 1. Countertops/Backsplash and Open Shelving: Countertops, except at cabinets with sinks, may have backup of 3/4" particle board per paragraph 2.01 B. Tops at sink locations to remain plywood.
 - 2. Other Exposed Surfaces: Interior surfaces of open cabinets without doors may be melamine product of manufacturer's standard color as selected by ARCHITECT.

3. Cabinet Interiors (behind doors and drawers): pressure fused laminate, surface laminated to core under pressure, to meet NEMA LD3, latest edition, CLS standards, 0.020 minimum thickness. This includes balancing sheet of laminate on backs of all doors.
- D. Cabinet Door Stock: As paragraph 2.01, C2, except all doors exceeding 9 square feet of area are of lumber core or minimum 1" thick particle board construction.
- E. Fasteners and Metal: All screws and nails are non-ferrous, or plated with countersunk or finished heads. Glue is "Weldwood Plastic Resin Glue", or as approved.
- F. Hardboard: Tempered moisture-resistant hardboard, by domestic producer, smooth both sides, Commercial Standard CS-251.
- G. **Structural Lumber: nominal 1X and 2X stock, #1 yellow pine or fir, pressure treated for bases.**
 1. Pressure treated plywood is acceptable for sub-base construction if suitably dried prior to installation.

2.02 SHOP FABRICATION

- A. General: Construct all items at shop and in field, in accord with approved shop drawings, and of highest quality consistent with accepted standards of trade. Fit joints accurately and tight. Form to conceal possible shrinkage. Secure by gluing and screwing. Use concealed screws where required for structural rigidity. No exposed fasteners are allowed. Sand smooth and set all nails to prepare for puttying and application of finish.
 1. Install all hardware specified herein, free from damage, accurately fitted and adjusted, and in good working condition.
- B. Shelving: Unless detailed otherwise on the drawings, all shelves are 3/4" plywood or 1" particle board, and uprights are 3/4" stock with solid edge stripping, plastic laminate finished, adjustable, with surface mounted adjustable shelf hardware. All six sides of shelves are to receive plastic laminate finish.
- C. Millwork: Exposed sides and backs are minimum 3/4" stock. Interior uprights are 3/4" stock. Concealed backs are minimum 1/2" stock, hardboard is permitted.
 1. Join fronts and exposed backs to sides with square shoulder joints, glued and nailed.
 2. House bottoms and concealed backs into fronts, backs, and sides: and nail. House uprights into body web frames.

3. Body web frames are stile-plowed, and of stub-tenon construction. Unless otherwise indicated on the drawings, surface mount doors and drawers, lapped over cabinet face frames, hung and aligned plumb and true, with + 1/4" space, horizontally and vertically aligned, between all doors and drawers. Cabinet doors up to 9 square feet area are 3/4" thick, mounted as above.
4. Doors over this size shall be 1" thick, minimum.
5. Drawer bottoms shall be 1/4 inch hardboard, smooth side up; side and back minimum 1/2 inch solid softwood; front 3/4 inch stock. Provide lock joints on front and sides, rabbet bottom into side perimeter frames. Use sliding drawer hardware, stops glued and screwed. Construct to close tolerances, glue and nail.
6. All millwork set on floor to be supported on pressure treated supports which are a full 4" height to receive full 4" vinyl base by Division 9 without trimming, unless detailed otherwise.
7. All countertop corners that are not captured by walls or other cabinets shall be radiused a minimum of the countertop thickness.

D. FINISHES

1. Laminate plastic: all exterior exposed-to-view surfaces, including interior of open cabinets, exposed finished ends/backs/sides, all shelves (6 sides), bottom and tops of wall cabinets and undersides of projecting shelves.
2. Fused Laminate: see paragraph 2.01, C3.
3. Stain Finish: Exposed solid wood trim as detailed, then finish with polyurethane, minimum 3 coats.
4. Cabinet Backs and all unfinished surfaces: Shop apply one coat aluminum paint.

- E. Material Locations and Uses: Softwood plywoods or particle boards may be used for all fabrication items to receive 2.02, D1 & 2.02, D2 surface finishes as outlined above except: countertops, backsplashes, base cabinets with sinks, and freestanding counter supports to be plywood construction; and all shelves may be 3/4" plywood or 1" particle board.

2.03 MILLWORK HARDWARE

- A. General: All hardware hereinafter described refers to Knape and Vogt, unless specifically stated otherwise. All finishes are bright chrome or cadmium plate, unless specified otherwise by model number of item specified. Other items judged equivalent may be submitted to ARCHITECT for approval.
1. Drawer & Door Pulls: Epco 402-3.5 wire pull, 3 1/2" long, clear anodized aluminum, or as approved.
 2. Drawer Glides: #1428 full extension or Grant #328.
Drawer glides to be full extension for file drawers and shallow drawers, and 80 percent (minimum) extension for other drawers

3. Hinges: heavy duty, five knuckle 2 3/4 inch institutional type hinge shall meet ANSI/BHMA A156.9 Grade 1 requirements. Mill ground, hospital tip, tight pin feature with all edges eased. Hinge to be full wrap around type of tempered steel .095 inch thick. Each hinge to have minimum 9 screws, #7, 5/8 inch FHMS to assure positive door attachment.
 - a. One pair per door to 48 inch height. One and one-half pair over 48 inch in height. Hinge to accommodate 13/16 inch thick laminated door and allow 270 degree swing.
Finish to be brushed chrome, LH-301 ChromeCoat Powder Finish, LH-302 Black, or LH-303 White epoxy coated, as selected.
4. Gate Hinges: Roton/Hager #780-112 continuous geared hinge, all wood screws.
5. Bumper: Ives #401 rubber, concealed fastening.
6. Magnetic Catches: Provide one Stanley #SP41 magnetic catch per door (2 for doors over 9 SF).
7. Door & Drawer Locks: #986 or National Lock M4-7054 for doors and drawers up to 7/8" thick. Coordinate with Section 12300/General Casework locks.
8. Shelf Hardware: #255 steel recessed mounted standards and #256 clips.
9. Chain Bolts: Stanley #1055 complete with strike. Provide one at top of inactive leaf of pairs of doors with lock, for doors less than 9 SF. Provide one at each top and bottom of similar doors 9 SF and over.
10. Door/Drawer Bumpers: rubber type, adhesive set.
11. Grommets: molded plastic or metal, 2" I.D.

PART 3 - EXECUTION

- 3.01 Refer to configurations, details and specific requirements shown on drawings, for millwork items intended to be provided by this section.
 - A. Coordinate this section's work with that of Division 12 Casework type materials and equipment.
- 3.02 CABINET SUB-BASE
 - A. All are to be separate and continuous (no cabinet body sides-to-floor), of pressure treated solid stock or pressure treated exterior grade plywood with concealed fastening to cabinet bottom. Ladder-type construction of front, back and intermediates shall form a secure and level platform to which cabinets attach.
- 3.03 INSTALLATION
 - A. Install in locations shown on drawings. ARCHITECT will selectively approve and permit small-dimension solid lumber trim finished to match adjacent surfaces, to close joints with adjacent wall surfaces, otherwise a caulk joint is to be used. Firmly anchor with screws into solid wood blocking at top and bottom of all units secured to framed

walls. Set drilled-in lead shields into masonry walls, then use screws; or use "Tapcon" drilled anchors into masonry or concrete. Hang no units through drywall or plaster wall panels. See specification Sections 06100/Rough Carpentry and/or 06200/Finish Carpentry for wall-hung millwork support blocking.

1. See drawings for wall hung units supported by cleat attached to walls.
2. Provide resilient bumpers for all doors and drawers.

B. Workmanship:

1. Erect casework straight, level and plumb and securely anchor in place. Scribe and closely fit to adjacent work. Cut and fit work around pipes, ducts, etc.
2. Install all items complete and adjust all moving parts to operate properly.
3. Leave surface clean and free from defects at time of final acceptance.

C. Guarantee:

1. All materials shall be guaranteed for a period of 5 years from the date of substantial completion for defects and workmanship.

3.04 ADJUSTMENTS AND CLEANUPS

- A. Adjust all hardware to proper action. Clean all surfaces. Repair all blemishes, to match adjacent surfaces so that no blemish is visually apparent from one foot distance, as judged by ARCHITECT. Clean dust from all surfaces.

END OF SECTION 06402

SECTION 07000 / THERMAL AND MOISTURE PROTECTION, GENERAL

PART 1 - GENERAL

1.01 CONTRACT PROVISIONS

- A. Conform to Division 1, General Requirements, which applies to all sections of this Division 7. Provisions of this Section 07000 also apply to all sections of this Division 7. The articles contained in this section may modify, delete or add to the provisions of the conditions of the Contract.

1.02 FIELD MEASUREMENTS AND COORDINATION

- A. Verify all field dimensions to insure close fit with work of other trades.
- B. Coordinate and install this division's work in proper sequence, and in cooperation with all other trades. Insure that total work is completed within contract time schedule.

1.03 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Division 3:	Concrete
Division 4:	Masonry
Division 5:	Metals
Division 6:	Wood and Plastic Laminates
Division 7:	Thermal and Moisture Protection
Division 8:	Doors and Windows
Division 15:	Mechanical
Division 16:	Electrical

1.04 ACCEPTANCE OF SURFACES

- A. Prior to commencement of work, inspect all surfaces to receive work. Verify that work of other trades which penetrates roof deck or requires men and equipment to traverse roof deck has been completed. Examine surfaces for inadequate anchorage, foreign material, moisture, and unevenness which would prevent the execution and quality of application of roofing system as specified. Do not proceed with application of roofing system until defects are corrected.
- B. Notify ARCHITECT in writing of any conditions which in CONTRACTOR'S judgment prevent installation meeting all requirements of this specification. Beginning of work constitutes CONTRACTOR'S acceptance of surfaces.

1.05 STRUCTURAL DESIGN REQUIREMENTS

- A. Structural design of systems will be the responsibility of the manufacturer and is to be designed to comply with the Florida Building Code along with additional wind loading as follows:

1. Code Conformance: Design of system shall comply with the requirements of the Florida Building Code, and ASCE-7, latest edition.

1.06 PREFABRICATION

- A. Shop fabricate and assemble items to maximum extent possible and practicable; to permit installation with minimum amount of field assembly.

1.07 ELECTROLYSIS PREVENTION

- A. Give all portions of metals which come in contact with masonry or concrete two (2) coats of bituminous paint. When two dissimilar light metals come in contact, paint each contact surface with one (1) coat of bituminous paint.

1.08 QUALIFICATIONS

- A. Perform all work specified herein only by recognized firm regularly engaged in performing this type of work.

1.09 SPECIAL MATERIAL DELIVERY AND HANDLING INSTRUCTIONS

- A. Deliver materials in manufacturer's original, unopened containers and rolls with labels intact and legible. Deliver materials requiring fire resistance classification to the job with labels attached and packaged as required by labeling service.
- B. Deliver materials in sufficient quantity to allow continuity of work.
- C. Handle rolled goods so as to prevent damage to edge or ends. Select and operate material handling equipment so as not to damage existing construction or applied roofing.
- D. Store all roofing materials on clean raised platforms with weather protective covering when stored outdoors. Store rolled goods on end. Provide continuous protection of materials against wetting and moisture absorption. Protect materials against damage by construction traffic.
- E. Remove wet materials from project site.
- F. Store emulsions in temperature above 40 deg. F.

1.10 AFFIDAVIT AND GUARANTEE-WARRANTY

- A. Roofing and roof flashing subcontractor(s) jointly furnish OWNER affidavit signed by all parties, then notarized, stating that all products and execution meet standards specified in this division.

- B. Both CONTRACTOR and roofing subcontractor(s) responsible for this division's work; deliver separately and jointly three (3) copies of notarized letters to OWNER guaranteeing maintenance of complete:
(1) roof and roof flashing; (2) membrane, and; (3) caulking systems against leakage for two (2) years dating from OWNER'S official acceptance of building.

END OF SECTION 07000

SECTION 07210 / THERMAL AND SOUND INSULATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 07000 and other sections of this division.

1.02 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Division 4:	Masonry
Divisions 9:	Finishes
Division 11:	Equipment

- 1.03 The intent of this specification is that all exterior walls adjacent to ventilated occupied and/or air-conditioned spaces and interior walls separating air conditioned space from non air conditioned space are to receive insulation from the lowest floor level, full height to attic barrier and insulation above. All insulation shall be Class 'A' and meet requirements of FBC 708.3.

PART 2 - PRODUCTS

2.01 FRAME WALL INSULATION

- A. Fiberglass batts (unfaced), 16" W and/or 24" W and roll goods, widths as required by maximum lengths available. Wall insulation shall be installed between studs and secured in place. Refer to Paragraph 3.02 this section.
- | | | |
|------------------|---|-----------------|
| Nominal 4" thick | - | R-11, Class "A" |
| Nominal 6" thick | - | R-19, Class "A" |
- B. Refer to Architectural Drawings for R-Value required for this project.

2.02 CEILING INSULATION

- A. Fiberglass batts (unfaced), 16" & 24"W x 48"L and roll goods, widths as required by maximum lengths available. Refer to Paragraph 3.03 this section.
- | | | |
|----------------------|---|-----------------|
| Nominal 6" thick | - | R-19, Class "A" |
| Nominal 9 1/2" thick | - | R-30, Class "A" |
- B. Refer to Architectural Drawings for R-Value required for this project.

2.03 SOUND ATTENUATION INSULATION

- A. CertainTeed, Owens-Corning Fiberglass Corp., or as approved, sound attenuation batts for wall framing, 2 1/2" & 3 1/2" thick x 96" long, width as required, for friction fit.

2.04 RIGID INSULATION BOARD

- A. Dow polyisocyanurate insulation board, Thermax sheathing 1" thick, R=6.5.

2.05 FASTENERS, CLIPS, SUPPORTS, ADHESIVE, ETC.

- A. Materials suitable for installation conditions to support insulation securely and permanently in place.
- B. Thermax aluminum foil tape.
- C. Top of wall baffles will be preformed foam sized to fit between typical framing members to close off attic from framed soffit areas.

PART 3 - EXECUTION

3.01 GENERAL

- A. Building(s) shall be dried in prior to installation of insulation and insulation shall be kept dry at all times. Insulation which becomes wet shall be removed and replaced with new dry material.

3.02 FRAME WALL (BATT INSULATION)

- A. Install batts in walls, plenum closure studwork and ceilings where indicated on drawings. Securely fasten to studs with wire clip to prevent sagging. Batt's are not to be compressed. Size batts to suit framing spacing. Install similar unfaced material packed in voids of metal deck above concrete beams, stud walls and plenum dividers as indicated on drawings. Lay batts over ceiling areas where indicated, shoved tightly into place.
 - 1. R-11 Batt's: Install in nominal 4" or 6" stud/drywall partitions and stud/drywall framed plenum dividers/ barriers as shown on drawings.
 - 2. R-19 Batt's: Install in nominal 6" or greater stud/drywall framing partitions and plenum dividers/barriers as indicated on drawings.

3.03 CEILING (BATT INSULATION)

- A. Ceiling insulation shall be loose laid between truss bottom chords and directly on finish ceiling.

3.04 SOUND ATTENUATION BATT'S

- A. Install in all stud framed walls unless specifically indicated otherwise. Install 2 1/2" batts in nominal 4" walls and 3 1/2" batts in 6" walls unless noted otherwise.

3.05 EXTERIOR WALL

- A. Install insulation boards according to manufacturer's recommendation. Spot attach to CMU with construction adhesive or power nailer. Tape and seal all joints and penetrations. Install furring over insulation securely anchored into CMU.

END OF SECTION 07210

SECTION 07311/ ASPHALT SHINGLES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 07000 and other sections of this division.
- B. Quality Assurance
 - 1. Perform roofing and flashing work as a single integrated unit of work, without division of responsibility between separate installers.
 - 2. Provide primary products produced by a single manufacturer. Provide secondary products only as recommended by manufacturer of the primary product for use with roofing system specified.
 - 3. A licensed roofing CONTRACTOR shall perform the work of this section and shall be a firm with not less than 5 years successful experience in similar work.
 - 4. The roofing CONTRACTOR shall have a full time superintendent on the job at times when roofing work is in progress.
 - 5. The OWNER shall be notified before the application of shingles to hold a pre-roofing conference with a manufacturer representative.

1.02 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Section 06100:	Rough Carpentry
Section 06200:	Finish Carpentry
Section 07620:	Metal Flashings
Section 07720:	Roof Accessories/Roof Mounted Smoke Vent/Hatch/Curbs

1.03 SAMPLES

- A. Submit full range of samples for color and texture selection. After selection, submit two (2) full size shingles for verification of each color/style/texture selected.

1.04 ADDITIONAL STOCK

- A. Provide 2% of each type/color/texture shingle used in the work for future use. Products to remain unopened in their original packaging, stored on site at location instructed.

1.05 PRODUCT HANDLING

- A. All materials shall be stored in their original factory sealed containers or unopened packages, and kept in a clean, dry area protected from inclement weather. Do not stack shingles more than 4'-0" high.

- B. Store rolls of underlayment on end, on clean pallets protected from moisture, construction traffic, mud, dust, sand, oil, grease and dirt.
- C. Comply with fire, safety, and environmental protection regulations.
- D. Do not store materials on any roof deck which will result in a live load exceeding 40 lbs/sq. foot, or the design live load of that particular roof deck, whichever is less.
- E. Protect stored materials from moisture and from blowing away.

1.06 JOB CONDITIONS

- A. Protect surrounding work and other parts of the project from damage which might result from work by this Section.
- B. Do not roof if the temperature is less than 40 degrees or if greater than 95 degrees or other such times when environmental conditions might prove detrimental to good installation practices.

PART 2 - PRODUCTS

2.01 ASPHALT SHINGLE MATERIAL

A. Permanent Buildings

- 1. Provide dimensional architectural shingle.
 - a. 40 Year warranty, 300 lbs./square (minimum), heavyweight, mineral surfaced, self-sealing, laminated asphalt fiberglass construction complying with ASTM D 3018, Type 1 and ASTM D 3462. Provide shingles bearing UL Class "A" external fire exposure label, UL "Wind Resistant" label and Fungus Guard. Color shall be selected from manufacturer's standard colors as approved by OWNER.
 - b. Approved manufacturer's and shingle style are as follows:

CertainTeed	-	"Independence Shangle"
ELK	-	"Prestique I High Definition"
GAF	-	"Timberline Ultra"
Owens Corning	-	"Oakridge 40/AR Shadow"

Alternate submittals shall conform to the requirements of Division 1.

2.02 ASPHALT-SATURATED ROOFING FELT

- A. Asphalt saturated organic roofing felt ASTM D226, Type I or ASTM D4869, Type I (30 lb/100 s.f.).

2.03 ASPHALT PLASTIC CEMENT

- A. Asbestos Free fibrated asphalt cement complying with ASTM D 2822, designed for trowel application.

2.04 NAILS

- A. Hot-dip galvanized 11 or 12 gauge, sharp-pointed, conventional roofing nails with barbed shanks, minimum 3/8" diameter head and of sufficient length to penetrate 3/4" into solid decking or to penetrate through plywood sheathing. **No staples will be allowed. No nail guns will be allowed.** Only U. S. manufactured nails will be accepted.

- 2.05 Roof Edge Eave Drip and Rake Trim specified in Section 07715 for installation by roofer.

2.06 EXPANSION JOINTS AND OTHER METAL FLASHING

- A. Plumbing vent lead flashing to be 4 lb. lead. Others specified in Section 07620.

2.07 WARRANTY

- A. Provide shingle manufacturer's warranty on installed work, agreeing to pay for repair or replacement of defective shingles as necessary to eliminate leaks. Period of warranty is manufacturer's standard for 40 years from date of substantial completion.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Examine substrate and conditions under which shingle work is to be performed. Notify CONTRACTOR in writing of unsatisfactory conditions. Do not proceed with work until unsatisfactory conditions have been corrected. Notify OWNER of any unacceptable conditions before proceeding with shingle work.

3.02 PREPARATION OF SUBSTRATE

- A. Clean substrate of any projections and substances detrimental to shingling work. Cover knot holes or other minor voids in substrate with sheet metal flashing secured with roofing nails. Coordinate installation of shingles with flashing and other adjoining work to ensure proper sequencing. Do not install shingle roofing until all vent stacks

and other penetrations through roofing have been installed and are securely fastened against movement and metal flashing has been installed.

3.03 EXECUTION

- A. General: comply with instructions and recommendations of shingle manufacturer, except to extent more stringent requirements are indicated.
- B. Underlayment: apply one layer of No. 30 felt (or as recommended by asphalt shingle manufacturer) horizontally over entire surface, lapping succeeding courses 2" minimum and fastening with sufficient nails to hold in place until shingle application. Install shingles before seven (7) days are up.
1. Fasten metal drip edge along the bottom edge (eaves) before felt is laid and to the sides (rakes) after felt is laid.
 2. End laps of felt to be 4" minimum infield of roof and 6" from both sides of hips and ridges. No shingles are to be installed until metal flashing is installed.
- C. Edge Drip and Rake Trim: fabricated from material per Section 07715.
1. Secure top flange with galvanized roofing nails, near the back edge, at 8" o.c.
 2. At drip edge, space end-to-end joints 1/4". Provide 6" long matching and overlapping covers for each joint. Secure with one nail in 1/4" gap and embed fully in mastic.
 3. At rake conditions overlap flashing minimum 8" with up slope members on top of lower member, with laps set in mastic.
- D. Shingles: install starter strip of inverted shingles with tabs removed. Fasten shingles in pattern, weather exposure **and by hand nailing with six (6) nails per shingle. No staple or nail guns will be allowed.** Shingles are to be installed such that ends are staggered in the following manner:
- . The first course is to begin with a full length shingle.
 - . The second course is to begin with a full length shingle minus 6".
 - . The third course is to begin with a full length shingle minus 12".
 - . The fourth course is to begin with a full length shingle.
- (Then repeat process as installation progresses up the roof.)
1. Use horizontal and vertical chalk lines to ensure straight coursing. Comply with installation details and recommendations of shingle manufacturer and NRCA Steep Roofing Manual.
 2. The maximum exposure for shingles is 5" which include hip and ridge caps.
- E. Off-Ridge Vent: install off-ridge vent at locations shown on drawings. Conform to manufacturer's installation instructions. Set flanges of vent in roofing cement. Off-ridge vent specified in Section 07720.

- F. Flashing: install metal flashing, vent flashing and edge protection as indicated and in compliance with details and recommendations of the NRCA Steep Roofing Manual.
- G. Ridge/Hip Cap Shingle: manufacturer's standard pre-manufactured product to match typical shingles.

END OF SECTION 07311

SECTION 07460 / FIBER CEMENT BOARD**PART 1 – GENERAL**

Work under this section is subject to the provisions of the contract documents which in any way affect the work specified herein.

1.01 CONTRACT PROVISIONS

Conform to Section 07000 and all other sections of this division.

- A. Furnish and install James Hardie Hardiplank, Hardipanel, and Harditrim and accessories where shown on drawings or as specified herein.
- B. Coordinate this section with interfacing and adjoining work for proper sequence of installation.
- C. Work in other sections affecting this work.
Section 06100 Rough Carpentry
- D. Submittals:
 - 1. Submit producers data sheets and material samples with minimum three 6 inch x 6 inch pieces of Hardiplank/ Hardipanel claddings in texture and widths shown and specified herein.
- E. Florida product approval requirements: manufacturer shall provide written verification that products supplied have been approved for use by the Florida Building Commission, Florida Product Approval System, Chapter 9B-72, Florida Department of Community Affairs. This information to include all installation instructions and details.

1.02 PRODUCT HANDLING

- A. Stack Hardiplank/ Hardipanel claddings on edge or lay flat on a smooth, level surface. Protect edges and corners from chipping. Store sheets under cover and keep dry prior to installing.

1.03 JOB CONDITIONS

- A. Nominal 2 inch x 4 inch wood framing. Minimum 1 ½ inch face and straight, true, of uniform dimensions and properly aligned.
- B. Install weather-resistive barriers and claddings to dry surfaces.
- C. Repair any punctures or tears in the weather-resistive barrier prior to the installation of the siding.
- D. Protect siding from other trades.

1.04 WARRANTY

- A. James Hardie's limited product warranty against manufacturing defects in Hardiplank lap and Hardipanel vertical siding for 50 years, Hardie Shingleside for 30 years and HardiTrim for 10 years.
- B. Workmanship: application limited warranty for 1 year.

PART 2 – PRODUCTS

2.01 HARDIPLANK/ HARDIPANEL/ HARDITRIM

- A. Non-asbestos fiber-cement siding to comply with ASTM Standard Specification C1186 Grade II, Type A.
- B. Siding to meet the following building code compliance National Evaluation Report No. NER 405 (BOCA, ICBO, SBCCI); City of Los Angeles, Research Report No. 24862; Metro Dade County, Florida Acceptance No. 94-1234.04; US Department of Housing and Urban Development Materials Release 1263a; California DSA PS-019; and Cit of New York MEA 223-93-M. Non-asbestos fiber-cement siding to be non-combustible when tested in accordance with ASTM test method E136.
- C. Siding Type: Smooth 6 ¼" w/ 5" exposure.
- D. Trim: XLD smooth finish, 5/4" thick
smooth texture, 7/16" thick
- E. Soffit: vented panels, smooth texture, 24" wide x 8' long x 1/4" thick
unvented, smooth texture, 48" wide x 8' long x 1/4" thick
- F. H-Molding: Hardie PVC H-molding
- G. Fasteners: hot dip galvanized nails

PART 3 – EXECUTION

3.01 GENERAL

Conform installation to James Hardie Instructions and Florida Product Approval.

- A. Correct conditions detrimental to timely and proper completion of work.

3.02 INSTALLATION – HARDITRIM FASCIA SOFFIT AND MOULDINGS

- A. Fasten through trim, siding, and soffit into structural framing or code complying sheathing. Fastener heads will be driven up flash to panel surface. Fasteners must penetrate minimum ¾ inch or full thickness of sheathing. Additional fasteners may be required to ensure adequate security. Make all soffit joints with H-molding and over 2x4 framing or blocking. All soffit edges require framing support.

- B. Place fasteners no closer than $\frac{3}{4}$ inch and no further than 2 inch from side edge of trim board and no closer than 1 inch from end. Fasten maximum 16 inch on center and as required by Florida Product Approval installation instructions.
- C. Maintain clearance between trim and adjacent finished grade.
- D. Allow 1/8 inch gap between trim and siding.
- E. Seal gap with high quality, paintable caulk.
- F. Install insect screen on top surface of vented soffit with adhesive. Run screen continuous over extent of vent holes.

3.03 INSTALLATION – HARDIPLANK SIDING

- A. Install siding over Tyvek weather barrier applied continuous to sheathing.
- B. Starting: Install a minimum $\frac{1}{4}$ inch thick lath starter strip at the bottom course of the wall. Apply planks horizontally with minimum 1 $\frac{1}{4}$ inch wide laps at the top. The bottom edge of the first plank overlaps the starter strip.
- C. Align vertical joints of the planks over framing members.
- D. Maintain clearance between siding and adjacent finished grade.
- E. Locate splices at least one stud cavity away from window and door openings.
- F. Wind Resistance: see Structural S401 for wind loading. Install Hardiplank lap siding to framing members and secure with fasteners described in Table No. 2 in National Evaluation Service Report No. NER-405.

3.04 FINISHING

- A. Finish unprimed siding with minimum one coat high quality, alkali-resistant primer and one coat of either 100% acrylic or latex, exterior grade topcoat or two coats high quality, alkali-resistant, 100% acrylic or latex, exterior grade topcoat within 90 days of installation. Follow paint manufacturer's written product recommendation and written application instructions.

END OF SECTION 07460

SECTION 07620 / METAL FLASHINGS**PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Conform to Division 1, Section 07000 and other sections of this division.
- B. Where "SMACNA Manual" is referred to in this specification, it shall mean the "Architectural Sheet Metal Manual", Latest Edition, as published by the Sheet Metal and Air Conditioning Contractors, National Associations, Inc. Conform also to the National Roofing Contractors Associations (NRCA) Roofing & Waterproofing Manual, latest edition.

1.02 RELATED WORK IN OTHER DIVISIONS/SECTIONS

- Division 3: Concrete
- Division 4: Masonry
- Division 6: Wood and Plastic Laminates

1.03 COORDINATION

- A. Fabricate and install this section's work as a coordinated part of other Division 7 moisture protection work, to insure leak-free installation of this section's work and its joints and connections to adjoining surfaces.

1.04 SUBMITTALS

- A. Submit in accordance with General, Supplementary and Special Conditions.
- B. Submit producers' data sheets and material samples (minimum 3 x 5 inch size) for each type of sheet metal CONTRACTOR proposes for this work, together with schedule of materials, thicknesses and application locations for each metal type.

1.05 GUARANTEE

- A. Guarantee metal flashing work watertight, to OWNER, for two years.

PART 2 - PRODUCTS**2.01 Sheet Metal Flashings: 0.040 mill finish aluminum sheet unless indicated otherwise on drawings or herein.****A. Eave Flashing**

- 1. Drip Edge and Rake Edges: specified in Section 07715/Metal Fascia and Soffit System.

- B. Counterflashing: 22 gauge, configurations as detailed.
- C. Sheet Lead: 4 lb. roofer's type.
- D. Flashing at Louvers
 - 1. Wall Louvers: sill flashing by Section 10200/Louvers.
 - 2. Gable End Louvers: flashings and trim by Section 07715/Metal Fascia and Soffit Systems.
- E. Thru-Wall Flashing at Window Sills: comply with Section 04000/Masonry, General. Sill Flashing at Windows: comply with Section 08520/ Aluminum Windows.
- F. Fasteners: nails, rivet's and sheet metal screws, sized appropriately for application, all stainless steel.

PART 3 - EXECUTION

3.01 GENERAL

- A. Insure that surfaces over which sheet metal is applied are smooth and free from defects. Make any roughness in joints and surfaces smooth, leaving no sharp edges. Field lap all exposed counterflashing joints which are a part of continuous waterproof or tight sheet metal work, a minimum of six (6) inches. Install only after caulking work on flashings, specified in Section 07920/Sealants, Caulking and Seals is completed. Insure all completed exterior installations are watertight.

3.02 SHEET METAL FABRICATION

- A. Execute work by skilled mechanics, in accord with best methods accepted within craft. Form all lines, molding and edges sharp and true, reinforce all points to obtain required stiffness. Seam all edges which will be exposed after installation, except lapped end-to-end flashing joints. Allow for expansion and contraction of underlying construction and continuous runs of sheet metal work. Form and finish all joints and seams neatly, all surfaces free from waves and buckles, and all exterior work watertight.

3.03 FLASHINGS

- A. Provide where shown on drawings, and elsewhere as required, for water-tight job. Use concealed fastenings wherever practicable. Expose fasteners only when approved to do so. Run metal flashings in 8 feet minimum lengths unless construction conditions necessitates shorter pieces. Carefully install Division 15's roof flashings for plumbing vents and drains penetrating roof. Install counter-flashings to 4" minimum cover over all upturned edges of roofing. Coordinate at wall conditions where counterflashings are to be installed under fascia system or gable ends.

3.04 ROOF MOUNTED EQUIPMENT AND RELATED CURBS

- A. Refer to details on drawings and as otherwise required to insure a watertight installation. Fabricate flashing to profiles indicated of 0.050 thick aluminum sheet.

3.05 COUNTERFLASHING

- A. Shall be sized for a 4" minimum vertical leg overlapping base flashing such that a bottom hemmed edge extends to within 1" of top of cant. The top edges shall be securely fastened and sealed against moisture penetrations. Corners are to be mitered and soldered.

3.06 WALL FLASHING

- A. Refer to details on drawings. Build into wall as work progresses with all joints sealed to divert moisture to exterior. Wall flashing shall be installed with strict adherence to approved sample wall panel. Refer to Section 04000/Masonry, General, Paragraph 3.01, B.

END OF SECTION 07620

SECTION 07920 / SEALANTS, CAULKING AND SEALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 07000 or other sections of this division.

PART 2 - PRODUCTS

2.01 EXTERIOR PACKING

- A. Closed cell continuous strip sponge neoprene rubber, "Williams EVERPLASTIC Panel Seals" produced by Williams Products, Inc., 1750 Maplelawn Road, Troy, Michigan 48084; or approved equal. Use #5 profile for concrete joint widths 5/8" and larger and #13 profile for joint widths less than 5/8".

2.02 INTERIOR PACKING

- A. Braided soft white cotton rope cording.

2.03 PRIMER

- A. Product made by manufacturer of Thiokol-Based Caulking Compound.

2.04 EXTERIOR CAULKING

- A. "Tremco Dymeric" multi-part urethane sealant or approved equal by Pecora or Sika Chemical.

- 1. Color(s) will be selected for location to match adjoining materials.

2.05 INTERIOR CAULKING (GENERAL USE)

- A. Synthetic acrylic base, "Tremco Mono 555", or as approved.

- 1. Use 2.4 material at all thru-wall masonry control joints.

2.06 INTERIOR FLOOR JOINTS

- A. Two part epoxy joint compound, "Master Builders" Brutem 93, or as approved, for exposed joints in concrete slabs.

2.07 MASONRY WALL CONTROL/EXPANSION JOINTS

A. Single Wythe Masonry Wall

1. Install sealant with backer on interior and exterior face of wythe.

B. Joint Sealant

1. Unless otherwise required for specialized conditions, joint sealant shall be a moisture-cured, single- or multi-component (depending on the application and required expansion/contraction capabilities), polyurethane-base, non-sag, elastomeric sealant.
2. Sealant depth-to-width ratio at the center of the joint shall be 1:2.
3. Allowable expansion/contraction of the joint shall be $\pm 25 - 50\%$ of joint width, depending on the product capabilities.
4. Where applicable, provide a compatible sealant primer.

C. Backer

1. Joint sealant backer is required for all applications.
2. Unless otherwise required for specialized conditions, joint sealant backer shall be a closed-cell, polyethylene rod.
3. Where limitations prevent the use of a backer rod, specify a polyethylene, selfadhesive, bond-breaker tape shall be used.

D. Filler

1. Joint filler shall be specified to provide filling of the gap and to prevent displacement and improper location of the backer.
2. Joint filler shall be a continuous, non-bleeding material compatible with the joint conditions.

PART 3 - EXECUTION

3.01 AREAS RECEIVING WORK

- A. Exterior and interior joints surrounding all louver, door, and window frames; and all other exterior wall penetrations. Leave weep holes in caulking at 2'-0" centers under all sills.

- B. Millwork and casework joints against walls.
- C. Embed all exterior door thresholds in caulking.
- D. All laps of sheet metal work.
- E. Sill flashings at windows.
- F. Exterior and interior thru-wall control joints. Refer to Section 04000/Masonry, General.
- G. Glazing set in hollow steel, wood and metal glazing stops.
- H. Saw cut control joints in all interior floor slabs which are designated to receive a sealed or painted finish or which are to remain exposed concrete.
- I. All other areas indicated on drawings; or as necessary, determined by ARCHITECT, required to seal interior and exterior joints. All exterior and interior joints between dissimilar materials are to be caulked.

3.02 PREPARATION

- A. Insure that all surfaces to be worked are completely dry. Thoroughly clean and scrape all joints. Rake mortar and other foreign materials smoothly from joints. Tape, and otherwise protect from damage, all exposed surfaces adjacent to caulking.

3.03 APPLICATION

- A. Prime joints with approved primer following manufacturer's printed directions, and using a brush that will reach all recesses to be caulked. Where joints are excessive, wedge packing into joint and pack tightly to a point approximately 1/2" back of the finish face. Drive caulking compound into joint with proper caulking gun, or knife, which has sufficient pressure to fill all recesses. Caulking gun heads must be of proper size to fit all openings. Butter inside of masonry openings, or surface of frames to be set, with thin neat line of caulking compound. No manufactured caulking beads are permitted. Tool all caulking joints slightly concave and uniformly smooth.

3.04 POINTING

- A. At completion, neatly point all joints, and remove all excess materials. Neatly cove internal angles of all caulked joints. Clean all surfaces of adjacent construction, of all excess materials and/or soiled areas resulting from work.

END OF SECTION 07920

SECTION 08000 / DOORS AND WINDOWS, GENERAL/LEGEND

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, General Requirements, which applies to all sections of this Division 8. Provisions of this Section 08000 also apply to all sections of this Division 8. The articles contained in this section may modify, delete or add to the provisions of the conditions of the Contract.

1.02 FIELD MEASUREMENTS AND COORDINATION

- A. Verify all field dimensions to insure close fit with work of other trades.
- B. Coordinate and install this work in proper sequence and cooperation with all other trades, to insure that total work is completed within contract time schedule.
- C. Verify that glazing systems and glass thicknesses conform with producer's recommendations and/or specification.
- D. Coordinate all sections of this division's work to produce complete system, caulked and glazed, meeting this division's specification sections.
- E. Caulking between openings and concrete and masonry surrounding material is specified in Division 7.
- F. Threshold and Floor Finish Door Undercuts:
 - 1. Carefully undercut all doors to meet thresholds and clear floor finishes. Verify exact undercut depth against actual threshold and floor finish heights. Unless otherwise specified no undercut (clear open gap with door closed) is to exceed 3/4".

1.03 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Division 4:	Masonry
Division 6:	Wood and Plastic Laminates
Division 7:	Thermal and Moisture Protection
Division 9:	Finishes
Division 12:	Furnishings

1.04 APPLICABLE CODES AND STANDARDS

- A. Glass: conform to Federal Specification DD-G-451C, Florida Building Code and CPSC Standards.

- B. Hollow Steel Doors and Frames conform to:
Steel Door Industry standards SDI-100, recommended "Specifications, Standard Steel Doors and Frames", latest edition and Hollow Metal Manufacturers Association Standards:

HMMA 802 - Manufacturing
HMMA 810 - Doors
HMMA 820 - Frames

Each of the above referenced standards as modified and supplemented herein.

- C. Wood Door Construction: conform to Architectural Woodwork Institute, specification 5, "Flush Doors", latest edition.

1.05 STRUCTURAL DESIGN REQUIREMENTS

- A. Fabricate and install all this division's opening systems and assemblies to meet these performance design conditions unless modified by 1.05, B of this section. See architectural drawings.

1. Wind Pressure (shall include positive and negative wind pressure): design system components and assemblies to with-stand applied wind loads as defined in the latest editions of the Florida Building Code, Chapter 16. See structural and architectural drawings for wind speed design and exposure criteria. Deflection shall be limited to 1/175 of clear unsupported span. Every exterior wall/assembly must be capable of withstanding the load, acting either inward or outward.
2. Thermal Expansion: design system components to provide for expansion and contraction due to 120 deg. F. ambient temperature range without causing any buckling, joint opening, undue stresses on fasteners or other detrimental effects.
3. Deflections: vertical or horizontal deflection in any member not to exceed 75% of design clearance dimension between the edge of any glazing panel and its frame.

- B. Structural design of systems will be the responsibility of the manufacturer and is to be designed to comply with the Florida Building Code, latest edition.

1.06 SUBMITTALS

- A. Submit in accordance with General, Supplementary and Special Conditions.
- B. Shop drawings shall state that the above criteria is met, include all fastening/installation details and include a certified statement signed, dated and sealed by a Florida registered structural ENGINEER.
- C. **All products installed in the building envelope shall have product approval number indicated on the submittal.**

1.07 HARDWARE MOUNTING HEIGHTS AND LOCATIONS

- A. Locks, latches, push-pulls 38 to 41 13/16 inches from center line to floor for panic devices, and similar items.
Deadlock 48 inches above floor to top of lock (max.)
Bottom Hinge to manufacturer's standard but not more than 12" above door bottom.
Top Hinge to manufacturer's standard but not more than 8" below door head.
Intermediate Hinge centered between top and bottom hinge.
- B. Special heights as indicated on Architectural drawings.

1.08 APPROVED PRODUCERS

- A. Producer's products referred to, and materials and performance characteristics specified in this division establish the required quality of performance for this work.

1.09 SUPPLEMENTARY PARTS

- A. Provide all supplementary parts to complete, attach, and anchor all items if such parts are necessary for the complete installation and operation of the opening, whether or not indicated on design drawings or specified herein.

1.10 METALS PROTECTION

- A. Electrolysis Prevention: paint dissimilar metals, except stainless steel, white, bronze and/or solid zinc, with one heavy brush or spray coat of zinc-chromate primer and one coat of aluminum paint; or paint with one heavy brush coat of alkali-resistant bituminous paint; or separate from aluminum by heavy coat of mastic caulking compound or non-absorptive tape or gasket. Include dissimilar metals used in locations where drainage from them passes over aluminum.
- B. Ferrous Metals Protective Coating: after assembly, clean all surfaces, phosphate coat and give one coat of rust inhibitive/ preventive baked-on primer. Include all ferrous metal work, particularly pressed steel doors, frames and door louvers.
- C. Products to be used for the foregoing are to be checked for and certified to be compatible with finish paint coats.
- D. Refer to other specific sections in this Division for additional finish and protection requirements.

1.11 SPECIAL HANDLING INSTRUCTIONS

- A. Storage and Stacking: store in covered, dry area, in upright position, and minimum of 4 inches above floor or grade. Provide minimum 1/4 inch between units to permit air circulation. Do not permit cardboard wrappers to wet metal work. If cardboard gets wet, remove it immediately. After installation, field prime as soon as surrounding construction permits prime painting, then protect during subsequent construction operations.
- B. Installed Work Protection: carefully protect against disfiguration, contamination, or damage by mechanical abuse or contact with harmful materials. Install protective barriers whenever exposed to damage is deemed critical by ARCHITECT.
- C. Correction of Damaged Work: work which can be corrected so that no visible damage is evident from a 1'-0" distance for interior and a 4'-0" distance for exterior work, may be corrected without replacement. Where this cannot be done, remove damaged work and replace with undamaged work at no additional cost to OWNER.

1.12 CLEANING

- A. Clean surfaces of all members, both inside and outside, of all mortar, plaster, dirt, paint and other foreign matters to present a neat appearance and prevent fouling of weathering surfaces, weather-stripping, or operation of hardware. In addition, wash frames with stiff-fiber brush, soap and water and thoroughly rinse with clear water.

END OF SECTION 08000

SECTION 08100 / HOLLOW STEEL DOORS AND FRAMES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 08000 and other sections of this division.
- B. See drawings for all frame configurations and locations.
- C. See door schedule for door sizes.

1.02 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Section 04000:	Masonry, General
Section 06200:	Finish Carpentry
Section 08200:	Solid Core Wood Doors
Section 08711:	Door Hardware and Schedule
Section 08800:	Glass Products
Section 09910:	Painting

1.03 REFERENCES

- A. Steel Doors and Frames in this section must meet all standards as established by the following listing.
 - 1. Door and Hardware Preparation ANSI 115.
 - 2. Life Safety Codes NFPA-101 (Latest edition).
 - 3. Fire Doors and Windows NFPA-80 (Latest edition).
 - 4. Steel Door Institute ANSI/SDI-100 (Latest edition)
 - 5. UL10C and UBC 7 – 2 Positive Pressure fire testing.

1.04 STRUCTURAL DESIGN REQUIREMENTS

- A. Structural design of systems will be the responsibility of the manufacturer and is to be designed to comply with the Florida Building Code.

1.05 SUBMITTALS

- A. Coordinate approved shop drawings with all other trades and manufacturers whose products are used in conjunction with the Steel Doors and Frames under section 08100.
- B. Finish hardware supplier is to furnish templates, template reference number and/or physical hardware to the steel door and frame supplier in order to prepare the doors and frames to receive the finish hardware items.

- C. The steel door and frame supplier will furnish to the architect (4) complete copies of the proposed steel door and frames schedule and/or shop drawings. Using the same reference number for details and openings as those on the contract drawings. After receipt of the approved door schedule the steel door and frame supplier will make any corrections and resubmit to the architect (6) sets of corrected schedules.
- D. Upon request of the ARCHITECT and OWNER or for any substitution to this specification, (4) copies of the steel door & frame manufacturers catalog cut sheets are to be submitted to the ARCHITECT and OWNER before any material is placed on the job site.
- E. All door and window products installed in the building envelope shall be impact resistant per requirements of the Florida Building Code.
- F. **All products installed in the building envelope shall have product approval number indicated on the submittal. Products shall conform to the Florida Building Code, Latest Edition.**

1.06 QUALITY ASSURANCE

- A. Provide Steel Doors and Frames complying with the Steel Door Institute recommended specifications for Standard Steel Doors and Frames ANSI/SDI 100 (Latest edition).
- B. Steel Doors and frames shall be manufactured to high quality standards in manufacturing facilities with annual certified conformance to ISO9001.

1.07 DELIVERY, STORAGE AND HANDLING

- A. All steel doors and frames being supplied must be properly marked with door opening mark number corresponding with the door schedule.
- B. Deliver all steel doors cartoned and properly stored on planks or dunnage to provide protection during transit and job storage.
- C. Inspect doors and frames for damage upon delivery. Minor damage may be repaired, provided the finish items are equal in all respects to new work and acceptable to the ARCHITECT and OWNER, otherwise remove and replace damaged items as directed.
- D. Store doors and frames at the building site under cover. Place units on at least 4 inch high wood sills or on the floor in a manner that will prevent rust and damage. Avoid the use of non-vented plastic or canvas shelters which could create a humidity chamber. If the cardboard wrapper on the door becomes wet, remove the carton immediately. Provide a minimum 1/4" space between stacked units to promote air circulation.
 - 1. Non-galvanized stock (ref. 2.04, B2) must be stored in a trailer or equivalent.

1.08 WARRANTY

- A. All steel door and frame products shall be warranted from defects in workmanship for a period of one (1) year from date of shipment.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Subject to meeting the design requirements specified herein, the following manufacturers have prior approval:

Fleming Door
CECO Door Products
Curries Companies
Steelcraft Manufacturing Company
Metal Products, Inc.
Other SDI or NAAMM members that conform to the specific requirements of this specification.

2.02 CLEARANCES

- A. Coordinate undercuts at door locations to suit design conditions. Note that typical thresholds are handicapped type, rising only 1/4" above floor which will allow only 3/8" undercut.
1. At door sills where no threshold is used, undercut door 3/4" maximum unless otherwise shown on drawings. Verify undercut on fire rated doors.
 2. At door sills where a threshold is used, 1/4" maximum between door and threshold. Note: Threshold at exterior doors is Pemko #2005 (or equivalent) which is 1/2" maximum height to top of bumper. Threshold base is 1/4" height, therefore bottom of door is to be prepared so that it is approximately 1/8" above base.
- B. Edge clearances shall be as follows: Between doors and frames, at head and jambs - 1/8".
- C. Between meeting edges of pairs of doors 1/8".

2.03 MATERIAL

- A. Use prime quality carbon steel; free from scale, pitting and surface defects.
- B. Steel doors and frames shall be fabricated from tension leveled steel to ASTM A924-97 (M-97), galvanized to ASTM A653-97 (M-97), Commercial Steel (CS), Type B, coating designation A40 (ZF120), known commercially as paintable Galvanneal.

2.04 FRAME FABRICATION

- A. **No knock-down frames** are to be used unless specifically authorized by the OWNER.
- B. Fabricate from 16 gauge steel sheets, unless otherwise called for, conforming to ASTM A366. Exterior frames and interior frames to be hot-dip galvanized conforming to ASTM A-526 (A60) with coating weight of not less than 0.30 ounces per S.F., per side. Material to be free from scale, pitting, rust and other surface defects, to producer's standard configurations which most closely match, in ARCHITECT'S judgment, configurations shown on drawings. All doors with closers shall have reinforcement in frame. All doors over 3'-0" shall have top pin reinforcement.
1. Provide concealed hardware reinforcements in accordance with HMMA 820 & 861. Note that certain doors are to receive continuous hinges. Prepare frame appropriately.
 2. Interior frames installed in metal stud walls may delete galvanizing and be provided with full factory prime coat if buildings are dried in prior to frame installation. Refer to 3.02, H this section.
 3. All frames installed in walls 8" or less thick are to be wrap around configuration.
- C. Continuous equal face dimension profile: construct all door frames with corners saw-mitered and full (continuously) welded through the throat per HMMA 820 configuration "A", with all exposed welds ground and finished smooth.
- D. Faces of unequal widths (4" head - 2" verticals and other horizontals): construct frames with 2" faces machine mitered and stops butted with head overlapping jambs and with jamb tabs interlocking slots in head member. Weld miters continuous, with all exposed welds ground and finished smooth. Filler caps, if required, to close end gaps at 4" head member, for all wrap-a-around frame locations are to be neatly sized and positioned and securely fastened in place. Any open joints in faces and returns which will be visible after installation are to be welded, ground and finished smooth, at the shop.
- E. Frames shall be factory prep to receive 3 door silencers on strike side of jamb and one additional silencer for each leaf on heads of double doors.
- F. Provide glazing stops for fixed glazing application. At exterior locations place removable stop on inside of building. At interior locations place removable stop on side of smallest room or as instructed. Removable glazing stops shall be of cold rolled steel, not less than 20 gauge thickness galvanized as 2.04 B, butted at corner joints and secured to the frame with countersunk cadmium-or zinc-plated screws.
- G. Jambs, heads, mullions, sills and center rails shall be straight and uniform throughout their lengths.
- H. Factory assembled frame product shall be square, free of defects, warps or buckles.
- I. Corner joints shall be accurately mitered and tightly fitted with integral door stops

mitered or butted when assembled.

- J. Corner joints shall be:
 - 1. Welded on the inside of the profiles, returns and faces for set-up and welded frames.
 - 2. Provided with 20 gauge steel reinforcing plates and/or jambs with integral tabs.
- K. Joints at mullions, transom bars, sills or center rails shall be coped accurately, butted and tightly fitted with faces securely welded, matching corner joint faces.
- L. Frames shall be fabricated with integral door stops having a minimum height of 5/8".
- M. On factory assembled frames, each door opening shall be provided with two (2) temporary steel jamb spreaders welded to the base of the jambs of mullions to maintain proper alignment during shipping and handling. Spreaders shall be removed by the contractor responsible for installation prior to anchoring of frame to floor and wall.

2.05 DOOR FABRICATION

- A. All doors to have flush surface configuration upon fabrication completion. All seams to be located on door edges. Face sheets shall be fabricated from 18 gauge steel, unless otherwise called for, welded with internal reinforcement. Use galvanized material conforming to ASTM A-526, coating weight as 2.04 above. Continuously weld and grind all seams smooth.
- B. Exterior and Interior door cores shall be as listed below:
 - 1. Typical insulated door cores shall be rigid foam polyisocyanurate chemically bonded to all interior surfaces, closed cell, faced board, thermal value: R 12.3 minimum, conforming to ASTM C1289.
- C. Door faces of all steel doors shall be fabricated without visible seams, free of scale, pitting, coil rakes, buckles and waves.
- D. Formed edges shall be true and straight with a minimum radius for the thickness of steel used.
- E. Lock and hinge edges shall be beveled 1/8" in 2" unless builders' hardware or door swing dictates otherwise.
- F. Provide shop installed integral flush 16 gauge closing channels on tops and bottoms of all doors, welded to each face sheet at 6" o.c. maximum. Top and bottom closures shall be fully sealed.
- G. Louver Style - Zee Type.

1. Provide removable insect screens in aluminum frame on inside faces of all louvers in exterior doors.

H. Exterior doors shall be provided with factory installed flush PVC top caps. Fire labeled exterior doors shall be provided with factory installed flush steel top caps.

2.06 ANCHORAGE

A. Frames shall be provided with anchorage appropriate to floor, wall and frame construction in accordance with HMMA 820 & 861.

B. Each wall anchor shall be located immediately above or below each hinge reinforcement on the hinge jamb and directly opposite on the strike jamb, except as indicated below. Refer to 3.02, F (1) of this section.

C. Frames installed in unit masonry partitions shall be provided with .156" diameter steel wire anchors, 18 gauge steel adjustable stirrup and strap or "T" type anchors as conditions dictate.

D. All frames shall be installed with each jamb secured with 16 gauge steel floor anchors. Each anchor shall be provided with two (2) factory prepared holes for mounting to the floor and shall be securely welded to the inside of the jamb profile.

1. Provide fixed mullion anchors each side of mullion.

E. Frames installed in stud and drywall partitions shall be provided with 20 gauge steel snap-in or "Z" type stud type anchors.

F. Jambs of frames in previously placed concrete, masonry or structural steel shall be punched and dimpled to accept machine bolt anchors, 1/4" diameter, located not more than 6" from the top and bottom of each jamb. Anchor preparations and guides shall also be located immediately above or below the intermediate hinge reinforcements and directly opposite on the strike jamb. Each preparation shall be provided with 16 gauge anchor bolt guides.

1. After sufficient tightening of the anchor bolt, the head shall be welded so as to provide a non-removable application. Welded bolt and dimple shall be filled and ground to present a smooth uniform surface by the contractor responsible for installation, prior to finish painting.

G. All anchor bolts and expansion shields for the above preparations shall be provided by the contractor responsible for installation.

2.07 DOOR SILENCERS

- A. GJ-64 or equal, Single Stud rubber/neoprene type. Refer to 2.04, D this section.

2.08 HARDWARE PREPARATIONS

- A. Doors shall be factory blanked, reinforced, drilled and tapped for **fully** templated mortised hardware, in accordance with the final approved schedule and templates provided by the hardware supplier.
- B. Doors shall be factory blanked and reinforced for mortised hardware that is **not fully** templated.
- C. Doors shall be factory reinforced for surface mounted hardware.
- D. Templated holes 1/2" diameter and larger shall be factory prepared, except mounting and through bolt holes, which shall be by the contractor responsible for installation on site, at the time of application. Templated holes less than 1/2" diameter shall be factory prepared only when required for the function of the device (for knobs, levers, cylinders, thumb or turn pieces) or when these holes over-lap function holes.
- E. Drilling and tapping for surface mounted hardware or mortised hardware that is not fully templated shall be by the contractor responsible for installation on site, at the time of application.
- F. Hinge and pivot reinforcements shall be 10 gauge steel minimum high frequency type reinforcing.
- G. Doors in excess of 96" rabbet height shall be prepared for 4 1/2" heavy weight hinges minimum.
- H. Hinge reinforcements for acoustic doors shall be 10 gage minimum with each cutout provided with 4 1/2" heavy weight high frequency type reinforcing.
- I. Lock, strike and flush bolt reinforcements shall be 16 gage steel minimum.
- J. Reinforcements for concealed closers and holders shall be 12 gage steel minimum.
- K. For surface mounted hardware, reinforcements shall be 16 gage steel minimum.

2.09 SHOP FINISHING

- A. All tool marks, abrasions and surface blemishes shall be filled and sanded to present smooth uniform surfaces.
- B. Note that frame and door stock is specified in 2.04 and 2.05 above to be hot-dip

galvanized conforming to ASTM A-526 & A-653 (A60)(0.60) ounces/SF total wt.). Modifications to this galvanized finish such as welds, end shears and the like are to be fully shop coated with a high quality zinc-rich paint minimum 2.0 mil thickness to insure against rusting while products are left exposed prior to finish painting.

- C. Doors and frames are to be thoroughly cleaned and chemically treated to insure maximum paint adhesion. All surfaces of the door and frame exposed to view before installation shall receive a factory applied coat of rust inhibiting primer, either air-dried or baked-on. The finish shall meet the requirements for acceptance stated in ANSI A224.1 "Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces". The prime finish is not intended to be the final layer of protection from the outside elements. Field painting shall be performed in accordance with the recommendations of the door and frame manufacturer. For specialty types of finished coatings, the paint supplier should also be consulted.
- D. All surfaces, front and back, are to arrive at the project site fully and durably coated with its appropriate shop finish.

2.10 FRAME GROUT

- A. Standard masonry cement mortar for frames installed in metal studs, concrete or masonry.

2.11 UNDERWRITER LABELED CONSTRUCTION

- A. See Section 08000 / Door Schedule for UL-rated doors and frames. Construct those doors and frames in accord with UL requirements and affix label.

2.12 PRODUCER'S QUALIFICATIONS

- A. Door and frame manufacturer is required to submit evidence that products furnished are in compliance with the most stringent requirements of S.D.I. 100, "Recommended Specifications for Standard Steel Doors and Frames", or National Association of Hollow Metal Manufacturers (NAAMM), as supplemented or modified herein, and **further comply with requirements specified which are above and beyond SDI and NAAMM standards.** (Examples are: joint assembly method, welding, finish, etc.)

PART 3 - EXECUTION

3.01 SITE STORAGE AND PROTECTION OF MATERIALS

- A. No frame or door is to be installed with any rust. Prior to installation, any visible rusted areas are to be properly prepared by removing rust and reprimed with an approved primer which will be compatible with finish paint. After installation, doors and frames shall be periodically checked for rust and if found, rework as above.
- B. The contractor responsible for installation shall remove wraps or covers from door and

frame product upon delivery at building site.

- C. All materials shall be thoroughly inspected upon receipt and all discrepancies, deficiencies and/or damages shall be immediately reported in writing to the supplier. All damage shall be noted on the carriers' Bill of Lading.
- D. Contractor responsible for installation shall ensure all materials are properly stored on planks or dunnage in a dry location. Product shall be stored in a vertical position, spaced with blocking to permit air circulation between them. Materials shall be covered to protect them from damage from any cause.
- E. Contractor shall notify the supplier in writing of any errors or deficiencies in the product itself before initiating any corrective work.

3.02 FRAME INSTALLATION

Frames shall be set in place at locations shown on architectural drawings prior to wall construction. Masonry and frame walls are to be built around pre-installed frames.

- A. Set frames plumb, square, aligned, without twist at correct elevation in accordance with NAAMM-HMMA 840.
- B. Frame Installation Tolerances:
 - 1. Plumbness tolerance, measured through a line from the intersecting corner of vertical members and the head to the floor, shall be 1/16".
 - 2. Squareness tolerance, measured through a line 90° from one jamb at the upper corner of the frame, to the opposite jamb, shall be 1/16".
 - 3. Alignment tolerance, measured on jambs, through a horizontal line parallel to the plane of the wall, shall be 1/16".
 - 4. Twist tolerance, measured at face corners of jambs, on parallel lines perpendicular to the plane of the wall, shall be 1/16".
- C. Fire labeled frame shall be installed in accordance with NFPA-80.
- D. Brace frame rigidly in position while building-in. Remove temporary steel shipping jamb spreaders prior to securing floor anchors. Install wood spreaders at mid-point of frame rabbet height to maintain frame widths. (Spreaders shall not be used as a gauge during construction).
- E. Provide vertical support at center of head for openings exceeding 48" in width.
- F. Secure anchorages and connections to adjacent construction as specified below. (Also refer to 2.06 for frame anchor requirements.)
 - 1. All door and door height glazed frames are to receive minimum 4 anchors each

- jamb. Less than door height glazed frames are to receive minimum 2 anchors per jamb. Refer to 2.06.
2. Anchor all frame bottoms to floor with two 1/4" galvanized expansion bolts set into expansion shields or drilled-in "Tapcon" anchors. Install plumb and level insuring that doors when installed will stand open, in any position, without bind.
 3. Provide UL-approved anchors for UL-rated installations.
- G. Frames shall be fully grouted in place as directed below.
1. Perimeter of all interior and exterior door and window frames are to be grouted solid when in contact with concrete/masonry.
 2. Perimeter of all door and window frames are to be grouted solid when in exterior frame walls.
- H. Coat throat (inside of jamb) continuously from bottom of jamb legs up to 18" A.F.F. with bituminous coating at all wet locations and where the floor finish shall be VCT.

3.03 DOOR INSTALLATION

- A. Install doors in accordance with NAAMM-HMMA 840, maintaining clearances outlined in Section 2.02.
- B. Install builders' hardware in accordance with ANSI A115.IG-1994, manufacturers' templates and instructions.
- C. Install louvers and vents.

3.04 FINAL ADJUSTMENTS/CLEAN-UP

- A. Adjust operable parts for correct clearances and function.
- B. Steel surfaces shall be kept free of grout, tar or other bonding materials or sealers.
- C. Any grout or other bonding material shall be cleaned from products immediately following installation.
- D. Prior to site touch-up, exposed surfaces of galvanized steel to be finished with latex paints shall be cleaned with soap and water to remove foreign matter. When alkyd paints are specified, turpentine or paint thinners shall be used. Refer to paint manufactures recommendations for additional information.
- E. Exposed field welds shall be finished to present a smooth uniform surface and shall be touched-up with a rust inhibitive primer.
- F. Exposed surfaces that have been scratched or otherwise marred during shipment, installation or handling shall be touched-up with a rust inhibitive primer.

- G. Finish paint in accordance with Section 09910.
- H. Install glazing materials and door silencers.

END OF SECTION 08100

SECTION 08200 / SOLID CORE WOOD DOORS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 08000 and other sections of this division.

1.02 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Section 06200:	Finish Carpentry
Section 08100:	Hollow Steel Doors and Frames
Section 08711:	Door Hardware and Schedule
Section 08800:	Glass Products
Section 09910:	Painting

1.03 SUMMARY

- A. This Section specifies the minimum materials, workmanship and performance standards for flush wood doors.
- B. This section includes the following types of doors:
1. Solid core unfinished flush wood doors.
 2. Factory-finished flush wood doors.
 3. Solid core flush wood doors with plastic laminate faces.
 4. Factory pre-fitting to frames and factory pre-machining for hardware for wood doors.
 5. Metal door frames for flush wood doors are specified in Section 08100.

1.04 STRUCTURAL DESIGN REQUIREMENTS

- A. Structural design of systems will be the responsibility of the manufacturer and is to be designed to comply with the Florida Building Code.

1.05 SUBMITTALS

- A. Product Data: The CONTRACTOR shall provide door manufacturer's technical data for each type of door, including details of core and edge construction, trim for openings and louvers and factory-finishing specifications.
- B. Shop Drawings: The CONTRACTOR shall provide shop drawings indicating location and size of each door, elevation of each kind of door, details of construction, location and extent of hardware blocking, fire ratings, requirements for factory finishing and other pertinent data. The CONTRACTOR shall correlate location, designations and reference numbers, details and other applicable information with drawings.

1. For factory premachined doors, drawings shall indicate dimensions and locations of cutouts for locksets and other cutouts adjacent to light and louver openings.
- C. Samples: The CONTRACTOR shall provide samples, 1'-0" square or as indicated, for the following:
1. Metal Frames for Door Light Openings: Metal light frames in 6" lengths; for each material, type and finish required.
 2. Factory pre-finished and unfinished doors.
- D. **All products installed in the building envelope shall have product approval number indicated on the submittal. Products shall conform to the Florida Building Code, Latest Edition.**

1.06 QUALITY ASSURANCE

- A. Conform to requirements of AWI Quality Standard Section 1300, Premium Grade, and NWWDA I.S. 1 "Industry Standard for Wood Flush Doors." Where conflicts occur the AWI Quality Standard shall govern.
- B. Installed Doors and Panels: Conform to NFPA 80 for fire-rated doors as indicated. Test fire-rated door assemblies in accordance with ASTM E152. Provide doors labeled by UL.
- C. Destructive Testing: One solid core wood door may be randomly selected by the ARCHITECT for destructive testing to determine if the manufacturer has complied with the specifications. The cost of the door will be borne by the manufacturer, provided there are at least 50 doors on the Project.
- D. National Wood Window and Door Association, (NWWDA).
- E. Architectural Woodwork Institute.
- F. Window and Door Manufacturers Association: WDMA I.S. IA, "Architectural Wood Flush Doors."
- G. Fitting tolerances:
1. 1/8" clearance at jambs, heads and meeting stiles.
 2. 1/2" clearance at bottom. (Verify with other requirement of this section and Architectural details).
 3. Fit UL labeled doors to UL requirements.
- H. Manufacturer: The CONTRACTOR shall obtain doors from a single source and manufacturer.

1.07 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Doors shall be protected during transit, storage and handling to prevent damage, soiling and deterioration. The CONTRACTOR shall comply with requirements of referenced standards and recommendations of NWWDA pamphlet "How to Store, Handle, Finish, Install and Maintain Wood Doors", as well as with manufacturer's instructions.
- B. The CONTRACTOR shall identify each door with individual opening numbers which correlate with designation system used on shop drawings for door, frames and hardware, using temporary, removable or concealed markings.

1.08 PROJECT CONDITIONS

- A. Conditioning: The CONTRACTOR shall not deliver or install doors until conditions for temperature and relative humidity have been stabilized and will be maintained in storage and installation areas during remainder of construction period.
 - 1. AWI Quality Standard Section 100-S-11 "Relative Humidity and Moisture Content".

1.09 WARRANTY

- A. General: Warranties shall be in addition to, and not a limitation of, other rights The OWNER may have under the contract.
- B. Door Manufacturer's Warranty: The CONTRACTOR shall provide copies of written agreement in door manufacturer's standard form signed by Manufacturer, Installer and the CONTRACTOR agreeing to repair or replace defective doors that have warped (bow, cup or twist) or that show telegraphing of core construction in face veneers, or do not conform to tolerance limitations of referenced quality standards.
 - 1. Warrant doors in writing for life of installation against defects including:
 - a. De-lamination.
 - b. Warp or twist of 1/4" or more.
 - c. Telegraphing of core through face veneer.
 - d. Surface variation exceeding 0.01" or more in 3" span.
 - e. Other defect that may impair or affect performance of door for purpose intended.
 - 2. Remove and replace defective doors; include cost of removal of defective units, re-hanging and refinishing of replacement units.
- C. The CONTRACTOR'S Responsibilities: The CONTRACTOR shall replace or refinish doors where its work contributed to rejection or to voiding of manufacturer's warranty.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Algoma Hardwoods, Inc.
- B. Eggers Industries
- C. Graham Doors
- D. Marshfield Door Systems

2.02 MATERIALS

- A. Doors: AWI "PC-5 ME" type, solid particleboard core with solid stiles. Provide mineral core doors with fire-rating as scheduled.
- B. Faces: AWI AA Premium Grade plain sliced red oak or birch veneers, both sides. Match existing, adjacent veneers in remodel work.
 - 1. Face veneer: Plain sliced red oak or birch veneer, both faces.
 - a. Flat cut (plain sliced)
 - b. Book-matched.
 - c. Matching solid hardwood edges.
 - d. Minimum veneer thickness of 0.02".
 - e. Veneer from certified sustainable forest.
 - 2. Thickness: 1-3/4".
- C. Edge Stiles: Solid hardwood to match face veneers without finger jointing.
- D. Adhesives: NWWDA I.S. 1.5 Type I.
- E. Glazing Stops: 20 gage cold-rolled steel channel. For fire-rated doors, provide glazing stops with UL label.

2.03 PREFITTING AND PREPARATION FOR HARDWARE

- A. Prefit and premachine fire-rated and 20-minute wood doors at the factory or at a labeling agency licensed machiner.
- B. Comply with the tolerance requirements of AWI for prefitting.

2.04 FABRICATION

- A. Factory machine doors for application of hardware.
- B. Factory bevel vertical edges, 1/8" in 2".

C. Cutouts:

1. Make cutouts accurately and neatly.
2. Provide two sets of veneer applied metal or composite stop moldings for openings. Install per manufacturer's specifications.
 - a. Neatly miter stops at corners.
 - b. Finish to match door.
3. Furnish and factory install glass and glazing in non-rated wood doors.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Verify suitability of opening to accept installation.
- B. Installation constitutes acceptance of responsibility for performance.

3.02 INSTALLATION

- A. Do not hang damaged, warped, or stained doors.
- B. Condition doors to prevailing humidity prior to hanging.
- C. Fit doors to frames and machine for hardware, to extend not previously worked at factory.
- D. Install doors in accordance with manufacturer's instruction.
- E. Adjust for proper fit and uniform clearance.

END OF SECTION 08200

SECTION 08310 / ACCESS DOORS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 08000 and other sections of this division.

1.02 STRUCTURAL DESIGN REQUIREMENTS

- A. Structural design of systems will be the responsibility of the manufacturer and is to be designed to comply with the Florida Building Code.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Products specified herein are those of Milcor or as noted. Equivalent products of Bar-Co, Cesco or J.L. Industries will be acceptable. Submit other manufacturer's data for approval.
 - 1. Attic Access: provide 24" x 30" size units for installation into suspended attic closure barrier, installed at locations as directed. Provide units as shown on Architectural Plans.

PART 3 - EXECUTION

- 3.01 Carefully locate doors to be positioned to allow access to all valves, boxes, devices and service points which will be concealed behind non-accessible walls or ceilings. Size doors greater than minimum specified to provide full access as necessary. Securely attach to perimeter framing, aligned true and set so that door will be flush with wall surface.
- 3.02 Not all required access locations are shown on the plans. It will be the responsibility of each trade to review the requirements and make allowance for access doors.
- 3.03 If not acceptably finished, finish paint doors and frames to match color of field in which placed.

END OF SECTION 08310

SECTION 08330 / COUNTER SHUTTER

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Conform to Division 1, Section 08000 and other sections of this division.

1.02 Field verify exact sizes with job conditions and coordinate with other trades.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Model numbers indicated herein are those of the Raynor Mfg. Company. Subject to meeting the design requirements specified herein, the following manufacturers are approved.

American Roll-Up Door Co.

A.R.D. (American Rolling Doors of Florida, Inc.)

Cookson

Kinnear

Overhead Door Co.

2.02 NON-RATED OPENING

A. Furnish overhead coil-up counter shutter for face mounting. Model N10-CSS, stainless steel, push-up operation.

B. Curtain:

1. Interlocking, flat faced, 22 gauge stainless steel Type 304 slats, No. UCS configuration.
2. Bottom of curtain to be tubular shaped section with internally located sliding lock bolt, each end, with recessed flush lifting handles and lock cylinder.
3. Protect sill with continuous fiber strip.

C. Guides: Constructed of stainless steel forming a channel for curtain to travel in; sized by door manufacturer.

D. Brackets: Die cast aluminum or stainless steel; sized by door manufacturer.

E. Barrel:

1. Minimum 4" o.d. x $\pm .120$ " wall structural steel pipe per ASTM A-500. Deflection under full load not to exceed .03 inch per foot of span.

2. Spring end of barrel assembly shall be fitted with an easily removable plug disc bearing housing to facilitate easy access to counterbalance assembly and bearing.
 3. Curtain shall be attached to the barrel by means of removable studs engaging threaded lugs located on maximum 26" centers and welded to pipe.
- F. Spring Counterbalance: The curtain shall be counterbalanced by means of all tempered, helical torsion springs, grease-packed and mounted on a single continuous spring design to facilitate any counterbalance maintenance.
- G. Hood: Hood shall be rectangular type formed from 24 gauge stainless steel with rolled edges to provide structural rigidity. Intermediate hood support brackets required at 6'-0" maximum o.c.
- H. Finish: Curtain, guides and hood shall be stainless steel with #4 finish.
- I. Operation: Manual push-up, with automatic closing device, with governor to control the downward speed of the door when released.
- J. Location and Size: As shown on Architectural Drawings.

PART 3 - EXECUTION

- 3.01 Install in accordance with manufacturer's instructions, securely anchored to wall construction.
- 3.02 Adjust for smooth operation and so that bottom of curtain meets countertop without bind.
- 3.03 Coordinate installation of guides and brackets with fabrication of Section 11400 Scullery Counters.
- 3.04 Clean assembly of any construction soil.

END OF SECTION 08330

SECTION 08520 / ALUMINUM WINDOWS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 08000 and other sections of this division.

1.02 WORK INCLUDED

- A. Furnish and install aluminum architectural windows complete with hardware and related components as shown on drawings and specified in this section.
- B. All windows shall be single-hung type. Windows shall conform with all requirements of AAMA P-HC-65 specifications. Manufacturers requesting approval to bid their product must submit the following information ten days prior to close of bidding as directed in Section 01000.
 - 1. A sample window, 3'-0" x 2'-0" single unit, as per requirements of ARCHITECT.
 - 2. Test reports documenting compliance with requirements of Section 1.03.
- C. Subframes/Receptors: Provide subframes with anchors for window units as shown, of profile and dimensions indicated but not less than 0.125-inch (1/8") thick extruded aluminum. Miter or cope corners, and weld and dress smooth with concealed mechanical joint fasteners. Sub-sill configuration shall be approved by ARCHITECT and OWNER. Finish to match window units.
- D. Glass and Glazing
 - 1. All units shall be factory glazed.

1.03 STRUCTURAL DESIGN REQUIREMENTS

- A. Structural design of systems will be the responsibility of the manufacturer and is to be designed to comply with the Florida Building Code along with additional wind loading as follows:
- B. Window units shall comply with SBCCI/SSTD-12 for large missile impact criteria. Refer to architectural drawings for building envelope path and location.

1.04 TESTING AND PERFORMANCE REQUIREMENTS

- A. Test Units
 - 1. Air, water, and structural test unit shall conform to requirements set forth in AAMA/NWWDA 101/I.S.2-97.

B. Test Procedures and Performances

1. Windows shall conform to all AAMA/NWWDA 101/I.S.2-97 requirements for the window type referenced in 1.02 B. In addition, the following specific performance requirements shall be met.
2. Air Infiltration Test
 - a. With ventilators closed and locked, test unit in accordance with ASTM E 283 at a static air pressure difference of 6.24 psf.
 - b. Air infiltration shall not exceed .10 cfm per foot of crack.
3. Water Resistance Test
 - a. With ventilators closed and locked, test unit in accordance with ASTM E 331/ASTM E 547 at a static air pressure difference of 12 psf.
 - b. There shall be no uncontrolled water leakage.
4. Uniform Load Deflection Test
 - a. With ventilators closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 65 psf positive and negative pressure.
 - b. No member shall deflect over L/175 of its span.
5. Uniform Load Structural Test
 - a. With ventilators closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 97.5 psf, both positive and negative.
 - b. At conclusion of test there shall be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanisms, nor any other damage that would cause the window to be inoperable.
6. Condensation Resistance Test
 - a. With ventilators closed and locked, test unit in accordance with AAMA 1503.1.
 - b. Condensation Resistance Factor (CRF) shall not be less than 49.
7. Life Cycle Testing
 - a. Test in accordance with AAMA 910. There shall be no damage to fasteners, hardware parts, support arms, activating mechanisms, or any other damage that would cause the window to be inoperable. Air infiltration and water resistance tests shall not exceed specified requirements.

1.05 QUALITY ASSURANCE

- A. Installers Qualifications: Engage an experienced Installer who has completed installation of aluminum windows similar in material, design and extent to those required for this project and with a record of successful in-service performance.
- B. Provide test reports from AAMA accredited laboratories certifying the performance as specified in 1.03.

1. Testing Agency Qualifications: To qualify for approval, an independent testing agency must demonstrate to ARCHITECT'S satisfaction, based on evaluation of agency-submitted criteria conforming to ASTM E 699, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the work.
 2. Test reports shall be accompanied by the window manufacturer's letter of certification, stating the tested window meets or exceeds the referenced criteria for the appropriate AAMA/NWWDA 101/I.S.2-97 window type.
- C. Single-Source Responsibility: Obtain aluminum windows from one source and by a single manufacturer.
- D. Product Options: The drawings indicate sizes, profiles, dimensional requirements and aesthetic effects of aluminum windows and are based on the specific window types and models indicated. Other aluminum window manufacturers whose products have equal performance characteristics may be considered provided deviations in size, profile and dimensions are minor and do not alter the aesthetic effect. For substitutions, refer to Section 01000/Supplementary Special Conditions.

1.06 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Contractor shall submit shop drawings; finish samples, test reports, and warranties.
1. Samples of materials as may be requested without cost to OWNER, i.e., metal, glass, fasteners, anchors, frame sections, mullion section, corner section, etc.
 2. Contractor shall submit manufacturer's installation instructions for each specific window opening type.
- C. Product Data for each type of window required, including the following:
1. Construction details and fabrication methods.
 2. Profiles and dimensions of individual components.
 3. Data on hardware, accessories, and finishes.
 4. Recommendations for maintaining and cleaning exterior surfaces.
 5. Warranties
- D. Shop Drawings showing fabrication and installation of each type of window required including information not fully detailed in manufacturer's standard Product Data and the following:
1. Layout and installation details, including anchors.
 2. Elevations at 1/4 inch = 1 foot scale and typical window unit elevations at 3/4 inch = 1 foot scale.

3. Full-size section details of typical composite members, including reinforcement and stiffeners.
 4. Manufacturers installation instructions for each specific window opening type.
 5. Hardware, including operators.
 6. Glazing details.
 7. Accessories.
- E. Samples for initial color selection on 12 inch (300 mm) long sections of window members. Where finishes involve normal color variations, include sample sets showing the full range of variations expected.
- F. Samples for Verification: The ARCHITECT reserves the right to require additional samples that show fabrication techniques, workmanship, and design of hardware and accessories.
- G. Test reports from a qualified independent testing agency indicating that each type, grade, and size of window unit complies with performance requirements indicated based on comprehensive testing of current window units within the last 5 years. Test results based on use of down-sized test units will not be accepted.
- H. **All products installed in the building envelope shall be impact resistant and have product approval number indicated on the submittal. Products shall conform to the Florida Building Code, latest edition.**

1.07 PROJECT CONDITIONS

- A. Field Measurements: Check window openings by field measurements before fabrication and show recorded measurements on shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the work.
1. Where field measurements cannot be made without delaying the work, guarantee opening dimensions and proceed with fabricating aluminum windows without field measurements. Coordinate wall construction to ensure that actual opening dimensions correspond to guaranteed dimensions.

1.08 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Store and handle windows, mullions, panels, hardware and all related items in strict compliance with the manufacturer's instruction and protect from damage.

1.09 Warranties

- A. Total Window System
1. The responsible contractor shall assume full responsibility and warrant for one year the satisfactory performance of the total window installation which includes that of the windows, hardware, glass (including insulated units),

- glazing, anchorage and setting system, sealing, flashing, etc., as it relates to air, water, and structural adequacy as called for in the specifications and approved shop drawings.
2. Any deficiencies due to such elements not meeting the specifications shall be corrected by the responsible contractor at his expense during the warranty period.
- B. General Warranty: The special warranty specified in this article shall not deprive the OWNER of other rights the OWNER may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- C. Special Warranty: Submit a written warranty signed by aluminum window manufacturer agreeing to repair or replace window components that fail in materials or workmanship within the specified warranty period. Failures include, but are not limited to, the following:
1. Structural failures including excessive deflection, water leakage, air infiltration, or condensation.
 2. Faulty operation of sash and hardware.
 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- D. Warranty Period: 5 years after date of substantial completion.
- E. Warranty Period for Metal Finishes and Glass: 10 years after date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Aluminum
1. Extruded aluminum shall be 6063-T6 alloy and tempered.
- B. Hardware
1. Locking handles shall be cam type and manufactured from a white bronze alloy with a US25D brushed finish.
 2. Operating hardware shall be 4-bar stainless steel arms or equal.
- C. Weather Strip
1. All weather strip shall be Santoprene® or equal.

D. Thermal Barrier

1. All exterior aluminum shall be separated from interior aluminum by a rigid, structural thermal barrier. For purposes of this specification, a structural thermal barrier is defined as a system that shall transfer shear during bending and, therefore, promote composite action between the exterior and interior extrusions.
2. The thermal barrier shall be INSULBAR[®] by ENSINGER, INC. or equal, consisting of two glass reinforced polyamide nylon 6/6 struts, mechanically crimped in raceways extruded in the exterior and interior extrusions.
3. Poured and debridged urethane thermal barriers shall not be permitted.

E. Glass

1. Tinted Impact resistance glass for EHPA's

2.02 FABRICATION

A. General

1. All aluminum frame and vent extrusions shall have a minimum wall thickness of 0.125-inch (1/8").
2. Mechanical fasteners, welded components, and hardware items shall not bridge thermal barriers. Thermal barriers shall align at all frame and vent corners.
3. Depth of frame and vent shall not be less than 2".
4. All frame and vent members shall be able to accommodate separate interior and exterior finishes and colors.

B. Frame

1. Frame components shall be mechanically fastened.

C. Ventilator

1. All vent extrusions shall be tubular.
2. Each corner shall be mitered, reinforced with an extruded corner key, hydraulically crimped, and "cold welded" with epoxy adhesive.
3. Each vent shall be pressure equalized utilizing two rows of Santoprene[®] weather stripping installed in specifically designed dovetail grooves in the extrusion.
4. The vent shall present a flush appearance with the exterior and interior of the main frame when in the closed position.

- D. Muntins
 - 1. Muntins shall be shop attached (non-removable), exterior grid designed to replicate steel, putty-glazed sash.
- E. Screens
 - 1. Screen frames shall be extruded aluminum.
 - 2. Screen mounting holes in the window frame shall be factory drilled.
 - 3. Screen mesh shall be stainless steel.
- F. Glazing
 - 1. All units shall be glazed with butyl tape, silicone cap seal, and extruded snap-in aluminum glazing bead, with vinyl gasket.
- G. Finish
 - 1. Windows shall be capable of having separate interior and exterior finishes and/or colors.
 - 2. Selection of one of the following shop finishes shall be determined by specific job requirements and have OWNER approval:
 - a. AA-M10-C22-A41 or A31, AAMA611, Architectural Class I, Clear Anodic Coating.
 - b. AA-M10-C22-A44 or A34, AAMA611, Architectural Class I, Color Anodic Coating. Color as selected from Manufacturer's colors.
 - c. AA-M12-C42-R1X, Kynar 500[®] / Hylar 5000[®] Fluoropon[®], AAMA Guide Spec. 2605. Color as selected from Manufacturer's colors.

PART 3 – EXECUTION

3.01 INSPECTION

A. Job Conditions

- 1. Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface, and are in accordance with approved shop drawings.

3.02 INSTALLATION

A. Use only skilled tradesmen with work done in accordance with approved shop drawings and specifications.

B. Plumb and align window faces in a single plane for each wall plane, and erect windows and materials square and true. Adequately anchor to maintain positions

permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

- C. Adjust windows for proper operation after installation.
- D. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters. Back (bead) caulk continuously subframes (receptors) and window frames. Continuously caulk all interior and exterior joints to ensure watertightness. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.

3.03 FIELD TESTING

- A. Windows shall be field tested for air infiltration and water resistance in accordance with AAMA 502 in the presence of the OWNER'S representative with a water hose.

3.04 ANCHORAGE

- A. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

3.05 PROTECTION AND CLEANING

- A. After completion of window installation, windows shall be inspected, adjusted, put into working order and left clean, free of labels, dirt, etc. Protection from this point shall be the responsibility of the general contractor.

END OF SECTION 08520

SECTION 08711 / DOOR HARDWARE AND SCHEDULE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 08000 and other sections of this division.
- B. See Section 08000 Door Schedule to "key" hardware to doors.
See architectural floor plan drawings for door locations.

1.02 FIELD MEASUREMENTS AND COORDINATION

- A. Coordinate and furnish work in proper sequence with overall job, and in cooperation with other related trades.
- B. Check all details such as wall trim clearance, bevels, rabbets, backsets, strikes, spindles, hand of locks, closers, or other items required to assure that hardware shall fit and operate properly.
- C. Insure that all hardware installation data is supplied as required by the various materials suppliers.
- D. Approved submittal is required six (6) months prior to the installation of locksets and total delivery of material ninety (90) days prior to completion date.
- E. The hardware manufacturer of locks, exit devices and door closers shall supply both a pre-installation class as well as a post-installation inspection. This is to insure proper installation and provide for any adjustments or replacements of hardware as required.

1.03 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Division 4:	Masonry
Division 6:	Wood and Plastic Laminates
Division 9:	Finishes
Division 12:	Furnishings
Division 16:	Electrical

1.04 STRUCTURAL DESIGN REQUIREMENTS

- A. Structural design of systems will be the responsibility of the manufacturer and is to be designed to comply with the Florida Building Code.

1.05 MATERIALS FURNISHED TO OTHER SECTIONS FOR INSTALLATION

- A. All hardware specified herein.

1.06 CHECKING

A. It is intended that this section include all required door hardware items. Check plans and this schedule and advise ARCHITECT during bid period of any suspected omissions or discrepancies. Should such report be made during bid period, proper addendum will be issued for correction. Failing to notify ARCHITECT during bid period does not relieve CONTRACTOR of responsibility to furnish complete hardware required, and CONTRACTOR is required to furnish any and all necessary items to satisfactorily complete work as per plans and details whether or not listed herein.

1.07 TEMPLATES

A. Make hardware for application to all metal frames to standard template. Furnish proper templates to frame fabricator, door supplier, and to other trades as required, in order that they cut, reinforce, and/or otherwise shop prepare their materials for proper application of hardware at job site.

PART 2 - PRODUCTS

2.01 GENERAL

A. Insure hardware is new and free from defects affecting serviceability and appearance: with working parts well fitted, smooth working and without unnecessary play; made of material denoted by manufacturer's plate number listed in schedule and of finish specified by finish code number.
Finish shall be Satin Chromuim -626.

2.02 APPROVED SUPPLIERS

A. Manufacturers' numbers in following schedule indicate OWNER'S and ARCHITECT'S standard of quality.

B. Unless otherwise noted, the schedule plate numbers are taken from current catalogs of the following firms:

Hinges	Hager / Stanley/Ives
Continuous Hinges	Roton/Pemko Hinge/ Ives
Locksets, latchsets & other locking devices.....	Schlage
Push/Pull Plates & Handles, Kickplates.....	Rockwood/Ives
Exit Devices	Precision/Von Duprin
Pull On Doors with exit device	Precision/Von Duprin
Closers	LCN4041/Norton PR7500
Thresholds & Weatherstripping	Pemko/National Guard
Bumpers, Stops, Holders, Flush	H.B.Ives/Rockwood
Bolts & Miscellaneous Overhead Holders	Glynn Johnson/Rixson
Lock Box – Fire Marshal	Knox Box 3200 Series

- C. When a single source manufacturer is called for, it shall be used throughout the project.

2.03 FASTENINGS

- A. Furnish complete with proper fastenings suitable for items to be installed as recommended by manufacturer. Match fastenings finish to item with which they are used.
- B. Furnish template butts for wood doors having metal frames with one-half machine screws and one-half wood screws. Fasten closer arm, feet and brackets with machine screws to template and closer body properly located and fastened on all doors with thru bolts and grommet nuts. Use machine screws for all strikes for locksets, flush bolts, etc., when used with metal frames and doors. Mount overhead holders on door with thru bolts and grommet nuts. When using continuous hinges, allow for a space between the grout and frame throat to ensure the capability of installing the hinge screws.

2.04 CLOSERS

- A. All door closers shall be of one domestic manufacturer to provide for proper installation and servicing after installation. All closers shall be inspected at start of, and at finish of installation and 6 months after Substantial Completion by a factory representative to ensure proper adjustment and operation. Written confirmation of proper installation, adjustment, and operation is to be provided to OWNER prior to substantial completion and after 6 month inspection. Closer shall carry a manufacturer's ten year warranty against manufacturing defects and workmanship. All door closers shall be tested to ANSI/BHMA A156.4 test requirements by a BHMA certified testing laboratory. A written certification showing successful completion of a minimum of 1,500,000 cycles must be provided.
 - 1. Acceptable Units:
LCN 4041
Norton PR7500/7500BF (refer to Schedule for variations)
 - 2. All closers wherever possible shall be parallel arm and shall incorporate one piece solid forged steel arms with bronze bushings, with 1 9/16" x 1/2" steel stud shoulder bolts. All other closers if specified to have forged steel main arms.
 - 3. For all closers provide thru bolts for mounting on door.

2.05 LOCKSETS

- A. All locksets and deadlocks to have armored scalps or fronts. All locksets are to be cylindrical type with 2 3/4" backset. Design to be **Schlage D-Series Rhodes**.
- B. Interior door locks to be **Schlage D-series**.
- C. All deadbolts and locking devices shall be operated from room side without a key, with the exception of deadbolts installed on exterior gates.

2.06 EXIT HARDWARE

A. Exit Devices

1. Von Duprin 98L
2. Rim type exit device with allen/hex key dogging feature.

B. Mullions

1. Acceptable Manufacturers and Products:
 - Standard Mullion: Precision KR822
Alternate: Von Duprin KR4954
 - Hurricane Mullion: Precision HCKR822
Alternate: Von Duprin KR9954
 - Fire Rated Mullion: Precision FLKR822
Alternate: Von Duprin KR9954
2. Mullion cylinders are to be keyed to the opening.
3. Mullion shall be of the same manufacturer as the exit devices.
4. No substitutions will be approved.

C. Verify locations requiring fire rated exit devices.

D. All exit devices shall be inspected at start of and at finish of installation by a factory representative to ensure proper adjustment and operation.

2.07 BUTT HINGES

A. Furnish with flat buttontips of material and finish called for. Where projection of door trim prevents clearance with butt specified, provide butt hinge with leaves sufficient to clear trim.

B. Acceptable Manufacturers and Products:

Hager	- Exterior	BB1191 x size x finish BB1279 x size x finish
	Interior	1279 x size x finish
Ives	- Exterior	5BB1 x size x finish
	Interior	5BB1 x size x finish
Roton	- Exterior	780HD series x size x finish
	Interior	780HD series x size x finish
Stanley	- Exterior	FB191 x size x finish FB179 x size x finish
	Interior	F179 x size x finish

1. Full mortise template hinges, five knuckle type, plain-bearing except at doors with closers or doors over 40 inches width furnish ball-bearing type.

2. Non-removable pin hinges at exterior doors.
3. Except at continuous hinge locations, furnish quantity of hinges per door as follows:
 - a. Doors up to 3'-0": 4 1/2" x 4 1/2"
 - b. Doors 3'-0" wide to 3'-4" wide: 5" x 4 1/2"
 - c. Doors over 3'-4" wide: extra heavy 5" x 4 1/2"

2.08 MISCELLANEOUS

- A. Plates, bumpers, stops, hooks, flush bolts, door holders, closers, and thresholds to be as scheduled both as to class and finish properly applied and fastened.
- B. Install rubber door silencers in all metal frames. Use three (3) along single door jambs. Use two (2) at double door heads.
- C. Furnish wrought box strikes for all door latches.

2.09 KEYING

- A. Hardware is to be sent to the CONTRACTOR including change keys and construction keys. Construction locks are only required on exterior doors. CONTRACTOR is responsible for securing interior rooms as needed during construction. CONTRACTOR may use his own temporary locks or use temporary core system. CONTRACTOR to change out to permanent cores after punchlist inspections.
- D. Fabricate no cylinders prior to receipt of written approved keying schedule.
- E. Provide and install one Knox Box, mount per manufacturer's recommendations. Location shall be as directed by ARCHITECT/OWNER. Contractor to coordinate with the fire marshal having jurisdiction for keying and ordering information.

2.10 HARDWARE SCHEDULE

A. Hardware Groups

Hardware Group 1 – Exterior Entry Function – Impact Rated – Panic

1 1/2	Pair Hinges	FB191
1	Panic Exit Device	98L
1	Closer	LCN4041
1	Threshold	2005AT
1	Weatherstripping	S88

Hardware Group 2 – Classroom Function

1 1/2	Pair Hinges	F179
1	Lockset	ND70PD Classroom
1	Stop	WS 401/402

Hardware Group 3 – Passage

1 1/2	Pair Hinges	F179
1	Lockset	ND10S Passage
1	Stop	WS 401/402

B. General Notes - Hardware Schedule and Door Schedule

1. Provide appropriate quantity of cylinders for exit device function and dogging feature key (typical of all exit device locations). One cylinder per group of doors.
2. Furnish closer drop/corner bracket to clear overhead holder where applicable.
3. Certain locations will require floor stop 436. Verify in field.
4. At fire rated door locations, provide equivalent fire rated hardware.
5. Provide head drip at exterior doors without overhang or cover of at least 4'-0".
6. At impact resistant doors provide hardware as approved on Florida Product Approval certification

PART 3 - EXECUTION

- 3.01 Furnish all hardware, packaged and labeled as directed by CONTRACTOR. No hardware is to be installed until the manufacturers have provided a **pre-installation class**. This is to insure the proper installation of the specified products.
- 3.02 Install all hardware neatly cut into doors and frames; aligned so doors stand open in any position; adjusted so that all doors swing easily; and adjusted so that all operable hardware operates smoothly, latches and lock securely. Set all door stops and/or hooks with epoxied rod into masonry or concrete.
- 3.03 Pad locks will be furnished by OWNER.
- 3.04 It shall be the responsibility of the OWNER of this section to change to permanent keying, fully set up key cabinet, label key cards and keys and to instruct designated OWNER'S representative about control system.

END OF SECTION 08711

SECTION 09000 / FINISHES, GENERAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, General Requirements, which applies to all sections of this Division 9. Provisions of this Section 09000 also apply to all sections of this Division 9. The articles contained in this section may modify, delete or add to the provisions of the conditions of the Contract.

1.02 FIELD COORDINATION

- A. Verify all field dimensions to insure close fit with work of adjoining trades.
- B. Coordinate and install this section's work in proper sequence and cooperation with all other trades, to insure that total work is completed within contract time schedule.

1.03 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Division 3:	Concrete
Division 4:	Masonry
Division 5:	Metals
Division 6:	Wood and Plastic Laminates
Division 7:	Thermal and Moisture Protection
Division 8:	Doors and Windows
Division 10:	Specialties
Division 11:	Equipment
Division 12:	Furnishings
Division 15:	Mechanical
Division 16:	Electrical

1.04 SINGLE SOURCE OF FINISH MATERIALS

- A. Furnish for each trade, all materials visible after completion of work, from single producing source.

1.05 OTHER APPROVED PRODUCERS

- A. Products referred to and materials and performance characteristics specified herein, establish the required quality of performance for this work. Other products which in CONTRACTORS experienced judgment offer equivalent quality, may be submitted for approval as per Division 1.

1.06 SPECIAL MATERIAL DELIVERY AND HANDLING INSTRUCTIONS

- A. Deliver all materials to jobsite in undamaged original containers with manufacturer's labels thereon. Keep dry and soil free. Store above grade in clean dry place. Take care to prevent damage during storage and handling. Insure temperature of storage areas stays within 45 deg. F. to 85 deg. F. temperature range at all times.
- B. Protect all ferrous materials from rusting.
- C. Carefully stack all sheet goods to insure they do not deform during storage.

1.07 INFLAMMABLE MATERIAL

- A. Take extra ordinary care to prevent fire. Open inflammable material only as needed. Keep rubbing cloths and oily rags in tightly closed metal containers, or remove from building at close of each day's work. Where inflammable materials are used and building's ventilation is inadequate, provide safety spark-proof fans, and prohibit smoking.

1.08 CLIMATE PRIOR TO INSTALLATION

- A. Exterior "Wet-Trades" Work: all work shall cease when weather drops below 45 deg. F. or during periods of rainfall.
- B. Exterior "Dry-Trades" Work: all work shall cease during damp weather or below 50 deg. F. or until surfaces have thoroughly dried from effect of such weather. Do not commence work when excessive dust or insects are present.
- C. Interior "Wet-Trades" Work: all work shall cease when interior building temperature drops below 45 deg. F.
- D. Interior "Dry-Trades" Work: do not begin installation work until all "wet-trades" work is completed, and building is dried out and completely enclosed. Insure that minimum room temperature is 60 deg. F. Provide sufficient ventilation to remove excess moisture.
- E. Atmospheric and moisture conditions shall also be in conformance with guidelines established by manufacturer of each finish product.

1.09 ACCEPTANCE OF SURFACES

- A. Prior to commencement of work, inspect all surfaces to receive work. Notify ARCHITECT in writing of any conditions, which in CONTRACTOR'S judgment prevent installations meeting all conditions of this specification. Beginning of work constitutes CONTRACTOR'S acceptance of sub-surfaces. This includes assurance that exterior and interior walls are complete, roofs are properly dried in and otherwise building components are thoroughly dry prior to exterior and/or interior finish wall work.

1.10 CLEANING OF INSTALLED AND SURROUNDING WORK

- A. Each Trade's Own Work: following erection, clean all work and leave free of defects. Refinish all surfaces judged damaged or defective by ARCHITECT, to match adjacent approved finishes. Remove units which are damaged or improperly applied, and replace as directed by ARCHITECT. Remove all debris and surplus materials promptly from site as work progresses.
- B. Other Trade's Work: at completion of work, remove all materials spilled, splashed, splattered, sprayed, smeared or spotted on all surfaces, including glass, light fixtures, other finished and unfinished surfaces, furniture, equipment, fittings, hardware, etc. Promptly and completely repair all damage done. Remove all scaffolding, rags, debris and containers from site. Satisfactorily repair and/or replace damage done to other trade's work through lack of adequate protection, accident or carelessness incidental to painting work, as directed by ARCHITECT.

1.11 PROTECTION

- A. Each trade is to protect existing and newly finished surfaces from damage during its work. Cover with a non-staining Kraft paper or polyethylene sheet, etc. Maintain protection in place during work. Remove when work is completed. Correct any damage to existing and/or newly finished surfaces of other trades, caused as result of each working trades' work.
- B. Protect all floors from traffic until floor finish has set up.
- C. Then protect all finish work from soil and damage until OWNER accepts building for beneficial occupancy.

1.12 EXTRA MATERIALS

- A. Upon completion of work, deliver any useable broken cartons of finish materials to OWNER. Refer to specific sections for required excess material to be furnished.

PART 2 - FINISH SCHEDULE LEGEND

2.01 GENERAL NOTES

- A. "Exposed Concrete" listed in Finish Schedule means integrally hardened concrete, cured and sealed in accord with specifications Section 03000. Excluded from this note are all exterior concrete walks listed in Schedule as numbered spaces. Refer to Division 2 for requirements.
- B. "Exposed Concrete With Sealer" shall mean the application of a pigmented sealer in accordance with Specification Section 09910.

PART 3 - EXTERIOR FINISH NOTES

- 3.01 Exposed Flashing, Gutters, Downspouts: no field applied finish required, unless noted otherwise
- 3.02 Fiber Reinforced Cement Board: painted, color as selected.
- 3.03 Cement Stucco: painted, color as selected.
- 3.04 Roof Mounted Equipment: mfg. prefinished items, no field finishing required, touch-up damaged surfaces to match existing. Manufactured items not finish painted in shop will require field finish painting. Roof curbs to be painted.
- 3.05 Exposed Ferrous Metal Items: painted, color as selected.
- 3.06 Wall/Ceiling Louvers/Access Panels: paint to blend with adjacent surface or color as selected, if not suitably factory finished.
- 3.07 Metal Protection Posts: painted, color as selected.
- 3.08 Metal Fencing: no field applied finish required, unless noted otherwise.
- 3.09 Hollow Steel Doors, Frames: painted, color as selected.
- 3.10 Aluminum Windows: no field applied finish required, unless noted otherwise.

END OF SECTION 09000

SECTION 09220 / PORTLAND CEMENT PLASTER/METAL LATHING AND FURRING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 09000 and other sections of this division.
- B. See drawings to determine conditions where material is applied to masonry, and/or to metal lathing and furring systems.
- C. Conform to "Specification for Metal Lathing and Furring" published by the Metal Lath Association.

PART 2 - PRODUCTS

2.01 STANDARD CEMENT PLASTER

A. MATERIALS

Portland Cement: ASTM C150-59, Type I, domestically produced.

Hydrated Lime: ASTM C206-49, Type S (\pm 92% hydrated).

Sand: ASTM C35-57T.

Water: clean and fit to drink.

B. PROPORTIONING (by volume)

1 part Portland Cement

3 parts Sand

10% to 20% lime putty per bag of cement.

C. MIXING

Mix no lumpy, caked, or partially set materials. Mix stucco ingredients to smooth even mixture. Use only machine mixers, hand mixing not permitted. Mix only amount that can be applied within one (1) hour of mixing. Dump entire batch at one time. Immediately clean mixer and all tools thoroughly when not in continuous use.

2.02 EXECUTION

A. THICKNESS

1. Finished stucco work on metal lath totals 3/4" thickness (minimum).

2. Work applied to exterior standard concrete/masonry totals 1/2" thickness (minimum).

B. ALL BASE COATS ON METAL LATH

Apply in two operations, totaling \pm 5/8" thick. Apply scratch coat in full coat with sufficient pressure to force it through and completely embed metal lath. Double back and apply brown coat with sufficient pressure to form a good bond, rodged level and

left rough, using broom, if necessary. After set, moisture cure for proper period of time before applying finish coat.

- C. **BASE COAT ON MASONRY RECEIVING PORTLAND CEMENT PLASTERED FINISH**
Apply in one operation, 3/8" thick, as brown coat specified in paragraph 2.02 A, hereinbefore.
- D. **EXTERIOR FINISH COAT**
Do not apply finish until brown coat has seasoned properly. Just before application of finish coat, wet brown coat evenly with fog spray. Evenly apply to uniform 1/8" thickness. Use carpet float finish for all work from approved field sample panel. "Cut-in" joint around all metal frames occurring in finished surface. Insure finish coat is free of hair cracks, checks or other imperfections.
- E. **INTERIOR FINISH COAT**
Apply as paragraph 2.02 D, hereinbefore, except use smooth trowel finish.
- F. **ACCEPTANCE AND PATCHING**
 - 1. Plaster containing cracks, blisters, pits, checks or discoloration is not acceptable. Remove and replace such plaster with approved plaster. Patching of defective work will be permitted only when approved by ARCHITECT and must match accepted work.
 - 2. Keep control joints clean of stucco for caulking by others.
- G. **FIRE RATED CEILINGS**
Provide assembly adequate to meet U.L. rating(s) indicated.

END OF SECTION 09220

SECTION 09250 / INTERIOR WALL FRAMING/CEILING FRAMING/PLENUM DIVIDERS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 09000 and other sections of this division.

1.02 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Section 05410:	Light Gauge Metal
Division 6:	Wood and Plastic Laminates
Division 8:	Doors and Windows
Section 09220:	Portland Cement Plaster/Metal Lathing and Furring
Section 09253:	Gypsum Drywall
Division 10:	Specialties
Division 11:	Equipment
Division 12:	Furnishings
Division 13:	Special Construction

- 1.03 Refer to drawings for locations and extent of all stud/drywall work and for specific location of rated partitions. Refer to reflected ceiling plans for heights thereof and for partitions penetrating ceiling and plenum divider locations.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Metal stud system herein is U.S. Gypsum's USG Steel Framed Drywall System SA-923 with framing spaced typically 16" o.c. except as noted otherwise. Equivalent systems produced by Kaiser, National Gypsum, or other nationally recognized producer will be approved by ARCHITECT.

2.02 FRAMING AND MATERIALS

- A. Studs: galvanized steel, standard "C" studs, 3 5/8" and 6" width, 22 gauge minimum (typical unless otherwise shown on drawings or specified herein). Follow manufacturer's data for limiting wall heights for each assembly, and increase material gauge to suit height conditions.
- B. Metal Stud Runners: matched to stud width, galvanized, minimum 1 1/4" flange for floor and ceiling runners.
- C. Metal Stud Fasteners: 3/8" USG brand screws, pan head Type S for typical work. Use 1/2" Type S-12 pan head screws for steel studs to door frame anchors.

- D. Jamb Anchor Clips: standard USG galvanized units sized to stud width.
- E. Furring Channel: DWC-20, hat shape, 7/8" & 1 1/2".
- F. Resilient Channel: RC-1.
- G. Suspension Wire / Tie Wire: No. 8 & 18 gauge, galvanized.

2.03 TOP-OF-STUD BRACES

- A. Refer to paragraph 2.02, Framing and Materials.

2.04 ACCESS DOORS

- A. Refer to Section 08310.

PART 3 - EXECUTION

3.01 STUD SYSTEM ERECTION

- A. Attach metal runners at floor (& ceiling if called for) each end and typically 16" o.c. For typical walls position studs vertically at 16" o.c., engaging floor and ceiling runners. When necessary, splice studs with 8" nested lap and one positive attachment per stud flange. Place studs in direct contact with all frame jambs, abutting partitions, partition corners and existing construction elements. Anchor all studs for shelf/cabinet-walls and those adjacent to door and window frames, partition intersections, and corners to ceiling and floor runner flanges with USG metal lock fastener tool. Securely anchor studs to jamb and head anchor clips of door or borrowed-light frames by bolt or screw attachment. Over interior metal door and borrowed-light frames, not exceeding 5'-0" in width, place horizontally a cut-to-length section of runner, with a web-flange bend at each end, and secure with one positive attachment per flange. Position a cut-to-length stud (extending to ceiling runner) at vertical panel joints over door frame header.
- B. Install a continuous double stud each side of all door openings with or without borrowed lites from floor to top of wall. Stitch studs together at 16" o.c. maximum. Install a double member header across such openings that exceed 5'-0" in width.
- C. Refer to reflected ceiling plans for walls and plenum dividers extending thru ceiling. Position top runner minimum 1 1/2" above ceiling finish plane, except as otherwise indicated to extend higher.
- D. Where shown on reflected ceiling plan, extend wall framing to underside of overhead structure/deck. Refer to details for allowance for roof framing movement. Where possible run studs full length. Install 16 gauge stabilizing clips at 3'-0" o.c. maximum spacing secured to metal deck or structure but not to stud wall. Fire rated closures above ceilings are to extend to close gaps between deck and framing as tightly as

possible, allowing for structural movement. If fire rated closures occur under a steel beam or joist, framing shall be offset (but continuous) to the side of beam or joist up to the deck.

- E. Comply with Florida Building Code, latest edition, and local ordinances to provide fire stops in wall assemblies. Generally this includes fire stops at floors, ceilings and roofs.
- F. Where framed walls terminate at underside of attic barrier, cut studs so that top track is set 1" to 1 1/2" maximum below suspended system hat channels. Attach wall track to suspension system at 4'-0" o.c. maximum after wall at underside of attic has been installed. Fill void between top of wall and barrier with insulation as a noise stop.
- G. Where metal studs are used for soffit or ceiling support, space studs no greater than 24" o.c. (U.L. rated ceilings spaced 16" o.c.). Provide back-to-back double studs as called for and securely screw fasten stud work to building structure and each other to comply with the most stringent code(s), ASCE-7, SREF, latest edition adopted by D.O.E. and the Florida Building Code for wind loading.
- H. Chases for Vertically & Horizontally Traversing Services: Coordinate with other trades such as mechanical, plumbing and electrical and provide stud space to accommodate such services, whether or not specifically indicated on drawings. Provide space by increasing stud width, double stud wall and/or widened offset chases at services if approved by ARCHITECT.

3.02 WALL-HUNG SUPPORT AND OTHER BLOCKING

- A. Install 2x solid blocking (Division 6) in stud space for securely mounting wall hung/ supported items. Provide other special blocking as required by millwork and casework configurations and other equipment supports as required or otherwise called for.

3.03 DOOR AND GLAZED VIEW FRAMES

- A. Coordinate framing with scheduled sizes of doors and glazed frames. Follow manufacturer's instructions for securing frame anchors to studs.

3.04 ACCESS DOORS

- A. Provide as required for access to concealed equipment and valves, etc.

END OF SECTION 09250

SECTION 09253 / GYPSUM DRYWALL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 09000 and other sections of this division.

1.02 RELATED WORK IN OTHER DIVISIONS/SECTIONS

Section 05400:	Cold-Formed Metal Stud Framing
Section 09300:	Ceramic and Quarry Tile
Section 09511:	Suspended Ceiling System
Section 09910:	Painting

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications and installation instructions with Project conditions and materials clearly identified or detailed for each required system.

1.04 SYSTEM REQUIREMENTS

- A. Performance Requirements: Fabricate and install systems as indicated but not less than that required to comply with ASTM C754 under the following conditions:

1. Gypsum board partitions

- a. Standard systems: Maximum deflection of $l/240$ of partition height.
- b. Systems to receive water resistant gypsum board or backer board: Maximum deflection of $l/360$ of partition height.
- c. Cavity shaftwall systems: Withstand minimum positive and negative pressure of 5 psf.
- d. Interior suspended ceilings and soffits: Maximum deflection of $l/360$ of distance between supports.

- B. Fire Resistance Ratings: Where fire resistance classifications are indicated, provide materials and application procedures identical to those listed by UL or tested according to ASTM E119 for type of construction shown.

- C. Acoustical Ratings: Where sound ratings are indicated, provide materials and application procedures identical to those tested by manufacturer to achieve Sound Transmission Class (STC) scheduled or indicated in accordance with ASTM E90.

1.05 QUALITY ASSURANCE

A. Reference Standards

1. Applicable requirements of ASTM C754 for installation of steel framing.

2. Install gypsum board in accordance with applicable requirements and recommendations of Gypsum Association GA 216, "Recommended Specifications for the Application and Finishing of Gypsum Board", except for more stringent requirements of manufacturer.
3. Apply acoustical sealant in accordance with applicable requirements of ASTM C919.

1.06 DELIVERY, STORAGE AND HANDLING

A. Delivery

1. Deliver material to site promptly without undue exposure to weather.
2. Deliver in manufacturer's unopened containers or bundles, fully identified with name, brand, type and grade.

B. Storage

1. Store above ground in dry, ventilated space.
2. Protect materials from soiling, rusting and damage.
3. Store board to be directly applied to masonry walls at 70°F for 24 hours prior to installation.

1.07 PROJECT CONDITIONS

A. Environmental Requirements

1. Do not install gypsum board when ambient temperature is below 40°F.
2. For adhesive attachment of gypsum board if approved by OWNER, and for finishing of gypsum board, maintain ambient temperature above 55°F from one week prior to attachment or joint treatment, and until joint treatment is complete and dry.

PART 2 - PRODUCTS

2.01 PRODUCTS AND MANUFACTURERS

- A. Panels specified herein refer to U.S. Gypsum Products. Equivalent systems produced by Kaiser, National Gypsum, or other nationally recognized producer will be approved by ARCHITECT. Reference systems is SA 923, USG Steel Framed Drywall System.
- B. Gypsum Board and Accessories: Listed products establish standard of quality and are manufactured by United States Gypsum Company (USG), Chicago, IL.
- C. Steel Framing and Furring: Company acceptable to Owner and Installer.
- D. Drywall Grid Suspension Assemblies: Listed products establish standard of quality and are manufactured by United States Gypsum Company (USG), Chicago, IL.

2.02 BOARD MATERIALS

- A. Gypsum Panels: Minimum size 48" x 5/8" thick, sheetrock panels with tapered edge joints, lengths as required for work to be performed.
- B. Moisture Resistant Panels: Minimum size 48" x 5/8" thick sheetrock (MR) panels with tapered edge joints, lengths as required for work to be performed.
- C. Exterior Gypsum Sheathing **is not** approved for any application without prior written approval from the OWNER.

2.03 CORNER AND CASING BEADS/CONTROL JOINTS

- A. Metal Trim for Gypsum Board
 - 1. USG Dur-A-Bead corner bead No. 103 (1 1/4" x 1 1/4")
 - 2. USG Dur-A-Bead 200A and 200B metal trim.
 - 3. USG #093 control joints.
- B. Paper-Faced Metal Trim for Gypsum Board
 - 1. USG Paper Faced Metal Outside Corner No. B2XW.EL
 - 2. USG Paper Faced Metal "J" Trim No. B9J and "L" Trim No. B4

2.04 FASTENERS

- 1" Minimum Type "S" bugle head screws to metal studs and wood blocking.
- 1 1/4" Minimum Type "S" bugle head screws for attachment of panels to ceiling furring.

2.05 JOINT REINFORCEMENT

- A. Cross-fibered paper roll tape equal to USG Sheetrock Joint Tape. 1 31/32" minimum width.
- B. Self-adhesive open weave fiberglass tape **is not** approved for any application without prior written approval from the OWNER.

2.06 JOINT COMPOUND

- A. One-material bedding and joint compound, powdered or premixed.

2.07 ADHESIVE

- A. USG Durabond per manufacturer's recommendations for each application or as approved.

2.08 ACCESS DOORS

- A. As specified in Section 08310/Access Doors.

PART 3 – APPLICATION

3.01 BOARD INSTALLATION

- A. Single Layer Gypsum Board on Metal or Wood Studs:

1. Apply gypsum board with long dimension at right angles to framing and/or furring channel.
2. Stagger joints on opposite sides of partitions.
3. Cut openings in gypsum board to fit electrical outlets, plumbing, light fixtures and piping snugly and small enough to be covered by plates and escutcheons. Cut both face and back paper.
4. Screw board in place securely with screws spaced according to manufacturer's instructions and/or code requirements.

- B. Single Layer Gypsum Board on Furring:

1. Apply gypsum board with long dimension at right angles to framing and/or furring channel.
2. Center end joints over channel web; stagger end joints from those in adjacent rows of board.
3. Fasten boards to framing with screws spaced according to manufacturer's instructions and/or code requirements.

- C. Water-Resistant Gypsum Board

1. Fasten boards to framing with screws spaced according to manufacturer's instructions and/or code requirements.
2. Complete plumbing rough-in before gypsum board panels are erected.
3. Separate gypsum panels from rough-in and fixtures by 1/4 inch space.
4. Make necessary cut-outs and seal cut or exposed panel edges with thinned-down ceramic tile adhesive or with waterproof flexible sealant, as recommended by gypsum board manufacturer.
5. Install water-resistant board horizontally.
6. Do not place water-resistant board directly over vapor retarder.
7. Prior to tile application, fill openings around pipes, fittings, fixtures, interior angles and other penetrations with waterproof flexible sealant, as recommended by gypsum board manufacturer. Do not fill 1/4 inch gap at bottom of panels.

- D. Ceilings

1. Install gypsum base sheets with long direction at right angles to framing and/or furring channels with end joints occurring over channels.
2. Stagger end joints.
3. Install ceiling boards prior to adjoining partition boards where feasible.
4. Apply wallboard with its long dimension at right angles to the Furring Channels. Locate wallboard butt joints over the center of furring channels. Attach

wallboard with 1" self-drilling drywall screws 12" o.c. in the field of the board and 8" or 12" o.c. at butt joints, located not less than 3/8" or more than 1/2" from edges.

5. Double layer applications:
 - a. Apply base layer prior to base layer application on adjoining partitions; apply face layers in same sequence.
 - b. Apply gypsum base layer and face layer with long dimension parallel to supports. Offset joints of face layer at least 16 inches from base layer joints.
 - c. Fasten both base and face layers separately to supports.
 - d. Stagger and space fasteners in accordance with gypsum base manufacturer's instructions and/or code requirements.

3.02 CORNER AND CASING BEADS

- A. Install at all outside corners and joints with other materials.
 1. Control Joints: install drywall control joints at all through-wall control joints in exterior walls.
Bed edges in drywall compound, keeping "V" clean.
Caulk "V" joint before painting or installing wall covering.
 2. Refer to details for treatment of intersections at masonry walls to develop reveal locations.

3.03 ACCESSORY INSTALLATION

- A. Trim
 1. Use same fasteners to anchor trim accessory flanges as required to fasten gypsum board to supports, unless otherwise recommended by trim manufacturer.
 2. Install metal or paper-faced metal corner beads at external corners.
 3. Install metal or paper-faced metal casing bead trim whenever edge of gypsum board would otherwise be exposed or semi-exposed.
- B. Control Joints
 1. Install control joints at junction of gypsum board partitions with walls or partitions of other finish material.
 2. Install control joints within long runs of partitions, ceilings or soffits at approximately 30'-0" on center or as indicated.
 3. Where gypsum board is vertically continuous, as at stairwells, provide horizontal control joints at each floor level.
- C. Special Trim: Install as indicated on Drawings and in accordance with manufacturer's instructions.

3.04 DOOR FRAMES

- A. Refer to details and follow manufacturer's instructions.

3.05 JOINTS

- A. Joint compound may need a slight amount of mixing before use, and in any case should be lightly mixed before any water is added. Mixing may be done with a potato-masher-type tool or by use of a low-speed drill. Use directly from the container for treating fasteners and corner beads or for taping and finishing joints. Care should be taken when water is added to thin to a desired consistency.
- B. A uniformly thin layer of joint compound should be applied over the joint approximately 4" wide. The tape is then centered over the joint and embedded into the compound, leaving sufficient joint compound under the tape to provide proper bond. A thin coat of compound should cover the tape to minimize wrinkling or curling. Ceiling, wall angles and inside corner angles are reinforced with the tape folded to conform to the angle and embedded into the compound.
- C. After the compound is thoroughly dry (approximately 24 hours) the tape is covered with a coat of all-purpose or topping compound spread over the tape approximately 3" on each edge. After this coat is thoroughly dry, another coat of all-purpose or topping compound is applied with a slight, uniform crown over the joint. This coat should be smooth and the edges feathered approximately 3" beyond the preceding coat.
- D. Where gloss, semi-gloss enamel or nontextured flat paints are specified or where severe lighting conditions occur, a thin skim coat of joint compound, or a material manufactured especially for this purpose, shall be applied to the entire surface. The surface shall be smooth and free of tool marks and ridges.
 - 1. Note: It is recommended that the prepared surface be coated with a drywall primer prior to the application of finish paint. See painting specification.
- E. All inside corners are coated with at least two coats of compound with the edges feathered out.
- F. All nail or screw head dimples should receive three coats. These coats may be applied as each coat is applied to the joints.
- G. Finishing: sand entire bedding surfaces to smooth uniform finish, except that plenum barriers and attic barrier above ceiling do not need sanding.
- H. Textured Finish: for all painted gypsum board walls and ceilings, after sanding and finishing procedure, overspray and provide a "**light orange peel**" texture finish.
- I. Joints for non-fire rated plenum barriers and attic barrier to have joints bedded and taped, but no other finishing is required.

3.06 CLEANING AND PROTECTION

- A. Clean finished application of all soil, protect finish surfaces from damage and leave ready for Section 09000/Finishes, General/Legend applied finish.

3.07 FIXTURE ATTACHMENT

- A. Support fixtures from primary framing or blocking.

3.08 BASE AND CEILING TRIM

- A. Install base and ceiling trim over all wall panels, after this section's work is complete.

PART 4 - EXECUTION

- 4.01 Use producer's printed instructions for application to metal studs and furring. Assure blocking or studs fall at all edges of panels. Follow spacing requirements of screws for rated vs. non-rated partitions.

- A. Loosely butt gypsum board joints together and neatly fit.
- B. Do not place butt ends against tapered edges.
- C. Maximum allowable gap at end joints: 1/8 inch.
- D. Apply ceiling boards first where gypsum board ceilings and wall occur.

- 4.02 Wallboard shall be cut to allow 1/8" minimum to 1/4" maximum clearance between board and floor to prevent potential wicking.

- 4.03 Locations of differing installations over metal stud framing: (Refer to wall sections, details, finish schedule and ceiling plans for varying installations and finish schedule for applicable finish.) Panels shall be installed horizontally on walls – all finished surfaces.

- A. Typical walls - 1 layer 5/8" gypsum board each side.
- B. Typical walls in toilet rooms – 1 layer 5/8" moisture resistant gypsum board.

- C. Ceilings

- 1. Provide, as a minimum requirement, 1 layer gypsum board in all spaces except provide one layer 5/8 moisture resistant (MR) in toilet rooms.

- 4.04 Caulk perimeter intersections.

- 4.05 Penetrations through non-rated plenum dividers need not be fully sealed or caulked as long as plenum construction is held reasonably tight to penetrating item (i.e. 1/2" maximum gap).

END OF SECTION 09253

SECTION 09841 / ACOUSTICAL SURFACE TREATMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 09000 and other sections of this section.

1.02 SCOPE OF APPLICATIONS

- A. Acoustical Fiberglass Wall Panels
- B. Related Work In Other Divisions/Sections
 - Section 06100: Rough Carpentry
 - Section 07715: Metal Fascia and Soffit System
 - Section 09511: Suspended Ceiling System
 - Section 09910: Painting

PART 2 - PRODUCTS

2.01 CEILING APPLIQUE PANELS:

- A. Decoustics Basic Absorptive Panel, AP 2.0, 2" thick fiberglass core (7 lb/cu. ft.), fabric wrap finish full perimeter, chamfered edge, NRC 0.95. Furnish manufacturer's standard concealed clip mounting including base support brackets. Refer to Reflected Ceiling Plan for sizes and quantity. Provide hangers, base support brackets and adhesives as recommended by manufacturer.
- B. All materials specified herein are to have a composite Class A Flame Spreading rating.

PART 3 - EXECUTION

3.01 GENERAL

- A. Ceilings typically are to receive specified finish prior to installation of panels. All other wet or dusty operations are to be completed in advance.
 - B. Carefully layout panel locations as approved by ARCHITECT and install with secure anchors. Take extra care to keep tops and bottom level and each panel aligned with adjacent panels.
 - C. Clip and hanger system to be executed so that panels can be conveniently removed for future wall refinishing.
- 3.03 Leave installation unblemished and free of soil. Clean and/or replace any damaged panels.

END OF SECTION 09841

SECTION 09910 / PAINTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 09000 and other sections of this division.
- B. Refer to Section 01230/Alternate(s), which affects the scope of this section's work.
- C. This section includes surface preparation, painting and finishing of exposed interior and exterior items and surfaces.
 - 1. Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified under other sections.

- 1.02 Paint all exposed surfaces, except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. *If color or finish is not designated, the ARCHITECT will select from standard colors or finishes available for approval by OWNER.

- A. Painting includes but is not limited to 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 mechanical and electrical equipment, exposed conduit, exposed flashing and sheet metal. The following are representative items to be field painted:

- Door grilles.

- All roof-top equipment, not factory finished.

- Electric panel covers not located in equipment rooms or janitors closets.

- Wall louvers, interior and exterior.

- Sidewall HVAC registers and grilles.

- Vents at exterior.

- Exposed metal decking and structure.

- Outdoor equipment.

- Interior wall areas behind fixed wall mounted items such as millwork, chalk and tackboards, mirrors, etc.

- B. Painting is not required on pre-finished items, finished metal surfaces, concealed surfaces, operating parts, and labels.

- 1. Pre-finished Items not to be painted include the following factory-finished components:
 - Toilet and shower enclosures
 - Acoustic materials
 - Light fixtures
 - Switchgear
 - Distribution cabinets

Metal Roof, Fascia & Soffit
Aluminum Walkway Covers
Exterior Synthetic Stucco (Integral Color) Over AAC
Interior Acrylic Coating (Integral Color) Over AAC

- C. Finished Metal Surfaces not to be painted are:
- Anodized aluminum
 - Stainless steel
 - Chromium plate
 - Copper
 - Bronze
 - Brass
- D. Operating Parts not to be painted include moving parts of operating equipment such as:
- Valve and damper operators
 - Linkages
 - Sensing devices
 - Motor and fan shafts
- E. Labels: Do not paint over Underwriter's Laboratories, Factory Mutual or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.03 MATERIAL, EQUIPMENT AND LABOR

- A. The Painting CONTRACTOR shall furnish all labor, materials, tools, equipment, scaffolding and/or other structure, and supervision, required for the cartage, unloading, storage, surface preparation, application, and cleanup of the paint and allied products covered by the Specification.
- B. All work shall be done in strict accordance with these Specifications and the Design Drawings. Any deviations from this Specification shall be written into the Scope of Work or issued as an addendum to this Specification.

1.04 MINIMUM SPECIFICATIONS

- A. If instructions contained in this Specification, bid documents or the Painting Schedule are at variance with the paint manufacturer's instructions or the applicable standards and codes listed herein, surfaces shall be prepared and paint applied to suit the higher standard as determined by the ARCHITECT.

1.05 RESOLUTION OF CONFLICTS

- A. The ARCHITECT/OWNER shall be responsible for requesting prompt clarification when instructions are lacking, conflicts occur in the specification and/or paint manufacturer's literature, or the procedure specified is not clearly understood.

1.06 MATERIAL SELECTION

- A. The paint materials and systems approved for work detailed in the paint schedule shall be as specified herein.

1.07 SAFETY

- A. CONTRACTORS performing work specified herein shall abide by all safety and environmental rules and laws as prescribed by governing agencies. Full compliance shall be the sole responsibility of the CONTRACTOR.

1.08 APPLICABLE STANDARDS AND CODES

SSPC - Steel Structures Painting Council
4400 Fifth Avenue
Pittsburgh, PA 15213

OSHA - Occupational Safety and Health Administration
Department of Labor
Washington, D.C.

ANSI - American National Standards Institute
1430 Broadway
New York, NY 10018

NACE - National Association of Corrosion Engineers
P. O. Box 1499
Houston, TX 77001

1.09 COORDINATION OF WORK

- A. The CONTRACTOR shall be responsible for coordination of his work with other crafts and CONTRACTORS working on the same job and with the ARCHITECT and OWNER.

1.10 FIELD SAMPLES

- A. On wall surfaces and other exterior and interior components, duplicate finishes of prepared samples. Provide full-coat finish samples on at least 4'-0" x 4'-0" of surface until required sheen, color and texture are obtained; simulate finished lighting conditions for review of in-place work.

1. Final acceptance of colors will be from job-applied samples.
2. The ARCHITECT will select one room or surface to represent surfaces and conditions for each type of coating and substrate to be painted. Apply coatings in this room or surface in accordance with the schedule or as specified. After finishes are accepted, this room or surface will be used for evaluation of coating systems of a similar nature.

3. Material Quality: Provide the manufacturer's best quality paint material for the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.

1.11 SUBMITTALS AND SUBSTITUTIONS

- A. Submit in accordance with General, Supplementary and Special Conditions.
- B. All bid submittals must be based upon a brand of paint listed herein or accepted by addendum. No substitution will be allowed after bid opening.

1.12 SUBSTITUTIONS

- A. A substitute paint system other than as specified may be used if:
 1. CONTRACTOR satisfactorily proves and documents that they are equivalent to the specified (Porter Paint Co.) items in (1) quality, (2) durability, (3) suitability for the intended surfaces, (4) resistance to abrasion and physical damage, (5) efficient in protecting the substrate from corrosion for extended periods, (6) life expectancy, (7) recoating cycles, (8) solids content per volume, (9) dry film thickness per coat, (10) mil square feet per gallon, (11) compatibility with other coating, (12) resistance to chemical attack, (13) submersion limitation, (14) temperature limitations in service and during application, (15) recommended surface preparation for maximum coating life, (16) type and quality of recommended undercoats and topcoats, (17) generic type, and (18) other pertinent criteria.
 2. The CONTRACTOR shall submit to the ARCHITECT and OWNER 10 days prior to bid date notarized certificates on the letterhead of the firm manufacturing the proposed substitution certifying (1) that the proposed substitution is the equivalent of the specified material in the qualities specified above, (2) that the list of compared equivalency qualities is accurate, and (3) that the proposed substitution is for the intended use. The CONTRACTOR shall also submit to the ARCHITECT and OWNER on the letter-head of the firm manufacturing the proposed substitution a list of at least five installations similar to the installation for which the products are being proposed, at which installations the proposed products have performed reliably in similar service for at least five years. This list shall include the name, address, and telephone number of the OWNER of each installation, and the name of that OWNER'S employee who is responsible for the maintenance and construction.
 3. If the proposed coatings have not been used at the number of installations and for the number of years specified above, the CONTRACTOR shall submit to the ARCHITECT and OWNER on the letterhead of the firm manufacturing the proposed substitution, a statement that the manufacturer will guarantee to furnish a bond from an acceptable surety guaranteeing that the manufacturer of the proposed substitution shall, in case of failure by the proposed substitution within a five year period, promptly pay all costs for material and labor for (1) removal of unsuitable coats, (2) re-preparation of the substrate, (3) recoating with all the cost of the originally specified products.

4. If the proposed substitution requires alteration to the contract work, the CONTRACTOR shall bear all such costs involved and the costs of allied trades affected by the substitution.
5. The CONTRACTOR shall submit to the ARCHITECT and OWNER, the paint manufacturer's current printed information and recommendations and product data sheets both for the proposed substitutions and specified products, and shall submit a list comparing the difference between the proposed substitution and the specified hereinbefore and between the two paint manufacturer's printed information, recommendations, and data sheets.
6. No proposed substitution shall be incorporated in the work until all above submission requirements have been reviewed and accepted by the ARCHITECT and OWNER. No substitutions will be accepted following the submission deadline stated above. All submittal information must be complete to be considered.
7. Accepted alternate producers will be included in an addendum. Failure to be listed shall be interpreted as not being found acceptable.

PART 2 - PRODUCTS

2.01 APPROVED MANUFACTURERS LISTING

PAINT SYSTEM 3 (NEW PAINTED SURFACES – EXTERIOR)

MANUFACTURER	STUCCO/ CONC PRIMER FINISH FINISH	BLOCK PRIMER FINISH FINISH	WOOD PRIMER FINISH FINISH	METAL PRIMER FINISH FINISH	GALV MET PRIMER FINISH FINISH
PORTER	6015 619 619	896 619 619	515 619 619	296 2710 2710	215 DTM DTM
ICI	41983 2440-100 2407- 0100	3010- 1200 2440-100 2407- 0100	19529 2407- 0100 2407- 0100	4160- XXX 4308 SERIES 4308 SERIES	
SHERWIN- WILLIAMS	A24-100 A84 SERIES A84 SERIES	B-42W41 A84 SERIES A84 SERIES	B42W41 A84 SERIES A84 SERIES	B-50 SERIES B-54 SERIES B-54 SERIES	B66W1 B66 B66
PPG Pittsburgh Paints	6-808 52-110 52-110	16-90 52-110 52-110	6-609 52-110 52-110	6-204 7-282 7-282	90-712 90-374 90-374

- A. For exterior structural steel columns provide Rust-OLEum C9578 coal tar epoxy where steel is encased in concrete, one coat 8-10 mil DFT.
- B. For exterior structural steel columns provide Rust-OLEum #9800 urethane mastic on exposed steel columns and extend 4" minimum behind concrete encasement, 8 mil DFT.

PAINT SYSTEM 4 (NEW PAINTED SURFACES – INTERIOR)

MANUFACTURER	STUCCO/ CONC PRIMER FINISH FINISH	BLOCK PRIMER FINISH FINISH	DRYWALL PRIMER FINISH FINISH	WOOD PRIMER FINISH FINISH	METAL PRIMER FINISH FINISH
PORTER	1129 9545 9545	896 9545 9545	1129 9545 9545	832 858 858	296 2710 2710
ICI	3010-1200 4418-0100 4418-0100	3010-1200 4418-0100 4418-0100	1030-0100 4418-0100 4418-0100	1916 1902 1902	4160-XXX 4308 SERIES 4308 SERIES
SHERWIN/ WILLIAMS	B28W200 B-70W B-70W	B42W46 B-70W B-70W	B28W200 B-70W B-70W	A-88 A-67 A-67	B-50 B-54 B-54
PPG Pittsburgh Paints	6-2 16-551/16- 599 16-551/16- 599	16-90 16-551/16- 599 16-551/16- 599	6-2 16-551/16- 599 16-551/16- 599	77-560 77-5 77-5	6-204 7-282 7-282

2.02 NEW PAINTED SURFACES (EXTERIOR)

- A. Exterior concrete and stucco
 - 1. First coat-Acrylic Sealer
 - 2. Second coat-Elastomeric coating
 - 3. Finish coat-Gloss Acrylic House Paint
- B. Exterior Concrete block
 - 1. First coat- Acrylic block filler
 - 2. Finish coats-Gloss Acrylic House paint.
- C. Exterior Wood
 - 1. Alkyd primer
 - 2. Finish coats-Gloss Acrylic House Paint.

- D. Exterior Ferrous Metals (Prep metal frames and doors as per Hollow Steel door and frame specification.)
1. Pretreatment- Treat all bare metal with #79 Metalprep.
 2. Rust inhibitive Metal Primer
 3. Finish coats-Gloss Alkyd Industrial Enamel.
- E. Exterior Galvanized Metals (Prep metal frames and doors as per Hollow Steel door and frame specification.)
1. Pretreatment- Treat all bare metal with #79 Metalprep.
 2. Rust inhibitive Metal Primer
 3. Finish coats-DTM Acrylic Gloss Enamel.

2.03 NEW PAINTED SURFACES (INTERIOR)

- A. Drywall and Plaster/Stucco
1. First coat- Acrylic primer
 2. Finish coats- Acrylic Water Based Epoxy semi Gloss.
- B. Concrete and Concrete block
1. Heavy duty Acrylic Block filler.
 2. Finish coats- Acrylic Water Based Epoxy semi Gloss.
- C. Wood (Doors, shelves & Misc. wood with stained or natural finish.)
1. Repair construction defects as necessary. Fill openings and nail holes with wood Putty or filler. Lightly sand all surfaces prior to first coat of stain or varnish.
 2. Wood stain
 3. Second coat- Gloss Urethane Varnish thinned 1-2 oz 5132 thinner per gallon.
 4. Third coat- Gloss Urethane Varnish.
- D. Interior Metal (Doors, frames, and miscellaneous metals) (Prep metal frames and doors as per Hollow Steel door and frame specification.)
1. Pretreatment- Remove loose paint, mil scale, rust by hand tool cleaning (SSPC-SP2) or power tool cleaning (SSPC-SP3).
 2. First Coat- Rust Inhibitive metal primer
 3. Finish coats- Gloss Alkyd Industrial Enamel.

2.04 PAINT SYSTEM 6 - CONCRETE SEALER SYSTEM

- A. Refer to Finish Schedule: floor slabs scheduled as “stained concrete” to receive pigmented sealer specified herein.
- B. Materials
1. Silicone acrylic concrete sealer as manufactured by H&C Concrete Coatings. Color selected from full Standard Color Palette.
 2. Cleaner: H&C De-Greaser or as approved by Manufacturer.
 3. Etching Solution: H&C Concrete Etching Solution or as approved by manufacturer.
 4. Sealant: elastomeric type compatible with sealer material.
- C. Execution
1. Remove all loose dirt, grease or other deleterious materials and prepare all joints and cracks in concrete slab to provide Radon-Resistant Construction as specified in Section 07920. Patch all pock marks.
 2. Etch slab surface with Etching Solution per manufacturer’s recommendations. Rinse thoroughly and allow to dry completely, minimum 24 hours. If necessary, etch a second time to “open surface pores” to insure proper penetration and bond of the concrete sealer.
 3. Seal all cracks and joints as specified in Section 07920 with compatible elastomeric sealant to provide Radon-Resistant Construction.
 4. Apply two (2) coats concrete sealer with brush and roller, allowing minimum 12 hour dry time between coats. Apply second coat perpendicular to first coat.

PART 3 - EXECUTION

3.01 GENERAL SURFACE PREPARATION PROCEDURES

- A. Coordinate with CONTRACTOR timely removal of hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items in place that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Following completion of painting operations in each space or area CONTRACTOR is to have items reinstalled by workers skilled in the trade involved.
- B. Steel and Iron Surfaces
1. The surface of all steel and iron shall first be cleaned and inspected by the CONTRACTOR to insure that all weld spatter, weld slag, grease and oil and other foreign materials have been removed. Final surface preparation shall be as outlined in Steel.
Prime all steel doors and frames immediately after they are installed into concrete masonry work, both interior and exterior.
 2. Wet locations coat with a bituminous coating.
 3. Steel Structures Painting Council Surface Preparation (SSPC-SP)

<u>Specification Number</u>	<u>SSPC Specifications</u>
SSPC-SP 1	Solvent Cleaning
SSPC-SP 2	Hand Tool Cleaning
SSPC-SP 3	Power Tool Cleaning
SSPC-SP 4	Flame Cleaning of New Steel
SSPC-SP 5	White Metal Blast Cleaning
SSPC-SP 6	Commercial Blast Cleaning
SSPC-SP 7	Brush-Off Blast Cleaning
SSPC-SP 8	Pickling
SSPC-SP 9	Weathering Followed by Blast Cleaning
SSPC-SP 10	Near-White Blast Cleaning

4. The CONTRACTOR shall refrain from making final surface preparations to steel and iron surfaces when the relative humidity is above 85% or when the relative humidity is expected to exceed 85% before the prime coat of paint is applied. The CONTRACTOR shall, at his own expense, rework the steel and iron surfaces in the event the 85% maximum relative humidity is exceeded.

C. Cementitious Materials

Coordinate with CONTRACTOR timely preparation of concrete, concrete masonry block and cement plaster surfaces to be painted, by removing efflorescence, chalk, dust, dirt, grease, oils, and release agents prior to start of painting operation. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.

1. Use abrasive blast-cleaning methods if recommended by the paint manufacturer.
2. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause blistering and burning of finish paint, correct this condition before application. Do not paint surfaces where moisture content exceeds that permitted in manufacturer's printed directions.
3. For concrete floors receiving pigmented floor sealer, in addition to the above, verify that slab surface is uniformly smooth and straight. Fill/patch all defects and joints with appropriate material.

D. Wood

Clean surfaces of dirt, oil, or other foreign substances with scrapers, mineral spirits, and sandpaper as required. Sand surfaces exposed to view smooth and dust off.

1. Scrape and clean small, dry, seasoned knots and apply a thick coat of white shellac or other recommended knot sealer before application of primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dry.
2. Prime, stain, or seal wood to be painted immediately upon delivery. Prime edges, ends, faces, undersides, and backsides of such wood including cabinets,

- counters, cases, and paneling.
3. When transparent finish is required, use urethane varnish.
 4. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on backside.
 5. Seal tops, bottoms, and cut-outs of unprimed wood doors with a heavy coat of polyurethane immediately upon delivery.
- E. Galvanized Surfaces
1. **ALL** galvanized products that are to have finish coats are to be field prepped and primed.
 2. Clean galvanized surfaces with non-petroleum based solvents so that the surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods. Top coat with D.T.M. Acrylic Semi-Gloss- two coats, B-66 series.

3.02 PREPARATION OF MATERIALS

- A. Mixing and Blending: Mechanical mixers, capable of thoroughly mixing the pigment and vehicle together, shall be used to mix the paint prior to use where required by manufacturer's instructions. Pressure pots shall be equipped with mechanical mixers to keep the pigment in suspension, when required, by manufacturer's instructions, and these pots shall be equipped with two pressure regulators; one for the fluid and one for the air. Otherwise, intermittent hand mixing shall be in accordance with SSPC Volume I, Chapter 4, "Practical Aspects, Use and Application of Paint", supplemented with the manufacturer's recommendations. Hand mixing is allowed for small amounts.
- B. Catalysts and Thinners: Catalysts, thinners and other additives shall be used only as recommended by the coating manufacturer.
- C. Minimum Temperature: Paint shall be prepared in strict accordance with manufacturer's recommendations, and proper reacting time shall be observed for epoxies. Failure to comply with this requirement will be cause for rejection of work.

3.03 APPLICATION

- A. Personnel: All work shall be accomplished by skilled workmen, under competent supervision, familiar with and trained to do this type of work.
- B. Condition of Application: All paint and protective coatings shall be applied in strict accordance with the manufacturer's recommendations. Paint shall be applied only on thoroughly clean, dry surfaces and during periods of favorable weather unless otherwise allowed by ARCHITECT. Painting is prohibited when ambient temperatures are below 50 degrees F, or when freshly painted surfaces may be damaged by rain, fog, dust, snow or condensation, or when it can be anticipated that these conditions will prevail during the drying period.
- C. Dew Points: No applications shall be made when the dew point and the ambient temperature are within 5 degrees F of each other, or when the surface temperature of

the surface to be painted is within 5 degrees F of having moisture condense on it. The CONTRACTOR shall have proper equipment for checking this condition on the job site at all times. A daily log of temperature, humidity and general weather conditions is required.

- D. Workmanship: Materials shall be applied evenly and free of runs, sags and pin holes. When sprayed, the paint shall be applied with a minimum 25% overlap criss-cross pattern, or as recommended by manufacturer, and then backrolled.
- E. Intercoat Contamination: The CONTRACTOR shall take precautions to avoid surface damage and intercoat contamination. In the event surfaces are damaged or contaminated, they shall be cleaned and recoated at the CONTRACTOR'S expense. Recoating time as specified by the manufacturer's printed instructions shall be adhered to.

All coatings applied shall be tinted with contrasting color (half tints) between coats to facilitate inspection.

- F. Damaged Prime Coat: Shop primed surfaces which have damaged areas shall be repaired by the shop fabricator prior to the application of the intermediate or final coat.

3.04 PROTECTION

- A. General: Proper care and caution shall be followed during the field surface preparation and painting operation to protect equipment and machinery adjacent to the areas being painted.
 1. The CONTRACTOR shall exercise care in the painting of all operable equipment so that the proper functioning of the equipment will not be affected.
 2. The CONTRACTOR shall be responsible for adequately protecting all machinery and plant property from damage due to paint overspray and sandblasting. Overspray damage is the responsibility of the CONTRACTOR.

3.05 CLEANUP

- A. Defaced Surfaces: At the completion of the work, the CONTRACTOR shall remove all spilled or splashed paint from surfaces which have been defaced. This requirement shall include excessive overspray.
- B. Trash and Debris: The CONTRACTOR shall be responsible for keeping trash and debris from collecting or being spread across the job site during the course of the job. Oil and solvent soaked rags shall not be allowed to accumulate.
- C. Material and Debris Removal: At completion of the work, the CONTRACTOR shall remove from the job site all painting equipment, scaffolding, surplus materials and debris resulting from his work.

3.06 STORAGE

- A. Materials: Painting materials shall be fresh and delivered to the job site in the original packages with seals unbroken and with legible unmutated labels attached. Packages shall not be opened until they are required for use. Rusty or severely damaged containers are not permitted.
- B. Storage Conditions: All painting materials shall be stored in a clean, dry, well-ventilated place, protected from sparks, flame, direct rays of the sun, and excessive heat or cold. The CONTRACTOR shall be solely responsible for the protection and safety of the materials stored by himself at the job site.
- C. Inspection
1. Access: The CONTRACTOR shall provide access to the job site and areas of work at all times during normal working hours for the ARCHITECT, OWNER or representatives thereof. This requirement includes both shop and field work.
 2. Equipment: The coating thickness shall be determined by the use of a properly calibrated "Nordson-Mikrotest" or "Elcometer" Dry Mil thickness gauge. The CONTRACTOR shall keep one of these instruments on the job at all times, with calibration equipment, for the use by the OWNER or his representative as well as the CONTRACTOR'S foreman. This instrument shall be used frequently to maintain good control on film thickness. The School Board inspector and their appointed representative will utilize a tooke gauge to determine thickness per coat on all surfaces. The CONTRACTOR shall spot repair these defects at no additional cost. CONTRACTORS are encouraged to use wet film gauges to assure proper film application is achieved per coat.
 3. The CONTRACTOR shall have a sling psychrometer or wet and dry bulb thermometers on the job for purposes of checking relative humidity.
 4. The OWNER reserves the right to invoke the following test procedure at any time and as often as the OWNER deems necessary during the period when paint is being applied.
 - a. The OWNER will engage the services of an independent testing laboratory to sample the paint material being used. Samples of material delivered to the project will be taken, identified, sealed, and certified in the presence of the CONTRACTOR.
 - b. The testing laboratory will perform appropriate tests for the following characteristics as required by the OWNER:
 - Quantitative materials analysis
 - Abrasion resistance
 - Apparent reflectivity
 - Flexibility
 - Washability
 - Absorption
 - Accelerated weathering
 - Dry opacity
 - Accelerated yellowness
 - Recoating

Skinning
Color retention
Alkali and mildew resistance

- c. If test results show material being used does not comply with specified requirements, the CONTRACTOR may be directed to stop painting, remove non-compliant paint, pay for testing, repaint surfaces coated with rejected paint, and remove rejected paint from previously painted surfaces if, upon repainting with specified paint, the two coatings are noncompatible.
5. Rejection: Failure to comply with these specifications in any manner shall be sufficient cause for rejection of the work and final payment may be withheld until the cause for rejection is corrected.

END OF SECTION 09910

SECTION 10000 / SPECIALTIES, GENERAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, General Requirements, which applies to all sections of this Division 10. Provisions of this Section 10000 also apply to all sections of this Division 10. The articles contained in this section may modify, delete or add to the provisions of the conditions of the Contract.

1.02 FIELD MEASUREMENTS AND COORDINATION

- A. Verify all field dimensions to insure close fit with work of other trades. Coordinate and install this section's work in proper sequence and cooperation with all other trades, to insure that total work is completed within contract time schedule.

1.03 FINISHES

- A. Unless specified otherwise, all items receive manufacturer's standard finish.

1.04 OTHER APPROVED MANUFACTURERS

- A. Manufacturer's products referred to and material and performance characteristics specified herein, establish the required quality of performance for this work. Other products which in CONTRACTOR'S experienced judgment offer equivalent quality may be submitted for approval as per Division 1.

1.05 LOCATIONS

- A. As described herein and/or keyed on drawings.

END OF SECTION 10000

SECTION 10155 / SOLID PLASTIC TOILET STALLS

This Section uses the term Architect. Change this term as necessary to match the actual term used to identify the design professional as defined in the General and Supplementary Conditions.

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 this Section.

1.02 SUMMARY

- A. This Section includes toilet compartments and screens as follows:
 - 1. Type: Solid-plastic, polymer resin.
 - 2. Screen Style: Floor anchored.

1.03 PERFORMANCE REQUIREMENTS

- A. Fire Resistance: Partition materials shall comply with the following requirements, when tested in accordance with the ASTM E 84: Standard Test Method for Surface Burning Characteristics of Building Materials:
 - 1. Smoke Developed Index: Not to exceed 450
 - 2. Flame Spread Index: Not to exceed 25
 - 3. Material Fire Ratings:
 - a. National Fire Protection Association (NFPA): Class A
 - b. International Code Council (ICC): Class A

1.04 SUBMITTALS

- A. Product Data: For each type and style of toilet compartment and screen specified. Include details of construction relative to materials, fabrication and installation. Include details of anchors, hardware and fastenings.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of sections of actual units showing the full range of colors, textures and patterns available for each type of compartment or screen indicated.

1.05 PROJECT CONDITIONS

- A. Field Measurements: Verify dimensions in areas of installation by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the work include but are not limited to the following:
1. Compression Polymers Group; Comtec Industries.
 2. Santana Products, Inc.

2.02 MATERIALS

- A. General: Provide materials that have been selected for surface flatness and smoothness. Exposed surfaces that exhibit pitting, seam marks, roller marks, stains, discolorations, telegraphing of core material, or other imperfections on finished units are unacceptable.
- B. Solid-Plastic, Polymer Resin: High-density polyethylene (HDPE) with homogenous color throughout. Provide material not less than 1 inch (25 mm) thick with seamless construction and eased edges in color and pattern as follows:
1. Color and Pattern: One color and pattern in each room as selected by Architect from manufacturer's full range of colors and patterns.
- C. Continuous stainless steel piano hinge with integral gravity-acting self closing cams. Hinges are through-bolted onto doors and pilasters using stainless steel, tamper-resistant through bolts. Hinges are easily adjusted at the jobsite to a full close or partially open position, as required.
- D. Continuous wall brackets shall be 54" long and made of heavy-duty anodized extruded aluminum (6053-T5 alloy). Continuous wall brackets are pre-drilled with holes spaced every 10" along the full length of the bracket. The bracket thickness shall be 1/8". Wall brackets are mounted with stainless steel, tamper-resistant screws. Panels shall be attached with stainless steel, tamper-resistant through bolts. The attachment of brackets to the adjacent wall construction shall be accomplished with #14 x 2 1/2" stainless steel, tamper resistant screws and plastic anchors.

- E. Plastic pilaster shoes shall be 5" high. Pilaster shoes are anchored to the pilaster with #10 stainless steel, tamper-resistant screws.
- F. Headrail shall be made of heavy-duty anodized extruded aluminum (6063-T5 alloy). Headrail is anti-grip and attaches to the top of the pilaster with stainless steel, tamper-resistant screws. Headrail is attached to the adjacent wall construction with a headrail bracket.
- G. Full-Height (Continuous) Brackets: Manufacturer's standard design for attaching panels and screens to walls and pilasters of the following material:
 - 1. Material: Solid plastic.
- H. Hardware and Accessories: Manufacturer's standard design, heavy-duty operating hardware and accessories of the following material:
 - 1. Material: Stainless steel.
- I. Heat-Sink Strip: Manufacturer's standard continuous, extruded-aluminum strip in manufacturer's standard finish.
- J. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match hardware, with theft-resistant-type heads. Provide stainless steel sex-type bolts for through-bolt applications. For concealed anchors, use hot-dip galvanized or other rust-resistant, protective-coated steel.

2.03 FABRICATION

- A. General: Provide standard doors, panels, screens, and pilasters fabricated for compartment system. Provide units with cutouts and drilled holes to receive compartment-mounted hardware, accessories and grab bars, as indicated.
- B. Solid-Plastic, Polymer-Resin Compartments and Screens: Provide aluminum heat-sink strips at exposed bottom edges of HDPE units to prevent burning.
- C. Floor-Anchored Screens: Provide pilasters and panels of same construction and finish as toilet compartments. Provide manufacturer's standard corrosion-resistant anchoring assemblies complete with threaded rods, lock washers and leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, plumb and level. Provide clearances of not more than 1/2 inch (13 mm) between pilasters and panels and not more than 1 inch (25 mm) between panels and walls. Secure units in position with manufacturer's recommended anchoring devices.
- B. Screens: Attach with anchoring devices according to manufacturer's written instructions and to suit supporting structure. Set units level and plumb and to resist lateral impact.

3.02 ADJUSTING AND CLEANING

- A. Provide final protection and maintain conditions that ensure toilet compartments and screens are without damage or deterioration at the time of Substantial Completion.

END OF SECTION 10155

SECTION 10425 / SIGNAGE/GRAPHICS AND PLAQUES

Part 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 10000 and other sections of this division.
- B. Refer to Divisions 15 & 16 for sign requirements at valves and switches.

PART 2 – PLASTIC SIGNS

2.01 "MP" PLASTIC SIGNS (GRAPHIC BLAST)

- A. Plastic Signs shall be equal to Best's HC300 ADA System as manufactured by Best Manufacturing Sign Systems with a four-in-one construction style having the following characteristics:
 - 1. Tactile characters/symbols shall be raised 1/32" from sign plate face. Signs shall be of one-piece construction; **added-on and/or engraved characters and glue on signs are not acceptable.**
 - 2. Text shall be accompanied by domed Grade 2 Braille.
 - 3. All letters, numbers and/or symbols shall contrast with their background - either light characters on a dark background or dark characters on a light background. Characters and background shall have matte finish.
- B. Plaque material shall consist of melamine plastic laminate, approximately 1/8" thick (1/4" thick for Slot signs), with core painted a contrasting color and rated non-static, fire-retardant and self-extinguishing. Plastic laminate shall be impervious to most acids, alkalies, alcohol, solvents, abrasives and boiling water.
- C. Lettering style shall be Standard Medium, upper case, or other sans serif or simple serif typeface.
- D. Sizes of letters and numbers shall be as follows:
 - 1. Room numbers shall be 5/8" high.
 - 2. Lettering for room usage and directional identification shall be 5/8" high.
 - 3. Lettering for restroom identification shall be 5/8" high, corresponding symbols shall be 3" high.
 - 4. Letters and numbers shall be centered on sign.
- F. Domed Grade 2 braille shall be placed directly below last line of letters or numbers, except for room number signs, where they shall be placed directly behind the last number.

1. Raised Letter Signs: Domed Braille style numbers and letters raised minimum 1/32", thin profile. Colors will be selected from manufacturer's standard line with "Graphic Blast" background to create letter, number and Braille text. Include male/female pictogram at all toilet rooms.

G. Radius corners: 1/2".

H. Sign sizes:

1. Length of sign shall be the sum of the letters (numbers) plus 1/2" each end. Long signs may require 2 lines and use 1/2" high letters.
2. Letters and numerals shall be proportioned in overall size, width-to-height ratio, style and stroke, finish and contrast per Americans With Disabilities Act (ADA) requirements.

I. Provide graphic blast raiser plastic signs as listed below and in keying schedule in Division 8.

1. Handicap Signs: Provide \pm 6" x 8" pictogram signs, Style HC300A, corner/border Style "R", blue color with white engraved wheel chair symbol (12). These are for handicapped accessible toilet stalls within group toilets.

2.02 "MP" PLASTIC SIGNS (ENGRAVED)

A. Sign specifications shall comply with 2.01 A thru 2.01 H above.

B. Provide the following engraved signs:

1. Signage at each door location shall be located on strike side and shall denote room name. Sign shall include Braille symbol of room name. Also include male/female pictogram with handicapped symbol is required at all toilet rooms.

Signs Required: Men, Women, Kitchen, Pantry, Mechanical, Electrical, Storage, Office.

2. Maximum Occupancy (169 occupants).

2.03 EXECUTION

A. General: Locate sign units and accessories where indicated on drawings. Use mounting methods of the type described and in compliance with the manufacturer's instructions.

1. Install signs level, plumb, and at heights indicated.

B. Plastic Signs

1. Install on wall adjacent to door at 60" above finish floor to the center line of the sign, or as instructed. All plastic signs to be mounted with minimum 2 small stainless steel pan head sheet metal screws in addition to manufacturer's double face tape. Verify actual locations and mounting heights with ARCHITECT prior to installing.

C. Surface Mounted Items

1. Verify locations with ARCHITECT. Use screws into expansion shields in masonry walls, or long wood screws into blocking in stud walls as appropriate to the wall to which items are attached.

PART 3 - SPECIAL SIGNAGE

3.01 Building Identification Numbers (Address)

- A. 6" high cast aluminum numbers with baked enamel finish, color as selected, stud mounting to masonry, Helvetica Medium.

3.02 Provide a Maltese cross roof truss "R" signage at the front door, 48" AFF.

END OF SECTION 10425

SECTION 10801 / TOILET ROOM AND RELATED ACCESSORIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 10000 and other sections of this division.
- B. All items refer to Bobrick. Equivalent items of A & J Washroom Accessories, Miami Carey, McKinney Parker and Bradley are approved.

1.02 RELATED WORK

- A. Waste receptacles are by OWNER.

PART 2 - PRODUCTS

2.01 SOAP DISPENSER

- A. Surface mount #B-2112, satin finish stainless steel for liquid soaps and detergents. Provide one at each sink and as shown on drawings.

2.02 TISSUE DISPENSER

- A. Double roll type surface mounted heavy duty cast aluminum, satin finish #B-2746 controlled delivery. Mount one in each toilet stall and in single toilet rooms.

2.03 MIRROR

- A. #B-1658-1836, 18"W x 36"H stainless steel framed, with tempered mirror glass. Mount with bottom at 40" AFF.

2.04 GRAB BARS FOR ACCESSIBLE LOCATIONS

- A. Grab bars shall comply with the latest edition of The Florida Building Code.
- B. Bars shall be 1 1/2" outside diameter, satin finish, concealed mounting with set screws.
Provide configurations as follows and as indicated on drawings.
 - 1. Individual H/C toilet rooms and combination stall shall have two grab bars. Mount all bars at 33".

2.05 FEMININE NAPKIN DISPOSAL

- A. Bobrick #254 single, surface mounted unit. Provide at each toilet/toilet stall in Women's Restrooms.

2.06 ROBE HOOK

- A. #B-672 double. Provide as follows:
- Each toilet stall – one on stall side of each door.

2.07 PAPER TOWEL DISPENSER

- A. #B-262 surface mounted, 400 towel capacity, single fold; lockable; Type 304 stainless steel finish. Provide one at each sink.

2.08 MOP RACK

- A. #B-233x24, provide one in each custodial closet. Locate as indicated on plans, 60" to top.

2.09 BABY CHANGING TABLE

- A. Equal to Koala Bear, Model No. KB200, wall-mounted with top of unit at 48" AFF.

PART 3 - EXECUTION

3.01 GENERAL

Verify all mounting heights and locations with ARCHITECT prior to making provisions for installations. Note that many items require special handicapped positioning.

3.02 ALL SURFACE-MOUNTED ITEMS

Secure all wall mounted items with screws into wood blocking or other fasteners into concrete masonry wall. Install all items to withstand 250 pound pull.

END OF SECTION 10801

SECTION 11000 / EQUIPMENT, GENERAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, General Requirements, which applies to all sections of this Division 11. Provisions of this Section 11000 also apply to all sections of this Division 11. The articles contained in this section may modify, delete or add to the provisions of the conditions of the Contract.

1.02 QUALITY ASSURANCE

- A. All glazing required to be tempered, laminated or safety glass shall have etched identification.

1.03 FIELD MEASUREMENTS AND COORDINATION

- A. Verify all field dimensions to insure close fit with work of other trades. Coordinate and install this section's work in proper sequence and cooperation with all other trades, to insure that total work is completed within contract time schedule.

1.04 FINISHES

Unless specified otherwise, all items receive manufacturer's standard finish.

1.05 LOCATIONS

As described herein and/or keyed on drawings.

END OF SECTION 11000

SECTION 11451 / RESIDENTIAL APPLIANCES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Conform to Division 1, Section 11000 and other sections of this division. Refer to drawings for details and dimensions and service connection requirements/responsibilities. Refer to Divisions 15 and 16 for related equipment.
- B. Products specified herein by manufacturer and model number form the basis of design and quality standards. Any desired substitutions or alternate products shall be submitted to ARCHITECT no later than two weeks prior to bid receipt date. If approved, ARCHITECT will notify bidders of such approved substitutes by written addenda. Absence of such approval shall be interpreted to mean products shall be provided as specified. Other approved manufacturers, subject to meeting the functional and operational characteristics specified herein are: Frigidaire, Kenmore and Hotpoint.
- C. Appliance color to be manufacturer's standard "white" unless otherwise noted.

PART 2 - PRODUCTS

2.01 WALL OVEN

- A. Amana, or as approved. Model No. AWO 6313SF. 30" wide, stainless steel finish.

2.02 MICROWAVE OVEN

- A. Amana, or as approved. Model No. UMC 5225 D5. 2.2 cu. ft. with trim kit. Stainless steel finish.

2.03 REFRIGERATOR

- A. With Ice-Maker: Whirlpool, or as approved, Model No. WRT 348 FME, 18.2 cu. ft. capacity, with factory installed ice-maker. 120V/60Hz/1 Phase electrical power with plug-in cord. Provide 1/4" dia. water service to ice machine. Verify right and left opening doors. Stainless steel finish.

PART 3 - EXECUTION

- 3.01 Deliver equipment to jobsite in manufacturer's factory protective packaging, and do not remove until ready for installation. Store off the floor and away from construction activity which might cause damage.
- 3.02 Coordinate closely with cabinet installation for accurate cut-outs and clearance requirements.

- 3.03 Coordinate closely with Divisions 15 and 16 for services and connections by those trades.
- 3.04 Upon completion demonstrate satisfactory operation to OWNER and ARCHITECT. Leave equipment clean.

END OF SECTION 11451