ALACHUA COUNTY

GENERAL CONSTRUCTION AGREEMENT FOR BID NO. 24-499-LC

PROJECT NO. 9201902

AGREEMENT NO. 14296

ALACHUA COUNTY COURTHOUSE COMPLEX ACCESSORY ENERGY FACILITY

HOFFMAN CONSTRUCTION INC

GENERAL CONSTRUCTION AGREEMENT

THIS GENERAL CONSTRUCTION AGREEMENT ("Agreement") is made and entered into by and between Hoffman Construction, Inc., a Florida for-profit corporation, whose principal address is 635 SW 186th Street, Newberry, FL 32669 (hereinafter referred to as "Contractor"), and Alachua County, charter county and political subdivision of the State of Florida, by and through its Board of County Commissioners, (hereinafter referred to as the "County"). Collectively, the County and Contractor are hereinafter referred to as the "Parties."

WITNESSETH:

WHEREAS, the County issued Bid No. 24-499-LC seeking the bids from contractors to provide all labor, materials, equipment and supervision for the construction of the proposed Alachua County Court Complex Accessory Energy Facility located at 151 Southwest 2nd Avenue, Gainesville, FL to accommodate the current and future court complex building thermal/heating & cooling needs, utilizing an ice storage thermal storage plant, as noted in the architectural, MEP engineering and civil site plan ("Project"); and

WHEREAS, after evaluating and considering all timely responses to Bid No. 24-499-LC the County identified Contractor as the lowest priced, responsive, and/or responsible bidder; and

WHEREAS, the County desires to contract with Contractor to perform the Work described in Bid No. 24-499-LC and Contractor desires to perform the Work to or for the County in accordance with the terms and conditions set forth herein; and

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the Parties agree as follows:

1. THE WORK:

Contractor shall furnish all labor, material, equipment, apparatus and perform all work covered by the General Terms and Conditions, attached hereto and incorporated by reference as **Exhibit 1**, the Scope of Work, attached hereto and incorporated by reference as **Exhibit 2**, **Exhibit 12**: *Alachua County Courthouse Complex Accessory Energy Facility*, Phase III 100% Bid Documents dated May 24, 2024, for *Invitation to Bid No. 24-499-LC, Project No: 9201902, "Alachua County Courthouse Complex Accessory Energy Facility"* attached hereto and incorporated by reference, and the Addenda, attached hereto and incorporated by reference as **Exhibit 13** (collectively the documents referenced and attached as Exhibits 1, 2, 12 and 13 are hereinafter referred to as the "Contract Documents"); and all incidental and necessary work and services thereto (collectively, the "Work"). Contractor shall complete the Work by the date specified in the Notice to Proceed (NTP), which shall be issued by the County after the Effective Date of this Agreement. The form of the NTP is attached hereto as **Exhibit 4**.

2. TERM OF AGREEMENT:

This Agreement shall be effective upon execution by both Parties ("Effective Date"). The term of the Agreement shall be from the Effective Date until the Work is completed and all duties and responsibilities under this Agreement have been completed ("Term") unless amended or terminated as provided herein.

3. CLOSEOUT:

The Contractor's obligation to the County shall not end until all closeout requirements are completed. Activities during the close-out period shall include, but are not limited to, making final payments, submitting final reimbursement request and final activity/accomplishment report to the County, disposing of project assets (including the return of all equipment, and receivable accounts to the County), and

determining the custodianship of records. Agreement closeout is not considered final until the County is fully satisfied that project objectives have been met and the Contractor has submitted the Contract Closeout Checklist, attached hereto and incorporated herein as **Exhibit 5**.

4. COMPENSATION AND PAYMENT:

4.1. For completion of all Work in accordance with this Agreement, Contractor shall be paid the sum of One Million, One Hundred Forty-Eight Thousand, Eight Hundred Eight Dollars and Zero Cents ($1,148,880.00) (the "Contract Amount"), allocated as provided in the Schedule of Values, attached hereto and incorporated by reference as **Exhibit 3** attached hereto and incorporated herein.

4.2. The County shall establish a contingency fund in an amount that SHALL NOT EXCEED Fifty-Seven Thousand, Four Hundred Forty-Four Dollars and Zero Cents ($57,444.00) (hereinafter, the "Contingency").

4.3. Contingency funds shall be used to cover costs that may result from incomplete design and unanticipated costs that arise during construction that are not identified by the Contract Documents. Contractor shall not proceed with any portion of the Work which it intends to charge against the Contingency without first informing the County that it intends to request Contingency funds to perform that portion of the Work and obtaining County's express written authorization to proceed prior to commencing that portion of the Work.

4.4. Contractor acknowledges and agrees that any Work which is to be charged against the Contingency that does not receive such prior written approval from the County shall be deemed to be part of Contractors Work compensated within the Contract Amount and not chargeable against the Contingency. The County reserves the right, at its sole discretion, to withhold its consent on Contingency expenditures. Further, any Contingency expenditure becomes part of the Contract Documents and is incorporated by reference herein. County approved, but unused Contingency remaining at the end of the job will be credited from the Contract Amount. Contractor has no entitlement to any portion of any unused Contingency.

4.5. As a condition precedent for any payment, Contractor shall submit a monthly invoice to the County requesting payment for services properly rendered and expenses due. Contractor's invoice shall describe with reasonable particularity the Work completed, the date thereof, the time expended if such Work were rendered pursuant to a fee and the person(s) rendering such Work. Contractor's invoice shall be accompanied by such documentation or data in support of expenses for which payment is sought as the County may require. Each invoice shall bear the signature of a representative of the Contractor, which signature shall constitute Contractor's representation to the County that the Work indicated in the invoice have reached the level stated, have been properly and timely performed as required herein, that the expenses included in the invoice have been reasonably incurred in accordance with this Agreement, that all obligations of Contractor covered by prior invoices have been paid in full, and that the amount requested is currently due and owing, there being no reason known to Contractor that payment of any portion thereof should be withheld. Submission of Contractor's invoice for final payment shall further constitute Contractor's representation to the County that, upon receipt by Contractor of the amount invoiced, all obligations of Contractor to others, including its consultants, incurred in connection with the Work, will be paid in full. Contractor shall submit invoices to the County at the following address:

Alachua County Facilities Management Director
915 SE 5th Street
Gainesville, FL 32601
(352) 374-5286
FacFiscal@alachuacounty.us

4.6. All applications for payment shall be processed and paid in accordance with the provisions of Chapter 218, Part VII Florida Statutes ("Local Government Prompt Payment Act"), and the County shall remit all payments to:

Hoffman Construction, Inc.
635 SW 186th Street
Newberry, FL 32669
(352) 472-6182
hoffmanconst@yahoo.com

4.7. Except as otherwise authorized in Section 4.1, the County shall not pay or reimburse Contractor for any expenses incurred by Contractor to perform the Work

5. **ALACHUA COUNTY MINIMUM WAGE**

5.1. If, as determined by County, the Services to be performed pursuant to this Agreement are 'Covered Services', as defined under the Alachua County Government Minimum Wage Ordinance ("Wage Ordinance"), then during the term of this Agreement and any renewals, Contractor shall pay its 'Covered Employees', as defined in the Wage Ordinance, no less than the Alachua County Government Minimum Wage ("Minimum Wage"), as may be amended by the County. Contractor will require the same of its subcontractors and subconsultants who provide the Services. If applicable to the Services, Contractor will certify this understanding, obligation, and commitment to County through a certification, a copy of which is attached hereto as **Exhibit 11**. Contractor will (a) post a copy of the Minimum Wage Rate in a prominent place of its principal place of business where it is easily seen by Covered Employees; (b) supply a copy to any Covered Employee upon request; (c) make any person submitting a bid for a subcontract for Covered Services aware of these requirements; and (d) include the necessary provisions in subcontracts to ensure compliance. The County shall not be deemed a necessary, or indispensable, party in any litigation between Contractor and subcontractor. At this time of execution of this Agreement, the prevailing Minimum Wage is as follows, which is subject to change during the term of this Agreement, and will be updated, and be applicable, without the necessary of amendment to this Agreement:

$17.00 per hour with qualifying health benefits amounting to at least $2.00 per hour	$19.00 per hour without health benefits

5.2. If applicable to the Services under this Agreement and to Contractor, the failure to comply with the provisions of the Wage Ordinance will be deemed a breach this Agreement and County is authorized to withhold payment of funds in accordance with Alachua County Code and Chapter 218, Florida Statutes.

6. PROGRESS PAYMENTS AND RETAINAGE:

6.1. That it is agreed by both Parties hereto that progress payments and final payment for Work performed will be made in accordance with the provisions as stipulated in the NTP and the Contract Documents.

6.2. It is agreed that five percent (5%) of the amount earned through each progress payment shall be withheld by the County. The retainage shall be paid to Contractor pursuant to Section 5.3.

6.3. Within thirty (30) days of Substantial Completion of the Work as defined herein, or if not defined upon reaching beneficial occupancy or use, Contractor and County will develop a list (the "List") of items required to achieve final completion of the Work. The List shall include the estimated cost of completion of each item on the List. Contractor will provide a first draft of the List within five (5) days of notice of Substantial Completion. The County will notify Contractor of acceptance or of any changes requested within ten (10) days of receipt of the draft List. The County shall deliver the final List to the Contractor no later than five (5) days after it has been developed as set forth above. The failure to include on the List any corrective work or pending items not yet completed does not alter, waive or release Contractor of its responsibility to complete such

corrective work, pending items, or any other Work pursuant to the Agreement. Within twenty (20) business days after the list is created, the County shall pay the Contractor the remaining contract balance that includes all retainage previously withheld by the County less an amount equal to one hundred fifty percent (150%) of the estimated cost to complete the items on the list. Upon completion of all items on the List, Contractor may apply for Final Payment for all remaining retainage withheld by the County. If a good faith dispute exists as to whether one or more items identified on the List have been completed pursuant to this Agreement, the County may continue to withhold an amount equal to one hundred and fifty percent (150%) of the total cost to complete such items until Contractor has rendered complete, satisfactory and acceptable to the County such items. All items that require correction under the Agreement and that are identified after the preparation and delivery of the List remain the obligation of Contractor. This section is intended to comply with the provisions of Section 218.735, Florida Statutes; in the event of any conflict, Florida law will prevail over this section.

6.4. The County shall not be obligated to make payment to Contractor for amounts that are the subject of a good faith dispute, or a claim brought pursuant to §255.05, Florida Statutes.

7. ASBESTOS FREE MATERIALS:

7.1. All Work under this Agreement will be performed with asbestos free materials. A written, notarized statement on company overhead is to be submitted with the executed Agreement certifying this fact. All payments shall be withheld until such statement is submitted.

7.2. Contractor agrees that if materials containing asbestos are subsequently discovered at any future time to have been included in the construction done by Contractor or any of its Subcontractors or agents and were not specified in the design or required by the Agreement, Contractor shall be liable for all costs related to the abatement of such asbestos and damages or claims against the County.

8. LIQUIDATED DAMAGES:

8.1. It is agreed by both Parties that **TIME IS OF THE ESSENCE** for the completion of the Work. The Contract Time shall begin with the date provided in the NTP to Contractor by the County. Contract Time for Substantial Completion is One Hundred Eighty (180) Working Days, as defined in **Exhibit 1: General Terms and Conditions**, from the begin date listed in the NTP. Contract Time for Final Completion is 30 working days from the date the County delivers the final List to the Contractor as provided in section 6.3, above, unless extended in accordance with §218.735(7)(c), Florida Statutes.

8.2. Inasmuch as failure to complete the Work within the time herein fixed will result in substantial injury to the County and whereas damages arising from such failure cannot be calculated with any degree of certainty, it is hereby agreed that if such Work is not Substantially Completed as herein defined or within such further time, if any, as shall be allowed for Contractor to achieve Substantial Completion in accordance with the provisions of this Agreement, Contractor shall pay the County as liquidated damages and not as a penalty the sum of Five Hundred Dollars and Zero Cents ($500.00) per day for each and every working day after the date fixed for Substantial Completion the Work.

8.3. Inasmuch as failure to complete the Work within the time herein fixed will result in substantial injury to the County and whereas damages arising from such failure cannot be calculated with any degree of certainty, it is hereby agreed that if the Work is not finally completed as herein defined or within such further time, if any, as shall be allowed for Contractor to achieve final completion in accordance with the provisions of this Agreement, Contractor shall pay the County as liquidated damages and not as a penalty the sum of Two Hundred Fifty Dollars and Zero Cents ($250.00) per day for each and every working day after the date fixed for such completion for the Work.

9. RELEASE OF CLAIMS:

It is agreed that when all Work contemplated by this Agreement has been completed and has been inspected and approved by the County or the County's authorized representatives, Contractor shall furnish to the County Contractor's Final Payment Affidavit in the form provided in **Exhibit 9**, attached hereto. Contractor shall also provide a Waiver of Right Against Payment Bond from every subcontractor, material man and supplier that has provided services or materials to the Project in the form provided in **Exhibit 10**, attached hereto, or on a form acceptable to the County.

10. GOVERNING ORDER OF DOCUMENTS:

In cases of discrepancy, the governing order of the documents is as follows:

10.1. Amendments and Change Orders;
10.2. This Agreement;
10.3. General Terms and Conditions from Bid No. 24-499-LC (**Exhibit 1**);
10.4. Addenda from Bid No. 24-499-LC (**Exhibit 13**)
10.5. Scope of Service/Technical Specifications from Bid No. 24-499-LC (**Exhibit 2**);
10.6. Plans from Bid No. 24-499-LC, *Alachua County Courthouse Complex Accessory Energy Facility*, Phase III 100% Bid Documents dated May 24, 2024, for Invitation to Bid No. 24-499-LC (**Exhibit 12**);
10.7. Notice to Proceed;
10.8. Vendor's Bid Submittal

11. INDEMNIFICATION

11.1. To the maximum extent permitted by Florida law, but subject to the monetary limitation that the extent of the Contractor's indemnification obligation shall not exceed One Million, One Hundred Forty-Eight Thousand, Eight Hundred Eight Dollars and Zero Cents ($1,148,880.00), the Contractor agrees to indemnify and hold harmless the County, and its 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 the Contractor and other persons employed or utilized by the Contractor in the performance of the Agreement. Contractor agrees that indemnification of the County shall extend to any and all work performed by the Contractor, its subcontractors, employees, agents, servants or assigns.

11.2. The Contractor's obligation to indemnify under this Article will survive the expiration or earlier termination of this Agreement until it is determined by final judgment that an action against the County or an indemnified party for the matter indemnified hereunder is fully and finally barred by the applicable statute of limitations.

11.3. This obligation shall in no way be limited in any nature whatsoever by any limitation on the amount or type of Contractor's insurance coverage. This indemnification provision shall survive the termination of the Agreement between the County and the Contractor.

11.4. In any and all claims against the County or any of its agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Article shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' compensation acts, disability benefit acts or employee benefit acts.

11.5. Nothing contained herein shall constitute a waiver by the County of sovereign immunity or the provisions or limits of liability of §768.28, Florida Statutes.

12. PUBLIC RECORDS.

12.1. In accordance with §119.0701, Florida Statutes, Contractor, *when acting on behalf of the County*, shall, as required by Florida law:

12.1.1. Keep and maintain public records required by the County to perform the Services.

12.1.2. Upon request from 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 a cost that does not exceed the cost provided in Florida law or as otherwise provided by law.

12.1.3. 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 Agreement and following completion of the Agreement if Contractor does not transfer the records to the County.

12.1.4. Upon completion of the Agreement, transfer, at no cost, to the County 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 the Agreement, 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 the Agreement, 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 County's information technology systems.

IF CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE COUNTY'S PUBLIC RECORDS CUSTODIAN AT publicrecordsrequest@alachuacounty.us OR (352) 264-6906 OR 12 SE 1ST STREET, GAINESVILLE, FL 32601.

12.2. If Contractor fails to comply with this section, Contractor will be deemed in default under this Agreement. The County may enforce as set forth in §119.0701, Florida Statutes. Contractor who fails to provide the public records in response to a request within a reasonable time may be subject to penalties imposed under §119.10, Florida Statute, and costs of enforcement, including fees, under §119.0701 and §119.12, Florida Statutes.

12.3. Contractor will take reasonable measures to protect, secure and maintain any data held by Contractor in an electronic form that is or contains exempt, confidential, personal information or protected information, as defined by Florida or federal law, related to or in connection with performance of the Services. If Contractor suspects or becomes aware of a security breach or unauthorized access to such data by a third party, Contractor shall immediately notify the County in writing and will work, at Contractor's expense, to prevent or stop the data breach.

13. AUDITING RIGHTS AND INFORMATION:

13.1. Contractor shall keep all records and supporting documentation which concern or relate to the Work hereunder for a minimum of ten (10) years from the date of termination of this Agreement or the date the Work is completed, whichever is later or such longer period of time as may be required by law. Contractor shall require all of its subcontractors to likewise retain all of their Project records and supporting documentation. County, and any duly authorized agents or representatives of County, shall be provided access to all such records and supporting documentation at any and all times during normal business hours upon request by County. Further, County, and any duly authorized agents or representatives of County, shall have the right to audit, inspect and copy all of Contractor's and any subcontractor's Project records and documentation as often as they deem necessary and Contractor shall cooperate in any audit, inspection, or copying of the documents. Employees' personal information is excluded, if exempt under Ch. 119, F.S.

The access, inspection, copying and auditing rights shall survive the termination of this Agreement.

13.2. If at any time, County conducts such an audit of Contractor's records and documentation and finds that Contractor overcharged County, Contractor shall pay to County the Overcharged Amount which is defined as the total aggregate overcharged amount together with interest thereon (such interest to be established at the rate of 12% annum). If the Overcharged Amount is equal to or greater than $50,000.00, Contractor shall pay to County the Overcharged Amount and the Audit Amount which is defined as the total aggregate of County's reasonable audit costs incurred as a result of its audit of Contractor. County may recover the Overcharged Amount and the Audit Amount, as applicable, from any amount due or owing Contractor with regard to the Project or under any other agreement between Contractor and County. If such amounts owed Contractor are insufficient to cover the Overcharged Amount and Audit Amount, as applicable, then Contractor hereby acknowledges and agrees that it shall pay such remaining amounts to County within seven (7) business days of its receipt of County's invoice for such remaining amounts. In no event shall the Overcharged Amount or the Audit Amount be deemed a reimbursable Cost of the Work.

14. INSURANCE:

14.1. Throughout the term of this Project, Contractor shall provide and maintain insurance of the types and in the amounts set forth in **Exhibit 8**. A current Certificate of Insurance showing coverage of the types and in the amounts required is attached hereto as **Exhibit 8-A**.

14.2. County Controlled Insurance Program

14.2.1. County reserves the right to implement and sponsor an OCIP (Owner Controlled Insurance Program) for this Project. The OCIP being considered is a "General Liability and Builders Risk OCIP". If the County decides to move forward with the OCIP Participation and compliance with the OCIP will be mandatory for all tiers of contractors and subcontractors. All tiers of contractors and subcontractors will be enrolled in the OCIP unless specifically excluded in writing. Enrollment in the OCIP program is required but is not automatic.

14.2.2. Failure to provide required OCIP enrollment information prior to mobilization on-site could impact coverage under the OCIP. Communications from Adam Balls (the "OCIP Administrator") should be considered County communications.

14.2.3. The OCIP program will provide General Liability and Excess Liability coverage for onsite operations. OCIP coverage applies only to those operations of each Enrolled Contractor performed at the Site in connection with their Work and only to enrolled contractors who are eligible for enrollment in the OCIP.

15. PERMITS:

Contractor will obtain and pay for all necessary permits, permit application fees, licenses or any fees required that may in any way affect the Work outlined in this Agreement. If Contractor is not familiar with state and local laws, ordinances, code rules and regulations, Contractor remains liable for any violation and all subsequent damages or fines.

16. BONDS:

16.1. At least ten (10) days PRIOR to furnishing any labor, services or material in connection with the Project, Contractor shall provide the County with Payment and Performance Bonds, in the amount of one hundred percent (100%) of the Contract Amount, in the form attached hereto as **Exhibits 6 & 7**, the costs of which are to be paid by Contractor. It is mutually agreed between the Parties hereto that if, at any time after the execution of this Agreement and the required surety bond for its faithful performance and payment, the County shall deem the surety or sureties upon such bond to be unsatisfactory, or if, for any reason, such bond ceases to be adequate to cover the performance of the Work Contractor shall, at its own expense, within five (5) days after the receipt of notice from the County to do so, furnish an additional bond or bonds in such form and amount,

and with surety or sureties as shall be satisfactory to the County. In such event, no further payment to Contractor shall be deemed to be due under this Agreement until such new or additional security for the faithful performance of the Work shall be furnished in a manner and form satisfactory to the County.

16.2. In accordance with the requirements of §255.05(1)(a), Florida Statutes, Contractor shall record a copy of the Performance and Payment Bonds in the Public Records of Alachua County, Florida, within five (5) days of furnishing the Performance and Payment Bonds to the County. Contractor shall deliver a certified copy of the recorded Performance and Payment Bond to the County as evidence of recording said Bonds, within five (5) days of recording. The delivery of such evidence is a condition precedent to the County's obligation to make any payments to Contractor.

17. SEVERABILITY AND AMBIGUITY:

It is understood and agreed by the Parties to this Agreement that if any of the provisions of the Agreement shall contravene or be invalid under the laws of the State of Florida, such contravention or invalidity shall not invalidate the entire Agreement, but it shall be construed as if not containing the particular provision or provisions held to be invalid, and the rights and obligations of the Parties shall be construed and enforced accordingly. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if jointly drafted by the Parties and no presumption, inference, or burden of proof shall arise favoring or disfavoring a Party by virtue or authorship of any or all of the Agreement's provisions. Each Party represents and agrees that it has had the opportunity to seek the advice of appropriate professions, including legal professionals, in the review and execution of this Agreement.

18. AMENDMENT:

This Agreement may be amended by mutual written agreement that is executed by both of the Parties hereto. Further, this Agreement, including without limitation all changes in the maximum indebtedness, Scope of Work, time of completion, and other material terms and conditions, may be changed only by such written and executed amendment.

19. INDEPENDENT CONTRACTOR:

In the performance of this Agreement, Contractor will be acting in the capacity of an independent contractor, and not as an agent, employee, partner, joint venture, or associate of the County. Contractor shall be solely responsible for the means, methods and techniques, sequences and procedures utilized by Contractor in the full performance of this Agreement. Neither Contractor nor anyone employed by Contractor shall represent, act, purport to act, or to be deemed to be the agent, representative, employee or servant of the County.

20. OPTIONAL PARTICIPATION OF CONSULTANT:

The County is free to elect to have an authorized agent or a consultant on the Project site to respond to requests for information made by Contractors, and to approve any payment requests. If the County does not elect to have a Consultant on the job site, any provisions incorporated in this Agreement referring to the Consultant shall be disregarded, and any requests for information and approvals of payment requests shall be made by the County's Facilities Management Manager or their designee.

21. CHOICE OF LAW:

The laws of the State of Florida shall govern this Agreement, and the duties and obligations stated within this Agreement. The sole and exclusive venue for any action under this Agreement shall be Alachua County, Florida.

22. LAWS AND REGULATIONS:

Contractor will comply with all laws, ordinances, regulations, and building code requirements applicable to Work required by this Agreement. Contractor is presumed to be familiar with all state and local laws,

ordinances, code rules and regulations that may in any way affect the Work outlined in this Agreement. If Contractor is not familiar with state and local laws, ordinances, code rules and regulations, Contractor remains liable for any violation and all subsequent damages or fines.

23. COMPLETE AGREEMENT:
This Agreement contains the sole and entire Agreement between the County and Contractor and supersedes any other written or oral Agreements between them not incorporated herein.

24. NON-WAIVER:
The failure of any party to exercise any right in this Agreement will not waive such right in the event of any further default or non-compliance.

25. SUCCESSORS AND ASSIGNS:
Contractor shall not assign its rights hereunder, excepting its right to payment, nor shall it delegate any of its duties hereunder without the written consent of the County. Subject to the provisions of the preceding sentence, each Party hereto binds itself, its successors, assigns and legal representatives to the other and to the successors, assigns and legal representatives of such other Party.

26. NO THIRD-PARTY BENEFICIARIES:
Nothing contained herein shall create any relationship, contractual or otherwise, with, or any rights in favor of, any third party.

27. COUNTERPARTS:
This Agreement may be executed in any number of and by the different Parties hereto on separate counterparts, each of which when so executed shall be deemed to be an original, and such counterparts shall together constitute but one and the same instrument.

28. WAIVERS OF CLAIMS AND CONTINUING OBLIGATIONS:

28.1. Contractor's obligations to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither approval of any progress, nor approval of final payment by a County employee, nor the issuance of a certificate of substantial completion, nor any payment by the Clerk of the Court to Contractor under the Contract Documents, nor any use or occupancy of the Project or any part thereof by the County, nor any act of acceptance by the County, nor any failure to do so, nor any correction of faulty or defective Work by the County shall constitute an acceptance of Work not in accordance with the Contract Documents.

28.2. The making and acceptance of final payment shall constitute a waiver of all claims by Contractor against the County, other than those previously made in writing and still unsettled.

29. TERMINATION FOR DEFAULT:

29.1. Contractor shall be considered in material default of this Agreement and such default shall be considered cause for County to terminate the Agreement, in whole or in part, as further set forth in this Article, if Contractor: (1) fails to begin the Work under the Contract Documents within the time specified herein; or (2) fails to properly and timely perform the Work as directed by County or Design Professional or as provided for in the approved Master Project Schedule; or (3) performs the Work unsuitably or neglects or refuses to remove materials or to correct or replace such Work as may be rejected as unacceptable or unsuitable; or (4) discontinues the prosecution of the Work contrary to the requirements of the Agreement; or (5) fails to resume Work which has been suspended within a reasonable time after being notified to do so; or (6) becomes insolvent or is declared bankrupt, or commits any act of bankruptcy; or (7) allows any final judgment to stand against it unsatisfied for more than ten (10) days; or (8) makes an assignment for the benefit of creditors; (9) fails to obey any applicable codes, laws, ordinances, rules or regulations with respect

to the Work; or (10) fails to promptly pay its subcontractors and suppliers; or (11) materially breaches any other provision of this Agreement.

29.2. If County determines that Contractor is in default under this Agreement, County shall notify Contractor in writing of Contractor's default(s). If County determines that Contractor has not remedied and cured the default(s) within seven (7) calendar days following receipt by Contractor of said written notice, then County, at its option, without releasing or waiving its rights and remedies against Contractor's sureties and without prejudice to any other right or remedy it may be entitled to hereunder or by law, may terminate Contractor's right to proceed under the Agreement, in whole or in part, and take possession of all or any portion of the Work and any materials, tools, equipment, and appliances of Contractor, take assignments of any of Contractor's subcontracts and purchase orders that County may designate, and complete all or any portion of Contractor's Work by whatever means, method or agency which County, in its sole discretion, may choose. If default is solely a result of Contractor's failure to construct in accordance with the Master Project Schedule, then twenty-one (21) calendar days shall be allowed to cure the default. In making either the initial determination that Contractor is in default under this Contract or the subsequent determination that Contractor has failed to satisfactorily cure its default, County may rely solely upon the Design Professional's certification to County that in the Design Professional's opinion the Contractor is in default or has failed to satisfactorily cure its default. The Library Director has authority to terminate this Agreement.

29.3. If County deems any of the foregoing remedies necessary, Contractor shall not be entitled to receive any further payments hereunder until after the Work is completed. All monies expended and all of the costs, losses, damages and extra expenses, including all management, administrative and other overhead and other direct and indirect expenses (including Design Professional and attorneys' fees) or damages incurred by County incident to such completion, shall be deducted from the unpaid balance of the Contract Amount/GMP, and if such expenditures exceed the unpaid balance of the Contract Amount/GMP, Contractor shall pay promptly to County on demand the full amount of such excess, including costs of collection, attorney's fees (including appeals) and interest thereon at the maximum legal rate of interest until paid. If the unpaid balance of the Contract Amount/GMP exceeds all such costs, expenditures and damages incurred by County to complete the Work, Contractor shall not be entitled to any portion of such excess, except for the unpaid portion of the Contractor's Fee earned and the Cost of Work incurred prior to Contractor's right to continue performance under this Contract being terminated. Any amounts to be paid to County by Contractor pursuant to this provision shall be certified by Design Professional, upon application, and this obligation for payment shall survive termination of the Agreement.

29.4. The liability of Contractor hereunder shall extend to and include the full amount of any and all sums paid, expenses and losses incurred, damages sustained, and obligations assumed by County in good faith under the belief that such payments or assumptions were necessary or required, in completing the Work and providing labor, materials, equipment, supplies, and other items therefor or re-letting the Work, and in settlement, discharge or compromise of any claims, demands, suits, and judgments pertaining to or arising out of the Work hereunder. Further, in the event County has exercised its right to terminate due to Contractor's default, Contractor shall be prohibited from bidding or otherwise seeking additional work from County in accordance with County's then current debarment policy.

29.5. If, after notice of termination of Contractor's right to proceed pursuant to this Section, it is determined for any reason that Contractor was not in default, or that its default was excusable, or that County is not entitled to the remedies against Contractor provided herein, then such termination shall be deemed a termination for County's convenience and Contractor's remedies against County shall be the same as and limited to those afforded Contractor under Section ___ below.

30. **TERMINATION FOR CONVENIENCE AND RIGHT OF SUSPENSION:**

30.1. County shall have the right to terminate this Agreement without cause upon seven (7) calendar days' written notice to Contractor. In the event of such termination for convenience, Contractor's recovery against County shall be limited to that portion of the Contract Amount/GMP earned through the date of termination, together with any retainage withheld and reasonable termination expenses incurred but Contractor shall not be entitled to any other or further recovery against County, including, but not limited to, damages, consequential or special damages, or any anticipated profit on portions of the Work not performed.

30.2. County shall have the right to suspend all or any portions of the Work upon giving Contractor two (2) calendar days' prior written notice of such suspension. If all or any portion of the Work is so suspended and later recommenced, Contractor's sole and exclusive remedy shall be to seek an extension to the Contract Time in accordance with the procedures set forth in the Contract Documents. In no event shall Contractor be entitled to any additional compensation or damages, except as otherwise expressly provided for in the Contract Documents. Provided, however, if the ordered suspension exceeds ninety (90) calendar days, Contractor shall have the right to terminate the Agreement with respect to that portion of the Work which is subject to the ordered suspension.

31. WORKPLACE VIOLENCE: Employees of Contractor are prohibited from committing any act of Workplace violence. Violation may be grounds for termination. Workplace violence means the commission of any of the following acts by a Contractor's employee.

31.1. Battery: intentional offensive touching or application of force or violence to another.

31.2. Stalking: willfully, maliciously and repeatedly following or harassing another person.

32. DUTIES AND OBLIGATIONS: The rights and remedies available hereunder, and, in particular without limitation, the warranties, guarantees and obligations imposed upon Contractor by this Agreement (No. 14296) and the rights and remedies available to the County thereunder, shall be in addition to and not a limitation of any otherwise imposed or available law, by special guarantee or other provisions of the Contract Documents and Specifications.

33. POLLUTION ABATEMENT: Contractor shall comply with all Federal, State and Local laws and regulations controlling pollution of the environment. It shall take necessary precautions to prevent pollution of streams, lakes and ponds with fuels, oils, bitumens, chemicals and other harmful materials. It shall take necessary measures to minimize soil erosion.

34. INJURY OR DAMAGE TO PEOPLE OR PROPERTY: Should the County or Contractor suffer injury or damage to its person or property because of any error, omission or act of the other or of any of Contractor's employees or agents or others for whose acts Contractor is legally liable, claim shall be made in writing to the County within a reasonable time of the first observance of such injury or damage.

35. HEALTH CONSIDERATIONS: Contractor shall provide and maintain, in a neat and sanitary condition, such accommodations for the use of its employees as are necessary to comply with the requirements and regulations of the State and Local Boards of Health. Contractor shall commit no public nuisance.

36. ELECTRONIC SIGNATURES: The Parties agree that an electronic version of this Agreement shall have the same legal effect and enforceability as a paper version. The Parties further agree that this Agreement, regardless of whether in electronic or paper form, may be executed by use of electronic signatures. Electronic signatures shall have the same legal effect and enforceability as manually written signatures. The County shall determine the means and methods by which electronic signatures may be used to execute this Agreement and shall provide Contractor with instructions on how to use said method. Delivery of this Agreement or any other document contemplated hereby bearing an manually

written or electronic signature by facsimile transmission (whether directly from one facsimile device to another by means of a dial-up connection or whether mediated by the worldwide web), by electronic mail in "portable document format" (".pdf") form, or by any other electronic means intended to preserve the original graphic and pictorial appearance of a document, will have the same effect as physical delivery of the paper document bearing an original or electronic signature.

37. E-VERIFY. Pursuant to F.S. sec. 448.095, Contractor shall register with and use the U.S. Department of Homeland Security's E-Verify system to verify the work authorization status of all new employees of the Contractor during the term of the Agreement. Contractor shall require any subcontractors performing work or providing Services under this Agreement to register and use the U.S. Department of Homeland Security's E-Verify system to verify the work authorization status of all new employees of the subcontractor during the term of this Agreement, and otherwise comply with Florida law. The E-Verify system is located at https://www.uscis.gov/E-Verify. Failure to comply with this section is grounds for termination and the contractor (a) may not be awarded a contract with the County for at least 1 year after the date on which the contract was terminated and (b) is liable for any additional costs incurred by the County as a result of termination of this Agreement.

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IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed for the uses and purposes therein expressed on the day and year first written below.

ALACHUA COUNTY, FLORIDA

By:_____
Mary C. Alford, Chair

Board of County Commissioners

Date: _____

ATTEST

_____

J.K. "Jess" Irby, Esq., Clerk

(SEAL)

APPROVED AS TO FORM

_____

Alachua County Attorney's Office

CONTRACTOR

By: DocuSigned by: _____
E622F722F8AD4E2...

Print: Joe Hoffman

Title: President

Date: 10/3/2024

IF CONTRACTOR IS NOT A NATURAL PERSON, PLEASE PROVIDE A CERTIFICATE OF INCUMBENCY AND AUTHORITY, OR A CORPORATE RESOLUTION, LISTING THOSE AUTHORIZED TO EXECUTE AGREEMENTS ON BEHALF OF YOUR ORGANIZATION. IF ARE A NATURAL PERSON, THEN YOUR SIGNATURE MUST BE NOTARIZED.

EXHIBIT 1: GENERAL TERMS AND CONDITIONS

1. PRICING:

The Schedule of Values, attached hereto and incorporated by reference as **Exhibit 3**, provides pricing for the Work performed under the Agreement will be as provide in the Scope of Work/Technical Specifications (**Exhibit 2**) and the NTP.

2. HOURS OF WORK:

2.1. Standard hours of the Work will be from 7:00 AM to 5:00 PM, Monday through Friday, unless alternate standard hours are agreed to and adopted. Under no circumstances will Contractor perform any Work at any time or access the site of the Work without specific written (by memorandum or email) of the County's representative.

2.2. Non-standard hours are hours required by the County to be worked before 7:00 AM and after 5:00 PM (unless alternate standard hours are agreed and adopted), Monday thru Friday, and all hours worked on Saturdays, Sundays and holidays will be considered non-standard hours.

2.3. Non-standard hours worked by Contractor to regain schedule or for Contractor's convenience shall not be entitled to additional compensation.

2.4. County Holidays - Holidays falling on Saturday will be observed on the Friday preceding the holiday and those falling on Sunday will be observed on the Monday following the holiday.

New Year's Day
Martin Luther King Day
Memorial Day
Juneteenth Day
4th of July
Labor Day
Veteran's Day
Thanksgiving Day and the day after Thanksgiving
Christmas Day and one additional day as designated by County Manager

3. WORK AUTHORIZATION:

3.1. Any Work required under this Agreement shall be authorized by issuance of formal, written NTP, based on the Scope of Work (**Exhibit 2**).

3.2. Alachua County shall issue a revised Notice to Proceed in the form of **Exhibit 4**.

3.3. NTPs issued under this Agreement, shall authorized by signature of the County designee.

3.4. Amendments to the NTP (Change Orders) will be approved in accordance with County Policy and Ordinance and shall be issued in the form of the NTP Amendment.

4. SCHEDULING OF WORK:

4.1. The County will issue an NTP for the Work. The first day of performance under an NTP shall be the effective date specified in the Notice to Proceed. Any preliminary work started, or material ordered or purchased before receipt of the Notice to Proceed shall be at the risk and expense of Contractor. Contractor shall diligently prosecute the Work to completion within the time set forth in the NTP. The period of performance includes allowance for mobilization, holidays, weekend days, normal inclement weather, and cleanup. Therefore, claims for delay based on these elements will not be allowed. When Contractor considers the Work complete and ready for its intended use Contractor shall request Alachua County to inspect the Work to determine the status of completion.

4.2. Job placement of materials and equipment shall be made with a minimum of interference to Alachua County operations and personnel.

4.3. Furniture and portable office equipment in the immediate work area will be moved to a designated location by Contractor and replaced to its original location upon completion of the Work. If the furniture and portable office equipment cannot be replaced to its original location, the County will

designate new locations. If furniture and portable office equipment (or other items) must be moved and/or stored outside the immediate area, Alachua County will compensate Contractor for any such transportation and storage costs incurred through an Amendment to the NTP.

4.4. Contractor shall take all precautions to ensure that no damage will result from its operations to private or public property. All damages shall be repaired or replaced by Contractor at no cost to Alachua County.

4.5. Contractor shall be responsible for providing all necessary traffic control, such as street blockages, traffic cones, flagmen, etc., as required for the Work. Proposed traffic control methods shall be submitted to Alachua County for approval, prior to placement.

5. CONTRACTOR'S RESPONSIBILITIES:

5.1. Contractor shall supervise, perform and direct the Work using the best skill and attention. Contractor shall be solely responsible for all construction means, methods, techniques, safety, sequences and procedures, and for coordinating all portions of the Work under this Agreement. Contractor shall ensure that the completed Work complies accurately with the Contract Documents.

5.2. Contractor's Superintendent: Contractor shall employ a competent resident superintendent who shall be at the Project site during the progress of the Work. The superintendent shall be satisfactory to County and shall not be changed except with the written approval of the County. The superintendent shall represent Contractor at the site and shall have full authority to act on behalf of Contractor. All communications given to the superintendent shall be binding on Contractor. All oral communications affecting Contract Time, Contract Amount and Contract interpretation will be confirmed in writing to the County.

6. DESIGN:

6.1. Contractor's duties under the Agreement may include the preparation of additional shop drawings or sketches necessary to permit orderly construction of the Work. Contractor agrees to provide detailed design drawings and plans if requested by the County, with reimbursement included in an amended NTP and said cost should be incidental to the Project.

6.2. Incidental means not exceeding 10% or $5,000, whichever is higher of the total Project cost, unless properly justified and approved by the County.

7. ALACHUA COUNTY-FURNISHED UTILITIES:

7.1. The County shall provide at no cost to Contractor utilities and toilet facilities that are existing and available at each site for Work performed under the Agreement. If utilities and/or toilet facilities are not existing and available, an equitable price will be negotiated and included in the NTP to compensate Contractor for providing such items.

7.2. Water:

7.2.1. Alachua County shall furnish to Contractor from existing Alachua County facilities and without cost to Contractor, a supply of water necessary for the performance of Work under this Agreement. Alachua County will in no case furnish or install any required supply connections and piping for the purpose of implementing the availability of the water supply. It is the responsibility of Contractor to determine the extent to which existing Alachua County water supply source is adequate for the needs of the Agreement.

7.2.2. All taps, connections, and accessory equipment required in making the water supply source available will be accomplished by and at the expense of Contractor, and costs included in the Scope of Work. All Work in connection therewith shall be coordinated, scheduled, and performed as directed and approved by the County. Said taps, connections, and accessory equipment shall be maintained by Contractor in a Workmanlike manner in accordance with the rules and regulations of the local authority. Upon completion of this Agreement the removal of all taps, connections and accessories will be accomplished by and at the expense

of Contractor, so as to leave the water supply source and facility in its original condition. Such removal shall also be subject to the approval of the County.

7.3. Electricity:

7.3.1. The County shall furnish to Contractor from existing County facilities and without cost to Contractor, electricity necessary for the performance of Work under this Agreement. It is the responsibility of Contractor to determine the extent to which existing County electrical facilities are adequate for the needs of this Agreement.

7.3.2. All taps, connections, and necessary equipment required in making the electrical power available will be accomplished by and at the expense of Contractor, and costs included in the Bid or proposal. All Work in connection therewith shall be coordinated, scheduled and performed as directed and approved by the County. Said taps, connections, and accessory equipment shall be maintained by Contractor in a Workman like manner in accordance with the rules and regulations of the local authority. Upon completion of this Agreement the removal of all taps, connections and accessories will be accomplished by and at the expense of Contractor, and costs included in the Bid or proposal, so as to leave the electrical power source and facility in its original condition. Such removal shall also be subject to the approval of County.

8. DIRECT PURCHASE OF MATERIALS:

County may purchase materials directly and provide them to Contractor for use on the Project. Within forty-five (45) days of the issuance of the NTP Contractor will provide County with a list of bulk materials needed on the Project, the cost for those materials including sales tax, and a schedule of values showing when those items are needed. If County elects to purchase certain items, Contractor will prepare a deductive change order to the Agreement. County shall issue a purchase order and Contractor has sole responsibility for establishing delivery and schedule. There will be no reimbursement to Contractor if the materials are obtained by the County at less than the estimated cost.

9. PROCEDURES:

9.1. Pre-Construction Conference: After award of the Agreement and before the issuance of the initial NTP under this Agreement, the County will conduct a conference to acquaint Contractor with County policies and procedures that are to be observed during the prosecution of the Work and to develop mutual understanding relative to the administration of the Agreement.

9.2. The Work of this Agreement shall be determined by the Scope of Work (**Exhibit 2**). Contractor shall perform its construction Work in accordance with this Agreement including provision of all pricing, management, shop drawings, documents, labor, materials, supplies, parts (to include system components), transportation, facilities, supervision, and equipment needed to complete the Work. Contractor shall provide quality assurance as specified in strict accordance with the Contract Documents. Contractor shall also be responsible for site safety as well as site preparation and cleanup.

9.3. Contractor shall prepare and submit required reports, maintain current record drawings, and submit required information. Contractor shall provide materials lists to include trade names, brand names, model number, and ratings (if appropriate) for all materials necessary for a complete job.

9.4. Contractor representative shall be available for a site visit with the County representative as mutually agreed prior to the issuance of the NTP.

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EXHIBIT 2: SCOPE OF WORK/ TECHNICAL SPECIFICATIONS

PROJECT MANUAL

ALACHUA COUNTY COURTHOUSE COMPLEX ACCESSORY ENERGY FACILITY

ALACHUA COUNTY, FLORIDA

May 24, 2024

VOLUME I
ARCHITECTURAL

PHASE III 100% BID DOCUMENTS

PAUL STRESING ASSOCIATES, INC.
14617 Main Street
Alachua, Florida 32615
Telephone (386) 462-6407
E-Mail: psa@paulstresingassociates.com
CA #AA0003377
(PSA Project No. 22-812)

ALACHUA COUNTY BID DOCUMENTS

DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS

DIVISION 1 – GENERAL REQUIREMENTS

DIVISION 2 – SITEWORK

DIVISION 3 – CONCRETE

DIVISION 4 – MASONRY

DIVISION 5 – METALS

DIVISION 6 – WOOD AND PLASTICS-N/A

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

SECTION 07050	MEMBRANE AND LIQUID DAMPROOFING
SECTION 07070	WATER REPELLENTS
SECTION 07115	BITUMINOUS DAMP PROOFING
SECTION 07193	SLAB SHEET VAPOR BARRIERS
SECTION 07200	INSULATION
SECTION 07241	(EIFS) EXTERIOR INSULATION AND FINISH SYSTEM
SECTION 07500	SINGLE PLY ROOF MEMBRANE
SECTION 07621	FLASHING AND SHEET METAL
SECTION 07920	SEALANTS AND CAULKING

DIVISION 8 – DOORS AND WINDOWS

SECTION 08110	STEEL DOORS AND FRAMES
SECTION 08710	DOOR HARDWARE

DIVISION 9 - FINISHES

SECTION 09110	LATH AND STUCCO
SECTION 09900	PAINTING

DIVISION 10 – SPECIALTIES

SECTION 10200	LOUVERS
SECTION 10522	FIRE EXTINGUISHERS, CABINETS, AND ACCESSORIES
SECTION 10950	MISCELLANEOUS SPECIALTIES

DIVISION 11 – EQUIPMENT-N/A

DIVISION 12 – FURNISHINGS-N/A

DIVISION 13 – SPECIAL CONSTRUCTION-N/A

DIVISION 14 – CONVEYING SYSTEMS-N/A

(END OF SECTION 00009)

SECTION 00400 - LIST OF SUBCONTRACTORS

LIST OF SUBCONTRACTORS FORM

(To be submitted on the Bidder's letterhead, placed in a sealed envelope attached to Contractor's proposal).

DATE:_____

This list is an integral part of the bid submitted by: _____

_____

_____

(Bidder to insert his full name and address)

For the Construction of:
ALACHUA COUNTY COURTHOUSE COMPLEX ACCESSORY ENERGY FACILITY

The undersigned, hereinafter called "Bidder", lists below the names of the applicable subcontractors who will perform the phases of the work indicated:

DIVISION OF CONTRACT		NAME/ADDRESS OF SUBCONTRACTORS
1.	Site work	_____
2.	Concrete	_____
3.	Masonry	_____
4.	Plastering/Stucco/Framing	_____
5.	Painting	_____
6.	Door/Door Hardware	_____
7.	Mechanical	_____
8.	Electrical	_____
9.	Plumbing	_____
10.	Specialty Metals	_____
11.	Painting	_____

By: _____
(Signature of Bidder)

Proof of each Subcontractor's County or State Certification and License shall be submitted within 48 hours of Bid Opening

(END OF SECTION 00400)

SECTION 00860 - PURCHASE OF PROJECT DOCUMENTS

The Architect/Engineer will send electronic files to several printing companies to enable Contractors or Subcontractors to obtain them by contacting the print shops.

General Contractors or Subcontractors may purchase sets of drawings and specifications from these reprographics companies for the cost of printing and handling:

Advanced Reprographics, Inc. (ARI)
2207-A NW 13th Street, Gainesville, FL 32609
Telephone (352) 375-7468

Viking CO., LLC
2579 SW 87th Drive
Gainesville, FL 32608
Telephone (352) 333-9333

Partial sets of drawings and/or specifications are not advised and neither the architect nor the Owner will be responsible for partial information given to subcontractors by the general contractors. Subcontractors interested in obtaining partial drawings must have approval to do so from the General Contractor. Once the General Contractor has purchased at least one set of actual hard copy bid documents, the General Contractor may obtain a .pdf copy of the documents from the reprographics company for their in-house use.

(END OF SECTION 00860)

SECTION 00900 - SPECIAL CONDITIONS

SECTION INDEX

SECTION 00900 - SPECIAL CONDITIONS

1.0 COMMON REFERENCE STANDARDS

1.01 Reference in the Contract Documents to known standards such as codes, standard specifications, etc., promulgated by professional or technical associations, institutes, societies mean the latest edition of each such standard adopted and published as of the date of the Contract for the work of this Project, except where otherwise specifically indicated. The following is a representative list of such standards together with the abbreviation by which each is identified:

AAMA	Architectural Aluminum Manufacturers Association
AA	Aluminum Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWSC	American Welding Society Code
AWWA	American Water Works Association
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard of National Bureau of Standards
FGMA	Flat Glass Marketing Association
NAAMM	National Association of Architectural Metal Manufacturers
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Assoc.
NFPA	National Fire Protection Association
SDI	Steel Deck Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SSPC	Steel Structures Painting Council
TCA	Tile Council of America, Inc.
UL	Underwriters' Laboratories, Inc.

2.0 INTERPRETATION OF BIDDING DOCUMENTS

2.01 No interpretation of the meaning of the Drawings, Specifications, or other Bidding Documents, no correction of any apparent ambiguity, inconsistency, or error therein will be made to any Bidder orally. Every request for such interpretation or correction should be in writing, addressed to the Architect/Engineer. All such interpretation and supplemental instructions will be in the form of written Addenda to the Bidding Documents.

2.02 Only the interpretation or correction so given by the Architect/Engineer, in writing, shall be binding and prospective Bidders are advised that no other source is authorized to give information concerning or to explain or interpret the Bidding Documents.

SECTION 00900 - SPECIAL CONDITIONS

2.03 The Intent of the Drawings and Specifications: The Contractor shall complete all work as provided for in Contract Documents including Drawings and Specifications. Anything mentioned, or implied in Specifications and not shown on Drawings, or shown or implied on the Drawings and not mentioned in the Specifications, shall be furnished and installed as if shown and mentioned in both to insure a complete installation of the implied scope of work, in full compliance with the governing codes. The Contractor shall furnish all materials, incidentals, and/or labor required to complete work shown or implied on the Drawings (as in a typical Building Section, door hardware, schedule, service tie-ins, etc.) and called out in the Specifications, to include labor and material requirements reasonably inferable therefrom as being necessary to complete the work whether or not each and every single item necessary to completion is specified or detailed.

2.04 Contractor Responsible for Work Required: The organization of the Specifications into Divisions, Sections, and Paragraphs and the arrangement of the Drawings are not intended to control the Contractor in dividing the work among Subcontractors or to establish the limits and extent of work to be performed by a particular trade. The Contractor alone is responsible for the completion of the entire work as drawn and specified, complete in place and in functional or operating conditions. The division of the Specifications into Sections and Paragraphs is for convenience only and not for the purpose of limiting or restricting the performance of any portion of the work to any particular trade.

2.05 Measurements: Before ordering materials or doing any work, the Contractor shall in all cases verify measurements at the site or premises and check same against Drawings. No extra charge or compensation will be allowed on account of differences between actual dimensions and measurements shown on Drawings. Any differences found shall be submitted to the Architect for resolution before proceeding with the work.

2.06 EXAMINATION OF BIDDING DOCUMENTS AND SITE WORK Bidders are required, before submitting their proposals, to visit the site of the proposed work and completely familiarize themselves with the nature and extent of the work and any local conditions that may in any manner affect the work to be performed and the equipment, materials, and labor required. They are also required to examine carefully the Drawings, Specifications, and other Bidding Documents to inform themselves thoroughly regarding any and all conditions and requirements that may in any manner affect the work.

3.0 PROJECT MEETING

3.01 To enable orderly review during progress of the Work, and to provide for systematic discussion of problems, the Architect/Engineer will conduct project meetings throughout the construction period.

A. Minutes: The Architect/Engineer will compile minutes of each project meeting and will furnish copies to the Contractor and to the Project Manager. The Contractor may make and distribute such other copies as he wishes.

B. Except as noted below for Preconstruction meeting, project meetings will be held as necessary, but at least monthly. Coordinate as necessary to establish mutually acceptable schedule for meetings.

C. To the maximum extent practicable, meetings will be held at the job site.

SECTION 00900 - SPECIAL CONDITIONS

D. Preconstruction Meeting will be scheduled after the Owner has received the signed contract from the contractor. Provide attendance by authorized representatives of the Contractor and all major subcontractors. The Architect/Engineer will advise other interested parties and request their attendance.

4.0 CONSTRUCTION MEETING

4.01 Employ a scheduler who is thoroughly trained and experienced in compiling construction schedule data, in analyzing by use of Critical Path Method or PERT, and in preparation and issue of periodic reports as required below.

4.02 Within ten (10) days after receipt of Notice to Proceed submit one (1) reproducible and four (4) prints of construction schedule.

4.03 On the first working day of each month following submittal described above, submit four (4) prints of the construction schedule updated.

5.0 PRODUCT DATA AT JOB SITE

5.01 Satisfactory evidence as to the kind and quality of all materials and equipment, in the form of shop drawings, manufacturer's literature, samples, or certification shall be readily available at the job site at all times for the Architect/Engineer's inspection regardless of whether such evidence has been required in the project manual for submittal to the Architect/Engineer.

6.0 TESTS

6.01 The Contractor will schedule the tests giving sufficient time for the execution of the work mutually agreed upon between the Testing Laboratory and the Contractor. The Contractor is responsible for review of each section of the specifications to determine specifics of the testing requirements. For the convenience of the Contractor, the following list of tests is provided. If a required test is omitted, or in conflict with the Technical Specifications, then the strictest requirements will prevail.

6.02 List of Required Tests:

- Concrete Test
- Water Test
- Soil Test/ Density Test

6.03 Distribution of Test, and Inspection Reports: The Testing Agency shall distribute copies of all reports to the offices of the parties concerned as follows:

One (1) copy to the Architect/Engineer
One (1) copy to the Owner.
One (1) copy to the Project Representative.
Two (2) copies to the Contractor.
Two (2) copies to the Supplier being tested.

SECTION 00900 - SPECIAL CONDITIONS

7.0 RECORD DRAWINGS (AS-BUILTS)

7.01 In accordance with the requirements of the General Conditions, the Architect/Engineer will provide the Contractor with a set of reproducible drawings of the original bidding documents, as required and at Contractor's expense as follows:

A. If the Contractor elects to vary from the Contract Documents, and secures prior approval of the Architect/Engineer, for any phase of the work other than those listed below, he shall record in a neat readable manner all such variances on the reproducible drawings furnished.

B. For plumbing, heating, ventilating and air conditioning, electrical, and fire protection work, record drawings shall be maintained by the Contractor as the work progresses and as follows:

1) All deviations from sizes, locations and from all other features of all installations shown in the Contract Documents shall be recorded.

2) In addition, it shall be possible, using these drawings, to correctly and easily locate, identify, and establish sizes of all piping, directions and the like, as well as all other features of work which will be concealed underground and/or in the finished building.

a) Locations of underground work shall be established by dimensions to column lines of walls, locating all turns, etc., and by properly referenced centerline or invert elevations and rates of fall.

b) For work concealed in the building, sufficient information shall be given so it can be located with reasonable accuracy and ease. In some cases, this may be by dimension. In others it may be sufficient to illustrate the work on the drawings in relation to the spaces in the building near which it was installed. Architect's/Engineer's decisions shall be final.

3) The following requirements apply to all Record Drawings:

a) They shall be maintained at the Contractor's expense.

b) All such drawings shall be done carefully and neatly by a competent draftsman and in form approved by the Architect/Engineer.

c) Additional drawings shall be provided as necessary for clarifications.

d) They shall be kept up-to-date during the entire course of the work and shall be available on request for examination by the Architect/Engineer and, when necessary, to establish clearances for other parts of the work.

e) The record drawings shall be returned to the Architect/Engineer on completion of the work and are subject to the approval of the Architect/Engineer.

8.0 OPERATION AND MAINTENANCE MANUALS

8.01 Submit **three (3)** copies of Operation and Maintenance Manual prior to indoctrination of operation and maintenance personnel. Include at least the following:

A. Neatly typewritten index near the front of the manual, giving immediate information as to location within the Manual of all emergency data regarding the installation.

SECTION 00900 - SPECIAL CONDITIONS

B. Complete instructions regarding operation and maintenance of all equipment involved, including lubrication, disassembly, and reassembly.
C. Complete nomenclature of all parts of all equipment.
D. Complete nomenclature and part number of all replaceable parts name and address of nearest vendor, and all other pertinent data regarding procurement procedure.
E. Electrostatic copy of all guarantees and warranties issued.
F. Manufacturer's bulletins, cuts, and descriptive data, where pertinent, clearly indicating the precise items included in this installation and deleting, or otherwise clearly indicating, all manufacturer's data with which this installation is not concerned.
G. Such other data as required in pertinent other Sections of these specifications.
H. MSDS sheet on all material used.
I. All test results.

9.0 CLEANING UP

9.01 In addition to the provisions of Article 4.15 of the General Conditions, the following shall be required:

A. Besides the "removal of waste materials", the following special cleaning shall be required just prior to acceptance:
   1) Remove Stains: Wash and polish glass inside and outside. This work shall be done by person skilled and equipped for such work.
   2) Remove foreign matter, marks, stains, foreign paint, fingerprints, soil and dirt from (and have in a polished condition where applicable) the following:
      a) Painted, decorated, and stained work.
      b) All hardware, fixtures, and incorporated equipment.
      c) All finished surfaces and metal surfaces, whether interior or exterior.
      d) All doors and windows, including tracks and rollers.
   3) Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the Architect/Engineer.

B. In addition to clean up provisions of the Specifications, Contractor shall take appropriate steps to prevent airborne dust due to the work of this Contract. Water shall be applied wherever practical to settle and hold dust to a minimum, particularly during excavation and moving of materials.

10.0 PROJECT CLOSEOUT

10.01 Prior to the Contractor submitting his/her final payment request, all closeout paperwork is to be complete and submitted in a three-ring binder with each section indexed and tagged. The closeout binder shall include, but is not limited to, the following list of items. The Contractor is to refer to each Section of the Project Manual for any additional items.

A. General List of Closeout Documents:
   1. Provide a typed list of all Contractors, Subcontractors and Suppliers (if applicable) with addresses, telephone numbers and Contact's name.
   2. Architect and Engineer punch list with each item identified with a signature as being successfully corrected and verified, or an explanation as to its current position.

SECTION 00900 - SPECIAL CONDITIONS

3. All test results as noted in each section of the project manual.
4. Original copies of Final Releases (Conditional Releases will not be accepted).
5. As-built Drawings (Hard Copy and Computer Scans). Provide two (2) copies – one for the Owner and one for the Architect.
6. Equipment Maintenance Binders (3 copies minimum unless noted otherwise elsewhere in this Project Manual).
7. Warranties dated the date of substantial completion as noted by the Architect.
8. Date anticipated for post-occupancy inspection (± two weeks prior to the one-year warranty expiration).
9. Complete copy of the approved shop drawings.

10.02 Refer to Section 01700 Closeout Requirements of this Project Manual for additional direction and requirements.

11.0 TOXIC SUBSTANCES

11.01 The State of Florida has prepared a list of toxic substances. The Contractor shall review the list to determine if any materials which he will be installing are listed.

11.02 The Contractor will notify the Owner in writing three (3) days prior to use of any toxic substances in the construction of the facility.

11.03 The Contractor shall comply with all State, Federal, and Local Regulations for the use of any toxic substances.

12.0 LEAD

12.01 No lead product shall be used on this project.

12.02 The use of solder that contains lead or paint that contains lead is not acceptable on this project.

12.03 The General Contractor is responsible for notifying all Subcontractors and Suppliers that no lead is acceptable on this project.

12.04 The General Contractor and Painting Subcontractor shall provide written certification, prior to substantial completion that no lead has been used on this project and agrees to replace any lead if discovered at no expense to the Owner. The certification shall be addressed to the Alachua County Board of County Commissioners.

13.0 ASBESTOS

13.01 No asbestos, or products containing asbestos, will be used on this project.

13.02 The Contractor shall be responsible for notifying all Subcontractors and Suppliers of this requirement.

SECTION 00900 - SPECIAL CONDITIONS

13.03 If by Independent Test Laboratory studies and the Owner discovers any asbestos products have been used on this project, the Contractor will be liable for necessary consulting fees, removal of asbestos products and installation of new product of similar value.

13.04 The General Contractor, the Roofing Subcontractor, and Insulation Subcontractor shall provide, prior to substantial completion, a certification by the President of the Construction Company stating that no asbestos products have been used on this project and referring to the Agreement to remove any asbestos products, if discovered, addressed to the Alachua County Board of County Commissioners.

14.0 EQUAL OPPORTUNITY

14.01 The contractor shall maintain policies of employment as follows:

A. The Contractor and all Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, or age. The Contractor shall take affirmative action to ensure that applicant are employed, and the employees are treated during employment, without regard to their race, religion, color, sex, national origin or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of nondiscrimination.

B. The contractor and all subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will received consideration for employment without regard to race, religion, color, sex, national origin or age.

(END OF SECTION 00900)

SECTION 01010 - SUMMARY OF WORK

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

1.02 Description of Work: This project consists of the design and construction of the proposed Alachua County Court Complex Accessory Energy Facility located at 151 Southwest 2nd Avenue, Gainesville, FL. This energy plant is designed to accommodate the current and future court complex building thermal / heating & cooling needs utilizing an ice storage thermal storage plant as noted in the architectural, MEP engineering and civil site plan. The energy plant will be comprised of a 51'-4" x 35'-4" enclosed pump and utility house with a perimeter screen chiller and ice storage tanks to use off hour power usage for the court complex. The pump building will be a reinforced CMU wall with stucco exterior finish complementing the existing criminal and proposed civil courthouse buildings. The pump house will have a single ply roof system configured with a shed style roof and a parapet wall around the three public sides (north, west, and south). The storm water will drain off the roof's east edge directly to a gutter system draining directly into the stormwater system as seen in the civil engineering drawings.

The utility yard perimeter walls are constructed of 8" reinforced CMU with a stucco finish on the public side of the walls with a precast concrete wall cap along the top edge of the walls to complement the existing criminal courthouse. The perimeter screen walls have a decorative prefinished architectural wall louver to break up these lengths of stucco wall as shown on the architectural exterior elevations. the east end of the north and south perimeter utility yard screen walls, maintenance access doors designed to complement the wall louvers will bridge the space between the proposed new civil courthouse and the utility screen wall system.

Note: the actual mechanical equipment (Trane Manufacturer) has already been purchased by the county and is scheduled to ship on or about December 1,2024. The goal is to set new equipment over Christmas break, refer to MEP series drawings.

Refer to Section 01100 for Alternates and Substitutions.

(END OF SECTION 01010)

SECTION 01020 - CUTTING AND PATCHING

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

1.02 Description of Work: "Cutting-and-patching" is hereby defined to include but is not necessarily limited to the cutting and patching of nominally completed and previously existing work, in order to accommodate the coordination of work, or the installation of other work, or to uncover other work for access or inspection, or to obtain samples for testing, or for similar purposes. It is defined to exclude integral cutting-and-patching during the manufacturing, fabricating, erecting, and installing process for individual units of work.

1.03 Demolition is recognized as an example of a related-but-separate category of work, which may or may not also require cutting-and-patching as defined in this section.

1.04 Refer to other sections of Project Manual for specific cutting-and-patching requirements and limitations applicable to individual units of work.

1.05 Quality Assurance:

A. Requirements for Structural Work:
   1. Do not cut-and-patch structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.
   2. Prior to cutting-and-patching the following categories of work, obtain the Architect's approval to proceed with cutting-and-patching as proposed in the submittal by the Contractor:
   3. Structural Steel - Miscellaneous Structural Metals, including lintels, equipment supports, stair systems, and similar categories of work.
      a) Structural Decking
      b) Roof Framing Members
      c) Pressurized Piping, Vessels and Equipment

B. Operational and Safety Limitations:
   1. Do not cut-and-patch operational elements and safety-related components in a manner resulting in a reduction of capacities to perform in the manner intended or resulting in decreased operational life, increased maintenance, or decreased safety.
   2. Prior to cutting-and-patching the following categories of work and similar categories where directed, obtain the Architect's approval to proceed with cutting-and-patching as proposed in the submittal by the Contractor.
   3. Sheeting, shoring and cross-lot bracing.
   4. Primary Operational Systems and Equipment.
   5. Water/moisture/vapor/air/smoke barriers, membranes, and flashings.
   6. Noise and Vibration Control elements and systems.
   7. Control, communication, conveying, and electrical wiring systems.

C. Visual Requirements - Do not cut-and-patch work which is exposed on the exterior or exposed in occupied spaces of the building, in a manner resulting in a reduction of visual qualities or resulting in substantial evidence of the cut-and-patch work, both as judged solely the Architect. Remove and replace work judged by the Architect to be cut-and-patched in a visually unsatisfactory manner.

SECTION 01020 - CUTTING AND PATCHING

D. Any and all interruptions of existing facilities services shall be coordinated with Architect and Owner with ample notice for coordination of such work.

1.05 Submittals - Where prior approval of cutting-and-patching is required, submit proposal well in advance of time work will be performed, and request approval to proceed. Include description of why cutting-and-patching cannot (reasonably) be avoided, how it will be performed, how structural elements (if any) will be reinforced, products to be used, firms and tradesmen to perform the work, approximate dates of the work, and anticipated results in terms of variations from the work as originally completed (structural, operational, visual and other qualities of significance).

1.06 Materials - Except as otherwise indicated or approved by the Architect, provide materials for cutting-and-patching which will result in equal-or-better work than the work being cut-and-patched, in terms of performance characteristics and including visual effect where applicable. Comply with the requirements and use materials identical with the original materials where feasible and where recognized that satisfactory results can be produced thereby.

1.07 Preparation - Provide adequate temporary support for work to be cut, to prevent failure. Do not endanger other work. Provide adequate protection of other work during cutting-and-patching, to prevent damage and provide protection of the work from adverse weather exposure.

1.08 Cutting-and-Patching - All trades will perform the necessary cutting to allow their materials to pass through existing floors, walls, or ceilings. All patching will be performed by the individual trades who built the walls, floors, or ceilings as part of their type of work.

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

1.10 Where patch occurs in a smooth painted surface, extend final paint coat over the entire unbroken surface containing the patch, after patched area has received prime and base coats, which have been properly feathered into adjoining areas.

(END OF SECTION 01020)

SECTION 01040 - COORDINATION, INSPECTION AND PROTECTION

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General Conditions, Supplementary Conditions and Special Conditions, (if any), along with the General Requirements, apply to the work specified in this Section.

1.02 The Contractor shall compare and coordinate all Drawings and Specifications. When, in the opinion of the Contractor, a discrepancy exists, he shall promptly report it to the Architect/Engineer for proper adjustment before proceeding with the work.

1.03 In the event that certain features of the construction are not fully shown on the Drawings, then their construction shall be of the same character as for similar conditions that are shown or noted.

1.04 Prior to commencing any work, the Contractor shall satisfy himself as to the accuracy of all survey data as indicated in these Plans and Specifications and/or as provided by the Owner. Should the Contractor discover any inaccuracies, errors, or omissions in the data survey, he shall immediately notify the Architect/Engineer in order that proper adjustments can be anticipated and ordered. Commencement by the Contractor of any work shall be held as an acceptance of the survey data by him after which time the Contractor has no claim against the Owner resulting from alleged errors, omissions, or inaccuracies of the said survey data.

1.05 General Coordination:

A. Coordinate the work of all trades so that any related work or items shown or specified elsewhere throughout the documents are included and the work completed as intended.

B. Coordinate the work of all trades so that each will have sufficient space and time within which to work properly and efficiently.

C. Changes in the intended design of the project as a result of improperly coordinated construction work will not be allowed. Delays in the work caused by rejections of installed materials due to improper coordination, and as otherwise specified, will not be considered valid justification for extensions of Contract time if such are requested by the Contractor.

1.06 Insofar as practical, or if directed by the Architect/Engineer, HVAC systems and lighting levels shall be operational at designed levels prior to installation of painting materials, acoustical ceiling tiles, wall coverings and like items which could be damaged by unstable environmental conditions.

1.07 Altering of Structural Members:

A. No structural member shall be omitted, notched, cut, blocked out, or altered for any reason without express written prior approval by the Architect/Engineer.

B. If any structural member is found to have been altered it shall be corrected as directed by the Architect/Engineer at no additional cost.

1.08 No deviation in the location of plumbing, mechanical, or electrical as shown will be allowed without approval of the Architect/Engineer.

SECTION 01040 - COORDINATION, INSPECTION AND PROTECTION

2.0 PRODUCTS

2.01 Each trade shall review the work required of other trades and be aware of what products will be installed adjacent to their work. Complete, approved submittals and shop drawings of the other trades shall be available for review at the job site at all times.

3.0 EXECUTION

3.01 All areas, substrates, and conditions under which any and/or all materials are to be installed shall be inspected, and any conditions detrimental to proper and timely completion of the installation shall be documented to the Architect/Engineer. Work shall only proceed when such conditions have been properly corrected.

3.02 Protection: Coordinate the work of each trade so that upon completion of any installation protective conditions are maintained to ensure the work will be without damage or deterioration at the time of acceptance.

3.03 Inspection, Re-inspection, Re-approvals, and Delays:

A. If under the following conditions, the Contractor causes the Architect additional work, the Owner shall deduct such expenses from payment to the General or Prime Contractor. The Architect will inspect or review the work or submittals two times only, as part of the Contract. Except, if after an approval the Contractor elects to make change and to resubmit, only the first review is so included. In the case of inspections (which may be phased with construction providing that each submittal must be completely informative) the criteria will apply to each separately. However, exhaustive inspection (or review) will not be required in ascertaining a continuing problem. Such a problem may be noted as a general application and it shall be the Contractor's obligation to find all such conditions and make corrections. On follow-up inspection or review, if the same problem becomes apparent as not having been corrected, further research will not be required, and general notice shall suffice. Such non-correction shall become the beginning of non-performance by the Contractor. And, if in the situation of major error by the Contractor requiring extensive review and adjustment by the Architect, those costs will be deducted from the payment to the Contractor. If the contract time is exceeded by more than 5%, the Architect's costs for Contract Administration and construction observation after that time shall be deducted from payment to the Contractor with or without other damages.

B. Definitions: THE TERM "SUBSTANTIAL COMPLETION" SHALL MEAN THAT SUBSTANTIALLY ALL MATERIALS REQUIRED OR IMPLIED BY THE DRAWINGS AND SPECIFICATIONS ARE INCORPORATED INTO THE PROJECT, THAT SUBSTANTIALLY ALL LABOR HAS BEEN PERFORMED AND THAT THE WORK IS READY FOR A FINAL CHECK OR INSPECTION BY THE ARCHITECT, AND ALL LIFE SAFETY SYSTEMS ARE VERIFIED AND APPROVED AS BEING IN WORKING ORDER. "Substantial Completion" shall not mean the inclusion of minor alterations (such as patching) that will be disclosed in the Final Inspection but shall mean the building is ready for beneficial occupancy without any inconveniences to the Owner. If, upon Final Inspection of the project, more than ten (10) items are found to be uncorrected, the Architect reserves the right to terminate the Final Inspection at that point, until such time when all items have been successfully completed.

(END OF SECTION 01040)

SECTION 01042 - DIRECT PURCHASE PROCEDURES

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General Conditions, Supplementary Conditions and Special Conditions, (if any), along with the General Requirements, apply to the work specified in this Section.

1.02 Description: The Owner is tax exempt from sales tax on the purchase of construction materials. The Owner has elected to exercise this right to purchase directly various construction materials, supplies, and equipment that may be a part of this contract. Such direct purchase shall be without any additional cost to the Owner. Alachua County will deduct State sales tax only and will not deduct County surtax. It will be the Contractor's responsibility to notify companies providing services that the Alachua County surtax will not be deducted. The Owner will, via Construction Purchase Orders (CPO), purchase the materials and the Contractor shall assist the Owner in the preparation of the purchase orders. The materials shall be purchased from the Vendors selected by the Contractor for the price originally negotiated by the Contractor.

1.03 The contract amount shall be reduced by the net, undiscounted amount of the purchase orders plus all sales taxes. This reduction in the contract amount will be implemented utilizing the AIA Change Order Form, which will reference the Construction Purchase order effecting the change.

1.04 Issuance of Construction Purchase orders by the Owner shall not relieve the Contractor of any of his responsibilities regarding material purchases or installations, with the exception of the payments for the materials as purchased. The contractor shall remain fully responsible for coordination, correct quantities ordered, submittals, protection, storage, scheduling, shipping, security, expediting, receiving, installation, cleaning and all applicable warranties. The Contractor must maintain his Builder's Risk policy to include materials stored on-site and materials installed on site.

1.05 It is recognized that the Contractor may encounter additional overhead costs in assisting the Owner with this task. The Contractor is charged with including all addition al costs as a part of the Base Bid.

1.06 No payment will be made for materials stored off-site. Payment is contingent on the receipt of properly verified and approved delivery tickets.

1.07 Terms: For the purpose of this Section the following terms will be defined:

A. Material - Any material, supply, or item of equipment intended for permanent installation in the project.

B. Vendor - A company supplying materials to the project, whether such provision includes installation or not.

C. List of Vendors - A list of Vendors whose materials are required for the construction of the project and which is submitted to the Owner by the Contractor for approval.

D. Vendor Purchase Order (VPO) - A material list and price quote by a Vendor required for issuance of a Construction Purchase Order by the Owner.

E. Construction Purchase Order (CPO) - An authorization issued by the Owner for the supply of stated materials and agreement to pay quoted price for material upon verification of delivery.

F. Delivery Ticket - A receipt issued on the Vendor on a business-like form indicating

SECTION 01042 - DIRECT PURCHASE PROCEDURES

the date, quantity, and type of materials delivered to the site and referencing a Vendor's invoice or the Construction Purchase Order.

2.0 PRODUCTS [Not applicable.]

3.0 EXECUTION

3.01 Within fifteen (15) days of executing the agreement, the Contractor shall submit a List of Vendors and materials to the Owner for approval. The list shall contain the following information:

A. Vendor's full business name
B. Vendor's agent assigned to the project
C. Vendor's business telephone number
D. Materials the Vendor will supply

3.02 Upon approval of the Vendors by the Owner, each Subcontractor, or Vendor if no Subcontractor is involved in the installation of the material, shall issue a Vendor's Purchase Order (VPO) addressed to the Owner and submitted to the Contractor for review and approval prior to submission to the Owner's representative. The VPO shall contain the following minimum information.

A. Date of issuance
B. Project name and location
C. Vendor's full business name
D. Vendor's full business address
E. Vendor's business telephone number
F. Description of materials
G. Quantity of each material
H. Unit cost of each material
I. Extended price of each material (quantity time unit cost)
J. Sales tax on materials
K. Total price (extended prices plus sales tax, shipping, and handling charges)
L. Signature and printed name of the authorizing agent for the Subcontractor or Vendor
M. Signature and printed name of the authorizing agent for the Contractor

3.03 The Owner will issue a Construction Purchase Order in the amount of the Vendor's Purchase Order less the sales tax. The Construction Purchase Order will contain the following minimum information:

A. Date of issuance
B. Project name and location
C. Vendor's full business name
D. Vendor's full business address
E. Reiteration of the authorized quantity, material description, unit cost, and extended price for each material
F. Sales tax
G. Total price including sales tax
H. Signature and printed name of approving agent for the Owner
I. Signature and printed name of authorizing agent for the Owner

The CPO will be sent directly to the Vendor with a copy retained by the Owner and copies sent to the Subcontractor, Contractor, and Architect.

SECTION 01042 - DIRECT PURCHASE PROCEDURES

3.04 Upon receipt of the CPO by the Vendor, the Vendor shall ship the requested material and issue an invoice to the Owner for payment on materials that were shipped. The invoice shall clearly reference the CPO number.

3.05 All materials are to be received on the site with the Vendor's delivery ticket. The delivery tickets will be utilized by the subcontractor to certify both price and quantities of materials received. The subcontractor will then (upon verification) submit the invoice to the Contractor to submit for processing (the invoice shall be signed and contain the date and printed name of the individual signing the invoice).

3.06 The Owner will issue payment to the Vendor for the amount of the Vendor's invoice upon receipt of the verified invoices. The Owner shall provide a payment schedule to the Contractor and any Subcontractor or Vendor upon request. In order to maintain timely payments, it will be the responsibility of the Subcontractor/Vendor and the Contractor to process delivery tickets in accordance with the payment schedule.

3.07 The Contractor shall be responsible for maintaining a summary of materials purchased and tax savings for inclusion on the EJCDC Application, and Certification for Payment. The total cost of goods directly purchased by the Owner shall appear on appropriate line and the total sales tax savings on goods directly purchased by the Owner shall appear on appropriate line. Both lines will then be deducted from the contract amount via Change Order when determining payment due to the Contractor.

(END OF SECTION 01042)

SECTION 01050 – FIELD ENGINEERING

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General Conditions, Supplementary Conditions and Special Conditions, (if any), along with the General Requirements, apply to the work specified in this Section.

1.02 The Contractor shall provide a qualified Surveyor or Engineer, subject to approval of the Architect/Engineer, to locate and maintain the building lines and assure correct location and elevations, verify boundary lines and curb and sidewalk lines and grades required for complete layout of all work provided under the Contract. In addition - Contractor is to survey location and depth of all utilities.

1.03 Surveyor or Engineer shall keep a complete accurate log of control work as it progresses and the log shall be available to the Architect/Engineer when required.

1.04 The Contractor shall be responsible for obtaining a foundation survey and utility at no additional cost to the Owner.

1.05 The Contractor is to provide a survey of as-built work for civil engineer of records review.

2.0 PRODUCTS - N/A

3.0 EXECUTION

3.01 The Contractor will establish and safeguard benchmarks in at least two (2) widely separated places and set permanent and properly marked benchmarks.

3.02 Care shall be exercised in order to insure that work is within lot, property, and setback lines.

3.03 It shall be the sole responsibility of the Contractor to take down, repair, or rebuild in an approved manner any work that may have been constructed over lot, property, or setback lines.

(END OF SECTION 01050)

SECTION 01060 – CODES AND PERMITS

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General Conditions, Supplementary Conditions and Special Conditions, (if any), along with the General Requirements, apply to the work specified in this Section.

1.02 All work contained under this Contract is based on the requirements contained in the latest one or more of the following:

A.	The Standard Florida Building Code	8th Edition
B.	Florida Standard Plumbing Code	8th Edition
C.	Florida Standard Mechanical Code	8th Edition
D.	Florida Standard Gas Code	8th Edition
E.	Florida Fire Prevention Code	8th Edition
F.	NFPA 70, National Electrical Code	2023
G.	NFPA 10, Fire Code	2022
H.	NFPA-101 Life Safety Code	2024
I.	ANSI A117.1 (Physically Handicapped):	2017 (or latest edition)
J.	Other Standards as referenced or specified in other Sections	

1.03 Contractor and all Subcontractors shall comply with all laws, codes, and ordinances applicable to the work. This shall include Federal, State, County, and/or Municipal Entities having jurisdiction.

1.04 If governing Laws, Codes, or Ordinances conflict with this Specification, then the Laws, Codes or Ordinances shall take precedence, except where these Specifications exceed them in quality of materials or labor then the Specifications shall be followed. When a conflict occurs, the Architect/Engineer shall be notified before proceeding with the work.

1.05 Except as otherwise required by this Section, all products and workmanship shall conform to the best quality and practices recognized by Agencies, Associations, Councils, etc., as specified in individual Sections.

1.06 In the absence of specified standards, the Contractor shall conform to the requirements of the most widely recognized standards for each particular portion of the work.

(END OF SECTION 01060)

SECTION 01100 – ALTERNATES/SUBSITUTIONS

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

1.02 It is the purpose of this section of the specifications to describe items that are to be included in the Contractor's proposal as Additive Alternates.

1.03 It is not the intent of this section of the specifications to describe methods of construction or installation of alternate items, but only to itemize the extent of Alternates. See Drawings for additional information concerning the extent of Alternates and their locations.

1.04 In the event that Alternates are accepted, all provisions of documents, contract drawings, other contract documents, and the various trade sections of these specifications will govern any Alternate construction, materials, or equipment.

1.05 Alternates may be accepted in any order the Owner selects up to the limit of monies available.

1.06 Each bidder shall state in his proposal the amounts to be added or deducted to the Base Bid for all Alternates in accordance with the following Alternate proposals.

1.07 A bidder may be excluded from consideration for award of the contract if he has not submitted a price for a particular Alternate that the Owner chooses to accept.

2.0 ALTERNATE PROPOSALS – N/A

3.0 REQUESTS FOR SUBSTITUTIONS

3.01 Alternate or substitute products, materials or equipment to be submitted for consideration for acceptance as meeting the intent of the design shall be submitted to the Architect/Engineer for review. This submittal shall include all pertinent data necessary for comparison to specified items. Submittal and sample must be presented in a timely manner to allow review and - if approved - notification to all bidders by written Addendum seven (7) calendar days prior to the bid date. Contractor to review any and all proposed requests for approval prior to submitting to Architect for consideration and complete the General Request for Substitution form that follows.

3.02 Alternate or substitute products to be fairly considered should contain all data necessary to perform a side-by-side comparison with characteristics meeting or exceeding the basis for design item being considered. Any and all deviations are to be clearly itemized to allow assessment of deviations prior to rendering a decision. Failure to provide the data in the submission may jeopardize its approval. Prime Contractor is to complete the attached Request for Substitution Form.

SECTION 01100 – ALTERNATES/SUBSITUTIONS

GENERAL CONTRACTOR'S REQUEST FOR SUBSTITUTION FORM
REQUEST NUMBER: _____
[Submit in Duplicate. Use Separate Form for Each Submittal.]

DATE: _____
SUBMITTED TO: PAUL STRESING ASSOCIATES, INC.
[ARCHITECT] 14617 Main Street
Alachua, Florida 32615
(386) 462-6407 / E-Mail: psa@paulstresingassociates.com
REGARDING:
(PROJECT NAME) _____ PROJ NO. _____
SUBMITTED BY:
[CONTRACTOR] _____

The Contractor hereby formally requests approval of the following product or system as an approved substitution.

NAME AND DESCRIPTION OF SPECIFIED PRODUCT OR SYSTEM:
SPECIFICATION SECTION NO. _____ PAGE(S) _____ PARAGRAPH(S) _____ DRAWING SHEET NO. _____ DETAIL OR SECTION NO. _____

PRODUCT COMPARISON	SPECIFIED PRODUCT	SUBSTITUTION / ALTERNATE
PRODUCT CHARACTERISTICS		
Material:		
Flammability:		
Smoke Density:		
Fuel Contributed:		
Flame Spread:		
Moisture Absorption:		
Elasticity:		
Water Resistance:		
Substrate Compatibility:		
Warranty:		

SECTION 01100 – ALTERNATES/SUBSITUTIONS

INSTALLATION ON		
Concrete: (Lt. Wt. / Reg. / High Strength)		
Steel Frames:		
Wood Studs / Metal Stud:		
Drywall or other:		
TEST REPORTS		
Is Exact Condition Covered?		
Rated Assembly?		
Roofing – Provide side-by-side product comparison of characteristics of specified product and product seeking approved equal consideration		
RESTRICTIONS		
Substrate:		
Floor:		
Roof:		
Wall (Non-Rated)		
Wall (Rated)		
STRUCTURE		
Wood:		
Concrete:		
Steel:		
ENVIRONMENTAL RESTRICTIONS		
Outside Air Temperature:		
Inside Air Temperature:		
Relative Humidity:		
Wind Load:		
Equipment Loads:		
Moisture Tests Required?		
WARRANTY/GUARANTEE:		
AVAILABILITY:		
COSTS:		
REASON FOR NOT GIVING PRIORITY TO SPECIFIED ITEMS:		

SECTION 01100 – ALTERNATES/SUBSITUTIONS

SUBSTITUTION AFFECTS OTHER MATERIALS OR SYSTEMS: ____ YES ____ NO [If yes, attach complete data.]

SUBSTITUTION REQUIRES DIMENSIONAL REVISION OR REDESIGN OF STRUCTURE OR MEP WORK:
____ YES, ____NO [If yes, attach complete data.]

SAVINGS OR CREDIT TO OWNER FOR ACCEPTING SUBSTITUTE:
$_____

THE ATTACHED DATA IS FURNISHED HEREWITH TO SUPPORT EVALUATION OF SUBSTITUTE:
_____ CATALOG, _____ DWGS, _____SAMPLES, _____TESTS, _____REPORTS, _____OTHER

THE UNDERSIGNED PRIME CONTRACTOR HEREBY CERTIFIES THAT THE SUBSTITUTION HAS BEEN FULLY CHECKED AND COORDINATED WITH THE CONTRACT DOCUMENTS.

_____ BY: _____
FIRM NAME (PRIME CONTRACTOR)

_____
ADDRESS

SUMMARY:

SUBSTITUTION APPROVED: YES OR NO

APPROVED WITH RESTRICTIONS:

1. _____

2. _____

3. _____

RESUBMITTAL REQUIRED: YES OR NO

REMARKS:

(END OF SECTION 01100)

SECTION 01150 – STANDARDS

1.0 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.

B. Comply with State Requirements and other standards referenced in contract documents including the following:

a. In addition to "The Florida Building Code, Latest Edition, or the specific portions cited, the following building codes are hereby incorporated by reference and made a part of this rule. In the case of conflicting requirements or where the UBC is mute, the more, or most stringent, shall apply.

b. **ACI 318.** American Concrete Institute, "Building Code Requirements for Structural Concrete and Commentary".

c. **AHERA.** Asbestos Hazard Emergency Response Act, 40 CFR, Part 763.

d. **AISC.** American Institute of Steel Construction edition adopted by the FBC.

e. **AISI.** American Iron and Steel Institute.

f. **ANSI.** American National Standards Institute.

g. **ASCEW.** American Society of Civil Engineers. References to ASCE 7 standards shall be the latest edition.

h. **ASHRAE.** American Society of Heating, Refrigeration, and Air Conditioning Engineers.

i. **ASIC.** American Society of Irrigation Consultants.

j. **ASTM.** American Society for Testing Materials.

k. **DCA.** Department of Community Affairs.

l. Florida Americans with Disability Implementation Act and the Florida Accessibility Code for Building Construction, as adopted by the State Board of Building Codes and Standards.

m. Florida Energy Efficiency Code for Building Construction (FEEC), as adopted by the State Board of Building Codes and Standards under Rule 9B-3.047 FAC.

n. **DOT – AASHTO.** American Association of State Highway and Transportation Officials "Standard Specifications for Highway Bridges" as modified by Florida DOT Structures Design Guidelines.

o. **FBC.** Florida Building Code, all code divisions, latest edition.

p. **FBC.** Fuel Gas Code.

q. **FBC.** Mechanical Code.

r. **FBC.** Plumbing Code.

s. **FBC.** Test Protocols for high velocity hurricane zones.

t. **FEMA. Federal Emergency Management Agency.** Rules and Regulations 44 CFR, Parts 59 and 60, for flood plain criteria governing insurability of facilities constructed in flood plain areas.

u. **MIL-L-19140E.** Military Specifications for Lumber and Plywood, Fire Retardant Treated.

v. **NEC.** National Electrical Code, (NFPA 70).

w. **NFOPA.** National Forest Products Association.

x. **NFPA.** National Fire Protection Association. NFPA 101 and other NFPA codes as applicable. Exceptions are NFPA 101 Sections 10-2.2.7 and 10-

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7.2.2.7 "Exit Passageways" and where NFPA codes are exceeded by these State Requirements.

y. **OSHA.** Occupational Safety and Health Administration, U.S. Department of Labor, 29 CFR.
z. **SBC/SSTD-12.** SBCCI Test Standard for determining impact resistance from wind borne debris.
aa. **SJI.** Steel Joist Institute.
bb. **TMS.** The Masonry Society Standards; TMS 602, TMS 402.
cc. **SMACNA.** Sheet Metal and Air Conditioning Contractors National Association, Inc.

(END OF SECTION 01150)

SECTION 01200 - JOB SITE ADMINISTRATION

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General Conditions, Supplementary Conditions and Special Conditions, (if any), along with the General Requirements, apply to the work specified in this Section.

1.02 Project Superintendent: The Contractor shall provide a qualified, full-time superintendent at the project site throughout the construction. The superintendent shall maintain, at the job site, a complete and accessible file containing all submittals, shop drawings, and samples approved by the Architect/Engineer as well as supplemental erection or installation instructions for these items.

1.03 Site Access: Access to the site and construction operations shall at no time interfere with normal business operations of existing neighboring buildings or their parking, nor cause damage to any of the existing buildings, paving, utilities or landscaping. In the event that any should occur, the Contractor shall repair, replace, or otherwise correct the damage at his own expense.

1.04 Periodic Cleaning: The Contractor shall maintain the building and site in a safe manner, free from accumulation of construction debris. Clean and remove debris at least once a week.

1.05 Site Maintenance: Comply with the requirements of the governing authorities concerning the use of the public streets and right-of-ways for deliveries, access, and construction. Maintain in good condition and repair or replace pavement, curbs, utilities and other improvements damaged during construction to the satisfaction of the governing authority having jurisdiction.

1.06 Preconstruction Organization: Before beginning work at the site the General Contractor shall attend a preconstruction conference scheduled by the Architect/Engineer and bring with him the Superintendent employed for this project. In the event the Contractor is unable to attend, he shall send a letter of introduction by the Superintendent in which he advises the Superintendent's full name and states that he is assigned to the project and will be in full responsible charge. At this time all parties concerned will discuss the project under contract and prepare a program of procedure in keeping with requirements of the Drawings and Specifications. The Job Superintendent or his designee will be present on the job site at all times the job site is manned by the Contractor or any Subcontractor. This will ensure the Architect/Engineer or Owner representative will have access to a representative of the Contractor at all times. The Superintendent shall henceforth make every effort to expeditiously coordinate all phases of the work, including the required reporting procedure, to obtain the end result within the full purpose and intent of the Plans and Specifications for the project. The Contractors representative (Superintendent) will insure that any Owner equipment/instructional material left in the construction area shall not become a victim of theft, damage, or destruction. The Owner will be responsible to insure all Owner equipment/instructional material left in the construction area are under lock and key or be so protected as to not allow them to be easily removed. The Contractor shall not remove the Superintendent without first contacting the Architect/Engineer in writing. Then only by providing the new Superintendent enough time to familiarize themselves with the project.

SECTION 01200 - JOB SITE ADMINISTRATION

1.07 General:

A. Prior to the start of construction, the Architect/Engineer will arrange a pre-construction meeting to be attended by the Owner, Architect/Engineer, and Contractor.

B. The purpose of this conference will be to discuss and clarify contract administration procedures which will be employed during construction.

C. Pre-construction meeting shall be held at time and date to be determined by the Owner.

1.08 Pre-construction Meeting:

A. Attendance:

1. Owner Representative
2. Architect/Engineer
3. General Contractor and Job Superintendent (Sub-Contractors)
4. County Administrator

B. Agenda:

1. Tentative construction schedule.
2. Critical work sequencing.
3. Relation and coordination of subcontractors.
4. Designation of responsible personnel and duties.
5. Processing of field decisions and Change Orders.
6. Submittals of Shop Drawings.
7. Use of premises and site.
8. Delivery of materials.
9. Security procedures.
10. Other pertinent activities.

(END OF SECTION 01200)

SECTION 01300 – WORK RELATED SUBMITTALS

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

1.02 General Conditions: Refer **Shop Drawings, Product Data, and Samples** of AIA General Conditions.

1.03 Shop Drawings and Product Data: Shop drawings and product data shall be submitted for manufactured or fabricated materials as called for in the separate Specifications sections. Drawings shall be fully identified by project name, location, supplier's name, date, Drawing number, Specification section reference, etc. The Contractor shall submit, with such promptness as to cause no delay in his work or in that of any other Contractor, four copies (in addition to those copies necessary for his own requirements) of all shop drawings, product data and schedules, required for the work of the various trades, to the Architect, for approval. The Contractor shall make no deviation from the approved drawings and the changes made thereto by the Architect, if any.

1.04 Shop Drawings: It shall be the responsibility of the Contractor to properly schedule the submission of shop drawings and product for approval to allow adequate time for checking of drawings and the manufacture and shipment of items to the job site in sufficient time to prevent delay in the progress schedule.

1.05 Shop Drawings: It shall also be the responsibility of the Contractor to coordinate the preparation of shop drawings and product data for approval to allow adequate time for checking of drawings and the manufacture and shipment of items to the job site in sufficient time to prevent delay in the progress schedule.

1.06 Shop Drawings: It shall also be the responsibility of the Contractor to coordinate the preparation of shop drawings and product data of items which will be furnished by more than one manufacturer but which are designed to interface when installed.

1.07 Shop Drawings: Shop drawings and product data submitted to the Architect for his approval shall first be thoroughly checked and approved by the Contractor, the prime fascia evidence of which shall be a "checked" stamp marked "Approved" or "Approved as Noted" on each shop drawing or product data, placed thereon by the Contractor. Shop drawings and product data received without the Contractor's "checked" stamp, or evidence that they were not accurately reviewed and corrected as needed, will be cause for immediate return without further action. Each Drawing or data sheet correctly submitted will be checked by the Architect and marked by him in one of the following ways:

A. Reviewed
B. Revise and Resubmit
C. Rejected
D. Furnish as Corrected

If shop drawings are found to be incomplete, Contractor is to reject and ask subcontractor to resubmit and also forward a copy of the rejected data to Architect to expedite review process.

SECTION 01300 – WORK RELATED SUBMITTALS

1.08 Shop Drawings: The subcontractors for all phases of the Contract shall submit, through the General Contractor, complete brochures covering all materials and/or equipment proposed for use in the execution of the work, as required by their respective divisions of the specifications. These brochures shall be indexed and properly cross-referenced to plans and specifications for easy identification.

1.09 Shop Drawings: All shop drawings, setting drawings, material brochures, samples and/or color selection materials which are required and are not included in the foregoing shall be submitted via the General Contractor. Insofar as is possible OR PRACTICAL, all shop drawings or descriptive literature of equipment for the mechanical or electrical trades shall be submitted on a complete brochure for each trade, as soon as possible after **Notice To Proceed** is executed.

1.10 Samples: Furnish all samples as required by the Contract Documents, for the purpose of making color selections or to illustrate materials, equipment or workmanship; and to establish standards by which the work will be judged.

1.11 Color Schedules: Where samples are necessary for color selection, furnish same. This applies to all items such as paint, stain, signage, brick, stucco, and any other items involving color. Color items in the same range vary among different manufacturers' products; therefore, it is important that selections be made from the items actually intended for use in the work.

1.12 The Architect will retain two (2) or three (3) sets of each submittal: one set for the Architect, one set for the Owner, and one set for Engineer when applicable. Contractor to retain one complete set of shop drawings which are to be turned over to the Owner with the project closeout for the Owner's records.

(END OF SECTION 01300)

SECTION 01320 - PROGRESS REPORTING

1.0 PROGRESS SCHEDULE

1.01 Within ten (10) days after the date of the Owner's issuance of a Notice to Proceed, the Contractor shall prepare and submit to the Architect/Engineer a construction schedule in quadruplicate graphically depicting the activities contemplated to occur as a necessary incident to performance of the work required to complete the project, showing the sequence in which the Contractor proposes for each such activity to occur and the duration (dates of commencement and completion, respectively) of each such activity.

1.02 At least once each month, the Architect/Engineer shall determine whether the construction schedule developed and submitted by the Contractor meets the requirements stated above and whether the progress of the work complies with the Contractor's schedule. Failure of the Contractor to develop and submit a construction schedule as aforesaid shall be sufficient grounds for the Architect/Engineer to find the Contractor in substantial default and certify to the Owner that sufficient cause exists to terminate the contract or to withhold any payment.

1.03 Following development and submittal of the construction schedule as aforesaid, the Contractor shall, at the end of each calendar month occurring thereafter during the period of time required to finally complete the subject project, or at such earlier intervals as circumstances may require, update and/or revise the construction schedule to show the actual progress of the work performed and the occurrence of all events which have affected the progress of performance of the work already performed or will affect the progress of performance of the work yet to be performed in contrast with the planned progress of performance of such work, as depicted on the original construction schedule and all updates and/or revisions thereto as reflected in the updated and/or revised construction schedule last submitted prior to submittal of each such monthly update and revision. Each such update and/or revision to the construction schedule shall be submitted to the Architect/Engineer in duplicate. Failure of the Contractor to update, revise and submit the Construction Schedule as aforesaid shall be sufficient grounds for the Architect/Engineer to find the Contractor in Substantial Default and certify to the owner that sufficient cause exists to terminate the Contract or to withhold payment to the Contractor until a schedule or schedule update acceptable to the Architect/Engineer is submitted.

1.04 The Contractor shall have the option of scheduling a substantial completion date established by the Contract Documents for substantial completion; provided, however, in such event such earlier substantial completion date will be recognized by the Owner only as a matter of convenience to the Contractor and shall not change the date for substantial completion established by the Contract Documents or be otherwise binding on the Owner or anyone under the Owner's control; and provided further, however, in such event should events occur during performance of the work necessary to complete the subject project which would justify the granting to the Contractor of an extension of the Contract Time pursuant to the provision of Article 8 of the AIA General Conditions which form a part of the Contract Documents, the Contractor shall be entitled to receive only such an extension of the Contract Time as is determined by the Architect/Engineer to be due the Contractor as follows:

A. In the event the currently approved Contractor's schedule indicates completion ahead of the contractually established date for Substantial Completion, the time extension to the Contract shall only be determined, when the total time directly

SECTION 01320 - PROGRESS REPORTING

affecting the critical path of the schedule is added to the end date of the schedule thereby making a new end date beyond the contractual completion date, as the time between the contractual completion date and the new schedule end date.

B. In the event the currently approved Contractor's schedule indicates completion at or after the contractually established date for Substantial Completion, the time extension shall only be added to the contractually established date for Substantial Completion and shall be determined by the Architect/Engineer as the portion of delay time directly affecting the critical path of the current approved contract schedule.

2.0 PROGRESS REPORTS

2.01 As accompaniment to the monthly updated Progress Schedule, the Contractor shall submit a Monthly Progress Report in a concise and attractive format approved by the Architect/Engineer. The Monthly Progress Report shall address separately each of the following topics:

A. General progress of the work during the preceding month.
B. Progress outlook for the upcoming month.
C. Change orders, including status of any pending changes in the work.
D. Administrative: Delays in the work during the preceding month; current or anticipated delays; any needed decisions regarding the work.
E. Information needed from the Architect/Engineer.
F. Information needed from the Owner.

2.02 Photographs illustrating the report and/or documenting the progress may be included in the report as required by the Project Manager.

(END OF SECTION 01320)

SECTION 01400 – TESTING

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section. Refer to Section 00900 (5.0) for additional testing requirements.

1.02 Extent: This Section covers the testing of all areas in foundation and mechanical trenches, paved areas and areas under slabs on grade.

2.0 TESTING LABORATORY SERVICE

2.01 A certified testing laboratory will be employed by the Contractor to perform inspections, concrete, asphalt and soil tests of the work specified under this Contract. The testing firm will be directly responsible to the Contractor and Architect.

2.02 A testing laboratory will be employed by the Owner for all Test and Balance work required in all work to be performed.

2.03 Water testing to be tested and certified as outlined in plumbing section of this Project Manual.

3.0 DENSITY TESTS

3.01 Soil compaction shall occur in the top 10" of all building pads, foundation, and mechanical excavations, as specified herein to a minimum of 95% of the maximum dry density, as determined through laboratory testing ASTM D-1557-66T; in-place density testing shall be made, to ensure that this value has been met.

3.02 In-place density tests shall be in accordance with ASTM D-1556-64.

3.03 Concrete Testing - Refer to Section 03010 (1.05) and (1.06)

4.0 PAYMENT FOR TESTING

4.01 The Contractor will pay for the required tests as specified herein, except that all failing tests and retests shall be paid by the Contractor. The Contractor shall be responsible for giving notice for test scheduling and providing assistance in conducting the testing.

5.0 MISCELLANEOUS TESTING

5.01 Refer to individual sections of the specifications for testing unique to that product.

5.02 Refer to EJCDC-C700 Standard General Conditions of the Construction Contract

6.0 THRESHOLD BUILDING REQUIREMENTS

6.01 Refer to Project Manual Threshold Plan

(END OF SECTION 01400)

SECTION 01410 - PROCEDURES AND QUALITY CONTROL

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary Conditions and General Requirements, apply to the work specified in this Section.

1.02 Codes and Regulations: Construction shall meet the requirements of the Florida Building Code (8th Edition) and Florida Fire Prevention Code (8th Edition).

1.03 Codes and Regulations: The Contractor shall be responsible for calling to the Architect's attention any details or specifications that are not in conformance with applicable codes. Where no specific method or form of construction is called for in the Contract Documents, the Contractor shall comply with Florida Building Code (8th Edition) requirements in carrying out such work.

1.04 Utility Codes and Regulations: Comply with regulations and codes of suppliers of utilities, and comply with all other local, state, and federal regulations and standards concerning building construction.

1.05 General Quality and Standards: To facilitate rapid examination the detailed Specifications concerning basic requirements for labor, materials, equipment, and/or incidentals to be used on the project are included under the various divisions in as brief a form as is consistent with clarity. The primary concern of the detailed Specifications is for standards of performance expected for the finished work.

1.06 General Contingency Requirements: The interests of the Owner, the General Contractor, and others concerned with the work require the inclusion of certain general governing requirements and standards, as a precaution against contingency and to provide for the conditions under which the construction and the administration of the work will be carried out.

1.07 General Quality Control: General requirements for the quality of the work, when not otherwise covered in more specific detail in the Specifications, will be governed by certain trade standards as described in this section on "Procedures and Quality Control."

1.08 These Specifications consider the project as a whole and assume its completion under a General Contract. Further, the scope of subcontractors and the quantities of materials and labor supplied to the General Contractor by others are assumed to be matters governed by agreement between the General Contractor and his subcontractors and suppliers and not by agreement between the Owner and any subcontractor or supplier.

1.09 Various sections of the construction specifications are intended to govern only the quality of work and/or materials incidental to the particular branch of work mentioned in this section title. Sections are not intended as itemizations of the work or materials to be furnished or to limit or define the scope of any subcontract or agreement to furnish material and labor.

SECTION 01410 - PROCEDURES AND QUALITY CONTROL

1.10 The furnishing of all items of material, labor, equipment, and/or incidentals necessary to the completion of the project as a whole will be expected when such items are called for on the Drawings by diagram, note, or schedule, are listed in the Specifications, or are reasonably inferred by either or a combination of both to ensure a complete assembly and project.

1.11 Substitutions: Products are generally specified by ASTM or other reference standard and/or manufacturer's name and model number or trade name. When specified only by reference standard, the Contractor may select any product meeting this standard, by any Manufacturer. When several products or manufacturers are specified as being equally acceptable, the Contractor has the option of using any product and manufacturer combination listed.

1.12 Post Contract Substitutions: After the Contract has been executed, the Owner and the Architect will consider a formal request for the substitution of products in place of those specified, under the following conditions.

A. The request is submitted within thirty (30) days after the award of the Contract.
B. The request is accompanied by complete data on the proposed substitution substantiating compliance with the Contract Documents, including product identification and description where applicable and an itemized comparison of the proposed substitution with the products specified or named by Addenda with data relating to contract time schedule, design and artistic effect where applicable and its relationship to separate contracts.
C. The request is accompanied by accurate cost data on the proposed substitution in comparison with the product specified, whether or not modification to the contract sum is to be a consideration.

1.13 Request for Substitutions: Requests for substitution based on the above conditions, when forwarded by the Contractor to the Architect, are understood to mean that the Contractor:

A. Has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified.
B. Will provide the same guarantee for the substitution that he/she would for that specified.
C. Certifies that the cost data represented are complete and include all related costs under this Contract but exclude costs under separate contracts and the Architect's redesign costs and that he/she waives all claims for additional costs related to the substitution which subsequently become apparent.
D. Will coordinate the installation of the accepted substitute, making such changes as may be required for the work to be complete in all respects.

1.14 Substitutions will not be considered if:

A. They are indicated or implied on shop drawing submissions without the formal request required above.
B. For their implementation they require a substantial revision of the Contract Documents in order to accommodate their use.

SECTION 01410 - PROCEDURES AND QUALITY CONTROL

1.15 Warranties: Except as otherwise specified, all work shall be warranted by the Contractor against defects resulting from the use of inferior materials, equipment or workmanship for one year from the date of Final Completion of the Contract, or from full occupancy or use of the project (for which it was designed) by the Owner, whichever is earlier.

1.16 Warranty Period Responsibility: If, within any warranty period, repairs or changes are required in connection with the warranted work, which in the opinion of the Architect/Engineer, are rendered necessary as the result of the use of the materials, equipment or workmanship which are defective or inferior or not in accordance with the terms of the contract, the Contractor shall, promptly upon receipt of notice from the Owner, and without expense to the Owner, proceed to:

A. Place in satisfactory condition, in every particular, all of such warranted work, and correct all defects therein.

B. Make good all damage to the structure or the site, or equipment or contents thereof, which, in the opinion of the Architect/Engineer, is a result of the use of materials, equipment of workmanship which are inferior, defective, or not in accordance with the terms of the Contract.

C. Make good any work or materials, or the equipment and contents of structures or site, disturbed in fulfilling any such warranty.

D. If the Contractor, after notice, fails to proceed promptly to comply with the terms of the warranties, the Owner may have the defects corrected; and the Contractor and his/her surety shall be liable for all expenses incurred.

1.17 Supervision: General Contractor is to have a Superintendent, employed by him throughout the duration of the project, present at work areas whenever any subcontractors', as well as, Contractor's personnel are working. Supervision by General Contractor of all work under this Contract is mandatory.

1.18 General: The Contractor shall furnish sufficient forces, construction plant, and equipment and shall work such hours, including night shifts and overtime operations, as may be necessary to ensure the procession of the work and to complete the work within the specified time. The Contractor shall take such steps as may be necessary to improve his/her progress by increasing the number of shifts, overtime operations, days of work, and the amount of construction plant, all without additional cost to the Owner.

1.19 General Contract Compliance: Failure of the Contractor to comply with the requirements under this provision shall be grounds for determination by the Architect that the Contractor is not prosecuting the work with such diligence as will ensure completion within the time specified, and such failure constitutes a substantial violation of the Agreement.

1.20 Upon such determination, the Owner may terminate the Contractor's right to proceed with the work, or any separable part thereof, in accordance with Article 14 of the AIA General Conditions.

(END OF SECTION 01410)

SECTION 01500 - TEMPORARY FACILITIES

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

1.02 Temporary Storage Building and/or Sheds: The Contractor may provide on-premises at convenient location with respect to building construction areas, suitable watertight storage building for storage of materials, equipment, and tools which might be damaged by exposure to the weather and job site telephone. Building shall be of sufficient size and capacity to hold all damageable materials which may be on site at one time. Floors or dunnage racks shall be raised at least six inches above the ground and be supported by heavy joists or sleepers. Contractor shall maintain building in good condition and locate it so as not to interfere with construction efforts. Owner may elect to allow the building to remain if found to be beneficial once construction is complete and the contractor vacates the site.

1.03 Temporary Toilet Facilities: The Contractor shall furnish, install, and maintain ample sanitary facilities for use of workmen of all trades engaged in work under the Contract. Portable facilities shall be used. Temporary toilets shall be constructed at time work is commenced and shall be subject to applicable County Ordinances, Health Department requirements, and rules and regulations of governing authorities by code or otherwise. [Note: Owner may allow use of toilet facilities in the existing adjacent facility after project has been awarded.]

1.04 Temporary Utilities:

A. Arrangement and Payment - The Owner may furnish accessibility to water and electrical power free of charge to the Contractor from adjacent existing facility. The Contractor shall make all necessary arrangements and shall pay for sewage service and removal of rubbish and debris during the construction of the buildings as may be required for use of his own forces and those of his/her Subcontractors, and as required by them until acceptance of the work by the Owner.

B. Water - The Owner will have water service adjacent to the construction site for the Contractor's use. Contractor is to provide all hoses, and piping required for construction.

C. Electrical - The Owner will provide electric service and Contractor to furnish extension cords to area needed. The Contractor shall provide wiring, fuses, disconnect switches, safety devices, junction boxes, panel boxes, ground fault protections, and transformer, if required, in connection with use of temporary electrical service for lighting and power during construction. All items and installations are to conform to the requirements of the National Electrical Code, and "Occupational Safety and Health Act of 1970." Observations by the Architect, his agents, or any recognized agency indicating failure to comply with code requirements shall be cause for immediate suspension of the job site operations by the contractor until the system is in full compliance. No extension to the contract time shall be allowed for such suspension of job site operations.

D. All temporary water and electrical connections, if needed, shall be made at locations and in a manner approved by the Owner. These services shall be maintained in a safe condition. All temporary services, if needed, shall be

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completely removed and all disturbed work returned to its as found condition, when the services are no longer needed.

1.06 Public Protection: The Contractor shall provide applicable temporary public protection facilities and precautions to avoid damage to persons and property including streets, utilities, and adjacent private and public property. Compliance with "Occupational Safety and Health Act of 1970" Federal Statute, and Part 1926, "Safety and Health Regulations for Construction" published by the Associated General Contractors of America is required. Should any part of the site be occupied by students or staff during construction, the Contractor shall minimize delivery of construction materials and heavy traffic to and from the site during one critical hour in the morning and one critical hour in the afternoon when students and/or staff are arriving and leaving the school site. The Owner will advise the Contractor of the times at the Preconstruction Meeting.

1.07 Fire Hazards: The Contractor shall observe and enforce compliance by all trades engaged in work under the Contract with requirements of city, county, state, federal, and Insurance Underwriter's regulations to minimize fire hazards incidental to the work.

1.08 Watchman and Janitor Service:

A. Watch Requirements - The Contractor may employ and pay for watchmen, or a watchman's service, as he/she deems necessary to protect his/her own interest, and he shall be responsible for and pay for losses or damages to the Owner's materials or other property as the result of theft, mysterious disappearances, or intrusions by strangers.

B. Janitorial Requirements - The Contractor shall keep sanitary facilities clean and supplied, dispose of waste, attend to drinking water requirements, and render such other housekeeping or janitorial services as may necessary to keep job office, job site, the work and temporary toilets clean and in first class conditions.

(END OF SECTION 01500)

SECTION 01530 – BARRIERS

1.0 GENERAL

1.01 Summary: It is the intent of this section to provide for the furnishing, erecting, providing, and installing of all protective barriers to prevent harm to workmen, employees, or other persons by adequately marking and designating work areas that may be cause of such harm and to adequately mark those areas containing stored materials to prevent damage.

1.02 Description:

A. Erect barriers around areas of construction to warn all persons of the possible hazards of personal injury when entering such areas. Erect barricades around open holes and work edges or other such items which may, because of location of work areas or type of work, because of injury or harm to any person within construction areas.

B. Erect barriers around existing planting areas to protect landscaping plants from damage due to construction operations, storage of materials and abuse by workmen.

C. The Contractor shall erect barriers or fences to protect materials stored on-site and to prevent children or others from gaining access to stored materials and equipment.

2.0 PRODUCTS

2.01 Barriers:

A. Barricade may be portable, prefabricated types or erected and fabricated on-site of wood or rope and chains.

1. Signs:
   a. Post at not more than 12 feet apart and attached to barricade.
   b. Attach signs stating "Danger" or "Do Not Enter".
2. Flags: Post red colored flags at not more than 6 feet apart.
3. Barricades:
   a. Each barricade type shall meet OSHA standards.
   b. OSHA standards exceed all other type barricades listed herein.

B. Landscaped Areas: Erect barriers to prevent workmen from entering or storing materials in planting areas.

3.0 EXECUTION

3.01 Barriers shall remain in place during entire construction operations, from demolition until substantial completion.

3.02 Barrier locations will be determined on the plan sheet as approved by Project Manager/Architect/Engineer and Owner.

3.03 Barriers shall be removed at completion of all construction operations.

(END OF SECTION 01530)

SECTION 01531 - TEMPORARY FENCING

1.0 GENERAL

1.01 Summary: It is the intent of this Section to provide for the furnishing and installing of the temporary fencing and all associated work and accessories.

1.02 Work Included:
- A. Contractor will bear all fencing expenses.
- B. Work included is a convenient listing of the significant items described within this Section and shall not be construed as the only work applicable or related to this Section.
- C. Work includes, but is not limited to:
  1. Chain link fabric.
  2. Posts.
  3. Gates.
  4. Accessories.

1.03 Quality Assurance - Erector Qualifications: Minimum three (3) years' experience installing similar fencing.

1.04 Submittals: Submit manufacturer's products data describing installation methods procedure with standard drawings of fence and gate installation.

2.0 PRODUCTS

2.01 General: Fence components shall be galvanically compatible.

2.02 Chain Link Fabric - F.S. RR-F-00191/1, Type II:
- A. Once piece fabric, full height 6 ft.
- B. Mesh size 2".
- C. Wire diameter finish gauge 11.

2.03 Gates - F.S. RR-F-00191/2, Type I, double swing:
- A. Fabric: Same as fence fabric.
- B. Hinges: Standard type.
- C. Latches: Plunger bar type, operable either side of gate with padlock hasp.

2.04 Framework: Posts: F.S. RR-F-00191/3, Type I, Class 3.

3.0 EXECUTION

3.01 Preparation:
- A. Measure and lay out complete fence line according to the site drawings. Take measurements parallel to the surface of the ground. Run fence to the existing fence for a temporary tie in.
- B. Locate and mark position of post. Locate line posts at equal distance spacing not exceeding 10' centers. Locate corner posts at positions where fence changes direction more than 10 degrees.

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3.02 Installation:

A. Posts:
1. Maximum of 8' spacing.
2. Minimum of 2' depth.

B. Fence Fabric:
1. Stretch fabric tight between terminal posts. Position the bottom of fabric approximately 1" to 2" above ground level at each post.
2. Attach fabric to terminal post using tension bars and tension band.
3. Attach fabric to line posts using wire ties or clips.

C. Gates:
1. Install gates plumb and level 1/4" to 10 ft.
2. Adjust hardware to provide smooth operation.
3. Gate posts shall be set in concrete 3,000 PSI, minimum of 2 feet.

3.03 Removal: Remove fencing at completion of construction. Removal all evidence of fencing. Fill holes and tamp. Remove all cuttings, clippings, and concrete.

(END OF SECTION 01531)

SECTION 01620 - MATERIALS STORAGE AND PROTECTION

1.0 GENERAL

1.01 All materials shall be new and delivered to the site in original manufacturer or fabricator's bundles, packages, containers, etc. and tagged or otherwise marked or labeled for proper identification.

1.02 Store all materials in appropriate manner from elements and weather off ground, under cover or in enclosures as required by manufacturer's recommendations, code or trade association recommendations.

1.03 Ventilate enclosed or covered areas to prevent moisture damage to materials.

1.04 Do not allow materials to become unusable by contamination from foreign matter, frost, ice, rust, corrosion, etc.

1.05 Obtain all similar types of materials or products form single manufacturer, produced by similar or duplicate methods. Do not change sources or brands during the course of the work unless approved by the Architect/Engineer.

2.0 PRODUCTS

2.01 As required by specifications.

3.0 EXECUTION

3.01 Inspect all materials and products prior to installation or incorporation into the work.

3.02 Do not install materials or items that are damaged or otherwise not acceptable. Acceptance of project is contingent upon all items or materials being in proper operating condition and free from defects, blemishes or damage.

3.03 Install all items specified or referenced by specification in locations and manner shown or required. Proprietary items shall be installed in manner and under conditions recommended by the manufacturer.

(END OF SECTION 01620)

SECTION 01700 - CLOSE-OUT REQUIREMENTS

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

1.02 Description of Work: As each phase of the work is completed and prior to the Architect's semi-final inspection, the following cleaning shall be done:

A. Completely clean the entire area of dust.
B. Clean or replace filters as required.
C. Remove any paint spots.
D. Clean and polish finish metal.
E. Dust clean lighting fixtures and mechanical and communications equipment.
F. Clean and polish all finished floors; and seal concrete floors that are to remain exposed.
G. Clean, polish, and test all finish hardware to ensure smooth operation. Adjust all door closers to reflect ADA requirements.
H. Thoroughly clean all plumbing fixtures and joints to be neatly caulked.
I. Clean roof areas, flashing, counter flashing and roof accessories; and leave in a neat appearance.
J. Clean all exterior concrete and masonry work of cement and mortar stains, or other unsightly blemishes.
K. All MEP properly labeled and identified.

1.03 After the work is occupied by the Owner, it is not the Contractor's responsibility to do further cleaning; however, before final acceptance, clean or otherwise repair any damage, or soiling of finish materials that can be attributed to the Contractor's workmen.

1.04 Record Drawings: Each day during the progress of the work, the Contractor shall require the job superintendent for the plumbing and electrical subcontractors to record, on their field sets of drawings the exact locations, as installed, of all underground and otherwise concealed conduit, pipe, and equipment which were not installed exactly as shown on the Contract drawings.

1.05 Pipe lines and conduit which are installed in furred spaces, pipe chases or other spaces, which can be readily inspected by the use of access panels or other means of access, will not be considered as being concealed.

1.06 With reference to electrical work, the exact runs of concealed conduit shall be shown on these drawings.

1.07 The Contractor shall review the completed record drawings and shall ascertain that all data furnished on the drawings are accurate and truly represent the work as actually installed. When manholes, boxes, underground conduits, plumbing, inverts, etc. are involved as part of the work, the Contractor shall furnish true elevations and locations, all properly referenced, by using the original benchmark used for the institution or for this project.

1.08 The prints, including those unchanged and changed, shall be submitted to the Architect when completed, for certification and forwarding to the Owner at the time of Substantial

SECTION 01700 - CLOSE-OUT REQUIREMENTS

Completion.

1.09 Close-Out of the Work: The following items cover the conditions necessary to the completion of the project. As-Builts are to be neatly noted and scanned; provide one CD and one hard copy 24"x36" as directed by Architect at project closeout.

A. Basic Requirements Prior to Final Inspection - Upon substantial completion of all General Construction, and prior to the Architect's punch list inspection, complete all of the following:
   1. General Construction.
   2. Mechanical and electrical work, with fixtures in place, connected Temporarily, if necessary, cleaned and ready for final tryout and test.
   3. Painting and finishing.
   4. Cleaning of glass, tile, and metal work.
   5. Installation of hardware, with all doors in good working order.
   6. Clear grounds of the Contractor's shacks, equipment, fences, and building supplies.
   7. All life safety items in working order and certified.
   8. Install laminated 24 x 36 Electrical Riser Diagram in Main Electrical Room.

B. Contractor's Semi-Final Inspection - When work is substantially complete, as defined by the General Conditions, make an inspection of the entire work and, with the assistance of all subcontractors, make a detailed list of all items still to be completed. Then request payment for substantially completed work as provided for under the paragraph pertaining to payments in the General Conditions and in Supplementary Conditions. Along with this request, submit to the Architect two copies of the list of items to be completed. Architect and Engineers will inspect or review the work or submittals two times only as part of his/her Contract.

C. Architect's Semi-Final Punch List - Upon receipt of the above written request and information from the General Contractor, the Architect will make a detailed semi-final inspection of the work. If the Architect finds the work to be substantially complete, he will prepare a Certificate of Substantial Completion for payment by the Owner and will attach thereto the punch list of items to be completed or corrected. This list may not be exhaustive, and failure to include an item on it does not alter the responsibility of the Contractor to complete all work in accord with the Contract Documents, including authorized changes thereto. If the Architect does not concur in the Contractor's claim of substantial completion, he will so notify the Contractor and will state his reasons for his decision and terminate the inspection. The Contractor shall thereafter take steps to correct the deficiencies and to bring the work to substantial completion, after which he will repeat the same process.

D. Contractor's Request for Final Payment - With the request for final payment, submit a copy of the latest punch list with all completed items checked off. If any items on the punch list are not checked off, explain their status and when they can be expected to be completed or corrected. In addition, the Contractor is to submit complete and accurate closeout documents. When project is deemed complete, the Architect is to issue a Certificate of Final Inspection.

E. Items Required to Issuance of Final Certificate - As the punch list of uncompleted or uncorrected items is completed, submit the following to the Architect for his approval:
   1. Operating Instructions - Furnish the following:
      a) Complete operating instructions on all mechanical and electrical items. In cases where detailed specifications require operating instructions to be framed and placed in equipment rooms, it will not

SECTION 01700 - CLOSE-OUT REQUIREMENTS

be necessary to furnish additional instructions.

b) In addition to furnishing operating instructions, have the appropriate subcontractor instruct a representative of the Owner in the operation of equipment. Submit to the Architect a letter stating the name of the Owner's representative who has been instructed and the dates such instruction was given.

2. Warranties - Furnish all manufacturers' warranties which have been included with equipment.
3. Keys and Special Wrenches - Tag all keys and special wrenches with the room number or designated use. In the event the keys have been turned over directly to a representative of the Owner, furnish a signed receipt from such representative.
   Note: The hardware supplier will check all hardware once in place to ensure the smooth operation of each of the hardware sets.
4. Guarantees - Furnish written warranties, in DUPLICATE, signed by the subcontractor and the General Contractor, in accordance with para.4.5 of the AIA General Conditions and with Supplementary Conditions and Technical Specifications.
5. Final Releases of Lien - Furnish affidavits and Final Releases of Lien in addition to sub-para.9.9.2 of the AIA General Conditions.
6. Contractor to provide time to allow Owner to video tape the buildings system instruction conducted by each of the Mechanical, Electrical, and Plumbing, Sound and Security Systems for training purposes.
7. One complete copy of shop drawings.
8. Date of post-occupancy, pre one-year site inspection (roughly two to three weeks prior to the one-year general warranty anniversary).
9. All test certifications.

F. Final Payment: Upon receipt of the above-listed documents and information, the Architect will make a final inspection of the project. If all punch list items are complete or corrected, the Architect will issue a final certificate to the Owner, recommending that final payment be made. The final payment will be withheld, however, until after the final inspection and approval by the Owner.

G. Project Closeout Documents Checklist: See attached form.

SECTION 01700 - CLOSE-OUT REQUIREMENTS

PROJECT CLOSE OUT DOCUMENTS

____ Completed Checklist of Unconditional Release of Liens (Attach)

____ As Built Drawings (Hard Copy and Two copies of scanned drawings on a computer disk)

____ Warranties as Appropriate (Dated to reflect substantial inspection date)

____ Owner's Manuals for All Equipment/Project

____ Certification that the Punch List Is Completed
(Verified and Signed by contractor/ representative of owner)

____ Water Quality Certification

____ A Copy of Each Shop Drawing

____ Letter stating No Lead or Asbestos Related Products were used on the Project

____ Letter from Hardware Supplier that Every Door has been checked and is functioning properly and smoothly.

____ All Life Safety Certifications

OWNER _____ ARCHITECT_____

DATE _____

(END OF SECTION 01700)

SECTION 01710 – CLEANING

1.0 GENERAL

1.01 Description of Work:

A. Work includes, but is not limited to, cleaning of materials and work of all Specification Sections, removal of trash, debris, and waste materials and preparation of building for occupancy.

B. Maintain premises and public properties free from accumulation of waste, debris, and rubbish caused by work operations.

C. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces. Leave project and premises clean and ready for occupancy.

2.0 PRODUCTS

2.01 Use only cleaning materials recommended by manufacturers and only as directed by manufacturers.

A. Take proper precautions to prevent damage by spillage of caustic, acidic, toxic, or volatile cleaning material:

1. Keep and store all cleaning materials, compounds, or solutions in covered metal, or other suitable safe containers and keep in a safe, locked storage area when not in use.
2. Notify Owner when any toxic substances shall be used so as to provide proper notice to employees and visitors to prevent any contamination by inhaling, touching, or tasting or any other contact which may cause illness or reaction to the toxic substance.

B. Clean and remove any spilled cleaning materials. Repair or replace damaged materials due to spilled cleaning materials.

C. Do not dispose of any cleaning materials, compounds, or solutions into sanitary lines, storm drains, or on-site pits. Dispose of as prescribed by Law.

3.0 EXECUTION

3.01 During Construction:

A. Execute cleaning to ensure that building, grounds, and public properties are maintained free from accumulations of waste materials and rubbish. Wet down dry materials, and rubbish to lay down dust, and prevent blowing of dust. Periodically, during progress of work, remove accumulations of waste, debris, and trash.

B. Provide on-site containers for collection of waste materials, debris, trash, and rubbish on a regular basis.

C. Do not bury any waste materials, debris, trash, and rubbish on site.

D. Remove waste materials, debris, trash, and rubbish from site and legally dispose of at legal dumping areas designated by law.

E. Handle waste materials, debris, trash, and rubbish from site and legally dispose of at legal dumping areas designated by Law.

F. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process and operations will not fall on or damage newly painted surfaces or other work that would be damaged.

SECTION 01710 – CLEANING

G. Do not encumber site with waste material accumulations. Keep walkways free of all waste.
H. Do not burn without burn permit from proper authority with the location determined by the Project Manager or Architect/Engineer.

3.02 Final Cleaning:
A. Remove grease, dust, dirt, stains, labels, and other foreign materials from exposed interior and exterior surfaces. Repair, patch, and touch-up marred surfaces. Broom clean paved surfaces. Rake clean grounds.
B. Dispose of trash, waste, debris and rubbish from site.
C. Maintain building and grounds in clean condition until acceptance by Owner.

(END OF SECTION 01710)

SECTION 02000 – SUBSURFACE CONDITIONS / GEOTECHNICAL

1.0 GENERAL

1.01 DESCRIPTION

A. A Geotechnical Engineering Services Report (dated TBD) has been prepared by (Geotechnical Services Firm) for this project. A copy of said report follows this Section.

B. This Geotechnical evaluation is referenced only as information as a convenience to the Contractor, and expressly not as a part of the Contract Documents.

C. Actual subsurface conditions which may be encountered in connection with this Project may vary widely from the referenced Report, and any information or conclusions drawn from this Report shall be at the Contractor's risk.

D. Not Owner, Architect nor any of their respective consultants, agents, or employees makes any promises, representations, or guarantees as to the accuracy of the Geotechnical information referenced herein.

(END OF SECTION 02000)

SECTION 02207 – EXCAVATION AND BACKFILL

1.0 GENERAL

1.01 Comply with Sections

A. General

B. Related Divisions and Sections

C. Electrical Codes, Standards and Inspections

D. Electrical Identification

2.0 PRODUCTS

2.01 Sand

A. Clean, hard, uncoated grains free from organic matter or other deleterious substances. Sand for back fill shall be of a grade equal to mortar sand, with 95% passing a No. 8 sieve, and not more than 8% passing a No. 100 sieve.

2.02 Gravel

A. Clean, well graded hard stone or lime rock gravel, free from organic material. Size range to be from No. 4 screen retentions to 1".

2.03 Earth

A. Must be free of stones, wood, roots or rubbish.

3. EXECUTION

3.01 Ditching and Excavation

A. Shall be performed by hand wherever the possibility of encountering obstacles or any existing utility lines. The Contractor will be totally responsible to insure that no utility or service interruptions shall be caused and that no existing utilities or obstructions will prohibit installations of service under this Contract at proper grade and location. Where clear and unobstructed areas are to be excavated, appropriate machine excavation methods may be employed. Avoid use of machine excavations within the limits of the building lines except when machine weights and operation will not damage sub-surface structural components or piping.

3.02 Bedding

A. Excavate to bottom grade of raceway to be installed, and shape bed of undisturbed earth to contour of conduit for a width of at least 50% of the conduit diameter. If earth conditions necessitate excavation below raceway grade, bring the bed up to the proper elevation with clean, dry sand deposited in 6" layers and firmly tamped by mechanical means. If sub-cut exceeds 12" or if bed is of an unstable nature, a 6" minimum layer of rock will be required before sand bedding begins.

SECTION 02207 – EXCAVATION AND BACKFILL

3.03 Placing

A. Conduit shall be carefully handled into place in the excavation. Avoid knocking loose soil from the banks of the trench into the conduit bed. Coated conduit shall have special handling slings to prevent damage to the coating. All holidays in the conduit coating shall be touched up before beginning back filling.

3.04 Backfilling

A. Deposit earth or sand carefully in 6" layers, maintaining adequate side support. Compact fill in 6" layers, using mechanical means, up to the top elevation of the conduit and 12" layers to finish grade.

3.05 Identification

A. Provide identifying metalized plastic warning tape above non-metallic conduit and standard plastic warning tape above metal conduit. Warning tape shall be placed 6" minimum and 18" maximum above the conduit. Replace surface to the original condition, i.e., sodding, sprigging, fine grading.

3.06 Excavation

A. Shall be maintained in satisfactory condition during the progress of the work. Sub-surface structures shall be constructed in adequately sized excavations and dewatering equipment shall be installed and properly maintained. Shoring shall be employed in the event of unstable soil conditions and in all cases to protect materials and personnel from injury.

(END OF SECTION 02207)

SECTION 02361 - TERMITE CONTROL

1.0 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 soil treatment for termite control.

1.03 Definitions:

A. EPA: Environmental Protection Agency.

B. PCO: Pest control operator.

1.03 Submittals:

A. Product Data: Treatments and application instructions, including EPA-Registered Label and Material Safety Data Sheets (MSDS).

B. Product Certificates: Signed by manufacturers of termite control products certifying that treatments furnished comply with EPA regulations for Termiticides.

C. Certificate of Compliance: As detailed in "Quality Assurance" article.

D. Soil Treatment Application Report: After application of Termiticide is completed, submit report for Owner's record information, including the following as applicable:

1. Date and time of application.
2. Moisture content of soil before application.
3. Brand name and manufacturer of Termiticide.
4. Quantity of undiluted Termiticide used.
5. Dilutions, methods, volumes, and rates of application used.
6. Areas of application.
7. Water source for application.

E. Warranties: Special warranties specified in this section.

1.05 Quality Assurance:

A. Applicator Qualifications: A PCO who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment in jurisdiction where project is located and who is experienced and has completed termite control treatment similar to that indicated for this project and whose work has a record of successful in-service performance.

B. Certificate of Compliance: As per the Florida Building Code (8th Edition) Section 1816.1.7: "The rules and laws as established by the Florida Department of Agriculture and Consumer Services shall be deemed as approved with respect to pre-construction soil treatment for protection against subterranean termites. A Certificate of Compliance shall be issued to the building department by the licensed pest control company that contains the following statement:

'The building has received a complete treatment for the prevention of subterranean termites. Treatment is in accordance with rules and laws established by the Florida Department of Agriculture and Consumer Services.'"

SECTION 02361 - TERMITE CONTROL

C. Regulatory Requirements: Formulate and apply Termiticides, and label with a Federal registration number, to comply with EPA regulations and authorities having jurisdiction.

1.06 Project Conditions:

A. Environmental Limitations: To ensure penetration, do not treat soil that is water saturated or frozen. Do not treat soil while precipitation is occurring. Comply with EPA-Registered Label requirements and requirements of authorities having jurisdiction.

1.07 Coordination:

A. Coordinate soil treatment application with excavating, filling, and grading and concreting operations. Treat soil under footings, grade beams, and ground-supported slabs, before construction.

1.08 Warranty:

A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Special Warranty: Written warranty, signed by applicator and Contractor certifying that termite control work, consisting of applied soil Termiticide treatment, will prevent infestation of subterranean termites. If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation without cost to the Owner up to $50,000 in value.

C. Warranty Period: Five years from date of the Substantial Completion.

2.0 PRODUCTS

2.01 Soil Treatment:

A. Termiticide: Provide an EPA-registered Termiticide complying with requirements of authorities having jurisdiction, in a soluble or emulsible, concentrated formulation that dilutes with water or foaming agent, and formulated to prevent termite infestation. Fuel oil will not be permitted as a dilutant. Use only soil treatment solutions that are not harmful to plants. Provide quantity required for application at the label volume and rate for the maximum Termiticide concentration allowed for each specific use, according to the product's EPA-Registered Label.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. AgrEvo Environmental Health, Inc.; a Company of Hoechst and Schering, Berlin.
2. American Cyanamid Co.; Agricultural Products Group; Specialty Products Department.
3. Bayer Corp.; Garden & Professional Care.
4. DowElanco.
5. FMC Corp.; Pest Control Specialties.
6. Zeneca Professional Products.

3.0 EXECUTION

SECTION 02361 - TERMITE CONTROL

3.01 Examination:

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for moisture content of the soil, interfaces with earthwork, slab and foundation work, landscaping, and other conditions affecting performance of termite control. Proceed with application only after unsatisfactory conditions have been corrected.

3.02 Preparation:

A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's written instructions for preparing substrate. Remove all extraneous sources of wood cellulose and other edible materials such as wood debris, tree stumps and roots, stakes, formwork, and construction waste wood from soil and around foundations.

B. Soil Treatment Preparation: Remove foreign matter and impermeable soil materials that could decrease treatment effectiveness on areas to be treated. Loosen, rake, and level soil to be treated, except previously compacted areas under slabs and footings. Termiticides may be applied before placing compacted fill under slabs if recommended by Termiticide manufacturer.

C. Fit filling hose connected to water source at the site with a backflow preventer, complying with requirements of authorities having jurisdiction.

3.03 Application, General:

A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's EPA-Registered Label for products.

B. Per the Florida Building Code (8th Edition):

1. Initial chemical soil treatment inside the foundation perimeter shall be done after all excavation, backfilling and compaction is complete.
2. Soil area disturbed after initial chemical soil treatment shall be retreated with a chemical soil treatment, including spaces boxed or formed.
3. Space in concrete floors boxed out or formed for the subsequent installation of plumbing traps, drains or any other purpose shall be created by using plastic or metal permanently placed forms of sufficient depth to eliminate any planned soil disturbance after initial chemical soil treatment.
4. Treated soil shall be protected with a minimum 6-mil vapor retarder to protect against rainfall dilution. If rainfall occurs before vapor retarder placement, retreatment is required. Any work, including placement of reinforcing steel, done after chemical treatment until the concrete floor is poured, shall be done in such manner as to avoid penetrating or disturbing treated soil.
5. Concrete over-pour or mortar accumulated along the exterior foundation perimeter shall be removed prior to exterior chemical soil treatment, to enhance vertical penetration of the chemicals.
6. Chemical soil treatments shall also be applied under all exterior concrete or grade within 1 foot of the primary structure sidewalls. Also, a vertical chemical barrier shall be applied promptly after construction is completed, including initial landscaping and irrigation/sprinkler installation. Any soil disturbed after the chemical vertical barrier is applied shall be promptly retreated.

SECTION 02361 - TERMITE CONTROL

7. Protective sleeves around metallic piping penetrating concrete slab-on-grade floors shall not be of cellulose-containing materials and shall receive application of a Termiticide in annular space between sleeve and pipe.

3.04 Applying Soil Treatment:

A. Application: Mix soil treatment Termiticide solution to a uniform consistency. Provide quantity required for application at the label volume and rate for the maximum specified concentration of Termiticide, according to manufacturer's EPA-Registered Label, to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction. Distribute the treatment evenly.

1. Slabs-on-Grade and Basement Slabs: Underground-supported slab construction, including footings, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
2. Foundations: Adjacent soil including soil along entire inside perimeter of foundation walls, along both sides of interior partition walls, around plumbing pipes and electric conduit penetrating slab, and around interior column footers, piers, and chimney bases; and along entire outside perimeter, from grade to bottom of footing. Avoid soil washout around footings.
3. Crawlspaces: Soil under and adjacent to foundations as previously indicated. Treat adjacent areas including around entrance platform, porches, and equipment bases. Apply overall treatment only where attached concrete platform and porches are on fill or ground.
4. Masonry: Treat voids.
5. Penetrations: At expansion joints, control joints, and areas where slabs will be penetrated.

B. Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.

C. Post warning signs in areas of application.

D. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

(END OF SECTION 02361)

SECTION 02380 – CONCRETE SIDEWALKS

1.0 DIRECT PURCHASING

This Section is subject to the terms described in Section 01042, Direct Purchasing Procedures, whereby the Owner reserves the right to recover the sales tax on materials by purchasing directly the materials required for this Section. Issuance of Purchase Orders by the Owner shall not relieve the Contractor of any of his responsibilities regarding materials purchases or installation, with the exception of the payments for the materials as purchased.

2.0 GENERAL

2.1 Work Included:

2.1.1 The work required under this section shall include, but not be limited to the following:

a. Concrete sidewalks
b. Concrete equipment pads.
c. Reinforcement for above.
d. Surface finish.
e. Curing and sealing.

2.2 Related Sections:

a. 01010 Summary of Work
b. Refer to Civil Engineering under separate cover.

2.3 References:

ACI 301 - Specifications for Structural Concrete for Buildings.

ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete.

ANSI/ASTM A497 - Welded Deformed Steel Wire Fabric for Concrete Reinforcement.

ANSI/ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.

ANSI/ASTM D1751 - Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

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

ASTM C33 - Concrete Aggregates.

ASTM C94 - Ready-Mixed Concrete.

ASTM C150 - Portland cement.

ASTM C260 - Air-Entraining Admixtures for Concrete.

ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.

ASTM C494 - Chemical Admixtures for Concrete.

SECTION 02380 – CONCRETE SIDEWALKS

2.4 Quality Assurance:
- 2.4.1 Perform work in accordance with ACI 301.
- 2.4.2 Obtain materials from same source throughout.

2.5 Testing:
- 2.5.1 The Contractor shall provide and pay for the services of a qualified, independent testing laboratory, approved by the Owner, to insure that all materials and procedures furnished under this Contract are in compliance with all of the provisions of the Specifications.
- 2.5.2 The Contractor shall be required to cooperate with the representatives of the testing laboratory in every way and at no time prevent or hinder the performance of their work.
- 2.5.3 Three (3) concrete test cylinders will be taken for every 50 or less cubic yards on each class of concrete placed each day.
- 2.5.4 One (1) additional test cylinder will be taken during cold weather and be cured on site under same conditions as concrete it represents.
- 2.5.5 One (1) slump test will be taken for each set of test cylinders taken.

2.6 Submittals:
- 2.6.1 Submit product data.
- 2.6.2 Include data on joint filler, admixtures, and curing compounds.
- 2.6.3 Submit a jointing plan, including location of contraction joints, construction joints, expansion joints, and elevations fifteen days (15) prior to beginning concrete paving.
- 2.6.4 Submit, at least 15 days prior to start of concrete paving, certified laboratory test reports sufficient to verify compliance of proposed mix design (proportions) with the specifications for type and strength of concrete.

3.0 MATERIALS

3.1 Concrete Materials:
- 3.1.1 a. Cement: ASTM C150 type.
  b. Fine Coarse Aggregates: ASTM X33.
  c. Water: Clean and not detrimental to concrete.
  d. Air Entrainment Admixture: Darex.
  e. Curing and Sealing: Kure-N-Seal 30 as manufactured by Sonneborn Building Products.

3.2 Form Materials:
- 3.2.1 Wood or steel form material, profiled to suit conditions. Joint Filler: ANSI/ASTM D1751.

3.3 Reinforcement:
- 3.3.1 Reinforcing Steel: ASTM A615; 60 ksi yield grade; deformed billed steel bars, uncoated finish.
- 3.3.2 Welded Steel Wire Fabric: Plain type, ANSI/ASTM A185; in flat sheets; coiled rolls; uncoated finish. Fabric size shall be 6 x 6W1.4 unless noted otherwise.
- 3.3.4 Tie Wire: Annealed steel, minimum, 16-gauge size.

SECTION 02380 – CONCRETE SIDEWALKS

3.3.5 Dowels: ASTM A615; 40 ksi yield grade, plain steel, uncoated finish.

3.4 Accessories:
3.4.1 C171 Sheet materials for curing concrete.

3.5 Admixtures:
3.5.1 Air Entrainment: ASTM C260.

3.6 Concrete Mix:
3.6.1 Mix concrete in accordance with ASTM C94.
3.6.2 Provide concrete with the following characteristics:
a. Compressive strength at 28 days: 3,000 psi, unless as otherwise noted on drawings.
3.6.3 Use accelerating admixtures in cold weather only when approved by Architect/Engineer. Use of admixtures will not relax cold weather placement requirements.
3.6.4 Use set-retarding admixtures during hot weather only when approved by The Architect/Engineer.
3.6.5 Add air entraining agent to concrete mix for concrete work subject to freeze/thaw cycling, and slabs on grade.

4.0 EXECUTION:
4.1 Inspection:
4.1.1 Verify compacted subgrade and base is ready to support paving and imposed loads.
4.1.2 Verify gradients and elevations of base are correct.
4.1.3 Beginning of installation means acceptance of existing conditions.

4.2 Preparation:
4.2.1 Moisten base to minimize absorption of water from fresh concrete.
4.2.2 Notify Architect/Engineer minimum 24 hours prior to commencement of concreting operations.

4.3 Forming:
4.3.1 Place and secure forms to correct location, dimension, and profile.
4.3.2 Assemble formwork to permit easy stripping and dismantling without damaging concrete.
4.3.3 Place joint fillers in vertical position, in straight lines. Secure to formwork during concrete placement.

4.4 Reinforcement Installation:
4.4.1 Place reinforcement as shown on drawings for slabs-on-grade.
4.4.2 Interrupt reinforcement as control, contraction, or expansion joints, as shown.
4.4.3 Place reinforcement to achieve slab and curb alignment, as detailed.
4.4.4 Provide dowelled joints at interruptions of concrete with one end of dowel set in capped sleeve to allow longitudinal movement, if and as shown.
4.4.5 Horizontal reinforcing bars shall be supported over earth or forms on protected metal (galvanized, plastic, stainless steel) spacers, chairs, bolsters, and ties, in accordance with CRSI "Manual of Standard Practice

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for Detailing Reinforced Concrete Structures."

4.4.6 The minimum concrete cover, unless noted otherwise on the drawings, shall be as follows:
- a. Three inches (3") when concrete is placed directly against earth.
- b. Two inches (2") when concrete is exposed to weather or earth.
- c. Three quarter inch (3/4") for general construction.

4.4.7 Field lapped splices shall conform to Class "C" splices, as defined in ACI 318-83 unless noted otherwise on the drawings.

4.4.8 Lap bars shall be provided at corners and abrupt changes in directions of walls and footings.

4.4.9 Reinforcing in strip footings shall be continuous through all column footings (or splices to column footing reinforcing) and around all corners, intersections and steps.

4.4.10 Welded wire fabric field splices shall be not less than two spacing's (2) of cross wires or six inches (6"), whichever is greater.

4.4.11 Placement of reinforcing steel shall be approved by the Engineer prior to placement of concrete.

4.5 Formed Joints:

4.5.1 Place expansion control contraction joints at intervals, to correct elevation and profile, as shown. Align curb, gutter, and sidewalk joints.

4.5.2 Place joint filler between paving components and building or other appurtenances. Recess top of filler one half inch (1/2").

4.5.3 Maintain optimum moisture content for compacting base material during placement operations.

4.5.4 Compact layers of base course material to not less than ninety-eight percent (98%) of maximum dry density, modified proctor, ASTM D2049.

4.6 Placement of Base Course:

4.6.1 Place base course on prepared sub-grade in compacted layers to establish required thickness and elevations.

4.6.2 Maintain optimum moisture content for compacting base material during placement operations.

4.7 Placing Concrete:

4.7.1 Place concrete in accordance with ACI 301.
- a. Hot Weather Placement: ACI 301.
- b. Cold Weather Placement: ACI 301.

4.7.2 Ensure reinforcement, inserts, embedded parts, formed joints are not disturbed during concrete placement.

4.7.3 Place concrete to thickness indicated on the drawings. Concrete thickness shall be six inches (6"), unless noted otherwise, and is to be placed over 6 mil vapor barrier.

4.7.4 Place concrete continuously between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur. Install all concrete on 6 mil vapor barrier.

4.7.5 Slabs to receive welded wire fabric shall have two thirds (2/3) their total concrete depth placed, the fabric positioned properly, and then the final one third (1/3) of the concrete depth placed.

4.7.6 Use mechanical vibrators for placement of all concrete; provide a standby

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vibrator on the job while placing.

4.7.7 Place concrete to pattern indicated. Saw cut contraction joints three-sixteenth inch (3/16") wide at an optimum time after finishing. Cut one-third into depth of slab.

4.8 Finishing:

4.8.1 Area Paving: Heavy broom finish parallel to line of traffic, Wood float, or as shown.

4.8.2 Sidewalk Paving: Light broom finish perpendicular to traffic, radius and trowel joint edges.

4.8.3 Place curing compound on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.

4.9 Placing Joints:

4.9.1 Place joints straight and vertical.

4.9.2 Longitudinal and transverse joint spacing shall be at regular intervals. Individual spacing's may vary slightly to next catch basin and manhole castings.

4.9.3 The maximum allowable joint spacing's are:

a. Twelve foot (12') for slabs six inches (6") and less in thickness.

b. Fifteen foot (15') for slabs over six inches (6") in thickness.

c. Length/width ratio of slabs shall not exceed 1:3.

4.9.4 Joints shall be continuous across the slab and must extend completely through integral curbs.

4.9.5 Full depth expansion joints one-half inch (1/2") wide shall be installed to isolate all fixed objects (manholes, casting, existing paving, etc.).

4.9.6 Isolate from adjacent pavement all manhole covers and catch basin rims with a concrete collar and an expansion joint.

4.9.7 Jointing shall be in accordance with jointing plan approved by the Architect.

4.9.8 Constructing Urethane Expansion Joints:

a. Concrete shall be placed with the premolded joint filler in place, and with a closed cell backer rod to allow for the proper sealant depth.

b. After the concrete has set, the joints shall be thoroughly cleaned and wire brushed to remove debris and/or curing compound, and primer shall be applied to surfaces which will receive sealant. Sealant shall be applied to clean, dry surfaces. Adjacent surfaces shall be protected with non-staining masking tape. The work shall be performed by a qualified professional caulker.

c. Primer and sealant shall be applied in accordance with the manufacturer's written recommendations, using hand guns or pressure equipment on properly prepared surfaces. Temperature of sealant and concrete shall be as recommended by the sealant manufacturer. Sealant shall be forced into the joint in front of the tip of the caulking gun, not pulled after it, and shall be forced against the sides to prevent entrapped air or pulling of sealant off the sides.

d. Sealant shall be finished slightly recessed from the adjacent surface, adjusted in accordance with the outside air temperature. The colder the day, the greater the recess needed. Masking tape shall be removed immediately after tooling of the sealant and before the sealant face starts to skin over. Excess sealant shall be

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removed from adjacent surfaces.

e. Sealant shall be protected from pedestrian and vehicular traffic by barricades or flagging until traffic will not track it.

4.10 Field Quality Control:

4.10.1 Field inspection and testing shall be performed by testing laboratory engaged by the Owner.

4.10.2 Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

4.11 Protection:

4.11.1 Immediately after placement, protect concrete from premature drying, excessive hot or cold temperatures, and mechanical injury.

(END OF SECTION 02380)

SECTION 02831 – CHAIN LINK FENCING AND GATES

1.0 GENERAL

1.01 Related Documents:
- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.02 Description:
- A. The extent of steel fences and gates is shown on the drawings.
- B. The types of materials include galvanized steel fencing and swing gates.
- C. Refer to Site plan and Floor Plan for location of vinyl covered fabric fence assembly.

1.03 Submittals:
- A. Product Data: Submit copies of manufacturer's technical data and installation instructions of steel fences and gates.
- B. Shop Drawings: Submit shop drawings for steel fences and gates, including plan layout and details illustrating fence height, location and sizes of posts, rails, braces, gates and footings, hardware list and erection procedures.

1.04 Quality Assurance:
- A. Standards of Manufacture: Comply with the standards of the Chain Link Fence Manufacturer's Institute of "Galvanized Steel Chain Link Fence fabric" and as specified herein.
- B. Provide each type of steel fence and gates as a complete unit produced by a single manufacturer, including necessary erection accessories, fittings, and fastenings.

1.05 Project Conditions:
- A. Field Measurements: Verify layout information for fences and gates shown on the drawings in relation to the property survey and existing structures. Verify dimensions by field measurements.

2.0 PRODUCTS

2.01 General:
- A. Pipe sizes indicated are commercial pipe sizes. Furnish Schedule 40 pipe.
- B. Tube sizes indicated are nominal outside dimensions.
- C. Finish for Framework and Appurtenances: Furnish the following finishes for steel framework and appurtenances.
  - 1. Galvanizing finish with not less than minimum weight of coating complying with the following:
    - a. Pipe: Schedule 40 (ASTM A53), 1.8 oz. zinc psf.
    - b. Hardware and Accessories: ASTM A153, zinc weight in accordance with Table I thereof.

2.02 Fabric:
- A. Furnish chain link fabric, one-piece, for fence heights up to 10 feet, as follows:
  - 1. Core wire shall be No. 9 gauge, 2-inch mesh.
  - 2. Top and bottom selvages knuckled finish.
  - 3. Galvanized finish with not less than 0.3 oz. zinc per square foot.

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4. Vinyl covered/coated where called for on the drawings.
5. Fabric of enclosures adjacent to student occupied spaces to be vinyl coated.

2.03 Posts, Rails, and Braces:

A. End, Corner and Pull Posts: Minimum sizes and weights are to be 3 inch O.D., 5.79 lbs. per lin. ft.

B. Line Posts: Minimum sizes and weights are to be 2.5 inch O.D., 3.65 lbs. per lin. ft. Space posts 10 feet O.C., maximum, unless otherwise indicated.

C. Gate Posts: For supporting single gate leaf, or one leaf of a double gate installation, for nominal gate widths, minimum weights and sizes as follows:
1. Up to 6 feet wide: 3 inch O.D., 5.79 lbs. per linear foot.
2. Over 6 feet wide and up to 18 feet wide: 6.625 inch O.D. Schedule 40 pipe, 18.97 lbs. per lin. ft.

D. Top Rail: Minimum weights and sizes to be 1.625 inch O.D., 2.27 lbs. per lin. ft.
1. Furnish in manufacturer's longest lengths, with expansion type couplings, approximately 6 inches long, for each joint. Provide means for attaching the top rail securely to each gate, corner, pull and end post.

E. Post Brace Assembly: For fencing over 6 feet high, furnish bracing assemblies at end and gate posts and at both sides of corner and pull posts, with the horizontal brace located at mid-height of the fabric. Use 1.660 inch O.D. Schedule 40 pipe weighing 2.27 lbs. per lin. ft. for horizontal brace and 3/8-inch diameter rod with turnbuckle for diagonal truss.

F. Tension Wire: Furnish tension wire consisting of galvanized 7 gauge coiled spring wire. Locate at bottom of fabric only where top rail is specified. Locate at bottom and top of fabric where no top rail is specified.

G. Post Tops: Pressed steel, wrought iron, or malleable iron, designed as a weather tight closure cap for tubular posts. Furnish one cap for each post. Where top rail is specified, furnish caps with openings to permit through passage of the top rail.

H. Stretcher Bars: One-piece lengths equal to full height of fabric, with a minimum cross section of 3/16 inch by 3/4 inch. Provide 1 stretcher bar for each gate and end post, and 2 for each corner and pull post, except where fabric is integrally woven into the post.

I. Stretcher Bar Bands: Steel, wrought iron, or malleable iron, spaced not over 15 inches o.c. to secure stretcher bars to end, corner, pull and gate posts. Where rails are specified, bands may also be used with special fittings for securing rails to end, corner, pull and gate posts.

2.04 Gates:

A. Fabricate gate perimeter frames of tubular members. Provide additional horizontal and vertical members to ensure proper gate operation for attachment of fabric, hardware, and accessories. Provide center upright for gate leaf 8 feet and over. Provide center rail for gate leaf 10 feet and over. Fabricate as follows:
1. Up to 6 feet high, or leaf width 8 feet or less: 1.660 inch O.D., 2.27 lbs. per lin. ft.
2. Over 6 feet high, of leaf width exceeding 8 feet: 1.90 inch O.D., 2.27 lbs. per lin. ft.
3. Interior bracing: 1.660 inch O.D., 2.27 lbs. per lin. ft.

B. Assemble gate frames by welding or with special malleable or pressed steel fittings and rivets for rigid connections. Use same fabric as for fence, unless otherwise

SECTION 02831 – CHAIN LINK FENCING AND GATES

indicated. Install fabric with stretcher bars at vertical edges. Bars may also be used at top and bottom edges. Attach stretchers to gate frame on all sides at not more than 15 inches O.C. Attach hardware with rivets or by other means which will provide security against removal or breakage.

C. Install diagonal cross bracing consisting of 3/8-inch diameter adjustable length truss rods on gates where necessary to ensure frame rigidity without sag or twist.

D. Install stabilization rollers/wheels as required to accommodate the normal operation of the gate unit to prevent overloading of operable parts.

2.05 Miscellaneous Materials and Accessories:

A. Wire Ties: For tying fabric to line posts and top rail, use 9 gauge wire (ring ties) ties spaced 12 inches o.c. For tying fabric to tension wire, use 11 gauge hog rings spaced 24 inches o.c. Finish of ties to match fabric finish. Manufacturer's standard procedure will be accepted if of equal strength and durability.

B. Concrete: Provide concrete in accordance with Division 3, Section 03300 - CONCRETE WORK. Mix materials to obtain concrete with a minimum 28-day compressive strength of 2500 psi.

C. Ground Rod: Copperweld, 3/4 inch diameter by 10 feet, with corrosion-resistant clamp suitable for No. 6 conductor.

D. Provide galvanized finish on all ferrous materials.

E. Provide chains at gates for locking. Chains shall be welded to posts.

F. Decorative insert visual screen slats equal to Bottom Lock by Pexco, 1-800-822-7528, or approved equal.

3.0 EXECUTION

3.01 Inspection:

A. Examine the conditions under which the fence and gates are to e installed and correct unsatisfactory conditions before proceeding with the work.

3.02 Installation:

A. General: Do not begin fence installation and erection before the final grading is completed, with finish elevations established, unless otherwise permitted. Install fence to comply with ASTM F567.

B. Excavation:

1. Drill holes of diameters and spacing shown for post footings in firm, undisturbed, or compacted soil. If not shown on the drawings, excavate holes to the minimum diameters as recommended by fence manufacturer but not less than four times the largest cross section of post.

2. Unless otherwise indicated, excavate depths of holes approximately 3 inches lower than the post bottom, with bottom of posts set not less than 36 inches below the surface when in firm, undisturbed soil.

a. Spread soil from excavations uniformly adjacent to the fence line or on adjacent areas of the site, as directed.

3. When solid rock is encountered near the surface, drill into the rock at least 12 inches for line posts and at least 1 inch for end, pull, corner, and gate posts. Drill the holes at least 1 inch greater diameter than the largest dimension of the post to be placed. If solid rock is below soil overburden,

SECTION 02831 – CHAIN LINK FENCING AND GATES

drill to full depth required, except penetration into rock need not exceed the minimum depths specified above.

C. Setting Posts:
   1. Remove loose and foreign materials from sides and bottoms of holes and moisten soil prior to placing concrete.
   2. Center and align posts in holes 3 inches above bottom of excavation.
   3. Place concrete around posts in a continuous pour and vibrate or tamp for consolidation. Check each post for vertical and top alignment and hold in position during placement and finishing operations. Extend concrete footings 2 inches above grade.
   4. Trowel finish tops of footings and slope or dome to direct water away from posts. Extend footings for gate posts to the underside of bottom hinge. Set keeps, stops, sleeves and other accessories into concrete, as required.
   5. Keep exposed concrete surfaces moist for at least 7 days after placement, or cure with membrane curing material or other acceptable curing method.
   6. Grout-in post set into sleeved holes, concrete constructions or rock excavations with non-shrink Portland cement grout, or other acceptable grouting material.

D. Concrete Strength: Allow concrete to attain at least 75 percent of its minimum 28-day compressive strength but, in no case, sooner than 7 days after placement, before rails, tension wires, barbed wire or fabric is installed. Do not stretch and tension fabric and wires and do not hang gates until the concrete has attained its full design strength.

E. Top Rails: Run rail continuously through post caps or extension arms, bending to radius for curved runs. Provide expansion couplings as recommended by fencing manufacturer.

F. Center Rails: Install in one piece between posts and flush with post on fabric side, using special offset fittings where necessary.

G. Brace Assemblies: Install braces so posts are plumb when diagonal rod is under proper tension.

H. Tension Wire: Install tension wires by weaving through the fabric and tying to each post with not less than 6 gauge galvanized wire or by securing the wire to the fabric.

I. Fabric: Leave approximately 2 inches between finish grade and bottom selvage, except where bottom of fabric extends into concrete. Pull fabric taut and tie to posts, rails, and tension wires. Install fabric on security side of fence, and anchor to framework so that fabric remains in tension after pulling force is released.

J. Repair damaged coatings in the shop or during field erection by recoating with manufacturer's recommended repair compound, applied per manufacturer's directions.

K. Stretcher Bars: Thread through fabric 4 inches o.c. and secure to posts with metal tension bands spaced not over 15 inches o.c.

L. Tie Wires: Use U-shaped wires, conforming to diameter of post to which attached, clasping pipe, and fabric firmly with ends twisted at least 2 full turns. Bend ends of wire to minimize hazard to persons or clothing.
   1. Maximum Spacing: Tie fabric to line post 12 inches o.c. and to rails and braces 24 inches o.c.

SECTION 02831 – CHAIN LINK FENCING AND GATES

M. Fasteners: Install nuts for tension band and hardware bolts on side of fence opposite fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

N. Electrical Grounds: Wherever a power line passes over the fence, a ground shall be installed directly below the point of crossing. The ground rod shall be driven vertically until the top of the rod is approximately 6 inches below the ground surface. A No. 6 conductor shall be used to connect the rod and all fence elements. The conductor shall be connected to each fence element and the ground rod by means of electrical-type clamps which will prevent electrolysis or other corrosion.

3.03 Gate Installation:

A. Install gates in accordance with manufacturer's instructions, plumb, level and secure for full opening without interference. Install ground-set items in concrete for anchorage as recommended by the fence manufacturer. Adjust hardware for smooth operation and lubricate where necessary.

B. Motorized Gates:
Refer to Site Plan for locations; in general, locations are:

(2) Two double pair units located at front entrance. Decorative aluminum gates with motorized operator and manual override – Pair of 13'-0" gates

(1) One double pair unit at Bus drop-off and pickup loop – Pair of 13'-0" gates with motorized operator and manual override

(2) Two sets double pair gates at service drive (one at entry and one at Gymnasium location) – Pair of 13'-0" gates with motorized operator with manual override

Note: Gates to have electric interface with front Admin Reception and card/keypad access device.

3.04 Adjusting:

A. Gates: After repeated operation of completed installation equivalent to 3 days use by normal traffic, readjust gate for optimum operating condition and safety. Lubricate operating equipment and clean exposed surfaces.

(END OF SECTION 02831)

SECTION 03010 – CAST-IN-PLACE CONCRETE

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

1.02 Description of Work: Forming, shoring, bracing and anchorage concrete reinforcement and accessories, cast in place concrete. Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not. Note: Contractor to use "Barrier one" moisture mitigation additive on slab on grade work.

1.03 Work Installed, but Furnished Under Other Sections:
- A. Masonry accessories attached to formwork.
- B. Metal fabrications attached to formwork.
- C. Flashing rights attached to formwork.

1.04 Related Work: Walks, and curbs, precast concrete.

1.05 Standards and Codes:
- A. ACI 301 Specification of Structural Concrete for Buildings.
- B. ANSI/ASTM A-497 - Welded Deformed Steel Wire Fabric for Concrete Reinforcement.
- C. ASTM A-615 - Deformed and Plain Billet Steel for Concrete Reinforcement.
- D. ASTM C-33 - Concrete Aggregates.
- E. ASTM C-94 - Ready Mixed Concrete.
- F. ASTM C-150 - Portland cement
- G. ASTM C-260 - Air Entraining Admixtures for Concrete.
- H. ASTM C-309 - Liquid Membrane Forming Compounds for Curing Concrete.
- I. ASTM D-2103 - Polyethylene Film and Sheeting.
- J. FS TT-C-800 - Curing Compound, Concrete, for New Surfaces.
- K. ACI 318 - Building Code Requirements for Reinforced Concrete.
- L. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
- M. ACI 311 - Recommended Practice for Concrete Inspection.
- N. ACI 347 - Recommended Practice for Concrete Formwork.
- O. AWS D12.1 - Recommended Practices for Welding Reinforcing Steel, Metal Inserts and Connections in Reinforced Concrete Construction.
- P. CRSI - Manual of Standard Practice

1.05 Tests:
- A. A recognized testing laboratory approved by the Architect shall design the "#'s" or mixes of concrete to be used and to test the compression specimens made during the placing of the concrete. No concreting shall start until the Contractor has received written notice from the laboratory that all designs required have been received and approved by the Architect.
- B. Test specimens to determine compressive strength shall be taken by the Contractor and delivered to the testing laboratory by the Contractor, at his expense, and in

SECTION 03010 – CAST-IN-PLACE CONCRETE

accordance with procedures set forth in ASTM Standards C-31 and C-39. Cost of testing shall be at the expense of the Contractor.

C. There shall be four compression specimens made for each strength of concrete placed on any one day and for each fifty yards of concrete. Also at such other times as may be deemed necessary for the Architect. One cylinder shall be broken at seven days and two cylinders broken at twenty-eight days. The average of the two - twenty-eight day "breaks" shall be use as the test result. One cylinder shall be retained by test laboratory and broken only when and if instructed by the Architect.

D. Concrete not meeting the strength requirements set forth herein shall be removed and replaced without additional cost to the Owner at the discretion of the Architect. Should strength results of any cylinder indicate that the concrete has not obtained specified strength, the spare cylinder shall also be tested to see if it passes the strength requirements. Should the spare cylinder fail to meet the strength requirements of the specifications, core-boring tests conforming to ASTM Standard C-42 shall be made. Should the core boring tests indicate the strength requirements of the concrete below that specified, load tests conforming to ACI Standard 318 shall be made. The Contractor shall pay any ASTM C-42 tests or load tests required by cylinder tests not reaching specified strength.

E. Laboratory test results shall be sent to the Architect, the Owner, and the Contractor.

1.06 All poured-in-place concrete work shown is governed by this Section. Concrete strength not otherwise designated shall be 4,000 psi, as determined by the use of ASTM C-31 and C-39. All precast concrete shall be 4,500 psi.

1.07 Quality Assurance:

A. Workmanship - The Contractor is responsible for the correction of concrete work that does not conform to the specific requirements, including strength, tolerances, and finishes. Correct deficient concrete as directed by the Architect/Engineer. Should cylinders and cores indicate unacceptable concrete, load testing or removal and replacement of the concrete may be required at no cost to the Owner.

B. Concrete Testing Service - The Contractor shall employ, at his employ, at his/her own expense, a testing laboratory experienced in design and testing of concrete materials and mixes to perform material evaluation tests, to design concrete mixes, and to perform strength tests associated with form removal. Testing agency shall meet the requirements of ASTM E-329.

C. The Contractor shall employ and pay an independent testing laboratory to perform the testing of the concrete during the process of the work. Allow free access to material stockpiles and facilities at all times. Tests, not specifically indicated to be done at the Owner's expense, including the retesting or rejected materials and installed work, shall be done at the Contractor's expense.

D. Welding of reinforcing steel shall be limited to welders whose competency has been treated according to standards of Structural Welding Code of American Welding Society.

1.08 Submittals:

A. Shop Drawings - Concrete Reinforcement: Submit shop drawings and fabrication, bending and replacement of concrete reinforcement. Comply with ACI Manual 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars, and arrangement of reinforcement. Show location of construction joints planned.

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B. Manufacturer's Data; Concrete, General: Submit manufacturer's product data, specifications with application and installation instructions for proprietary materials and items, including admixtures, bonding agents, waterstops, joint systems, chemical floor hardeners, and dry shake finish materials.

C. Test reports specified in Paragraphs PROPORTIONING AND DESIGN OF MIXES, FIELD QUALITY CONTROL, and EVALUATION OF QUALITY CONTROL TEST.

2.0 PRODUCTS

2.01 Form Materials:

A. Forms for Exposed Finish Concrete:

1. Unless otherwise shown or specified, construct formwork for exposed concrete surfaces with plywood, metal, metal framed plywood faced or other acceptable panel type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient thickness to withstand pressure of newly placed concrete without bow or deflection.
2. Use plywood complying with US Product Standard PS-I "B-B (Concrete Form) Plywood", Class I, Exterior Grade or better, mill oiled and edge sealed, with each piece bearing legible trademark of an approved inspection agency.

B. Forms for Unexposed Finish Concrete - Form concrete surfaces which will be unexposed in finished structure with plywood, lumber metal or other acceptable material. Provide lumber dressed on at least two edges and one side for tight fit.

C. Form Coatings - Provide commercial formulation form coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces to be cured with water or curing compound.

2.02 Reinforcing Materials:

A. Reinforcing Bar - ASTM A-615, Grade 60. TSQP-S-632, Type 11, DET ASTM A3 All reinforcement bars, except #2, shall be deformed bars in conformance with ASTM A-305 latest edition. Bar sized #3 through #11 shall meet the requirements for ASTM A-615 latest edition with minimum yield point strength of 60,000 psi. Provide Shop Drawings.

B. Galvanized Reinforcing Bar - ASTM A-53, hot dip galvanized after fabrication and bending.

C. Welded Wire Fabric -ASTM A-185, welded steel wire fabric. Slab reinforcement mesh shall be cold drawn wire made especially for concrete work. Mesh shall be 6 x 6 WI.4 x WI.4 for 4" slabs on grade and 6 x 6, W2.9 x W2.9 mesh at 6" slabs on grade, unless otherwise noted on the drawings. Welded wire fabric shall be in conformance with ASTM A-185 latest edition.

D. Supports for Reinforcement -Provide supports for reinforcement including, bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRI recommendations, unless otherwise indicated. Wood, brick and other devices will not be acceptable.

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E. Slabs on grade -Use supports or horizontal runners where wetted base material will not support chair legs.

F. Exposed-to-view concrete surfaces - Where legs of support are in contact with forms, provide supports with legs which are hot dip galvanized or plastic protected or stainless steel protected.

2.03 Concrete Materials:

A. Portland Cement - ASTM C-150, as follows:
1. Provide Type I cement, except as otherwise indicated.
2. Provide Type III cement for High Early Strength concrete where shown or scheduled.
3. Use only one brand of cement for each required type throughout the project, unless otherwise accepted by the Architect/ Engineer.

B. Aggregates:
1. Maximum aggregate size shall not be larger than one fifth of the narrowest dimension between sides of forms, one third of the depth of slabs, nor three fourths of the minimum clear spacing between individual reinforcing bars or bundles of bars. Provide aggregates from one source of supply to ensure uniformity in color, size, and shape.
2. Normal Weight Aggregates - ASTM C-33, and as herein specified. Local aggregates not complying with ASTM C-33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when accept- able to the Architect/Engineer.
a) Fine Aggregate - Clean, sharp, natural sand free from loam, clay, lumps, or other deleterious substances.
b) Coarse Aggregate - Clean, uncoated, processed aggregate containing no clay, mud, loam, or foreign matter, as follows:
1) Crushed stone, processed from natural rock or stone.
2) Washed gravel, either natural or crushed. Use of pit or bank run gravel is not permitted.
c) Pea Gravel Aggregate - Conform to ASTM C-404, Size No. 8. C. Water: Clean, fresh, drinkable.

C. Admixtures - Provide admixtures produced by established reputable manufacturers and use in compliance with the manufacturer's printed directions. Do not use admixtures which have not been incorporated and tested in accepted mixes, unless otherwise authorized in writing by the Architect/Engineer.
1. Air Entraining Admixture - ASTM C-260.
2. Water Reducing Admixtures - ASTM C-494, Type A.
3. Set Control Admixture - ASTM C-494, as follows:
a) Type D, Water reducing and retarding.
b) Type E, Water Reducing and Accelerating.
4. Fly Ash - ASTM C-618, Class F.
5. Calcium Chloride - Do not use calcium chloride in concrete.
6. Barrier One (or equal) moisture mitigation additive to all slab on grade work.

2.04 Related Materials:

A. Waterstops - Provide flat, dumbbell type or center bulb type waterstops at construction joints and other joints as shown. Size to suit joints. Rubber or PVC waterstops, at Contractor's option, with rubber units complying with Corps of Engineers CRD-C513, and PVC units complying with CRD-C572.

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B. Preformed Expansion Joint Fillers - Fiber type conforming to ASTM D 1751 or Cork, ASTM D 1752, Type II.
C. Joint Sealing Compound - See Division 7.
D. Moisture Barrier - .006 Visqueen vapor barrier.
E. Chemical Hardener - Colorless aqueous solution containing a blend of magnesium fluosilicate and zinc fluosilicate combines with a wetting agent, containing not less than 2 lbs. of fluosilicate per gal.
F. Curing Materials:
   1. Absorptive Cover - Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., complying with AASHTO M 182, Class 3.
   2. Moisture Retaining Cover - One of the following, complying with ASTM C-171.
      a) Waterproof paper.
      b) Polyethylene film
      c) Polyethylene coated burlap.
   3. Membrane Forming Curing Compound - ASTM C-309, Type 1.
G. Moisture Mitigation Additive: "Barrier One" or approved equal, refer to special needs of Section 09770 of this project manual.

2.05 Proportioning and Design of Mixes:
A. General:
   1. Comply with ACI 301 requirements for concrete mixes.

B. Slump Limits:

Type of Construction	Slump in Inches Minimum	Maximum
Reinforced foundation walls and footings	5	2
Slabs and beams	5	3
Reinforced columns	6	3
Masonry Grout	8	11

C. Proportion mixes by either laboratory trial batch or field experience methods, using materials to be employed on the project for each class of concrete required, complying with ACI 211.1 for normal weight concrete and ACI 211.2 for structural light- weight concrete.
   1. Field Experience Method - When field experience method is used to select concrete proportions, establish procedures as specified in ACI 301 and ACI 318. When proportioning by field experience method furnish mix design and independent testing facility proof of standard deviation using materials, mix and products facility proposed.
   2. Laboratory Trial Method - When laboratory trial batches are used to select concrete proportions, prepare test specimens in accordance with ASTM C-39, as specified in ACI 301.
      a) When proportioning by the trial batch method, furnish compressive strength developed at 7 days and 28 days, from not less than 2 test cylinders cast for each 7 and 28 day test, and for each design mix.
      b) Establish a curve showing relationship between water cement ratio (or cement content) and compressive strength, with at least 3 points representing batches which produce strengths above and below that required. Use not less than 2 specimens tested at 28 days, or an

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earlier age when acceptable to the Architect/Engineer, to establish each point on the curve.

D. Submit Testing Service reports to the Architect/Engineer of each proposed mix for each type of concrete at least 15 days prior to start of work. Do not begin concrete production until mix data have been reviewed by the Architect/Engineer.

E. Admixtures:
   1. Use air entraining admixture in all concrete, unless otherwise indicated. Add air entraining admixture at the manufacturer's prescribed rate to result in concrete at the point of placement having 4-1/2 percent entrained air with tolerance in either direction from this optimum of 1-1/2 percent. Do not allow air content in floors to receive troweled finishes to exceed 3%.
   2. Use amounts of admixtures as recommended by the manufacturer for climatic conditions prevailing at the time of placing. Adjust quantities and types of admixtures as required to maintain quality control.

F. Adjustment to Concrete Mixes: Mix design adjustment may be requested by the Contractor when characteristics of material, job conditions, weather, test results, or other circumstances warrant; at no additional cost to the Owner and as accepted by the Architect/Engineer before using in the work.

G. Bending Bars - Standard bends for bars shall be of diameters and lengths specified in □Manual of Standard Practice for Detailing Reinforced Concrete Structures, ACI-315.

H. Tie Wire - All reinforcing steel shall be firmly tied in place with not less than No. 18 Gauge wire.

3.0 EXECUTION

3.01 Forms:

A. Design of formwork for structural stability and sufficiency is the Contractor's responsibility.

B. Design, erect, support, brace, and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by the concrete structure. Construct formwork so that concrete members and structures are of correct size, shape, alignment, elevation, and position.

C. Construct forms complying with ACI 347, to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up joints to prevent leakage of cement paste.

D. Fabricate forms for easy removal without hammering or prying against the concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, and recesses to prevent swelling and for easy removal.

E. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.

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F. Chamfer exposed corners and edges 3/4 inches, unless otherwise noted, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.

G. Form Ties - Factory fabricated, adjustable length, removable or snap off metal form ties, designed to prevent for deflection, and to prevent Spalding concrete surfaces upon removal.
   1. Unless otherwise shown, provide ties so portion remaining within concrete after removal is at least 1-1/2" inside concrete.
   2. Unless otherwise shown, provide form ties which will not leave holes larger than 1" diameter in concrete surface.

H. Provisions for Other Trades: 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.

I Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Re- tighten forms after concrete placement if required to eliminate mortar leaks.

3.02 Placing Reinforcement:

A. Comply with the specified codes and standards, and Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.

C. Accurately position, support, and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.

D. Place reinforcement to obtain at least the minimum coverages for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces. Do not place reinforcing bars more than 2" beyond the last leg of continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.

E. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

F. Splice:
   1. Provide standard reinforcement splices by lapping ends, placing bars in contact, and tightly wire tying. Comply with requirements of ACI 318 for minimum lap of spliced bars. Comply with the requirements of AWS D12.1 for field welding. Prior to field welding, determine the weldability of reinforcing bars by a laboratory chemical analysis of steel. Only steel conforming to the chemical requirements specified in AWS D12.1 may be welded.
   2. Mechanical butt splicing using exothermic welding processes and high strength steel sleeves which develop the same values of strength shall be used for size no. 11 bars in columns. Comply with manufacturer's directions

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of preparation of bars and installation procedures. All other size column bars may be lap sliced.

3.03 Joints:

A. Construction Joints - Locate and install construction joints, which are not shown on the drawings, so as not to impair the strength and appearance of the structure, as acceptable to the Architect/Engineer.

B. Provide keyways at least 1-1/2" deep in all construction joints in walls and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.

C. Place construction joints perpendicular to the main reinforcement. Continue all reinforcement across construction joints unless shown or noted otherwise.

D. Waterstops - Provide waterstops in construction joints as shown on the drawings. Install waterstops to form a continuous diaphragm in each joint. Make provisions to support and protect waterstops during the progress of the work. Fabricate field joints in waterstops in accordance with manufacturer's printed instructions. Protect waterstop material from damage where it protrudes from any point.

E. Isolation Joints in Slabs-on-Ground - Construct isolation joints in slabs on ground at all points of contact between slabs on ground and vertical surfaces, such as column pedestals, foundation walls, grade beams and elsewhere as indicated.

3.04 Installation of Embedded Items:

A. Set and build into the work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of the items to be attached.

B. Edge Forms and Screed Strips for Slabs - Set edge forms or bulk heads and intermediate screed strips for slabs to obtain the required elevations and contours in the finished slab surface. Provide and secure units sufficiently strong to support the types of screed strips by the use of strike off templates or accepted compacting type screeds.

3.05 Preparation of Form Surfaces:

A. Coat the contact surfaces of forms with a form coating compound before reinforcement is placed.

B. Thin form coating compounds only with thinning agent of type, and in amount, and under conditions of the form coating compound manufacturer's directions. Do not allow excess form coating material to accumulate in the forms or to come into contact with concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.

C. Coat steel forms with a non-staining, rust preventative form oil or otherwise protect against rusting. Rust stained steel form work is not acceptable.

3.06 Concrete Mixing:

A. General: Mix materials in an acceptable drum type batch machine mixer. For mixers of one cu. yd., or smaller capacity, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after all ingredients are in the mixer, before any part of the batch is released. For mixers of capacity larger than one cu. yd., increase the min. 1-1/2 minutes of mixing time by 15 seconds for each additional cu. yd., or fraction thereof. Provide a batch ticket for each batch discharged and used in the

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work, indicating the project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.

B. Ready-mix Concrete: Comply with the requirements of ASTM C 94, and as herein specified.

1. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required. When the air temperature is between 85 degrees Fahrenheit and 90 degrees Fahrenheit, reduce the mixing and delivery time from 1-1/2 hours to 75 minutes and when the air temperature is above 90 degrees Fahrenheit, reduce the mixing and delivery time to 60 minutes.
2. No additional water shall be added to concrete without the approval of the Architect/Engineer. Should additional water be required to obtain a slump as specified in this section for the type of concrete, the Contractor shall perform slump tests in accordance with ASTM C 143 to determine the actual slump of the concrete in the mixer. The Contractor may then add water, but in no case shall the additional water exceed 3 percent of the mix design water content, nor shall the slump of the mix exceed the maximum slump specified for the type concrete. Slump tests and the addition of water to the mixer shall be completed within 15 minutes of the arrival of the mixer at the site. Additional water shall not be added to the mix after the mixer has been on the site longer than 15 minutes.
3. A delivery ticket showing truck number, date, and time that mixing was started shall be given to the Contractor's superintendent at the job site before placing the concrete from the truck mixer. At the job site the Contractor's superintendent shall note on the delivery ticket the time of completion of the concrete placement from the truck and the general area of the structure in which the concrete was placed. A complete file of all delivery tickets shall be maintained and kept available at the job site until completion of the project.

3.07 Concrete Placement:

A. Comply with ACI 304, and as herein specified.

B. Pre-placement Inspection - Before placing concrete, inspect and complete the formwork installation, reinforcing steel, and items to be embedded or cast in. Thoroughly wet wood forms immediately before placing concrete where form coatings are not used. Coordinate the installation of joint materials and moisture barriers with placement of forms and reinforcing steel.

C. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness within the section. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation due to re-handling or flowing. Maintain reinforcing in the proper position during concrete placement operations.

D. Placing Concrete in Forms - Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where replacement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

1. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand spading. Rodding or tamping. Use equipment and

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procedures for consolidation of concrete in accordance with the recommended practices of ACI 309, to suite the type of concrete and project conditions.

2. Do not use vibrators to transport concrete inside of forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than the visible effectiveness of the machine. Place vibrators to rapidly penetrate the placed layer of concrete and at least 6" into the preceding layer. At each insertion limit the duration of vibration to the time necessary to consolidate the concrete and complete embedment of reinforcement and other embedded items without causing segregation of the mix.

E. Placing Concrete Slabs - Deposit and consolidate concrete slabs in a continuous operation, within the limits of construction joints, until the placing of a panel or section is completed.

F. Bring slab surfaces to the correct level with a straightedge and strike off. Use bull floats or darbies to smooth the surface, leaving it free of humps or hollows. Do not sprinkle water on the plastic surface. Do not disturb the slab surfaces prior to beginning finishing operations.

G. Do not place concrete in an inundated excavation.

H. Cold Weather Placing - Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as here in specified. When air temperature has fallen to or is expected to fall below 40° F, uniformly heat all water and aggregates before mixing as required to obtain a concrete mixture temperature of 50" F at point of placement.

I. Hot Weather Placing:

1. When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.
2. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90° F (32°C). Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing.
3. 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 embedment in concrete.
4. Wet forms thoroughly before placing concrete.
5. Use water reducing retarding admixture (Type D) when required by high temperatures, low humidity, or other adverse placing conditions.

3.08 Finish of Formed Surfaces:

A. Rough Form Finish - For formed concrete surfaces not exposed to view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used with tie holes and defective areas repaired and patched, and fins and other projections exceeding 1/4" in height rubbed down or chipped off.

B. Smooth Form Finish - For formed concrete surfaces exposed to view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, dampproofing, painting or other similar system. This is as cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams.

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Repair and patch defective areas with fins or other projections completely removed and smoothed.

C. Smooth Rubbed Finish:
   1. Provide smooth rubbed finish to scheduled concrete surfaces, which have received smooth form finish treatment, not later than one day after form removal.
   2. Moisten concrete surfaces and rub with carborundum brick or other abrasive until a uniform color and texture is produced. Do not apply cement grout other than that created by the rubbing process.

D. Related Uniformed Surfaces: At tops of walls, horizontal off sets surfaces occurring adjacent to formed surfaces, strike off smooth, and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.09 Monolithic Slab Finishes:

A. Scratch Finish:
   1. Apply scratch finish to monolithic slab surfaces that are to receive concrete floor topping or mortar setting beds for tile, Portland cement terrazzo, and other bonded applied cementitious finish flooring material, and as otherwise indicated.
   2. After placing slabs, plane surface to a tolerance not exceeding 1/2" in 10' when tested with a 10' straightedge. Slope surfaces uniformly to drains where required. After leveling, roughen surface before final set, with stiff brushes, brooms, or rakes.

B. Float Finish:
   1. Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as hereinafter specified.
   2. After screening, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power driven floats, or both. Consolidate surface with power driven floats, or by hand floating if area is small or inaccessible to power units. Check and level surface plane to a tolerance not exceeding 1/4" in 10' when tested with a 10' straightedge. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.

C. Trowel Finish:
   1. Apply trowel finish to monolithic slab surfaces to be covered with resilient flooring, paint or other thin film finish coating system.
   2. After floating begin first trowel finish operation using a power driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand troweling operation, free of trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding 1/8" in 10' when tested with a 10' straightedge. Grind smooth surface defects which would telegraph through applied floor covering system.

D. Nonslip Broom Finish:
   1. Apply nonslip broom finish to exterior concrete platforms, steps and ramps, and elsewhere as indicated.

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2. Immediately after trowel finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

E. Chemical Hardener Finish - Apply chemical hardener finish to interior concrete floors where indicated. Apply liquid chemical hardener after complete curing and drying of the concrete surface. Dilute liquid hardener with water, and apply in 3 coats; first coat, 1/3 strength; second coat, 1/2 strength; third coat, 2/3 strength. Evenly apply each coat, and allow 24 hours for drying between coats.
1. Apply proprietary chemical hardeners, in accordance with manufacturer's printed instructions.
2. After final coat of chemical hardener solution is applied and dried, remove surplus hardener by scrubbing and mopping with water.

F. Nonslip Aggregate Finish: Apply nonslip aggregate finish where indicated.
1. After completion of float finishing, and before starting trowel finish, uniformly spread 25 lbs. of dampened nonslip aggregate per 100 sq. ft. of surface. Tamp aggregate flush with surface using a steel trowel, but do not force below surface. After broadcasting and tamping, apply trowel finishing as herein specified.
2. After curing, lightly work surface with a steel wire brush, or an abrasive stone, and water to expose nonslip aggregate.

3.10 Concrete Curbing and Protection:

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
1. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting; keep continuously moist for not less than 7 days.
2. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

B. Curing Methods: Perform curing of concrete by moist curing, by moisture retaining cover curing, by curing compound, and by combination thereof, as herein specified.
1. Provide moisture curing by following methods.
   a) Keep concrete surface continuously wet by covering with water.
   b) Continuous water/fog spray.
   c) Covering concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping
2. Provide moisture cover curing as follows: Cover concrete surfaces with moisture retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3" and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. Provide curing compound to slabs as follows:
   a) Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours). Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's directions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.

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b) Do not use membrane curing compounds on surfaces which are to be covered with coating material applied directly to concrete, liquid floor hardener, waterproofing, damp- proofing, membrane roofing, flooring, painting, and other coatings and finish materials, unless otherwise acceptable to Architect.

C. During Formed Surfaces - Cure formed concrete surfaces, including undersides of beams, supported slabs and other similar surfaces by moist curing with forms in place for full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.

D. Curing Unformed Surfaces:

1. Cure unformed surfaces, such as slabs, floor topping, and other flat surfaces by application of appropriate curing compound.
2. Final cure concrete surfaces to receive liquid floor hardener or finish flooring by use of moisture retaining cover, unless otherwise directed.

3.11 Removal of Forms:

A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50° F. (10° C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

B. Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days and until concrete has attained design minimum compressive strength at 28 days. Determine potential compressive strength of in place concrete by testing field cured specimens representative of concrete location or members.

C. Form facing material may be removed 4 days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

3.12 Re-Use of Forms:

A. Clean and repair surfaces of forms to be reused in work. Split, frayed, delaminated, or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.

B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Architect.

3.13 Miscellaneous Concrete Items:

A. Filling In - Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place, and cure concrete as herein specified, to blend with in place construction. Provide other miscellaneous concrete filling shown or required to complete work.

B. Equipment Bases and Foundations: Provide machine and equipment bases and foundations, as shown on drawings. Set anchor bolts for machines and equipment to template at correct elevations, complying with certified diagrams or templates of manufacturer furnishing machines and equipment.

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3.14 Concrete Surface Repairs:

A. Patching Defective Areas:

1. Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Architect.
2. Cut out honeycomb, rock pockets, voids over 1/4" in any dimension, and holes left by tie rods and bolts, down to solid concrete but in no case to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water and brush coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.

B. For exposed-to-view surfaces, blend white Portland cement and standard Portland cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match be- fore proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.

C. Repair of Formed Surfaces - Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Architect. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets; fins and other projections that cannot be removed by cleaning. Flush out form tie holes, fill with dry pack mortar, or precast cement cone plugs secured in place with bonding agent.

D. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.

E. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness, using a template having required slope.

F. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, pop outs, honeycomb, rock pockets, and other objectionable conditions.

G. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days.

H. Correct low areas in unformed surfaces during, or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish re paired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Architect.

Repair defective areas, except random cracks and single holes not exceeding in diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4" clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

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I. Repair isolated random cracks and single holes not over 1" in diameter by dry pack method. Groove top of cracks and cut out holes to sound concrete and clean of duct, dirt and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry pack, consisting of one part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry pack after bonding compound has dried. Compact the dry pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.

J. Use epoxy based mortar for structural repairs, where directed by Architect.

K. Repair methods not specified above may be used, subject to acceptance of Architect.

3.15 Quality Control Testing During Construction:

A. The Contractor shall employ a testing laboratory approved by Architect/Engineer to perform other tests and to submit test reports. Sampling and testing for quality control during placement of concrete shall include the following, as directed by Architect.

Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.

1. Slump - ASTM C 143; one test for each concrete load at point of discharge; and one test for each set of compressive strength test specimens.
2. Concrete Temperature - Test hourly when air temperature is 40°F (4°C) and below, and when 80°F (27°C) and above; and each time a set of compression test specimens made.
3. Compression Test Specimen: ASTM C-31; one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field cure test specimens are required.
4. Compressive Strength Tests: ASTM C-39; one set for each 100 cu. yds. or fraction thereof, of each concrete class placed in any one day or for each 5,000 sq. ft. of surface area placed; 1 specimen tested at 7 days, 2 specimens tested at 28 days, and 1 specimen retained in reserve for later testing if required.
   a) When strength of field cured cylinders is less than 85% of companion laboratory cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in place concrete.
   b) Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength, and no individual strength test result falls below specified compressive by more than 5000 psi.

B. Test results will be reported in writing to Architect and Contractor on same day that tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type, and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials compressive breaking strength and type of break for both 7 day tests and 28 day tests.

C. Additional Tests - The testing service will make additional tests of in place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying

with ASTM C 42, or by other methods as directed. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

(END OF SECTION 03010)

SECTION 04100 - MASONRY, MORTAR AND ACCESSORIES

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including General Supplementary Conditions and General Requirements, apply to the work specified in this Section.

- 04200 Concrete masonry unit
- 07050 Damp proofing
- 07070 Water repellent

1.02 Description of Work: Provide all labor, material, and equipment necessary for the complete masonry work as shown on the Drawings and herein specified. Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not. All work is to be performed by trained experienced mason and support staff.

1.03 Standards:

A. ASTM - American Society for Testing Materials
B. SCPI - Structural Clay Products Institute
C. FCPA - Florida Concrete and Products Association
D. ACI 530 - American Concrete Institute
E. NCMA - National Concrete Masonry Associates:
   1. TEK 8-1A Maintenance of Concrete Masonry Walls
   2. TEK 8-2A Removal of Stains for Concrete
   3. TEK 8-3A Control and Removal of Efflorescence
   4. TEK 8-4A Cleanup Concrete Masonry
   5. TEK 18-3B Concrete Masonry Inspection

1.04 Codes:

A. MASONRY CEMENT - ASTM C-91-88
B. PORTLAND CEMENT – ASTM C-150-68 SAND M
C. SAND - 210 ASTM-C-144 Use clean, sharp white mortar sand.
D. BLOCK, REGULAR WEIGHT ASTM C-129 with Aggregate ATM C-33
E. BLOCK, LIGHT WEIGHT ASTM C-90 with 100% ASTM C-331 Aggregate
F. SPLIT FACE BLOCK WITH INTERMEDIATE VERTICAL SCORE

2.0 MATERIALS

2.01 Product: Brick Veneer

A. US Brick Manufacturer - Color match existing adjacent building. Brick to be modular size and mortar to be color to match brick (US Brick/Carolina Ceramics)

B. Echolon (Zephyrhills Plant), color to be selected from three standard options:
   - Coastal
   - Charcoal
   - Double Ebony

SECTION 04100 - MASONRY, MORTAR AND ACCESSORIES

Size of units to be 8 x 8 x 16 with intermediate vertical score.
Mortar to match split face units

C. Concrete masonry unit – Refer to Section 04200

2.02 Mortar Material: Deliver masonry cement and Portland Cement in unopened packages, identified by Manufacturer's names. Store and protect materials from moisture and contamination. Open only those packages necessary for the immediate scheduled unit of work. Color to be selected by Architect/Owner during shop drawing submittal when samples are to be provided. In general, mortar color will match the exterior CMU.

2.03 Accessories: Deliver accessories packaged or bundled and identified by Manufacturer's numbers and names. Store accessories off the ground. Protect from damage.

2.04 Handline of Concrete Block/Split Face Block and Brick Masonry: Deliver concrete block and brick on pallets. Unload onto pallets by mechanical means. Store block above ground. Protect against wetting. Handle and transport to the work in a manner to minimize chipping and spilling. Provide standard color options of colored product to allow Architect and Owner to select block color. Refer to section 04200 and Section 2.01 of this section.

2.05 Masonry Cement: Masonry Cement shall conform to Specifications for Masonry Cement, ASTM C-91-68. Color per Architect.

2.06 Portland Cement: Portland cement shall conform to Specifications for Portland Cement, ASTM C-150-68, Types I or II.

2.07 Mortar: Mortar shall conform to Specifications for Mortar for Unit Masonry, ASTM C-270-68, Types shall be as follows:

A. Type M: 1 part Portland Cement - 1 part Type II Masonry Cement, 4 parts sand by volume.

B. Type S: 1/2-part Portland Cement - 1 part Type II Masonry Cement, 4 ½-parts sand by volume.

2.08 Wall Reinforcement: Use trussed pattern wall reinforcement, cold-drawn steel wire, ASTM A-82-66; hot-dipped galvanized after fabrication, ASTM A-153, Class B-2, #9 side rods, and #9 cross ties. Truss type with prefabricated tees & corners. Lengths not less than 10'-0".

2.09 Precast Lintels: 8" Bearing minimum, refer to structural details. Provide color match to adjacent block units.

2.10 16" x 16" x 8" Pier Block ASTM C-129 with Aggregate ASTM C-33.

3.0 EXECUTION

3.01 General: Work shall be performed by skilled personnel, experienced in the use of the specified materials to the best advantage and appearance when judged according to the accepted practice of the trade. No masonry shall be laid when the temperature is below 40 degrees Fahrenheit at the point of work. The General Contractor and his

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superintendent are to monitor workmanship daily and advise mason of any and all work that is not acceptable prior to Owner and Architect having work removed and reinstalled. All head and bed joints are to be full and consistent with head and bed joints having the same width and depth. All brick to be cleaned daily and all timed joint mortar is to be cleaned and removed from the wall cavity. Construction is to comply with standards identified in subsection 1.03 of specifications.

3.02 Bonding and Coursing: Horizontal coursing shall be level; and vertical lines, joints, and surfaces shall be plumb. Use running bond with 8" +/- coursing vertically. Use full head and bed joints with concave joint at all exposed block locations. All joints to be equally spaced with full head and bed joint of consistent width. Refer to exterior elevation drawings for brick pattern's accent and surface undulation in the brick veneer installation.

3.03 Mortar Bedding and Joints: Use Type M Portland cement below-grade and Type S gray Portland above grade.

3.04 Time and Temperature Limits: Place mortar in final position within 1-1/2 hours after mixing when the air temperature is 80 degrees Fahrenheit or higher; and within the 2-1/2 hours when the air temperature is less than 80 degrees Fahrenheit.

3.05 Retempering: Re-temper mortars that have stiffened within the allowable time limit because of moisture evaporation, by adding water as frequently as needed to produce the proper workability.

3.06 Joint Reinforcement: Install joint reinforcement continuous at 16" o.c. vertically in concrete block walls. Use Masonry interlock of 50% at all wall intersections. Use galvanized ladder type Dur-A-Wall or approved equal. Provide fabricated "L" and "T" sections at corners and intersections as detailed.

3.07 Practices to be avoided: Avoid high leads, excessive toothing, excessive racking back, mortar left to harden on surfaces and the laying of damaged or defective units. Do not allow cavity mortar to extend beyond back face and all cut mortar is to be removed from the cavity space.

3.08 Protection: Protect masonry from inclement weather during storage and construction; and protect complete work from damage. Cover all masonry with polyethylene film whenever concrete is to be poured adjacent to the masonry work.

3.09 Pointing and Cleaning: Point-up exterior masonry and wire brush at the end of each day. Allow the mortar to cure before cleaning. The contractor is to ensure Mason is responsible for cleaning of the masonry and is responsible for inspection of workmanship on a daily basis.

3.10 Concrete Block: Clean with water and stiff fiber brushes at the end of each day as a minimum practice. Use a rubbing stone only where necessary to remove stubborn fins or droppings. Wire brushes are prohibited. Refer to NCMA – TEK 8-1A, 8-2A, 8-3A, and 8-4A. Interior CMU to have radiused corners that can be provided by modular masonry unit molds or by quality-controlled field grinding utilizing equipment specifically designed to provide quality controlled field grinding.

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3.11 Block Insulation: Fill all cells in exterior block walls with Core Fill 500 Thermal Masonry Foam Insulation in block cells in exterior in place of the Masonry Fill Insulation specified. "PolyMaster 501" or equal.

4.0 INSTALLATION

4.01 Workmanship shall be of the highest quality. Sample panel of 8 foot by 4 foot shall be laid to show masonry wall quality (block, split-face, brick veneer and stucco system). (Mockup wall may be built into wall or located at a front entry sign location at option of the Architect and Owner.)
Masonry laid horizontal and vertical joints and faces plumb and true. Head joints must be vertical full height of wall. Work with Story Pole limit toothing and racking. No masonry leads higher than the run of the wall at the end of the day.

4.02 Cover all masonry walls at the end of the workday during inclement weather, with waterproof material 12" wider than the wall.

4.03 Cutting of block is required, overcut electrical box will not be accepted.

4.04 Coordinate with the Electric/Mechanical/Plumbing, Roofing, and other trades for installation of their work.

4.05 Build in door, window frames, and grout solid.

4.06 Build in steel angle lintel and other miscellaneous metals.

4.07 Furnish and set precast lintel in full bed of mortar. 8" minimum bearing.

4.08 No admixture is permitted.

4.09 Masons will be responsible for the cleaning of all masonry which is to be executed at the end of each workday.

4.10 Tuck Pointing: Cut out and replace defective mortar to produce a weathertight wall assembly.

5.0 WORK INSTALLED BUT FURNISHED UNDER OTHER SECTIONS:

5.01 Precast entablature and trim.

5.02 Steel angles and miscellaneous metals.

5.03 Flashings, reglets.

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6.0 PLACING AND BONDING:

6.01 Masonry shall be stacked with suitable covering to protect them from weather - Laid in full bed of mortar - bonded at each corner and intersection of walls.

6.02 Block masonry work shall incorporate reinforcing bars as shown on drawings. Each bar shall be tied to the adjacent member with a minimum 48 bar diameter lap prior to being poured solid from footing to beam, run wall horizontal reinforcement through cells to be poured.

6.03 Horizontal joint reinforcing laid 12" end lap.

6.04 Control Joint in Walls: Neoprene rods one and one half the size of joint surface caulked with silicone. Locate ± 25'-0" o.c. coordinate with Architect prior to installation to allow coordination with wall penetrations and/or decorative wall patterns.

6.05 Build in weep hole using full head joint cellular masonry vents - Wire-Bond Cell Vent #3601. Locate at bottom of brick at 16" o.c. along through the wall flashing at finish grade and sidewalks or at foundations.

6.06 Build in prefabricated cellular louvered cavity vents at 4'-0" o.c. at tie beam (if full height brick veneer is applied).

6.07 FBC2101.1 ACI 530 (6.2.2.5.1) minimum 2" embedment with minimum 5/8" coverage to the outside face; mason is to be familiar with all codes unique and applicable to his scope of work. Means and methods are the responsibility of the contractor.

6.08 All head and bed joints to be same size and depth.

7.0 COURSING

7.01 Lay block running bond, face to line, with tooled horizontal and vertical joints.

7.02 Use masonry interlock of 50% at all wall intersections.

7.03 Use inspection and clean out holes at bottom of wall (over 5 foot) left grout is used.

8.0 TOLERANCE

8.01 Plumb = 1/4" wall height. Level coursing = 1/8" in 4'0", 1/4" full wall. Joint thickness = 1/8" max. Plane of wall = 1/4" max. Thickness of wall = 1/4" max.

9.0 CONTROL JOINTS

9.01 Control joints are required as shown on drawings not to exceed 25" max. Form control joint by the use of sheet of felt bond breaker. Stop wall reinforcing. Pack vertical joint with rod and caulk

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10.0 WATERPROOFING

10.01 Waterproofing of CMU shall be as specified under Painting Section 09900.

(END OF SECTION 04100)

SECTION 04200 - CONCRETE UNIT MASONRY

1.0 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.

- 04100 Masonry, Mortar and Accessories
- 07050 Damp Proofing
- 07115 Bituminous Damp Proofing

1.02 SUMMARY

A. This Section includes unit masonry assemblies consisting of the following:
1. Concrete masonry units (CMU).
2. Split face masonry.
3. Mortar and grout.
4. Reinforcing steel.
5. Masonry joint reinforcement.
6. Miscellaneous masonry accessories.

B. Related Sections include the following:
1. Division 3 Section 03010 Cast-In-Place Concrete
2. Division 7 Section 07920 Sealants and Caulking

C. Products furnished, but not installed, under this Section include the following:
1. Dovetail slots for masonry anchors, installed under Division 3 Section 03010 Cast-in-Place Concrete.
2. Anchor sections of adjustable masonry anchors for connecting to structural frame installed under Division 5 Section 05120 Structural Steel.

1.03 DEFINITIONS

A. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.04 PERFORMANCE REQUIREMENTS

1. Provide unit masonry that develops indicated net-area compressive strengths (f'_m) at 28 days.

B. Determine net-area compressive strength (f'_m) of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) according to Tables 1 and 2 in ACI 530.1/ASCE 6.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For the following:
1. Reinforcing Steel: Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement."

C. Qualification Data: For testing agency.

D. Material Certificates: Include statements of material properties indicating compliance with requirements including compliance with standards and type designations within standards. Provide for each type and size of the following:
1. Masonry units.
a. Include material test reports substantiating compliance with requirements.

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b. For masonry units used in structural masonry, include data and calculations establishing average net-area compressive strength of units.
2. Cementitious materials. Include brand, type, and name of manufacturer.
3. Grout mixes. Include description of type and proportions of ingredients.
4. Reinforcing bars.
5. Joint reinforcement.
6. Anchors, ties, and metal accessories.

E. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.
1. Include test reports, per ASTM C 780, for mortar mixes required to comply with property specification.
2. Include test reports, per ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

F. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined according to Tables 1 and 2 in ACI 530.1/ASCE 6.

G. Cold-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with cold-weather requirements.

1.3 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent agency qualified according to ASTM C 1093 for testing indicated, as documented according to ASTM E 548.

B. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, through one source from a single manufacturer for each product required.

C. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from a single manufacturer for each cementitious component and from one source or producer for each aggregate.

D. Fire-Resistance Ratings: Where indicated, provide materials and construction identical to those of assemblies with fire-resistance ratings determined per ASTM E 119 by a testing and inspecting agency, by equivalent concrete masonry thickness, or by other means, as acceptable to authorities having jurisdiction.

E. Sample Panels: Build sample panels to verify selections made under sample submittals and to demonstrate aesthetic effects. Comply with requirements in Division 1 Section "Quality Requirements" for mockups.
1. Build sample panels for typical exterior and interior walls in sizes approximately 60 inches long by 48 inches high.
2. Where masonry is to match existing, erect panels adjacent and parallel to existing surface.
3. Clean one-half of exposed faces of panels with masonry cleaner indicated.
4. Protect approved sample panels from the elements with weather-resistant membrane.
5. Approval of sample panels is for texture, and blending of masonry units; relationship of mortar and tooling of joints; aesthetic qualities of workmanship; and other material and construction qualities specifically approved by Architect in writing.

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a. Approval of sample panels does not constitute approval of deviations from the Contract Documents contained in sample panels unless such deviations are specifically approved by Architect in writing.

F. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.5 PROJECT CONDITIONS

A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.

B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least 3 days after building masonry walls or columns.

C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
2. Protect sills, ledges, and projections from mortar droppings.
3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.

D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6.
1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.

E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

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1. Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
2. Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

2.2 MASONRY UNITS, GENERAL

A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to exceed tolerances and to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not uses units where such defects, including dimensions that vary from specified dimensions by more than stated tolerances, will be exposed in the completed Work or will impair the quality of completed masonry.

2.3 CONCRETE MASONRY UNITS (CMU)

A. Shapes: Provide shapes indicated and as follows:
   1 Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
   2. Provide square-edged units for outside corners, unless otherwise indicated.

B. Concrete Masonry Units: ASTM C 90.
   1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 1900 psi.
   2. Weight Classification: Normal weight, unless otherwise indicated.
   3. Size (Width): Manufactured to dimensions 3/8 inch less than nominal dimensions.

2.4 CONCRETE AND MASONRY LINTELS

A. General: Provide either concrete or masonry lintels as indicated on the structural drawings.

B. Concrete Lintels: Precast units made from concrete matching concrete masonry units in color, texture, and compressive strength and with reinforcing bars indicated or required to support loads indicated. Cure precast lintels by same method used for concrete masonry units.

C. Concrete Lintels: Precast or formed-in-place concrete lintels complying with requirements in Division 3 Section "Cast-in-Place Concrete."

D. Masonry Lintels: Built-in-place masonry lintels made from bond beam concrete masonry units with reinforcing bars placed as indicated and filled with coarse grout. Temporarily support built-in-place lintels until cured.

2.5 MORTAR AND GROUT MATERIALS

A. Portland cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

B. Hydrated Lime: ASTM C 207, Type S.

C. Portland Cement-Lime Mix: Packaged blend of Portland cement complying with ASTM C 150, Type I or Type III, and hydrated lime complying with ASTM C 207, Type S.

D. Masonry Cement: ASTM C 91.
   1. Products:
      a. Capital Materials Corporation; Flamingo Color Masonry Cement.

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b. Essroc, Italcementi Group.
c. Holcim (US) Inc.
d. Lafarge North America Inc.
e. Lehigh Cement Company.
f. National Cement Company, Inc.; Coosa Masonry Cement.

E. Mortar Cement: ASTM C 1329.
1 Products:
a. Lafarge North America Inc.;

F. Aggregate for Mortar: ASTM C 144.

G. Aggregate for Grout: ASTM C 404.

H. Cold-Weather Admixture: Non-chloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
1. Products:
a. Addiment Incorporated; Mortar Kick.
b. Euclid Chemical Company (The); Accelguard 80.
c. Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Morset.
d. Sonneborn, Div. of ChemRex; Trimix-NCA.

I. Water: Potable.

2.6 REINFORCEMENT

A. Uncoated Steel Reinforcing Bars: ASTM A 615, Grade 60.

B. Masonry Joint Reinforcement, General: ASTM A 951.
1. Interior Walls: Galvanized, carbon steel.
2. Exterior Walls: Galvanized, carbon steel.
3. Wire Size for Side Rods: #9.
4. Wire Size for Cross Rods: #9.
5. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches o.c.
6. Provide in lengths of not less than 10 feet, with prefabricated corner and tee units.

C. Masonry Joint Reinforcement for Single-Wythe Masonry: Ladder type with single pair of side rods.

2.7 TIES AND ANCHORS

A. Materials: Provide ties and anchors specified in subsequent paragraphs that are made from materials that comply with subparagraphs below, unless otherwise indicated.
1. Mill-Galvanized, Carbon-Steel Wire: ASTM A 82; with ASTM A 641, Class 1 coating.
2. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82; with ASTM A 153, Class B-2 coating.
3. Stainless-Steel Wire: ASTM A 580, Type 304.
4. Galvanized Steel Sheet: ASTM A 653, Commercial Steel, G60 zinc coating.
5. Steel Sheet, Galvanized after Fabrication: ASTM A 1008, Commercial Steel, hot-dip galvanized after fabrication to comply with ASTM A 153.
6. Stainless-Steel Sheet: ASTM A 666, Type 304.
7. Steel Plates, Shapes, and Bars: ASTM A 36.

B. Corrugated Metal Ties: Metal strips not less than 7/8 inch wide with corrugations having a wavelength of 0.3 to 0.5 inch and an amplitude of 0.06 to 0.10 inch made from steel sheet, galvanized after fabrication not less than 0.043 inch thick.

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C. Adjustable Anchors for Connecting to Structure: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.
1. Anchor Section for Welding to Steel Frame: Crimped 1/4-inch-diameter, galvanized steel wire.
2. Tie Section: Triangular-shaped wire tie, sized to extend within 1 inch of masonry face, made from 0.188-inch-diameter, galvanized steel wire.
3. Connector Section for Concrete: Dovetail tabs for inserting into dovetail slots in concrete and attached to tie section; formed from 0.053-inch-thick, steel sheet, galvanized after fabrication.
4. Tie Section for Concrete: Corrugated metal ties with dovetail tabs for inserting into dovetail slots in concrete and sized to extend to within 1 inch of masonry face.

2.8 MISCELLANEOUS ANCHORS
A. Unit Type Inserts in Concrete: Cast-iron or malleable-iron wedge-type inserts.
B. Dovetail Slots in Concrete: Furnish dovetail slots with filler strips, of slot size indicated, fabricated from 0.034-inch, galvanized steel sheet.
C. Anchor Bolts: L-shaped steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A 153, Class C; of dimensions indicated.
D. Post-installed Anchors: Provide chemical anchors, with capability to sustain, without failure, a load equal to six times the load imposed when installed in solid or grouted unit masonry and equal to four times the load imposed when installed in concrete, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.
1. Corrosion Protection: Carbon-steel components zinc plated to comply with ASTM B 633, Class Fe/Zn 5 (5 microns) for Class SC 1 service condition (mild).

2.9 MISCELLANEOUS MASONRY ACCESSORIES
A. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells with loops for holding reinforcing bars in center of cells. Units are formed from 0.142-inch steel wire, hot-dip galvanized after fabrication. Provide units with either two loops or four loops as needed for number of bars indicated.
1. Products:
a. Dayton Superior Corporation, Dur-O-Wal Division; D/A 810, D/A 812 or D/A 817.
b. Heckmann Building Products Inc.; No. 376 Rebar Positioner.
c. Hohmann & Barnard, Inc.; #RB or #RB-Twin Rebar Positioner.
d. Wire-Bond; O-Ring or Double O-Ring Rebar Positioner.

2.10 MASONRY CLEANERS
A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
1. Manufacturers:

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a. Diedrich Technologies, Inc.
b. EaCo Chem, Inc.
c. ProSoCo, Inc.

2.11 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.
1. Do not use calcium chloride in mortar or grout.
2. Limit cementitious materials in mortar for exterior and reinforced masonry to Portland cement and lime.

B. Grout for Unit Masonry: Comply with ASTM C 476.
1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6 for dimensions of grout spaces and pour height.
2. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143.

C. Epoxy Pointing Mortar: Mix epoxy pointing mortar to comply with mortar manufacturer's written instructions.

2.12 BRICK VENEER

A. Contractor to match existing brick and mortar from the adjacent existing buildings. 5001 records indicate that this brick is Blue Black Velour manufactured by US Brick/Cherokee Ceramics or approved equal. Contractor to obtain brick samples for confirmation within three days of bid approval and ordering within 24 hours of the Notice to Proceed.

2.13 SOURCE QUALITY CONTROL

A. Owner will engage a qualified independent testing agency to perform source quality-control testing as indicated below:
B. Concrete Masonry Unit Test: For each type of unit furnished, per ASTM C 140.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
2. Verify that foundations are within tolerances specified.
3. Verify that reinforcing dowels are properly placed.

B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.
C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Thickness: Build single Wythe walls to actual widths of masonry units, using units of widths indicated.
B. Build chases and recesses to accommodate items specified in this and other Sections.

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C. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening.

D. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, un-chipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

E. Comply with construction tolerances in ACI 530.1/ASCE 6.

3.3 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in bond pattern indicated on Drawings; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

C. Stopping and Resuming Work: Stop work by racking back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

E. Fill space between steel frames and masonry solidly with mortar, unless otherwise indicated.

F. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below and rod mortar or grout into core.

G. Build non-load-bearing interior partitions full height of story to underside of solid floor or roof structure above, unless otherwise indicated.

1. Install compressible filler in joint between top of partition and underside of structure above.
2. Fasten partition to structure above.
3. At fire-rated partitions, treat joint between top of partition and underside of structure above to comply with Division 7 Section "Fire-Resistive Joint Systems."

3.4 MORTAR BEDDING AND JOINTING

A. Lay concrete masonry units as follows:

1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.

B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated.

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3.5 MASONRY JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.
   1. Space reinforcement not more than 16 inches o.c.
   2. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings.

B. Interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

E. Cut and bend reinforcing units as directed by manufacturer for continuity at corners, returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.6 ANCHORING MASONRY TO STRUCTURAL MEMBERS

A. Anchor masonry to structural members where masonry abuts or faces structural members to comply with the following:
   1. Anchor masonry to structural members with anchors embedded in masonry joints and attached to structure.
   2. Space anchors as indicated, but not more than 24 inches o.c. vertically and 36 inches o.c. horizontally.

3.7 CONTROL AND EXPANSION JOINTS

A. General: Install control and expansion joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.

B. Form control joints in concrete masonry using one of the following methods:
   1. Fit bond-breaker strips into hollow contour in ends of concrete masonry units on one side of control joint. Fill resultant core with grout and rake out joints in exposed faces for application of sealant.
   2. Install preformed control-joint gaskets designed to fit standard sash block.
   3. Install interlocking units designed for control joints. Install bond-breaker strips at joint. Keep head joints free and clear of mortar or rake out joint for application of sealant.
   4. Install temporary foam-plastic filler in head joints and remove filler when unit masonry is complete for application of sealant.
   5. Spacing of joints to be ±25'-0" o.c. or as indicated on plans.
   6. Sealants to be installed prior to installation of air barrier and dampproofing.

3.8 REINFORCED UNIT MASONRY INSTALLATION

A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.
   1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.

SECTION 04200 - CONCRETE UNIT MASONRY

2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other temporary loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements in ACI 530.1/ASCE 6.

C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.
1. Comply with requirements in ACI 530.1/ASCE 6 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than 60 inches.

3.9 FIELD QUALITY CONTROL

A. Inspectors: Owner will engage qualified independent inspectors to perform inspections and prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.
1. Place grout only after inspectors have verified compliance of grout spaces and grades, sizes, and locations of reinforcement.

B. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections indicated below and prepare test reports.

C. Testing Frequency: One set of tests for each 5000 sq. ft. of wall area or portion thereof.

D. Concrete Masonry Unit Test: For each type of unit provided, per ASTM C 140.

E. Mortar Test (Property Specification): For each mix provided, per ASTM C 780.

F. Grout Test (Compressive Strength): For each mix provided, per ASTM C 1019.

G. Prism Test: For each type of construction provided, per ASTM C 1314 at 7 days and at 28 days.

3.10 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel un-cleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
3. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
4. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

SECTION 04200 - CONCRETE UNIT MASONRY

(END OF SECTION 04200)

SECTION 05210 - STEEL JOISTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. The extent of steel joists is shown on the drawings, including basic layouts and type of joists required. The project shall include the following:
   1. K-series, KCS-series and LH-series open-web steel joists.
   2. Joist girders.
   3. Joist accessories.

B. Related Sections: The following sections contain requirements that relate to this section.
   1. Division 5, Section 05120 - STRUCTURAL STEEL.
   2. Division 5, Section 05310 - STEEL DECK.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's specifications and installation instructions for each type of joist, joist girder and accessories. Include manufacturer's certification that joists and joist girders comply with SJI specifications.

B. Shop Drawings: Submit detailed drawings showing layout, mark, number, type, location, and spacings of joists. Include joining and anchorage details, bracing, bridging, accessories, splice and connection details, and attachments to other units of work. Provide templates or location drawings for installation of anchor bolts. Reproduction of the Architect's drawings are not permitted.

C. Design Calculations: For joist girders and joists with special loadings, submit signed and sealed design calculations **and shop drawings**, by the qualified professional structural engineer responsible for their preparation, to the Architect along. Joist girders and bracing shall be designed for the gravity loads designated and the net uplift loading shown on the drawings. **The delegated engineer for the steel joist supplier shall also certify that the steel joist bottom chords will safely resist the wind uplift, considering the spacing of bridging. Certification shall be signed, sealed, and dated by this engineer.**

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Engage a firm experienced in manufacturing joists similar to those indicated for this Project and that have a record of successful in-service performance.
   1 Manufacturer must be certified by SJI to manufacture joists conforming to SJI standard specifications and load tables.

B. SJI Design Standard: Provide joists and joist girders fabricated in compliance with SJI's "Standard Specifications Load Tables and Weight Tables for Steel Joists and Joist Girders," applicable to types of joists indicated. Joists and joist girders shall also conform to design loads and any uplift and special loadings indicated on the drawings.

C. Design joists to withstand design loads with live load deflections no greater than the following:

SECTION 05210 - STEEL JOISTS

1. Floor Joists: Vertical deflection of 1/360 of the span.
2. Roof Joists: Vertical deflection of 1/240 of the span.

D. Welding Standards: Comply with applicable provisions of AWS D1.1 "Structural Welding Code--Steel" and AWS D1.3 "Structural Welding Code--Sheet Steel."
1. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification. **Welders certificates should be within one year current.**
2. Joists welded in place shall be inspected and tested in accordance with Section 05120 - STRUCTURAL STEEL. Remove and replace work found to be defective and provide new, acceptable work.

1.5 DELIVERY, STORAGE, AND HANDLING
A. Deliver, store, and handle joists as recommended in SJI's "Specifications."
B. Protect joists from corrosion, deformation, excessive stresses and other damage during delivery, storage, and handling.

PART 2 - PRODUCTS

2.1 MATERIALS
A. Steel: Comply with requirements of SJI's "Specifications" for chord and web section material.
B. Steel Prime Paint: Comply with SJI Specifications, except asphalt type paint is not permitted in locations where joists are exposed to view or field painting is required.

2.2 FABRICATION
A. Extended Ends: Provide extended ends on joists where shown, complying with manufacturer's standards and requirements of applicable SJI Specifications and load tables.
B. Ceiling Extensions: Provide ceiling extensions in areas having ceilings attached directly to joist bottom chord. Provide an extended bottom chord element or a separate unit, to suit manufacturer's standards, of sufficient strength to support ceiling construction. Extend ends to within 1/2 inch of finished wall surface unless otherwise indicated.
C. Bridging: Provide horizontal or diagonal type bridging for open web joists, complying with SJI Specifications. Provide bridging anchors for ends of bridging lines terminating at walls or beams. Special bridging due to uplift forces shall also be provided.
D. End Anchorage: Provide end anchorages to secure joists to adjacent construction, complying with SJI Specifications, unless otherwise indicated.
E. Header Units: Provide header units to support tail joists at openings in floor or roof system not framed with steel shapes.
F. Camber: Provide SJI recommended camber for all joists.

2.3 SHOP PAINTING
A. Clean and remove loose scale, heavy rust, and other foreign materials from fabricated joists and accessories in accordance with SSPC specification SP-3 before application of shop paint.

SECTION 05210 - STEEL JOISTS

B. Apply one shop coat of primer paint to steel joists and accessories, by spray, dipping, or other method to provide a continuous dry paint film thickness of not less than 2.0 mil.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions under which steel joists are to be installed and do not proceed with work until unsatisfactory conditions have been corrected.

3.2 ERECTION

A. Place and secure steel joists in accordance with SJI Specifications, final shop drawings, and as herein specified.

B. Anchors: Furnish anchor bolts and other devices to be built into concrete and masonry construction. Furnish templates for accurate location of anchors in other work.
   1. Furnish unfinished threaded fasteners for anchor bolts, unless otherwise indicated.
   2. Refer to Division 3 for installation of anchors set in concrete.
   3. Refer to Division 4 for installation of anchors set in masonry.

C. Placing Joists: Do not start placement of steel joists until supporting work is in place and secured. Place joists on supporting work, adjust and align in accurate locations and spacing before permanently fastening. Provide temporary bridging, connections, and anchors to ensure lateral stability during construction.

D. Bridging: Install bridging simultaneously with joist erection, before construction loads are applied. Anchor ends of bridging lines at top and bottom chords where terminating at walls or beams.

E. Throughout the construction, Contractor shall provide means for the adequate distribution of concentrated loads so that the carrying capacity of any joist or joist girder is not exceeded.

F. Fastening Joists:
   1. Field weld joists to supporting steel framework in accordance with SJI Specifications for type of joists used. Coordinate welding sequence and procedure with placing of joists.
   2. Secure joists resting on masonry or concrete bearing surfaces by bedding in mortar and anchoring to masonry or concrete construction as specified in SJI "Specifications" for type of steel joist used.

G. Fastening Joist Girders:
   1. Field weld joist girders to supporting steel framework in accordance with SJI Specifications for joist girders. Coordinate welding sequence and procedure with placing of joists and joist girders.
   2. Provide bottom chord braces in accordance with design. Weld bottom chord brace to the joist bottom chord and weld or bolt to joist girder bottom chord.
   3. No other loads shall be placed on the joist girder until the steel joists bearing on the girder are in place and welded to the girder, and until the bottom chord braces are installed.
   4. Joist girder bottom chord strut shall not be welded to the column until the total dead load of the floor or roof has been applied.

SECTION 05210 - STEEL JOISTS

H. Touch-Up Painting: After joist installation, paint welded areas, abraded or rusty surfaces on joists and steel supporting members. Wire brush surfaces and clean with solvent before painting. Use same type of paint as used for shop painting.

(END OF SECTION 05210)

SECTION 05500 – MISCELLANEOUS METALS

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

1.02 Description of Work:

A. Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not.

B. This Section of the Specifications is intended to cover the furnishing of all labor, materials and equipment and incidentals necessary to the completion of all requirements of the Drawings, notes, schedules and these Specifications as relates to interior and exterior miscellaneous aluminum and steel items as required for the building completion.

C. Intent of this Specification is that where a particular item of metal work is called for under any other division it shall be furnished under that division and that all other metal items not so covered shall be furnished under this section. This specifically not intended to relieve General Contractor of the responsibility of furnishing and installing all items of metal work called for on the Drawings and Specifications as a whole.

D. Verify the extent of all items to be furnished, their required shapes and sizes, and the sequence with which these items are to be furnished and installed. Furnish to job site sorted, tagged, and grouped according to usage.

E. Furnish to appropriate trades all anchors, sleeves or fastenings required to be built into their work as their work progresses.

F. Various metal items, in conjunction with other trades are not included here, but are specified elsewhere in those appropriate trade sections. This includes such items as anchor bolts, sheet metal work, and sleeves and hangers for mechanical and electrical work.

G. Related Work Specified and Performed Under Other Sections:

1. *Section 05120 - Structural Steel*
2. *Section 09900 - Painting*

1.03 Codes and Standards:

A. ASTM Standards and Test Procedures as referenced herein

B. AWS D1.1 - Structural Welding Code

1.04 Shop Drawings and Samples:

A. Complete and detailed Shop Drawings indicating profile, location, size, material, finish, and details of installation of each fabricated item, and lists of all unfabricated items, shall be submitted for approval. No fabrication shall be done until approval of Shop Drawings is obtained.

B. Samples of materials shall be submitted where called for.

SECTION 05500 – MISCELLANEOUS METALS

2.0 MATERIALS

2.01 Materials shall conform to the latest edition of the standard specifications listed below. Standard manufactured items of a different construction or type from that shown on the Drawings, but substantially meeting the requirements specified may be acceptable provided written approval of the Architect is obtained prior to purchase.

2.02 Verify all measurements and take all field measurements necessary to ensure accurate fitting of the work.

2.03 Standard Specifications:

A. Structural Steel Shapes, Plates, and Bars - ASTM Designation A-36
B. Rivet Steel - ASTM Designation A-141
C. Steel Pipe - ASTM Designation A-53 Types E, or S Grade B
D. Pipe Sleeves - ASTM Designation A-120
E. Steel Tube - ASTM Designation A-500 Grade B
F. Galvanizing of Plates, Bars and Fabricated Assemblies - ASTM Designation A-123
G. Cast Iron - ASTM Designation A-48 for gray iron castings; and A-47 for malleable iron castings
H. Aluminum - U.S. alloy 6063

2.04 Miscellaneous Metal Items:

A. Loose Lintels and Shelf Angles - Furnish loose lintels and shelf angles as indicated on Drawings for openings which do not receive precast concrete or masonry lintels. Shop paint according to the requirements of these specifications. Set to course with masonry. Provide all bolts, nuts, and anchors as indicated on Drawings.
B. Exhaust Fan and Roof Drain Support Angles - Furnish loose angles, channels, etc., at all exhaust fan roof curb openings, roof drain supports, or any other framing required around roof openings, whether specifically shown on Drawings or not.

2.05 Miscellaneous Steel Items:

A. Anchor Bolts shall be furnished wherever necessary for anchoring steel to concrete or masonry, and wood to steel.
B. Steel Anchor Plates shall be furnished and installed where called for on the Drawings.
C. Steel Angles shall be provided and set at all roof expansion joints, at openings through roofs, and at roof curbs, where indicated, but not limited to the Drawings.
D. Steel Angle Support Frames shall be provided for all miscellaneous items such as water heaters above the ceiling, etc.
E. Fascia and Soffit Support Angles shall be furnished under this section to include all welding, painting, bracing and ties and anchors to building structure. All metal shall receive two (2) coats of rust inhibitive paint after erection. Special care shall be used in wire brushing all welds prior to paint application.
F. Steel Channel Supports and steel angle framing for Air Handling units above ceiling shall be furnished, verified, and installed in locations as shown. Coordinate with Mechanical subcontractor for all dimensions and requirements.

(END OF SECTION 05550)

SECTION 05700 – ORNAMENTAL FENCING GATES AND GRILLES

SCOPE

1.01 This Section of the Specifications is intended to cover the furnishing of all labor, materials, equipment, and/or incidentals necessary to the completion of all requirements of the drawings, notes, schedules, and these specifications concerning ornamental fencing, gates and grilles including all posts, brackets, and accessories and the installation thereof.

1.0 SHOP DRAWINGS and SAMPLES

2.01 Complete and detailed Shop Drawings indicating profile, locations, size, material, finish, and details of installation of all handrails and accessories shall be submitted for approval. No fabrication shall be done until approval of Shop Drawings is obtained.

2.0 DESIGN CRITERIA

3.01 All fencing and gates shall be designed, manufactured and installed to carry 200 pounds per linear foot downward force at top rail, 50 pounds per linear foot horizontal force applied at the top rail and 25 pounds per square foot at center panel sections.

4.0 FENCE, GATES, and GRILLES

4.01 Furnish and install fence, gates, and grilles of sizes as shown on the drawings. Ornamental fencing and gate are located at the dumpster enclosure and mechanical enclosures. Products and grilles by other manufacturers or fabricators meeting these specifications will be acceptable. Fencing, gates, and grilles shall be manufactured from galvanized steel or heavy-duty aluminum, load specifications as per the above specified with a baked on polyester resin coating. Color to be selected by Architect. All connections will be either welded or riveted where appropriate and provide anchoring systems to accommodate the field connection.

4.02 Components: Fence, gates and grilles shall be Liston model with vertical elements of cold pre-bent tubular steel 3/4" diameter gauge 0.060 inches. Horizontal elements one tubular steel diameter 1-1/8" gauge 0.060 fence panels to be 46-1/2" high.

4.03 Chain link fence: Refer to Section 02831 – Chain Link Fencing and Gates

5.0 PRODUCTS

5.01 Sundance Architectural Products, Orlando, Florida (407) 927-1337

6.0 INSTALLATION and WORKMANSHIP

6.01 All work shall be of the finest quality and shall be fabricated in a shop whose principal business is the manufacture of the highest-grade ornamental metal work.

6.02 Fencing, gates, and grilles shall be shipped completely pre-finished with all necessary accessories, ready for installation.

SECTION 05700 – ORNAMENTAL FENCING GATES AND GRILLES

6.03 The fence, gates and grilles shall be rigidly and securely installed in a first-class manner by mechanics experienced in the erection of ornamental metal. All fasteners, screws, and fittings shall be drawn tightly.

6.04 Joints shall be accurately machined to be sharp and true and free from discolorations, Welds to be ground smoother prior to receiving protective coatings.

6.05 Caulk all joints and gapes of dissimilar materials the metal will penetrate to achieve its intended anchoring surfaces to insure a watertight installation.

(END OF SECTION 05700)

SECTION 07050 - MEMBRANE AND LIQUID DAMPPROOFING

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

- 04100 Masonry, Mortar, and accessories
- 04200 Concrete Masonry Unit

1.02 Description of Work:

A. Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not.

B. This Section of the Specifications is intended to cover the furnishings of all labor, materials, and/or incidentals necessary to the completion of all requirements of the drawings, notes, schedules and these specifications concerning membrane and liquid dampproofing.

C. The interrelationship of the several branches of the work makes it necessary that the Specifications and Drawings be reviewed as a whole.

2.0 MEMBRANE DAMPPROOFING

2.01 Membrane dampproofing shall be applied under all interior concrete slabs on grade or on earth fill.

2.02 Membrane dampproofing shall be 10 mil thickness Visqueen or equal vapor barrier.

2.03 Membrane shall be applied with 96" width parallel with direction of concrete pour. All joints shall be lapped 12".

2.04 Refer to section 07193 Slab Sheet Vapor Barrier of this manual.

(END OF SECTION 07050)

SECTION 07070 - WATER REPELLENTS

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

- 04100 Masonry, Mortar & Accessories
- 04200 Concrete Masonry Unit

1.02 Specialty Contractors: Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not.

1.04 Description of Work: Extent of surfaces to receive water repellent is indicated on Drawings and by provisions of this Section. Application of water repellent shall be applied to all exterior concrete masonry unit veneer.

1.05 Quality Assurance:

A. Application - A firm with not less than three (3) years of successful experience in application of water repellents of types required on substrates similar to those of this project.

B. Project Mock-Up - Apply water repellent to mock-ups, partial coverage as directed, before proceeding with installation. Comply with installation requirements of this Section.

1.06 Submittals: Product Data - Submit Manufacturer's Specifications, installation instructions, and general recommendations for water repellents. Include data substantiating that materials are recommended by Manufacturer for applications indicated and comply with requirements.

1.07 Job Conditions:

A. Weather Conditions - Do not proceed with application of water repellent (except with written recommendation of Manufacturer, when ambient temperature is less than 50 deg. F (10 deg. C); when substrate surfaces have cured for less than a period of 6 months; when rain or temperatures below 40 deg. F (4 deg. C), are predicted for a period of 24 hours, or earlier than 3 days after surfaces became wet; when substrate is frozen; at surface temperature of less than 40 deg. F (4 deg. C).

B. Approval of Substrate - The installer must examine the substrate and the conditions under which water-repellent coatings are to be applied and he/she shall advise the Contractor, in writing, of unsatisfactory conditions. Do not proceed with the work until the unsatisfactory conditions have been corrected in a manner acceptable to the installer.

2.0 PRODUCTS

2.01 Water Based Acrylic Sealer:

A. Provide Manufacturer's standard "water-clear" emulsion-type breathing coating of acrylic resins (based on methyl methacrylate) in water recommended by

SECTION 07070 - WATER REPELLENTS

Manufacturer for application to exterior masonry surfaces as a water-repellent coating; averaging 15% to 22% solids content.

B. Manufacturer - Subject to compliance with requirements, provide products of one of the following or pre-approved equal:
   1. OKON, Inc.
   2. VIP Enterprises

3.0 EXECUTION

3.01 Preparation: Test Application - Prior to performance of water repellent work, including bulk purchase/delivery of products, prepare a small application on on-site mock-ups in a manner acceptable to Architect, for purpose of demonstrating final effect (visual and physical/chemical of planned installation). Proceed with work only after Architect's acceptance of test application, or as otherwise directed.

3.02 General: Clean substrate of substances which might interfere with penetration/adhesion of water repellents. Test for moisture content, in accord with repellent Manufacturer's instructions, to ensure that surface is sufficiently dry.
   A. Where feasible, delay application of water repellents until installation of sealants has been completed in joints adjoining surfaces to be coated with repellent.
   B. Protect adjoining work, including sealant bond surfaces, from spillage or blow-over of water repellent. Protect adjoining and nearby surfaces of aluminum and glass where there is a possibility of water repellent being deposited on surfaces. Protect live plant materials with drop cloths. Clean water repellent from adjoining surfaces immediately after spillage. Comply with manufacturer's recommendations for cleaning.

3.03 Installation: Apply a heavy, saturation type spray coating of water repellent to the surfaces indicated for treatment. Comply with the Manufacturer's instructions and recommendations, using an airless spraying procedure unless otherwise indicated.
   A. Application: Apply a heavy, saturation type spray coating of water repellent to the surfaces indicated for treatment. Comply with the Manufacturer's instructions and recommendations, using an airless spraying procedure unless otherwise indicated.
   B. Second Coat: Apply a second saturation spray coating, repeating first application. Comply with Manufacturer's instructions for limitations on drying time between coats and after rainstorm wetting of surfaces between coats. Consult Manufacturer's technical representative if printed recommendations are not applicable to project conditions.

(END OF SECTION 07070)

SECTION 07115 – BITUMINOUS DAMP PROOFING

1.0 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 cold-applied, cut-back and cold-applied, emulsified-asphalt damp proofing applied to the following surfaces:
   1. Exterior, below-grade surfaces of concrete and masonry foundation walls
   2. Exterior face of the inner wythe of the exterior masonry cavity walls
   3. Interior face of exterior masonry walls, above grade

1.03 SUBMITTALS

A. Product Data: For each type of product indicated. Include recommendations for method of application, primer, number of coats, coverage or thickness, and protection course.

1.04 QUALITY ASSURANCE

A. Source Limitations: Obtain primary damp proofing materials and primers through one source from a single manufacturer. Provide secondary materials recommended by manufacturer of primary materials.

B. Installer Qualifications: Engage an experienced Installer who has completed bituminous damp proofing similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

C. Contractor shall ensure that damp proofing materials, where shown to be in contact, are compatible with the cavity wall insulation specified under Section 04200 - UNIT MASONRY.

1.05 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit asphalt damp proofing to be performed according to manufacturers' written instructions.

B. Substrate: Proceed with damp proofing only after substrate construction and penetrating work have been completed.

C. Ventilation: Provide adequate ventilation during application of damp proofing in enclosed spaces. Maintain ventilation until damp proofing has thoroughly cured.

2.0 PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Karnak Corporation.
   2. Lambert Corporation.
   3. Meadows, W. R., Inc.
   4. Sonneborn, Div. of BASF, Inc.

2.02 BITUMINOUS DAMP PROOFING

SECTION 07115 – BITUMINOUS DAMP PROOFING

A. Cold-Applied, Emulsified-Asphalt Damp proofing:
   1. Brush (Semi mastic) Coats: ASTM D 1227, Type II or Type III, Class 1.
B. Spray application is not permitted for this Project.

2.03 MISCELLANEOUS MATERIALS
A. Emulsified-Asphalt Primer: ASTM D 1227, Type III, Class 1, except diluted with water as recommended by manufacturer.
B. Asphalt-Coated Glass Fabric: ASTM D 1668, Type I.

3.0 EXECUTION

3.01 EXAMINATION
A. Examine substrates, with Applicator present, for compliance with requirements for surface smoothness and other conditions affecting performance of work.
   1. Begin damp proofing application only after substrate construction and penetrating work have been completed and unsatisfactory conditions have been corrected.

3.02 PREPARATION
A. Protection of Other Work: Mask or otherwise protect adjoining exposed surfaces from being stained, spotted, or coated with damp proofing. Prevent damp proofing materials from entering and clogging weep holes and drains.
B. Clean substrates of projections and substances detrimental to work; fill voids, seal joints, and apply bond breakers if any, as recommended by prime material manufacturer.

3.03 APPLICATION, GENERAL
A. Comply with manufacturer's written recommendations unless more stringent requirements are indicated or required by Project conditions to ensure satisfactory performance of damp proofing.
   1. Apply additional coats if recommended by manufacturer or required to achieve coverages indicated.
   2. Allow each coat of damp proofing to cure 24 hours before applying subsequent coats.
B. Apply damp proofing to footings and foundation walls where opposite side of wall faces building interior whether indicated or not.
   1. Apply from finished-grade line to top of footing extend over top of footing, and down a minimum of 6 inches over outside face of footing.
   2. Extend 12 inches onto intersecting walls and footings, but do not extend onto surfaces exposed to view when Project is completed.
   3. Install flashings and corner protection stripping at internal and external corners, changes in plane, construction joints, cracks, and where shown as "reinforced," by embedding an 8-inch-wide strip of asphalt-coated glass fabric in a heavy coat of damp proofing. Damp proofing coat required for embedding fabric is in addition to other coats required.
C. Apply damp proofing to provide continuous plane of protection on exterior face of inner Wythe of exterior masonry cavity walls.
   1. Lap the damp proofing at least 1/4 inch onto flashing, masonry reinforcement, veneer ties, and other items that penetrate inner wythe.

SECTION 07115 – BITUMINOUS DAMP PROOFING

2. Extend damp proofing over outer face of structural members and concrete slabs that interrupt inner wythe, and lap damp proofing at least 1/4 inch onto shelf angles supporting veneer.

D. Apply damp proofing to provide continuous plane of protection on interior face of above grade, exterior single-wythe masonry walls unless walls are indicated to receive direct application of paint.
1. Continue damp proofing through intersecting walls by keeping vertical mortar joints at intersection temporarily open or by delaying construction of intersecting walls until damp proofing is applied.

E. Provide cold-applied, cut-back asphalt damp proofing at below grade applications and cold-applied, emulsified-asphalt damp proofing at above grade applications, unless otherwise indicated.

3.04 COLD-APPLIED, EMULSIFIED-ASPHALT DAMPPROOFING
A. Semi-mastic Grade: Brush apply a coat of asphalt emulsion damp proofing at a rate of 5 gal./100 sq. ft., to produce a uniform, dry-film thickness of not less than 30 mils.

3.05 PROTECTION AND CLEANING
A. Protect exterior, below-grade damp proofing membrane from damage until backfill is completed. Remove damp proofing materials from surfaces not intended to receive damp proofing.

(END OF SECTION 07115)

SECTION 07193 - SLAB SHEET VAPOR BARRIERS

1.0 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 SPECIALTY CONTRACTORS

Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not.

1.03 SUMMARY

A. Slab sheet vapor barriers shall be provided on grade under all interior concrete floor slabs unless otherwise specified or indicated.

B. Provide minimum 10 mil thick vapor barriers except for areas of wood flooring and resinous flooring where minimum 15 mil vapor barrier is required.

1.04 SUBMITTALS

A. Manufacturer's Data: Include specifications, installation instructions, and general recommendations from the manufacturer for the types of products required. Include manufacturer's certification or other data substantiating that the materials comply with the requirements.

1.05 JOB CONDITIONS

A. Examine the substrate and the conditions under which the work is to be performed, and do not proceed with the work until unsatisfactory conditions have been corrected.

B. Proceed with work only after substrate construction is complete, all projections through barrier have been installed, and immediate installation of concrete work over the vapor barrier can be performed.

2.0 PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with requirements, provide one of the following:

1. Polyvinyl chloride, single film, 10 mils thick, and clear color
   a. Lexsuco, V.B.; B.F. Goodrich/Lexsuco
   b. Nervastral Barrier; Rubber and Plastics Compound Co., Inc.
   c. PVC Sheet; Alton Building Products
2. Minimum 6 mil vapor barrier: (Sidewalks adjacent to building)
   a. CPB Associates "Backstop-White" (10 mil)
   b. Fortifiber Corporation "Moistop Ultra 10".
   c. Reef Industries "Griffolyn 10 Mil"
   d. Stego Industries LLC "Stego Wrap (10 mil) Vapor Barrier"
   e. W. R. Meadows "Sealtite".

SECTION 07193 - SLAB SHEET VAPOR BARRIERS

2.02 MATERIALS

A. Manufacturer's standard low-permeance polymer membrane, thickness as indicated for intended application.

B. Vapor barrier shall meet or exceed Class C (for 6 mil thickness) of Class B (for 15 mil thickness) requirements as established by ASTM E1745.

C. Vapor barrier accessory materials including pipe boots, tapes and adhesives, shall be as recommended by the vapor barrier manufacturer.

3.0 EXECUTION

3.01 INSTALLATION

A. Comply with manufacturer's instructions and ASTM E1643 for the particular conditions of installation in each case. Clean substrate of projections and materials injurious to the vapor barrier. Level and tamp or roll granular base.

B. Unroll vapor barrier with the longest dimension parallel with the direction of the concrete pour.

C. Lap vapor barrier over footings and seal to foundation walls, extending barrier up walls minimum 2 inches above the thickness of slabs. At thickened edge slabs, extend barrier under thickened edge and up to grade. Overlap joints six inches and seal with manufacturer's recommended pressure sensitive tape.

D. Seal all penetrations, including pipes and conduits, with manufacturer's standard pipe boot and pressure sensitive tape by doubling barrier thickness and sealing as specified for joints. Exercise care to avoid punctures.

3.02 PROTECTION AND REPAIR OF VAPOR BARRIERS

A. Protect vapor barrier from puncture, damage, and deterioration. Repair damaged areas by cutting patches of vapor barrier, overlapping damaged areas a minimum of six inches on all sides, and taping with pressure sensitive tape.

(END OF SECTION 07193)

SECTION 07200 - INSULATION

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Condition and General Requirements, apply to the work specified in this Section.

1.02 Description of the Work: Furnish all labor, materials, equipment, and/or incidentals necessary to the completion of all requirements of the Drawings, notes, schedules and these Specifications concerning acoustical and thermal insulation.

1.03 Specialty Contractors: Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not.

2.0 INSTALLATION

2.01 Firesafing shall be equal to Paroc 4" thick flexible batt insulation as manufactured by Partek Insulation Company.

2.02 The insulation contractor shall be responsible for familiarizing him/herself with the intent of the drawings and building codes.

2.03 Coordinate insulation with intended placement and relationship with construction assemblies to ensure a complete and uniform installation with all voids properly infilled.

2.04 Contractor must be licensed and certified by Manufacturer and material to have UL listing identified on packaging. Material must be asbestos-free and fiberglass-free and tested by the Environmental Protection Agency.

2.05 The installing contractor shall examine all surfaces and report all unsatisfactory conditions in writing to the General Contractor and the Architect. The work shall not proceed until unsatisfactory conditions are corrected.

(END OF SECTION 07200)

SECTION 07241 – (EIFS) EXTERIOR INSULATION AND FINISH SYSTEMS

1.0 GENERAL

1.01 Related Documents:

A. The General Provisions of the Contract, including the General Conditions, Supplementary Conditions and Special Conditions, (if any), along with the General Requirements, apply to the work specified in this Section.

1.02 Summary:

A. This section includes exterior insulation and finish system (EIFS) applied over substrates as indicated on the drawings

B. Related Sections include the following:
1. Division 4, Section 04200 – Concrete Unit Masonry
2. Division 5, Section 05400 – Cold Formed Metal Framing
3. Division 7. 07920 Sealants and caulking
4. Division 13, Section 13120 – Pre-Fabricated Metal Building System
5. Division 9, Section 09110 – Lath and stucco (use where EIFS system cannot be applied)

1.03 Definitions:

A. Class PB Exterior Insulation Water Resistant Barrier and Finish System (EIFS) is defined by ASTM C1397 as a non-load bearing exterior wall cladding system that consists of an insulation board attached either adhesively, mechanically, or both, to a Densdeck substrate (to eliminate telegraphing of metal sheathing corrugation patterns), a drainage and water resistant barrier system, systems rigid insulation and integrally reinforced base coat with impact resistant mesh, a systems base and scratch coat (as required by system utilized, and a textured protective finish coat."

B. Systems refer to Class PB EIFS

C. System manufacturer refers to EIFS manufacturer

1.04 Performance Requirements:

A. General: Provide a complete EIFS system that comply with the following performance requirements:

1. Bond Integrity: Free from bond failure within system components or between system and supporting wall construction, resulting from exposure to fire, wind loads, weather, or other in-service conditions.

2. Weathertightness: Resistant to water penetration from exterior into system and assemblies behind it or through them into interior of building that results in deterioration of thermal-insulating effectiveness or other degradation of system and assemblies behind it, including substrates, supporting wall construction, and interior finish. System to include a water resistant barrier system to prevent water intrusion.

B. Physical Properties or Class PB System: Provide EIFS whose physical properties and structural performance comply with the following when tested per methods referenced.

SECTION 07241 – (EIFS) EXTERIOR INSULATION AND FINISH SYSTEMS

1. Abrasion Resistance: Sample consisting of 1-inch-thick EIFS mounted on 1/2–inch-thick gypsum board cured for a minimum of 28 days; and showing no cracking, checking, or loss of film integrity exposure to 528 quarts of sand when tested per ASTM D968, Method A.
2. Accelerated Weathering Characteristics: Sample of size suitable for test equipment and consisting of 1-inch-thick EIFS mounted on 1/2–inch-thick gypsum board; cured for 28 days; and showing no cracking, checking, crazing, erosion, blistering, peeling, or delamination after testing for 2000 hours when viewed under five times magnification per ASTM G23, method 1.
3. Absorption-Freeze Resistance: No visible deleterious effects and negligible weight loss after 60 cycles per EIMA 101.01.
4. Mildew Resistance: Sample consisting of finish coat applied by 2x2" clean glass substrate; cured for 28 days; and showing no growth when tested per ASTM D3273.
5. Salt-Spray Resistance: Sample consisting of 1-inch-thick EIFS mounted on 1/2-inch-thick gypsum board; cured for 28 days; and showing no cracking, checking, crazing, erosion, blistering, peeling, or delamination after testing for 300 hours per ASTM B117.
6. Tensile Adhesion: No failure in the adhesive, base coat, or finish coat. Minimum 5-psi tensile strength before and after freeze-thaw and accelerated weathering tests per EIMA 101.03.
7. Water Penetration: Sample consisting of 1-inch-thick EIFS mounted on 1/2-inch-thick gypsum board; cured for 28 days; and showing no water penetration into the plane of the base coat to expanded polystyrene board interface of the test specimen after 15 minutes at 6.24 lbf/sq. ft. of air pressure difference or 20 percent of positive design wind pressure, whichever is greater, across the specimen during a test period when tested per EIMA 101.02.
8. Water Resistance: Sample consisting of 1-inch-thick EIFS mounted on 1/2-inch-thick gypsum board; cured for 28 days; and showing no cracking, checking, crazing, erosion, blistering, peeling, or delamination after testing for 14 days per ASATM D2247 and E331. No cracking, checking, crazing, blistering, peeling, delamination, or corrosion of finish coat when viewing under 5X magnification after 2000 hrs of accelerated weathering condition in accordance with STMG153 and 155.
9. Impact Resistance: Sample consisting of 1-inch-thick EIFS when constructed, conditioned, and tested per EIMA 101.86; and meeting or exceeding the following impact classification and range:
   a. Standard Impact Resistance: 25-49 inch-lb.
   b. High Impact Resistance: 90-150 inch-lb.

SECTION 07241 – (EIFS) EXTERIOR INSULATION AND FINISH SYSTEMS

10. Positive and Negative Wind-Load Performance: Sample assembly, 48x48 inches in size, consisting studs, sheathing, and 1-inch-thick EIFS; and showing capability to withstand wind loads indicated when tested per ASTM E330.

1.05 Submittals:

A. Product Data: For each component of EIFS specified

B. Shop Drawings: Show fabrication and installation of system including plans, elevations, sections, details of components, joint locations, and configurations within system and between system and construction penetrating it, termination details, and attachments to construction behind system.

C. Samples for Verification: 24-inch-square panels for each finish, color, texture, and pattern specified. Prepare samples using same tools and techniques intended for actual work.

1. Incorporate within each sample a typical control joint filled with sealant of color indicated or selected.

D. Installer Certificates: Signed by system manufacturer certifying that installers comply with specified requirements.

E. Material Certificates: Signed by manufacturers or a third-party agency approved by system manufacturer certifying that each of the following items complies with requirements:

1. Insulation.
2. Joint Sealants
3. Water Resistant Barrier

F. Compatibility and Adhesion Test Reports: From sealant manufacturer indicating that materials forming joint substrates and joint sealing backings have been tested for compatibility and adhesion with joint sealants. Include joint sealant manufacturer's written interpretation of test results relative to sealant performance and recommendations for primers and substrate preparation needed to obtain adhesion.

G. Product Test Reports: Indicate compliance of proposed EIFS with physical property requirements specified in "Performance Requirements" Article based on comprehensive testing of current products by a qualified testing and inspecting agency.

1.06 Quality Assurance:

A. Installer Qualifications: Engage an experienced installer who is certified in writing by system manufacturer as qualified to install manufacturer's system.

B. Manufacturer Qualifications: Engage a firm experienced in manufacturing systems similar to those indicated for this Project and with a record of successful in-service performance.

C. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E548.

SECTION 07241 – (EIFS) EXTERIOR INSULATION AND FINISH SYSTEMS

D. Source Limitations: Obtain materials for system from one source and by a single manufacturer or by manufacturers approved by EIFS manufacturer as compatible with other system components.

E. Fire-Test-Response Characteristics: Provide system assemblies and components with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing and inspecting agency.

1. Flame Spread of Insulation Board and Finish Coats: 25 or less when tested individually per ASTM E84.
2. Smoke Developed of Insulation Board and Finish Coats: 450 or less when tested individually per ASTM E84.
3. Radiant Heat Exposure, Unrestricted Installation: Tolerable level of incident radiant heat energy of at least 12.5 kW/sq. m when tested according to the BOCA National Building Code.
4. Fire-Resistance Characteristics: Where indicated, provide materials and construction identical to those of assemblies tested for fir resistance per ASTM E119 by testing and inspecting agency acceptable to authorities having jurisdiction.

F. Mockups: Before installing system, construct mockups for each form of construction and finish required to verify selections made under Sample submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for completed work:

1. Locate mockups in the location and the size indicated or, if not indicated, as directed by Architect. ***Mockup is to be installed on a wall mockup that includes interfacing with brick veneer, splitface block (color per architect) and top of wall soffit interfacing to illustrate interfacing with adjacent materials and assembly. Mockup is to illustrate workmanship and water tightness of wall system.***
2. Notify Architect seven days in advance of the dates and times when mockups with be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
   a. Protect mockups from weather and from construction activities. Brace mockups to resist design wind loads and provide waterproof coverings for construction materials not intended to be permanently exposed to the weather.
   b. Approved mockups in an undisturbed condition at the time of Substantial Completion may become part of the completed Work.

SECTION 07241 – (EIFS) EXTERIOR INSULATION AND FINISH SYSTEMS

G. Pre-installation Conference: Conduct conference at Project site to comply with Division 1 requirements.

1.07 Delivery, Storage, and Handling:

A. Deliver materials in original, unopened packages with manufacturer's labels intact and clearly identifying products.

B. Store materials inside and under cover; keep them dry and protected from the weather, direct sunlight, surface contamination, aging, corrosion, damaging temperatures, construction traffic, and other causes.

1 Stack insulation board flat and off the ground.

2. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

1.08 Project Conditions:

A. Environmental Limitations: Do not install system when ambient outdoor air and substrate temperatures are 40° F and falling unless temporary protection and heat are provided to maintain ambient temperatures above 40° F during installation of wet materials and until they have dried thoroughly and become weather resistant, but for at least 24 hours after installation.

1.09 Coordination and Scheduling:

A. Coordinate installation of EIFS components including the systems drainage and water resistant barriers with related Work specified in other sections to ensure that wall assemblies, including sheathing, flashing, trim, joint sealers, windows, and doors are protected against damage from the effects of weather, age, corrosion, moisture, and other causes. Do not allow water to penetrate behind any component of the EIFS system.

2.0 PRODUCTS

2.01 Manufacturers:

A. Basis of Design: The named manufacturer and associated product are the basis of design. The basis of design is intended to establish a level of quality, function, and appearance for the work and is not intended to limit competition. Other manufacturers whose products may be considered for the work, subject to compliance with requirements, are also listed. Any modifications to the project resulting from the use of products other than the basis of design shall be done at no cost to the Owner.

1. Dryvit System, Inc. "Outsulation Plus" with "Backstop" or equal air barrier and drainage system with water resistant barrier system.
2. Sto Corp.: Sto Finish Systems Division.
3. Bonsal: W. R. Bonsal Co.
4. Senergy
5. Parex USA, Inc.
6. Or approved equal.

SECTION 07241 – (EIFS) EXTERIOR INSULATION AND FINISH SYSTEMS

2.02 Materials:

A. Compatibility: Provide substrates, integral fluid applied drainage system, water and air resistant barrier, adhesive, board insulation, reinforcing meshes, base- and finish-coat materials, sealants, and accessories that are compatible with one another and approved for use by system manufacturer for the Project.

B. Colors, Textures, and Patterns of Finish Coat: As selected by Architect from manufacturer's full range.

C. Asphalt-Saturated Organic Felt: ASATM D226, Type I (No. 15 asphalt felt), unperforated.

D. Primer-Sealer: System manufacturer's standard substrate conditioner designed to seal substrates from moisture penetration and to improve the bond between substrate of type indicated and adhesive used for application of insulation.

E. Adhesive for Application of Insulation: System manufacturer's standard formulation designed for indicated use, compatible with substrate, and complying with the following requirements:

1. Factory-blended dry formulation of Portland cement, dry polymer admixture, and fillers specified for base coat.

2. Factory-mixed formulation designed for adhesive attachment of insulation to substrates of type indicated, as recommended by system manufacturer.

3. Any formulation indicated above, as recommended by system manufacturer.

F. Waterproof Adhesive for Application of Insulation: System manufacturer's waterproof formulation designed for indicated use, compatible with substrate, and complying with the following requirements:

1. Job-mixed formulation of Portland cement complying with ASTM C150, Type 1, and polymer-based adhesive specified for base coat.

G. Molded-Polystyrene Board Insulation: Drainage type rigid, cellular thermal insulation formed by expansion of polystyrene resin beads or granules in a closed mold. Comply with system manufacturer's requirements, ASTM C578 for Type I, and "EIMA Guidelines Specification for Expanded Polystyrene (EPS) Insulation Board" for more stringent requirements for material performance and qualities of insulation, including dimensions and permissible variations, and the following:

1. Before cutting and shipping, age insulation in block form by air drying for not less than six (6) weeks or by another method approved by EIMA that produces equivalent results.

2 Provide insulation in boards not more than 24 x 48 inches and in thickness indicated but nor more than 4 inches or less than that allowed by ASTM PS49.

H. Reinforcing Mash: Balanced, alkali-resistant, open-weave glass-fiber mesh treated for compatibility with other system materials, made from continuous multi-end strands with retained mesh tensile strength of not less than 120 lbf/in. per EIMA 105.01, complying with ASTM D578 and the following requirements for minimum weight:

SECTION 07241 – (EIFS) EXTERIOR INSULATION AND FINISH SYSTEMS

1. Standard Reinforcing Mesh: Not less than 4.0 oz. /sq. yd.
2. High-Impact Reinforcing Mesh: Not less than 15 oz. /sq. yd.
3. Strip Reinforcing Mesh: Not less than 3.75 oz. /sq. yd.
4. Detail Reinforcing Mesh: Not less than 4 oz. /sq. yd.
5. Corner Reinforcing Mesh: Not less than 7.2 oz. /sq. yd.

I. Air and Waterproof Base-Coast Materials: System manufacturer's standard waterproof mixture complying with the following requirements for material composition and method of combining materials:

1. Job-mixed formulation of Portland cement complying with ASTM C150, Type I, white or natural color; and manufacturer's standard polymer-emulsion adhesive designed or use indicated.

J. Primer: System manufacturer's standard factory-mixed elastomeric-polymer primer for preparing base-coat surface for application of finish coat.

K. Finish-Coat Materials: System manufacturer's standard mixture complying with the following requirements for material composition and method of combining materials:

1. Factory-mixed formulation of polymer-emulsion binder, colorfast mineral pigments, sound stone particles, and fillers.
2. Sealer: Manufacturer's waterproof, clear acrylic-based sealer for protecting finish coat.

L. Water: Potable

M. Mechanical Fasteners: EIFS manufacturer's standard corrosion-resistant fasteners consisting of thermal cap, standard washer and shaft attachments, and fastener indicated below; selected for properties of pullout, tensile, and shear strength required to resist design loads of application indicated; capable of pulling fastener head below surface of insulation board; and of the following description:

1. For attachment to steel studs from 0.033 to 0.112 inch in thickness; provide steel drill screws complying with ASTM C 954.
2. For attachment to light-gage steel framing members not less than 0.0179 inch in thickness, provide steel drill screws complying with ASTM C 1002.
3. For attachment to masonry and concrete substrates, provide sheathing dowel in form of a plastic wing-tipped fastener with thermal cap, sized to fist insulation thickness indicated and to penetrate substrate to depth required to secure anchorage.
4. For attachment, provide manufacturer's standard fasteners suitable for substrate.

N. Trim Accessories: Type as designated or required to suit conditions indicated and to comply with system manufacturer's written requirements, manufactured form vinyl plastic, and complying with ASTM C1063.

SECTION 07241 – (EIFS) EXTERIOR INSULATION AND FINISH SYSTEMS

1. Control Joints: Prefabricated, one-piece type manufactured with expanded metal flanges, formed to provide double keying action with protective coating, extending only to face of insulation; with removable tape on plaster face and 1/4 inch joint sight line and shallow bellows configuration where bellow extends to face of insulation only.
2. Corner Bead: Prefabricated small-nosed corner bead with expanded metal flanges extending minimum of 2-7/8 inches from corner.
3. Casing Bead: Prefabricated one-piece type for attachment behind insulation, of depth required to suit thickness of coating and insulation, with face leg perforated for bonding to coating.
4. Drip Screed: Prefabricated one-piece type for attachment behind insulation of depth required to suit thickness of coating and insulation, with face leg perforated for bonding to coating and extended to form a drip.

2.03 Elastomeric Sealants:

A. Elastomeric Sealant Products: Dow 790 Silicone or approved equal.

B. Sealant Color: Match finish-coast color of system.

2.04 Mixing:

A. General: Comply with system manufacturer's requirements for combining and mixing materials. Do not introduce admixtures, water, or other materials except as recommended by system manufacturer. Mix materials in clean containers. Use materials within time period specified by system manufacturer or discard.

3.0 EXECUTION

3.01 Examination:

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of system. Proceed with installation of system only after unsatisfactory conditions have been corrected. Verify that all substrate is securely fastened, sound, and free of oil, dirt, or other surface contaminants, effloresence, or protrusions that could interfere with EIFS installation. Verify that substrate surface is flat with no deviation greater than ¼" when tested with a 10'-0" straight edge.

3.02 Preparation:

A. Protect contiguous work from moisture deterioration and soiling caused by application of systems. Provide temporary covering and other protection needed to prevent spattering of exterior finish coats on other work.

B. Protect system, substrates, and wall construction behind them from inclement weather during installation. Prevent infiltration of moisture behind system and deterioration of substrates.

C. Prepare and clean substrates co comply with system manufacturer's written requirements to obtain optimum bond between substrate and adhesive for insulation.

SECTION 07241 – (EIFS) EXTERIOR INSULATION AND FINISH SYSTEMS

1. Apply primer-sealer over substrates where required by system manufacturer for improving adhesion or for protecting substrates from degradation.

D. Apply barrier coating as recommended by coating manufacturer and prime substrate as required before application.

3.03 Installation:

A. Comply with ASTM C1397 and system manufacturer's written instructions for installation of system as applicable to each type of substrate indicated.

B. Apply trim accessories at perimeter of system, at expansion joints, and elsewhere, as indicated. Use drip screed at bottom edge of system, unless otherwise indicated. Use casing beads at other locations.

C. Adhesively and mechanically attach insulation to comply with ASTM C1397, system manufacturer's written requirements, and the following:

1. Apply adhesive to insulation by notched-trowel method in a manner that results in adhesive's coating the entire surface of gypsum sheathing once insulation is adhered to sheathing, unless system manufacturer's written instructions specify using primer-sealer with ribbon-and-dab method. Apply adhesive to a height of not less than 1/4 inch for factory mixed and not less than 3/8 inch for field mixed, measured from the surface of the insulation board before placement.

2. Press and slide insulation board into place. Apply pressure over the entire surface of the insulation board to accomplish uniform contact, high initial grab, and an overall level surface.

3. Allow adhered insulation to remain undisturbed for period recommended by system manufacturer, but not less than 24 hours, before installing mechanical fasteners, beginning rasping and sanding insulation, or applying base coat and reinforcing mesh.

4. Mechanically attach insulation to substrate by method complying with EIFS manufacturer's written requirements. Install top surface of fastener heads flush with plane of insulation. Install fasteners into or through substrates with the following minimum penetration:

a. Steel Framing: 5/15 inch

b. Concrete and Masonry: 1 inch

5. Apply insulation boards over dry substrates in courses with long edges oriented horizontally. Begin first course from drip screed and work upward. Work from perimeter casing beads toward interior of panels if possible.

6. Stagger vertical joints in successive courses to produce running bond pattern. Locate joints so no piece of insulation is less than 12 inches wide or 6 inches high. Offset joints not less than 6 inches from corners of window and door openings.

a. Offset joints of insulation not less than 6 inches from horizontal and 4 inches from vertical joints in sheathing.

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b. Offset joints of insulation not less than 4 inches from aesthetic reveals.

7. Interlock ends at internal and external corners.

8. Abut boards tightly at joints within and between each course to produce flush, continuously even surfaces without gaps or raised edges between insulation boards. If gaps greater than 1/16 inch occur, fill with insulation cut to fit gaps exactly; insert insulation without using adhesive or other material.

9. Cut insulation to fit openings, corners, and projections precisely and to produce edges and shapes complying with details indicted.

10. Rasp or sand flush entire surface of insulation to remove irregularities projecting more than 1/32 inch from surface of insulation and to remove yellowed areas due to sun exposure; do not create depressions deeper than 1/16 inch.

11. Cut aesthetic reveals in outside face of insulation with high-speed router and bit configured to produce grooves, rabbets, and other feathers that comply with profiles and locations indicated. Do not reduce insulation thickness at features to less than 3/4 inch.

12. Install foam shapes attached to supporting substrate, where indicated.

13. Interrupt insulation for expansion joints where indicated.

14. Form joints for sealant application with back-to-back casing beads for joints within system and with perimeter casing beads at dissimilar adjoining surfaces. Make gaps between casing beads and between perimeter casing beads and adjoining surfaces of width indicated.

15. Treat exposed edges of insulation board as follows:

    a. Wrap edges after installing insulation board and before applying field-applied reinforcing mesh.

    b. Wrap mesh of width required to extend not less than 2-1/2 inches onto substrate behind insulation board, cover insulation board edge, and extend not less than 2-1/2 inches onto insulation board face.

    c. Wrap edges of insulation board, except those forming substrates of sealant joints, by encapsulating with base coat, reinforcing mesh, and finish coat.

    d. Wrap edges of insulation board forming substrates of sealant joints within system or between system and other work by encapsulating with base coat and reinforcing mesh.

16. Treat edges of insulation board at trim accessories by extending base coat, reinforcing mesh, and finish coat over face leg of accessories.

17. Coordinate flashing installation with installation of insulation to produce a wall system that does not allow water to penetrate behind protective coating.

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18. Contractor to photographically document all door, window, mechanical openings, and storefront flashing prior to their concealment and include in project closeout manual.

D. Install trim accessories at locations indicated according to system manufacturer's written instructions.

E. Install expansion joints at locations indicated, where required by system manufacturer, and as follows:

1. Where expansion joints are indicated in substrates behind EIFS.
2. Where EIFS adjoins dissimilar substrate, materials, and construction.
3. Where wall height changes.

F. Apply 'backstop' as recommended by manufacturer.

G. Apply base coat to exposed surfaces of insulation in minimum thickness recommended in writing by system manufacturer, but not less than 1/16 inch dry-coat thickness.

H. Embed reinforcing mesh of type indicated below in wet base coat to produce wrinkle-free installation with mesh continuous at corners and overlapped not less than 2-1/2 inches or otherwise treated at joints to comply with ASTM PS49 and system manufacturer's written requirements. Do not lap reinforcing mesh within 8 inches of corners. Completely embed mesh, applying additional base-coast material if necessary, so reinforcing-mesh color and pattern are not visible.

1. Standard reinforcing mesh, unless otherwise indicated.
2. High-Impact reinforcing mesh, where indicated on drawings

I. Additional Reinforcing Mesh: Apply strip reinforcing mesh around openings extending 4 inches beyond perimeter. Apply additional 9x12 inch strip reinforcing mesh diagonally at corners of openings (re-entrant corners). Apply 8-inch-wide strip reinforcing mesh at both inside and outside corners, unless base layer of mesh is lapped not less than 4 inches on each side of corners.

1. At aesthetic reveals, apply strip reinforcing mesh not less than 8 inches wide.
2. Embed strip reinforcing mesh in base coat before applying first layer of reinforcing mesh.

J. Shapes: Fully embed reinforcing mesh in base coat.

K. Apply primer over dry base coat according to system manufacturer's written instruction.

L. Apply finish coat over dry primer, maintaining a wet edge at all times for uniform appearance, in thickness required by system manufacturer to produce a uniform finish of color and texture matching approved sample.

1. Apply sealer coat over dry finish coat, in number of coats and thickness required by system manufacturer.

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3.04 Installation of Joint Sealants:

A Prepare joints and apply sealants, of type and at locations indicated, to comply with applicable requirements of Division 7, Section 07920 SEALANTS & CAULKING and in "EIMA Guide for Use of Sealants with Exterior Insulation and Finish Systems, Class PB."

1. Clean surfaces to receive sealants to comply with indicated requirements and system manufacturer's written instructions.
2. Apply primer recommended in writing by sealant manufacturer for surfaces to be sealed.
3. Install sealant backing to control depth and configuration of sealant joint and to prevent sealant from adhering to back of joint.
4. Apply masking tape to protect areas adjacent to sealant joints. Remove tape immediately after tooling joints, without disturbing joint seal.
5. Recess sealant sufficiently from surface of system so an additional sealant application, including backing rod, can be installed without producing beyond system surface.
6. Apply joint sealants after base coat has cured but before applying finish coat.

3.05 Cleaning and Protecting:

A. Remove temporary covering and protection of other work. Promptly remove coating materials from window and door frames and other surfaces outside areas indicated to receive system coatings.

B. Provide final protection and maintain conditions, in a manner acceptable to installer, and system manufacturer, that ensure system is without damage or deterioration at the time of Substantial Completion.

(END OF SECTION 07421)

SECTION 07500 – SINGLE PLY ROOFING MEMBRANE

1.0 GENERAL

1.01 Summary: It is the intent of this section to provide for the furnishing, installing and warranting of the roofing and all associated work and accessories described herein or necessary for a complete, secure installation for the new Alachua County Courthouse Complex Central Energy Plant (CEP), including all required miscellaneous incidentals necessary for the complete installation of work detailed, described or implied within these bid documents.

1.02 Work Included:

A. Work included is a convenient listing of the significant items described within this section and shall not be construed as the only work applicable or related to this section.

B. Work includes, but is not limited to:

1) Flashing
2) Roofing membrane
3) Expansion joints
4) Temporary roofing
5) Roof vents
6) Roof drains
7) Pitch pans
8) Roof hatch & related raised curb

1.03 Related Work Specified Elsewhere:

A. Section 07621 - Flashing and Sheet Metal
B. Section 07920 - Sealants and Caulking

1.04 Quality Assurance:

A. Manufacturer Qualifications:

1. Actively engaged in the manufacture of roofing products for not less than five (5) years.
2. Roofing manufactured in accordance with requirements and standards of the Factory Mutual, National Roofing Contractors Association (NRCA) and Underwriter's Laboratories, Inc.

B. Applicator Qualifications:

1. Actively engaged in the application of and thoroughly familiar and experienced with roofing membrane Manufacturer's products and certified by roofing Manufacturer for application and installation.
2. Provide a field supervisor who shall be completely familiar with, and experienced in, the application of specified roof membranes, and who shall be responsible for application and installation and who shall direct all field operations at all times.
3. Such field supervisor shall be readily available and completely accessible by Owners Field Representative and Architect.

C. Source Quality Control - All roofing materials, to include, but not limited to, roofing membrane and accessories shall be manufactured and produced by and under the control of a single Manufacturer.

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D. Other Products - All other roofing materials and related products necessary for a complete, secure installation shall be acceptable by the roofing membrane Manufacturer as being compatible and suitable for roof warranty.

1.05 References: All work as specified in this section shall be governed by, and in accordance with, the following codes and standards:
- A. 8th Editon Florida Building Code
- B. Factory Mutual Approval Guide for Class I-90
- C. American Society for Testing of Materials (ASTM)
- D. National Roofing Contractors Association (NRCA), Roofing and Waterproofing Manual
- E. OSHA – Occupational Safety and Health Administration

1.06 Submittals:
- A. Submit the following shop drawings, product data and certificates in accordance with Section 1300 - Submittals
  1. Roofing Manufacturer's product data
  2. Certification of U.L. "Class A" fire rating
  3. Certification of Factory Manual I-90 uplift requirements
  4. Shop Drawings - Flashing details
  5. Roofing warranty - Five (5) year Contractor's workmanship warranty; fifteen (20) year NDL manufacturer's warranty.
  6. Manufacturer's Specifications Data Sheets
- B. Submit, if applicable, all pertinent data for product substitutions proposed and a letter stating cause and effect of such substitutions for Owner's and Architect's consideration and approval.
- C. Samples - Submit samples of each ply proposed for use on roof for Owner's and Architect's approval.
- D. Submit, if applicable, all proposed changes in materials and methods of construction, construction sequences and construction techniques for Owner's and Architect's consideration and approval.

1.07 Tests:
- A. Testing Laboratory Service - Acceptable to Owner and currently certified and qualified by the following:
  1. "Recommended Requirements for Independent Laboratory Qualification," latest edition, by the American Council of Independent Laboratories
  2. Testing equipment calibrated at maximum 12-month intervals.
- B. Testing Costs shall be borne by Contractor except as specifically stated in Section 00810, Article 1.06
- C. Test Reports:
  1. Submit of testing laboratory letterhead and test tabulations sheets, to include, but not limited to:
     - a. Statement by testing laboratory as to whether test results meet specification requirements.
     - b. Date of field tests and locations.
  2. Submit test results to Architect within seven (7) days following field tests.
  3. Submit test results in triplicate.
- D. Field Tests:

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1. Field tests shall be arranged for and scheduled by Contractor.
2. Owner and Architect shall be notified not less than 24 hours in advance of scheduled tests so that they may be present during testing operations.
3. Test locations will be field determined or approved by Owner or Architect.
4. Testing conducted without the presence of the Owner or Architect, unless approved prior to the time of testing, may be disregarded by Owner and Architect as invalid and subject to retesting at Contractor's cost.

E. Tests to be Performed:
   1. Water Test:
      a. Test roofing membrane integrity at completion of application of the base sheet and interply and prior to application of cap membrane.
      b. Test for water runoff and proper drainage to include, but not limited to:
         1) Roof drains
         2) Roof projections
         3) Roof slope
         4) Concealed gutters at South and West Lobby areas.
      c. Architectural and/or Owner's Representative to be present for testing.

1.08 Field Samples:
   A. Field samples are defined as physical examples illustrating finishes and finish materials as well as methods and techniques of construction.
   B. Field samples may be required and requested by Owner or Architect at such times that materials being applied are suspected to be inadequate to meet Specifications as to materials and products or methods and techniques of application/installation.
      1. Tests that may be required to determine the characteristics and properties of a material or product shall be at Contractor's cost if tested materials or products fail.
      2. Costs of tests for those materials or products passing successfully will be borne by Owner.

1.09 Product Handling:
   A. Delivery - Deliver roofing materials and accessories in Manufacturer's original, unopened, standard containers and packaging with labels and seals intact, and stored on the ground. Minimal quantities of roofing materials and accessories are to be stockpiled and/or stored on the roof deck.
   B. Protection - Store all materials in a safe, dry area. Protect from damage due to moisture, before, during and after installation.
   C. Replacements - Be responsible for and making all repairs and replacements of damaged or defective materials or work at no additional cost to Owner.

1.10 Job Conditions (Weather Conditions):
   A. Proceed with work only when weather conditions permit installation of materials without harm or damage.
   B. Provide temporary protection of all materials, stored or installed, and all openings in the event of rain or other unsuitable weather conditions.
   C. Be responsible for repairing and replacing materials, stored or installed, damaged by rain or other unsuitable weather conditions.

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1.11 Warranty: Provide a twenty (20) year written warranty (NDL single source) from the roof membrane Manufacturer to include, but not limited to, roof membrane and accessories:

A. Roof membrane deterioration due to ordinary wear and tear and effect thereof.
B. Flashing membrane deterioration due to wear and tear and effects thereof.
C. Improper workmanship and installation by roofing contractor of roof membrane or flashing membrane.
D. Blisters, buckles, wrinkles or ridges in roof membrane
E. Splits in roofing or flashing membrane
F. Temperature fluctuations or thermal shock
G. Roofing and flashing membrane slippage
H. Vent stacks, new or retrofit, drains and scuppers, if required, pitch pans and roof projections.

2.0 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Basis for Design – Siplast Parosolo PVC KEE Fleece back membrane system set in adhesive or approved equal PVC product.
B. Products specified are Performance Specifications and shall be used herein as a standard and basis for all specified roofing and related products.
C. Interested material vendors to refer to Section 01100 of this project manual to obtain prior approval consideration. Provide all support documentation to allow a complete evaluation of products.
D. Similar products may be furnished in lieu of those listed providing that all products listed shall meet Specifications and subject to approval and acceptance by the Owner and Architect. Approved manufacturers as listed below:
   - Siplast Parosolo PVC KEE Fleece-Back membrane system is Basis of Design
   - 60 mil Fiber Tite – SM Fleece-Back roof system by Seaman Corp.
   - 60 mil Tremply KEE Fleece-Back roof system by Tremco Roofing
   - Supreme Sentinel KEE Fleece-Back membrane system
   - Fiber Tite KEE single ply Fleece-Back membrane system
   - Or approved equal

2.02 DESCRIPTION OF WORK:
The basic work descriptions required in this specification are referenced below.

Project Type:	New Construction
Deck:	Metal; Slope: ½ in 12
Insulation (bottom layer):	Paratherm rigid insulation (tapered)providing for an average R-value of 25 min. as called out on the drawings, (insulated above steel deck) mechanically fastened.
Roof System:	60 mil Parasolo KEE Fleece back Roof Membrane, applied in Parafast T adhesive.
Flashing System:	60 mil Parasolo KEE detailing membrane applied in bonding adhesive.
Supplemental Flashing System:	Parapro 123 Flashing System

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2.03 SUBMITTALS:

All submittals that do not conform to the following requirements will be rejected.

A. Submittal of Equals: Submit primary roof systems to be considered as equals to the specified roof system no less than 10 days prior to bid date. Primary roof systems which have been reviewed and accepted as equals to the specified roof system will be listed in an addendum prior to bid date; only then will equals be accepted at bidding. Submittals shall include the following:

1. Two 3-inch x 5 inch samples of the primary roofing and flashing sheets.
2. Latest edition of the roofing system manufacturer's specifications and installation instructions.
3. Evidence that the manufacturer of the proposed roofing system utilizes a quality management system that is ISO 9001 certified. Documentation of ISO 9001 certification of foreign subsidiaries without domestic certification will not be accepted.
4. Evidence and description of manufacturer's quality control/quality assurance program for the primary roofing products supplied. The quality assurance program description shall include all methods of testing for physical and mechanical property values. Provide confirmation of manufacturer's certificate of analysis (COA) for reporting the tested values of the actual material being supplied for the project prior to issuance of the specified guarantee.
5. Descriptive list of the materials proposed for use.
6. Evidence of Underwriters' Laboratories Class A acceptance of the proposed roofing system (including mopping asphalt or cold adhesive) without additional requirements for gravel or coatings. No other testing agency approvals will be accepted.
7. Evidence that the roof configuration (including fastening of insulation) has been tested by an accredited independent testing agency to meet the design windload pressure indicated in Part 1.07 C2.
8. The roof membrane configuration shall be approved by FM for Class 1-SH (severe hail) exposure.
9. Complete list of material physical and mechanical properties for each sheet including weights and thicknesses.
10. Sample copy of the proposed guarantee.

B. Submittals Prior to Contract Award:

1. Letter from the proposed primary roofing manufacturer confirming that the bidder is an acceptable Contractor authorized to install the proposed system.

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2. Letter from the primary roofing manufacturer stating that the proposed application will comply with the manufacturer's requirements in order to qualify the project for the specified guarantee.

C. Submittals Prior to Project Close-out:

1. Manufacturer's printed recommendations for proper maintenance of the specified roof system including inspection frequencies, penetration addition policies, temporary repairs, and leak call procedures.

2.04 QUALITY ASSURANCE

A. Acceptable Products: Primary roofing products, including each type of sheet, all manufactured in the United States, shall be supplied by a single manufacturer which has been successfully producing the specified types of primary products for not less than 10 years. The primary roofing products shall have maintained a consistent composition for a minimum of five years.

B. Product Quality Assurance Program: Primary roofing materials shall be manufactured under a quality management system that is monitored regularly by a third-party auditor under the ISO 9001 audit process. A certificate of analysis (COA) for reporting/confirming the tested values of the actual material being supplied for the project will be required prior to project close-out.

C. Agency Approvals: The proposed roof system shall conform to the following requirements. No other testing agency approvals will be accepted.

1. Evidence by an accredited independent testing agency or agencies that the roof configuration meets a design windload pressure of – 67.5 psf or greater.

D. Acceptable Contractor: Contractor shall have a minimum of two (2) years of experience in successfully installing the same or similar roofing materials and be certified in writing by the roofing materials manufacturer to install the primary roofing products.

E. Scope of Work: The work to be performed under this specification shall include but is not limited to the following: Attend necessary job meetings and furnish competent and full-time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the roof installation in accordance with this specification. Comply with the latest written application instructions of the manufacturer of the primary roofing products. In addition, application practice shall comply with requirements and recommendations contained in the latest edition of the National Roofing Contractor's Association (NRCA) Roofing Manual as published by the National Roofing Contractor's Association.

F. Local Regulations: Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.

G. Manufacturer Requirements: Ensure that the primary roofing materials manufacturer provides direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conducts a final inspection upon successful completion of the project.

2.05 PRODUCT DELIVERY STORAGE AND HANDLING:

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A. Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.

B. Storage: Refer to the manufacturer's published literature for storage guidelines.

C. Handling: Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.

D. Damaged Material: Any materials that are found to be damaged or stored in any manner other than stated above will be automatically rejected, removed and replaced at the Contractor's expense.

2.06 PROJECT/SITE CONDITIONS

A. Requirements Prior to Job Start

1. Notification: Give a minimum of five (5) days' notice to the Owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.

2. Permits: Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.

3. Safety: Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

B. Environmental Requirements

1. Precipitation: Do not apply roofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied roofing, and building interiors are protected from possible moisture damage or contamination.

2. Temperature Restrictions - adhesive: Refer to the manufacturer's published guidelines for temperature restrictions for adhesive applications.

C. Protection Requirements

1. Membrane Protection: Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces throughout this project.

2. Limited Access: Prevent access by the public to materials, tools and equipment during the course of the project.

3. Debris Removal: Remove all debris daily from the project site and take it to a legal dumping area authorized to receive such materials.

4. Site Condition: Complete, to the owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by the construction.

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2.07 GUARANTEE/WARRANTY

A. Roof Membrane Guarantee: Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the manufacturer's 20-year labor and materials membrane guarantee. The guarantee shall be a term type, without deductibles or limitations on coverage amount, and shall be issued at no additional cost to the Owner.

- Siplast 20-year Parasolo Roof Membrane Guarantee

PART 3 PRODUCTS

3.01 ROOFING SYSTEM ASSEMBLY/PRODUCTS

A. Rigid Roof Insulation: Roof insulation shall be UL and FM approved. Insulation shall be approved in writing by the insulation manufacturer for intended use and for use with the specified roof assembly. Maintain a maximum panel size of 4 feet by 8 feet where polyisocyanurate insulation is specified to be installed in insulation adhesive.

1. Polyisocyanurate: A closed cell, rigid polyisocyanurate foam core material, integrally laminated between glass fiber reinforced organic facers, in full compliance with ASTM C 1289, Type II, Class 1, Grade 2 (20 psi). Panels shall have a nominal thickness TBD on drawings. Acceptable types are as follows:

- Paratherm by Siplast; Irving, TX

3.02 DESCRIPTION OF SYSTEMS

A. Roof Membrane Ply (fleece-back): A roof membrane consisting of one ply of a prefabricated, polyester scrim-reinforced, polyvinyl chloride (PVC) membrane formulated with an Elvaloy® Ketone Ethylene Ester (KEE) copolymer, applied over a prepared substrate. The roof membrane shall have a factory-adhered polyester fleece backing on the bottom side. The roof membrane shall meet or exceed the minimum criteria established by ASTM D4434 Standard Specification for Poly (Vinyl Chloride) Sheet Roofing (Type III). The minimum thickness of the roof membrane shall be 60 mils (1.52 mm), as established by ASTM D751 Standard Test Method for Coated Fabrics. The minimum thickness of the roof membrane over the reinforcement scrim shall be 27 mils (0.685 mm), as established by ASTM D7635 Standard Test Method for Measurement of Thickness of Coatings Over Fabric Reinforcement.

Note: Edge of roof areas in two locations consists of a concealed continuous gutter framed with ½" marine grade plywood and retrofit OMF or equal roof drain inserts. During shop drawing submission provide all necessary details for systems installation and inspections to Architect for review prior to installation.

- Siplast Parasolo PVC KEE Fleeceback roof system – 60 mil

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B. Flashing Ply (fleece-back): A roof membrane consisting of one ply of a prefabricated, polyester scrim-reinforced, polyvinyl chloride (PVC) membrane formulated with an Elvaloy® Ketone Ethylene Ester (KEE) copolymer, applied over a prepared substrate. The flashing membrane shall have a factory-adhered polyester fleece backing on the bottom side. The flashing system shall meet or exceed the minimum criteria established by ASTM D4434 Standard Specification for Poly (Vinyl Chloride) Sheet Roofing (Type III). The minimum thickness of the flashing membrane shall be 60 mils (1.52 mm) as established by ASTM D751 Standard Test Method for Coated Fabrics. The minimum thickness of the flashing membrane over the reinforcement scrim shall be 27 mils (0.685 mm) as established by ASTM D7635 Standard Test Method for Measurement of Thickness of Coatings Over Fabric Reinforcement.

- Siplast Parasolo PVC KEE smooth detailing membrane – 60 mil

C. Catalyzed Acrylic Resin Flashing System: A specialty flashing system consisting of a liquid-applied, fully reinforced, multi-component acrylic membrane installed over a prepared or primed substrate. The flashing system consists of a catalyzed acrylic resin primer, basecoat and topcoat, combined with a non-woven polyester fleece. The resin and catalyst are pre-mixed immediately prior to installation. The use of the specialty flashing system shall be specifically approved in advance by the membrane manufacturer for each application.

- Parapro 123 Flashing System by Siplast; Irving, TX

* *NOTE: Unistrut supports are not a suitable substrate for the Parapro 123 Flashing System. Any unistrut type penetration that is required to be incorporated into the roofing system should be replaced by* a solid square or angle iron penetration with a fully welded plate.

D. Substitute Systems: The following substitute systems shall be considered in lieu of the specified basis of design.

- 60 mil FiberTite-SM roof system by Seaman Corp., Wooster, OH
- 60 mil TremPly KEE roof system by Tremco Roofing and Building Maintenance, Beachwood, OH

3.03 ROOFING ACCESSORIES

A. Roofing Membrane Adhesives

1. Fleeceback PVC Membrane Adhesive: A two-part low-rise polyurethane foam adhesive designed for bonding fleece-backed PVC single-ply roofing membranes to various roofing substrates.
   - Parafast T Adhesive by Siplast; Irving, TX

B. Sealant: A solvent-based, UV resistant synthetic elastomeric sealant for the completion of details.

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- Parasolo Flexseal Caulk Grade by Siplast; Irving, TX

C. Water Block: A single component butyl-based high viscosity sealant for sealing the flashing membrane to the substrate behind exposed termination bars, flashing boots, drain flanges.

- Parasolo Water Block by Siplast; Irving, TX

D. Membrane Conditioner/Cleaner: A solvent-based agent used to clean exposed or contaminated seams prior to heat welding to remove any residue that may compromise lap welding.

- Parasolo Membrane Conditioner by Siplast; Irving, TX

E. Membrane Flashing Accessories

1. Cover Patches at T-Joints: A molded PVC membrane used to reinforce the T-joints of the specified PVC membrane system.

- Parasolo KEE T-Joint Cover Patch by Siplast; Irving, TX

2. Pre-formed Boots: A molded PVC membrane used to flash pipe and conduit penetrations having a diameter of 1 to 6 inches (25 to 152 mm). The pre-formed boots shall be hot air welded directly to the PVC roof membrane.

- Parafast KEE Conical Pipe Boot by Siplast; Irving, TX

3. Outside Corner Flashing: A molded PVC membrane designed to accommodate outside corners of base and curb flashing details. The molded flashing component shall be hot air welded directly to the specified PVC membrane.

- Parasolo KEE Outside Corner by Siplast; Irving, TX

4. Inside Corner Flashing: A molded PVC membrane designed to accommodate inside corners of base and curb flashing details. The molded flashing component shall be hot air welded directly to the specified PVC membrane.

- Parasolo KEE Inside Corner by Siplast; Irving, TX

5. Fluted Corner Flashing: A molded PVC membrane designed to accommodate corners of base and curb flashing details having dimensions that cannot be addressed using standard pre-formed PVC inside or outside corner flashing components. The molded flashing component shall be hot air welded directly to the specified PVC membrane.

- Parasolo KEE Fluted Corner by Siplast; Irving, TX

6. Flashing Strip: An 8-inch-wide molded PVC membrane strip designed for general repairs, end laps, and to strip-in PVC coated metal flanges.

- Parasolo KEE Flashing Strip by Siplast; Irving, TX

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7. Termination Bar with Receiver: An extruded aluminum termination bar with rounded edges and an angled sealant receiver and lower leg bulb stiffener, having factory-punched, slotted holes spaced on 6-inch (152 mm) centers.

    - Parafast Lip Termination Bar 6 inch On Center by Siplast; Irving, TX

8. Termination Bar with Receiver: An extruded aluminum termination bar with rounded edges and an angled sealant receiver and lower leg bulb stiffener, having factory-punched, slotted holes spaced on 8-inch (203 mm) centers.

    - Parafast Lip Termination Bar 8 inch On Center by Siplast; Irving, TX

9. Flat Termination Bar: A flat, extruded aluminum termination bar with rounded edges, having factory-punched, slotted holes spaced on 6-inch (152 mm) centers.

    - Parafast Flat Termination Bar 6 inch On Center by Siplast; Irving, TX

10. Flat Termination Bar: A flat, extruded aluminum termination bar with rounded edges, having factory-punched, slotted holes spaced on 8-inch (203 mm) centers.

    - Parafast Flat Termination Bar 8 inch On Center by Siplast; Irving, TX

11. PVC Coated Metal: 4-foot by 10-foot sheets of [24-gauge galvanized steel] [stainless steel] [0.040 aluminum] having a factory-laminated PVC coating, used for fabrication into metal gravel stop/drip edge components, base flashings, sealant pans, and scupper sleeves.

    - Parafast PVC Coated Metal by Siplast; Irving, TX

F. Fasteners

1. Insulation Fasteners: Insulation fasteners and plates shall be FM Approved, and/or approved by the manufacturer of the primary roofing products. The insulation fasteners shall provide attachment required to meet the specified uplift performance and to restrain the insulation panels against the potential for ridging. The fastening pattern for each insulation panel to be used shall be as recommended by the insulation manufacturer and approved by the manufacturer of the primary roofing products. Acceptable insulation fastener manufacturers for specific deck types are listed below.

    A) Metal Decks: Insulation mechanical fasteners for wood/plywood decks shall be factory coated for corrosion resistance. The fastener shall conform meet or exceed Factory Mutual Standard 4470 and when subjected to 30 Kesternich cycles, show less than 15% red rust. Acceptable insulation fastener types for wood/plywood decks are listed below.

- A fluorocarbon coated screw type roofing fastener having a minimum 0.220-inch thread diameter. Plates used in conjunction with the fastener shall be a metal type having a minimum 3-inch diameter, as supplied by the fastener manufacturer.

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- Parafast Fastener by Siplast; Irving, TX

G. Walktread: A prefabricated, extruded and embossed PVC protection pad with a skid-resistant surface.
   1. Thickness: 1/8 inch (3.2 mm)
   2. Width: 30 in (76.2 cm)
   3. Locate around all roof top equipment and roof access points.

- Parasolo Walkway by Siplast; Irving, TX

PART 4 EXECUTION

4.01 PREPARATION

A. General: Sweep or vacuum all surfaces, removing all loose aggregate and foreign substances prior to commencement of roofing.

B. Prior to systems application remove all existing

- Surface gravel/construction debris
- Roof membrane substrate imperfections
- Insulation/Recovery board imperfections
- Base flashings substrate imperfections
- Edge metal substrate imperfections
- Flanged metal flashings substrate imperfections
- Cants, wood blocking imperfections
- Drain assemblies, excessive residue as required by membrane product.
- Vapor retarder compromise
- Metal trim, counterflashing imperfections or areas of concern

4.02 SUBSTRATE PREPARATION

A. Insulation: Install insulation panels with end joints offset; edges of the panels shall be in moderate contact without forcing applied in strict accordance with the insulation manufacturer's requirements and the following instructions.

   1. Insulation - single base layer: Mechanically attach the insulation panels, using the specified fasteners, at a rate of 1 fastener for every 1.78 square feet of panel area. Increase the fastening frequency by 50% at the perimeter of the roof and mechanically attach the corners at the rate of 1 fastener per 1 square foot (32 fasteners per 4-foot by 8-foot panel). Refer to Roof Plan and building sections for taper thickness to be installed.

4.03 ROOF MEMBRANE INSTALLATION

A. Membrane Application: Apply roofing in accordance with roofing system manufacturer's instructions and the following requirements. Application of roofing membrane components shall immediately follow application of base sheet and/or insulation as a continuous operation.

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B. Aesthetic Considerations: Construction of an aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. Make necessary preparations, utilize recommended application techniques, apply the specified materials and exercise care in ensuring that the finished application is acceptable to the Owner.

C. Membrane Adhesive Application: Membrane adhesive can be applied by roller. Apply cold adhesive in a smooth, even, continuous layer without breaks or voids. Utilize an application rate as published by the roof membrane manufacturer.

D. Roofing Application: Apply roofing to be free of wrinkles, creases or fish mouths. Use a blower and/or broom to remove any dirt or debris from the substrate surface.

1. Unroll the specified fleece-back PVC sheets in place and fold back sheets in the long dimension to allow adhering of membrane, one half of sheet at a time. Alternatively, align a full roll of membrane with the factory-applied lap line on the previously installed sheet. Roll out the roll approximately 20 feet (6.1 m) checking to see that the edge of the new roll is straight with the line. Pick up the tail end of the previously rolled-out membrane and pull back over top of the roll of membrane.

2. Apply the specified low-rise foam adhesive in a "spatter pattern" over the substrate to yield a heavily textured, even coating of approximately 1/4- inch (6.2 mm) to 1/2 inch (12 mm) nominal thickness height on the peaks of the spattered adhesive. Allow the adhesive to rise and apply the roof membrane before the adhesive begins to "skin" over.

3. Lay half of the membrane into the wet adhesive and roll into place with a 150 lb. (68 kg) roller. Repeat the process for the other half of sheet. If following the alternative method, pull the sheet back to its original position, and roll into place. Make sure that the lap line is followed when re-installing the sheet.

4. Where the substrate angle changes in excess of 5 degrees (i.e. 1-inch slope), mechanically attach the membrane into the structural deck on [6-inch, 12-inch] centers, keeping the fasteners 1/4 to 3/4 inches from the angle change. At curbs and walls where the angle changes in excess of 10 degrees (i.e. 2-inch slope), mechanically attach the membrane into the structural deck on [6-inch, 12-inch] centers, keeping the fasteners 1/2 inch from the membrane edge. Alternatively, at walls/curbs extend the membrane a minimum of 3 inches up the vertical flashing substrate and mechanically attach the specified lipped termination bar, inverted, at the top edge of the membrane. The termination bar must be installed within 1.5 to 2 inches (38 to 51 mm) of the horizontal plane of the roof, with a minimum of 1-inch (25 mm) of membrane extending above the termination bar. Prior to mechanical attachment of the termination bar, apply the specified water block sealant on the flashing substrate where the membrane will terminate. Apply the specified sealant at the top of the termination bar if left exposed.

5. Install a minimum of 4 fasteners evenly spaced around all round, square, "L"-beam or "H"-beam penetrations, keeping the fasteners 1/4 to 3/4 inches from the penetration. At penetrations having a larger diameter, install fasteners around the penetration on 12-inch centers.

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6. Clean the laps of membrane that have become dirty or contaminated using the specified conditioner. Heat weld on all side and end laps of the membrane during each day's application. All welds must be continuous, without voids, and free of burns and scorch marks. Welding shall be a minimum width of 1.5 inches (38 mm) for automatic machine welding and 2 inches (51 mm) for hand welding. Contact the manufacturer of the heat-welding equipment for specific guidelines on operating the equipment. Hand-roll the side laps and head laps of the membrane behind the heat welder.

E. Flashing Application - General: Locate all penetrations at least 24 inches from curbs, walls, and edges to provide access for proper application of the specified flashing materials. Reinforce all coated metal and membrane flashing corners using preformed corners or non-reinforced membrane. Hot-air weld all flashing membranes, accessories, and coated metal to have a minimum 2-inch (51 mm) hand-welded or minimum 1.5-inch (38 mm) automatic machine-welded lap. Reference the manufacturer's standard details for all flashing conditions.

F. Flashing Application - Coated Metal Flashings: Form coated metal flashings in accordance with the manufacturer's published specifications. Reference the manufacturer's standard details for all flashing conditions. Gap joints of coated metal edge, and flashing sections by a 1/4-inch (6 mm) to allow for expansion and contraction. Apply 2-inch (51 mm) aluminum tape over the joint as a bond-breaker, to prevent welding in this area. Hot-air weld a 6-inch (152 mm) unsupported membrane flashing strip to both sides of the joint, with approximately 1-inch (25 mm) on either side of the joint left un-welded to allow for expansion and contraction. Lap all joints of coated metal sealant pans, scupper inserts, corners of roof edging and base flashing, or pop-rivet a separate metal piece to create a continuous flange condition. Hot-air weld a 6-inch (152 mm) strip of reinforced membrane flashing over all seams that will not be sealed during subsequent flashing installation.

G. Reinforced Fleece back Flashing Application - Adhered Membrane Flashing: Apply the specified low-rise foam adhesive to the substrate at the minimum rate published by the roof membrane manufacturer. Allow the adhesive to rise before application of the flashing membrane.

H. Reinforced Flashing Application - Dry-hung Membrane Flashing (horizontal lap orientation): Prior to installation, heat-weld the laps of the reinforced flashing sheet. Starting with the lowest lap of the flashing sheet, install the flashing membrane with the side laps running horizontally. mechanically attach the flashing membrane through the unadhered selvage into the flashing substrate using the specified fasteners on 12-inch centers. Mechanically attach subsequent side laps up the full height of the flashing condition using the same method. Terminate the top of the flashing membrane in accordance with the manufacturer's standard details.

* *NOTE: For dry hung flashing with a horizontal lap orientation, install the flashing sheet in maximum sheet heights of 24 inches.*

I. Reinforced Flashing Application – Dry-hung Membrane Flashing (vertical lap orientation): Install the flashing membrane with the side laps running vertically. When using 10-foot-wide sheets, maintain a maximum distance of 10-feet from the ends and corners of walls for the first course of flashing membrane, and a maximum distance of 20-feet from vertical laps across the remaining breadth of the wall. Mechanically attach each course of the flashing membrane through the selvage into the flashing substrate using the specified fasteners on 12-inch centers. Heat weld

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the laps over the fasteners and terminate the top of the flashing membrane in accordance with the manufacturer's standard details.

* *NOTE: For vertical lap orientation, walls having a height greater than 9-feet must have the flashing membrane adhered in lieu of dry hung.*

J. Reinforced Smooth Flashing Application - Adhered Membrane Flashing (solvent based adhesive): Apply the solvent-based bonding adhesive to both the underside of the membrane and the substrate at the minimum rate published by the manufacturer. Allow the bonding adhesive to dry until tacky to the touch before application of the flashing membrane.

* *NOTE: For adhered flashing with a horizontal lap orientation, apply the flashing sheet in maximum sheet widths of 54 inches.*

K. Catalyzed Acrylic Resin Flashing System: Install the liquid-applied primer and flashing system in accordance with the membrane system manufacturer's printed installer's guidelines and other applicable written recommendations as provided by the manufacturer.

L. Water Cut-Off: At end of day's work, or when precipitation is imminent, construct a water cut-off at all open edges. Cut-offs can be built using asphalt or plastic cement and roofing felts, constructed to withstand protracted periods of service. Cut-offs must be completely removed prior to the resumption of roofing.

4.05 ROOF SYSTEM INTERFACE WITH RELATED COMPONENTS

A. Walkway/Protection Pads: Install walkway rolls at all roof access locations and other designated locations including roof-mounted equipment, work locations and areas of repeated rooftop traffic. Cut the walk tread into maximum 5-foot lengths and allow to relax until flat. Use a minimum spacing of 2 inches between sheets to allow for proper drainage. Heat-weld the walkway rolls to provide a continuous bond around the perimeter edges of the sheet to the roof membrane surface.

B. Termination Bars: Prior to mechanical attachment of the termination bar, apply the specified water block sealant on the flashing substrate where the membrane will terminate. Mechanically attach termination bars using the specified fasteners. Apply a continuous bead of the specified sealant at the top of termination bars that are fabricated with a sealant receiver lip.

4.06 FIELD QUALITY CONTROL AND INSPECTIONS

A. Site Condition: Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.

B. Notification of Completion: Notify the manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.

C. Final Inspection

SECTION 07500 – SINGLE PLY ROOFING MEMBRANE

1. Post-Installation Meeting: Hold a meeting at the completion of the project, attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the Contractor and the manufacturer's representative. Complete, sign, and mail the punch list form to the manufacturer's headquarters.

D. Issuance of the Guarantee: Complete all post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

(END OF SECTION 07500)

SECTION 07621 – FLASHING AND SHEET METAL

1.0 GENERAL

1.01 Summary: It is the intent of this section to provide for the furnishing, fabricating, and installing of manufactured flashing products as described herein and necessary for a complete, secure installation acceptable for roof warranty.

1.02 Specialty Contractors: Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not.

1.03 Work Included:

A. Work included is a convenient listing of the significant items described within this section and shall not be construed as the only work applicable or related to this section.

B. Work includes, but is not limited to:

1. Expansion joints
2. Exposed flashing unit's reglets, coping and eave flashing
3. All components, fasteners, parts and other items necessary for a complete, secure installation and acceptable for roof warranty.
4. Gutter and downspout system

1.04 Related Work Specified Elsewhere:

Section 07920 - Sealants and Caulking
Section 13120 Prefabricated Metal Building System

1.05 References:

A. ASTM A526-86 "Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hop-Dip Process, Commercial Quality."
B. ASTM A527-85 "Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by Hot-Dip Process, Lock-Forming Quality."
C. ASTM B32-87 "Standard Specification for Solder Metal."
D. ASTM B209-86 "Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate."
E. ASTM D2822-75 (1982) "Standard Specification for Asphalt Roof Cement."
F. NRCA "Roofing and Waterproofing Manual," Current Edition.
G. SMACNA "Architectural Sheet Metal Manual," Current Edition.

1.06 Submittals:

A. Shop Fabricated Products

1. Submit large-scale details of all roofing sheet metal work.
   a. Drawing scale - minimum 1 /2" = 1'- 0"
   b. Show anchorage of each component
   c. Show metal type and gauges for each component
   d Show configurations and profiles of each component
2. Samples
   a. Submit minimum 16" square samples of each component composed of specified metal and gauge with specified or selected finish, style, and color.

SECTION 07621 – FLASHING AND SHEET METAL

b. Submit sample kit of standard color array for specified finishes for selection by Owner and Architect.

3. Submit three (3) copies of Manufacturer's Specification Data Sheet.

B. Manufactured Products

1. Submit Manufacturer's literature and product data along with installation instructions for all patented and manufactured products. Show details of construction and recommended anchorage.

2. Samples

a. Submit minimum 16" square samples of each component composed of specified metal and gauge with specified or selected finish, style, and color.

b. Submit sample kit of standard color array for specified finishes for selection by Owner and Architect.

3. Submit three (3) copies of Manufacturer's Specification Data Sheet.

1.07 Product Handling:

A. Delivery of Manufactured Products - Deliver all sheet metal components in Manufacturer's original, unopened, standard containers, and packaging with all labels and seals intact.

B. Delivery of Shop Fabricated Products - Deliver all sheet metal components in longest length suitable and practicable for intended use and installation. Wrap and bundle in protective covering or packaging.

C. Protection - Store and protect all sheet metal products from damage or abuse prior to installation.

D. Repairs and Replacement - Be responsible for and make all repairs and replacements of damaged, abused, or defective products at no additional cost to Owner.

1. Whether a product is to be repaired or replaced will be the Architect's decision.

2. Obtain Architect's approval prior to making repairs or replacements.

1.08 Job Conditions (Weather Conditions):

A. Proceed with work only when weather conditions will permit installation of materials without harm or damage.

B. Provide temporary protection of all materials, stored, or installed and all openings in event of rain or other unsuitable weather conditions.

C. Be responsible for repairing and replacing materials, stored, or installed damaged by rain or other unsuitable weather conditions.

1.09 Warranty:

A. Provide a 20-year Manufacturer's or fabricator's written No Dollar Limit (NDL) water tight umbrella warranty to include, but not limited not to, material deterioration, leakage, or blow-off. Project's flashing and sheet metal work are to be designed reflecting the projects negative pressure and structural design criteria established on drawing sheet S.1 of this project. Provide calculations and support documents signed and sealed by a Florida Registered Engineer as part of the shop drawings submission. The minimum gauge in no case shall be less than .040 aluminum unless approved otherwise.

B. Provide a 20-year Manufacturer's written warranty to include, but not limited to color retention and stability finish deterioration, and water tightness.

SECTION 07621 – FLASHING AND SHEET METAL

C. Carry a 20-year written warranty (NDL single source) from roofing membrane manufacturer as outlined in Section 13120 and 07500. Warranty is to recognize the 140-mph uplift exposure "C" as required on structural design criteria located on drawing sheet S.1.design criteria. Wind speed as recorded at the Naval Air Station located in Jacksonville, Florida.

2.0 PRODUCTS

2.01 Sheet Metal Materials: Steel, Aluminum and aluminum-alloy sheet and plate: ASTM B209, alloy and temper pursuant to fabricator's published instructions.

2.02 Acceptable Manufacturers:

A. Manufactured expansion joint units; any marketed product of listed Manufacturers in accordance with the following:
   1. Refer to section 13120 for roof system expansions joint.
   2. Applications. Conditions - shown on Drawings or required by the pre-engineered metal building manufacturer, roof-to-roof, and roof-to-wall.

B. Manufactured exposed flashing units; any marketed product of listed Manufacturers in accordance with the pre-engineered metal building system for a complete building water tight warranty.

C. Manufactured fascia, roof edge trim, coping and flashing system; any marketed product of listed Manufacturers pursuant to the following:
   1. Type - Provide complete systems as standard systems
   2. Minimum .040 aluminum (pre-finished with 70% minimum Kynar 500)/ 22 ga. Galvalume.
   3. Finish - Manufacturer's standard fluoropolymer finish with 70% Kynar resin
   4. Face height – as detailed if no detail is available provide pre-engineered metal building manufacturers recommended profile to insure a water tight warranty.
   6. Accessories - Furnish coping, flashing and fascia system complete with accessories required for watertight installation; include ledge/wall caps, and mitered corners.

2.04 Shop and/or Field Fabricated Items:

A. Fabricate pursuant to SMACNA "Architectural Sheet Metal Manual."

B. Expansion joint units - Provide formed metal expansion joint units designed for installation on pre-engineered roof system.
   1. Metal – match roof panel.
   2. Finish – match roof panel.
   3. Applications/conditions - roof-to-roof and roof-to-wall

C. Exposed flashing units; including eave edges, and surface reglets.
   1. Metal, 22-gauge galvalume minimum.
   2. Finish - Fluoropolymer finish with 70% Kynar resin

D. Fascia (roof edge trim) system:
   1. Metal, 24-gauge pre-finished Galvalume.
   2. Finish - Fluoropolymer, finish with 70% Kynar resin.
   3. Face height – Refer to detail or if not provided provide manufacturers recommendation to achieve a watertight warrant.

SECTION 07621 – FLASHING AND SHEET METAL

4. Accessories - Furnish coping, reglets, gutter and downspout, and fascia system complete with accessories required for watertight installation, to include conductor heads, ledge/wall caps, and mitered corners.

E. Gutter and Downspout system:
1. Metal - .050 Aluminum gutter and .040 down spouts.
2. Finish – Fluoropolymer finish with 70% Kynar resin.

F. Soffit System
1. Metal .040 Aluminum prefinished with Fluoropolymer finish with 70% Kynar resin.
2. Metal, 24 ga. Galvalume prefinished with Fluoropolymer finish with 70% Kynar resin.

2.05 Color:
A. To be selected by Architect from full color array for finishes specified.
B. Factory Applied Coating - Color to be selected by Architect from both standard and custom color options.

3.0 EXECUTION

3.01 Inspection:
A. Surface conditions - Verify that substrate surface is suitable for installation.
B. Do not start work until all conditions are satisfactory and suitable.
C. Beginning of installation shall signify acceptable of substrate and other conditions as suitable for installation.

3.02 Installation: Install all flashing and copings watertight, with lines and angles sharp and true, without wavers, warps, buckles, fastening stresses or distortion, allowing for expansion and contraction.
A. Provide and install spice joints concealed in accordance with Manufacturer's instructions.
B. Install prefabricated corners.
C. Dissimilar metals (aluminum to steel) are to be fully coated with a protective paint coating to eliminate raw metal to metal contact.

3.03 Adjusting and Cleaning:
A. Remove bent, crimped, scratched, or otherwise damaged or marred gravel stop pieces. Check for tightness and cover to prevent leaks.
B. Remove cuttings and debris from site. Leave work clean and free from stains.

(END OF SECTION 07621)

SECTION 07920 – SEALANTS AND CAULKING

1.0 GENERAL

1.01 Section Includes:

A. Application of sealants at control and expansion joints on exterior vertical and horizontal intersections to provide a water and airtight barrier, as stated below and as noted on drawings.

B. Associated materials and preparatory work to ensure a successful sealant application.

1.02 References:

A. ASTM C 920 - Specification for Elastomeric Joint Sealants.

B. ASTM D 2240 - Test Method for Rubber Property-Durometer Hardness.

C. ASTM C 1248 and C 510 - Staining

1.03 Submittals:

A. Product literature: submit five (5) copies of product data sheets and manufacturer's installation instructions. Note specifically which (if any) sealants are to be in physical contact (such as at parapet and reglet intersections), confirming compatibility of submitted products.

B. Samples: A 2" cured sample of each chosen color and type of sealant.

1.04 Quality Assurance:

A. Compatibility with Substrate and Coatings: Applicator shall be responsible for verifying with sealant manufacturer that sealants used are compatible with joint substrates and coatings to which sealants will come in contact.

B. Joint Design Criteria: Applicator shall be responsible for verifying with sealant manufacturer that installed joint dimensions are adequate for movement capabilities for extreme and significant moving joint sealants.

C. Applicator shall be responsible for providing a completely sealed building and ensure that all exterior joints between surfaces are properly sealed even if not detailed in Contract Documents.

1.05 Specialty Contractors:

Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not.

1.06 Qualifications:

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum 10 years' experience.

B. Applicator and job foreman shall have minimum five years' experience on equivalent projects.

C. Use personnel specifically trained in proper application procedures who are thoroughly familiar with joint details shown on drawings and installation requirements as specified

SECTION 07920 – SEALANTS AND CAULKING

in this section.

1.06 Delivery, Storage, and Handling:

A. Deliver in manufacturer's original, unopened containers identifying each product specified, relating to product literature submitted.

B. Store in accordance with manufacturer's recommendation; take precautions to ensure material fitness when installed for design performance.

1.07 Warranty:

A. Warrant sealed joints against adhesive or cohesive failure of sealant and watertightness of sealed joint for a period of five years for labor and material.

B. Provide material warranty of five (5) years for polyurethanes and twenty (20) years for silicones.

2.0 PRODUCTS

2.01 Sealants: (**See schedule for use of each sealant type**)

A. Type 1: ASTM C 920; low modulus, Type S, Grade NS, neutral cure silicone.
1. Elongation Capability: Plus 100 percent to minus 50 percent; elongation, 1600%
2. Service Temperature Range: Minus 20 to 160 degrees F.
3. Shore A Hardness Range: 15 - 20; ASTM C 661.
4. Staining: None; ASTM C 1248.
5. Manufacturers: Dow Corning Corp. 790

B. Type 2: ASTM C 920; intermediate modulus, Type S, Grade NS, neutral cure silicone.
1. Elongation Capability: Plus or minus 50 percent.
2. Service Temperature Range: Minus 40 to 300 degrees F.
3. Shore A Hardness Range: 35; ASTM D 2240.
4. Staining: None; ASTM C 1248.
5. Manufacturers: Dow Corning Corp. 795, 995.

C. Type 3: ASTM C 920; high modulus, Type S, Grade NS, acetoxy cure silicone.
1. Elongation Capability: Plus or minus 25 percent.
2. Service Temperature Range: Minus 35 to 140 degrees F.
3. Shore A Hardness Range: 25; ASTM D 2240.
4. Manufacturers: Dow Corning Corp. 999A; Pecora 863; GE 1200.

D. Type 4: ASTM C 920; medium modulus, Type S, Grade NS, neutral cure silicone.
1. Elongation Capability: Plus or minus 50 percent
2. Service Temperature Range: Minus 50 to 150 degrees F.
3. Shore A Hardness Range: 25 - 30; ASTM D 2240.
4. Manufacturers: Dow Corning Corp. 791; GE Silpruf.

E. Type 5: ASTM C 920, medium modulus, Type M, Grade NS, polyurethane.
1. Elongation Capability: Plus or minus 50 percent.
2. Service Temperature Range: Minus 20 to 120 degrees F.
3. Shore A Hardness Range: 20 - 25; ASTM D 2240.
4. Manufacturers: Sika Corporation, Sikaflex 2C; Tremco, Dymeric 240FC; Pecora, Dynatrol II

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F. Type 6: ASTM C 920; low modulus, Type S, Grade NS polyurethane.
   1. Elongation Capability: Plus 100/minus 50 percent.
   2. Service Temperature Range: Minus 20 to 120 degrees F.
   3. Shore A Hardness Range: 20 - 25; ASTM D 2240.
   4. Manufacturers: Sika Corporation, Sikaflex 15LM.

G. Type 7: ASTM C 920; Type S, Grade NS, fuel resistant, low modulus silicone sealant.
   1. Elongation Capability: Plus 100, minus 50 percent.
   2. Service Temperature Range: Minus 20 degrees F to 160 degrees F.
   3. Shore A Hardness Range: 15 - 20; ASTM D 2240.
   4. Manufacturers: Dow Corning 888.

2.02 Primers:
A. Comply with manufacturer's instructions. Manufacturer shall be consulted for all surfaces not specifically covered in submitted application instructions.

2.03 Backer Rod – Tape:
A. Closed-cell polyethylene, open-cell polyurethane, or open-cell polyethylene soft-type backer rod as recommended by sealant manufacturer. Bond breaker tape shall be used to prevent three-sided adhesion in a location where backer rod cannot be used.

B. Acceptable Manufacturers:
   1. Open-Cell: Denver Foam; ITP Tundra Foam;
   2. Soft-Type: ITP Soft-type;
   3. Bond Breaker Tape: Pecora Corp.

3.0 EXECUTION

3.01 Examination:
A. Examine substrate surfaces to ensure no bond breaker materials contaminate the surface to which sealant is to adhere, and that unsound substrates are repaired.

B. Verify joint dimensions are within manufacturer's acceptable tolerances, per manufacturer's submittal literature.

3.02 Preparation:
A. Protect adjacent exposed surfaces.

B. Prepare joints in accordance with manufacturer's recommended instructions for maximum adhesion; prime as required by manufacturer.

C. Consult manufacturer for surfaces not specifically covered in application instructions.

D. Installation of sealant shall be evidence of acceptance of substrate.

3.03 Installation:
A. Sealant shall be mixed (if multi-component) and installed in accordance with manufacturers' recommendations and instructions to ensure complete mixing and an installed proper width/depth ratio with maximum adhesion contact. Three-sided adhesion must be prevented.

B. Backer rod shall be installed using only blunt or rounded tools which will ensure a uniform (+/- ¼") depth without puncturing the material. The backer rod shall be a

SECTION 07920 – SEALANTS AND CAULKING

minimum of 50% oversized for open cell backer rod, unless otherwise required by the manufacturer.

C. Surrounding surfaces shall be protected as required to ensure no sealant contaminates these surfaces.

D. Both temperature and dampness conditions may restrict the application of these sealants. Comply with manufacturer's instructions.

E. Force sealant into joint by to ensure conformance with manufacturer's recommended width/depth ratios. Tool to ensure full contact with sidewalls and backing. Tooling pressure shall cause wetting for maximizing sealant adhesive contact to substrate.

F. Unless otherwise indicated, finish horizontal joints flush, vertical joints distinctly concave in shape.

G. Finished bead shall be smooth, free from wrinkles, air pockets, and foreign matter.

3.04 Control Joints:

A. Control Joints are required in all masonry and stucco work and are not to exceed ±25'-0". Form control joints by the use of sheet felt bond breaker. At masonry, stop wall reinforcing and pack vertical joint with backer rod and neatly caulk. The color of caulk is to match masonry. Coordinate with Section 04100 – Masonry, Mortar, and Accessories.

3.05 Cleaning:

A. Remove excess material adjacent to joint.

B. Remove unused materials from jobsite.

3.06 Schedule:

JOINT TYPE	SEALANT TYPE 1	2	3	4	5	6	7
1. Structural Glazing		X					
2. Glass to Glass (Nonstructural)			X	X			
3. Perimeter Window Sealant		X		X		X	
4. Aluminum to Brick		X		X		X	
5. Brick to Brick	X	X		X	X	X	
6. Wood to Wood						X	
7. Metal to Metal		X		X			
8. Metal to Stucco		X		X			
9. Aluminum to Concrete	X	X		X			
10. Concrete to Concrete	X						
11. Stone to Stone	X						
12. Paving on Grade							X

(END OF SECTION 07920)

SECTION 08110 – STEEL DOORS AND FRAMES

1.0 GENERAL

1.01 WORK INCLUDED

A. The work under this section shall include the furnishing of all items shown on the drawings and shall include furnishing door assemblies required to comply with the Miami-Dade Country Product Control Approval System or the Florida Building Code Approval System and as specified, but not limited to, the following.
   1. Steel Doors
   2. Steel Door Frames
   3. Steel Sidelite, Borrowed Lite & Transom Frames
   4. Louvers Installed in Steel Doors
   5. Fire Rated Hollow Metal Door and Window Frames

1.02 SPECIALTY CONTRACTORS

Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not.

1.03 RELATED SECTIONS

A. Masonry mortar
B. Steel lintels
C. Finish carpentry
D. Wood Doors and Frames
E. Finish Hardware
F. Glass and Glazing
G. Painting of steel doors and frames

1.04 REFERENCES

A. Steel Doors and Frames in this section shall meet the following standards:
   1. American Society for Testing and Materials
   2. A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
   3. A924 Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process
   4. American National Standards Institute
   5. ANSI A250.4 Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frame Anchors and Hardware Reinforcing
   6. ANSI A 250.6 Hardware on Standard Steel Doors
   7. ANSI A 250.7 Nomenclature for Steel Doors and Steel Door Frames
   8. ANSI A250.10 Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames
   9. DHI 115.1G Installation Guide for Doors and Hardware
   10. Door and Hardware Preparation ANSI 115.1.
   11. Life Safety Codes NFPA-101 (Latest edition).
   12. Fire Doors and Windows NFPA-80 (Latest edition).
   13. Steel Door Institute ANSI/SDI-100 (Latest edition)
   14. DHI Door and Hardware Institute

SECTION 08110 – STEEL DOORS AND FRAMES

1.05 SUBMITTAL

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. Each floor of the building is to be detailed separately.

D. The steel door and frame supplier will furnish to the architect (6) 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 submit to the architect (6) sets of corrected schedules, for file and field use.

E. Provide NOA numbers or Certified Test Lab reports showing tested assemblies of all exterior doors, frames and hardware that meet the FBC requirements. Each opening is to be tested as an assembly with doors, frames and finish hardware. Submittals shall include door and frame elevations, internal reinforcements, finish hardware and installation instructions.

F. All door openings including wood, aluminum, overhead etc. must be listed on the steel door schedule. Include details on the following list of items:
   1. Frame elevations
   2. Door design elevations
   3. Frame sections
   4. Details of construction
   5. Anchorage
   6. Opening conditions
   7. Joints and connections
   8. Hardware locations

G. If any opening is not by the steel door manufacturer only the door opening number should be shown along with the type of material (alum, wood etc.).

H. Only those products specifically listed in Part 2 of this section as approved by manufacturer's name and product number are acceptable. Substitutions will not be accepted unless a request is made in writing 10 days, prior to the published bid date and approved by addendum accepting the product substitution. Any manufacturer submitting for approval on must include Certified Testing Reports or NOA numbers specific to the door and frame elevations that meet the FLORIDA BUILDING CODE windload requirements and have been tested as an assembly with the listed approved manufacturers. Submit certified independent lab test or NOA report on each type of exterior opening specified. Only those manufacturers that have tested with this projects door and frame profile, elevations and hardware requirements will be considered.

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

B. Underwriters' Laboratories labeled doors and frames shall be manufactured under the UL factory inspection program and in strict compliance to UL procedures, and shall provide the degree of fire protection and, where required, panic loading capability

SECTION 08110 – STEEL DOORS AND FRAMES

indicated by the opening class.

C. Provide doors, frames, and hardware that meets the hurricane and windload test requirements in accordance with the Florida Building code and are in compliance with the local authority having jurisdiction. All openings required to meet either the impact test or windload test as indicated by the architect shall be tested as systems with the finish hardware, hollow metal doors and frames and installed in accordance with the applicable tests. These requirements take precedence over other requirements. Provide only material that has been tested and listed by local authority for the types and sizes of doors required, and complies with the requirements of the door and door frame

1.07 DELIVERY, STORAGE, AND HANDLING

A. All steel doors and frames must be properly marked with door opening mark number to correspond with the schedule.

B. Deliver all the steel doors in cartons and palletized to provide protection during transit and job storage.

C. Inspect doors and frames upon delivery for damage. Minor damage is to be repaired, provided they are equal in all respects to new work and acceptable to the architect.

D. Store doors and frames at the building site under cover. Place units on 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 wrapper on the door becomes wet, remove the carton immediately. Provide a 1/4 inch space between stacked doors to promote air circulation.

2.0 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. EXTERIOR OPENINGS: Door assemblies shall resist the cyclic pressures, static pressures and missile impact loads as detailed in Miami –Dade County test protocols PA 201, PA 202, and PA 203, Florida Building Code test protocols TAS 201, TAS 202, and TAS 203. Subject to compliance with requirements, and complete assembly testing for the Florida Building Code windload requirements, manufacturers offering products that may be incorporated into the work include the following:

1. Steelcraft Manufacturing Company

B. INTERIOR OPENINGS:

1. Steelcraft Manufacturing Company
2. Curries Company
3. Ceco Door Products

2.02 HARDWARE LOCATIONS AND GENERAL REINFORCEMENTS

A. Locate hardware on doors and frames in accordance with the manufactures standard location.

B. Steel frames for use with wood doors the hardware preparation on the doors is governed by its location on the frames. If the doors are factory mortised, the door supplier is responsible for coordinating hardware locations.

C. Hardware reinforcements are to be in accordance with the minimum standard gages as listed in SDI-100.

D. Doors shall be mortised, reinforced and function holes provided at the factory in

SECTION 08110 – STEEL DOORS AND FRAMES

accordance with the hardware schedule and templates provided by the hardware supplier. Through bolt holes, attachment holes, drilling and tapping for surface hardware, shall be done by others.

2.03 STEEL DOORS

A. Materials - Exterior doors and as indicted on the schedule
   1. Face sheets shall be 16-gauge hot-dipped galvannealed steel having an A60 zinc-iron alloy coating conforming to ASTM designations A653 and A924.
   2. Doors shall have continuous vertical mechanical interlocking joints at lock and hinge edges with edge seams filled and ground smooth.
   3. Doors shall have hinge and lock edges beveled 1/8" in 2".
   4. Top and bottom steel reinforcement channels shall be galvannealed 14 gage, projection welded to both face sheets on 4" centers.
   5. Hinge reinforcements shall be 7-gauge galvanized steel, projection welded to the edge of the door.
   6. Door faces shall be reinforced and sound deadened by resin impregnated Kraft honeycomb core laminated to the inside faces of both panels.

      Acceptable Manufactures
      Steelcraft Manufacturing - H Series with flush top closure.

   7. Exterior steel doors to have protective drop canopy as illustrated in detail sheets of drawings.

B. Materials - Interior doors as indicted on the schedule
   1. Face sheets are to be made of commercial quality Cold rolled steel that complies with ASTM A366 or 620. Grade II - 18ga.
   2. Vertical edges are to have continuous vertical mechanical interlocking joints at lock and hinge edges with visible edge seams. The internal portion of the seam shall be sealed with epoxy.
   3. Hinge reinforcement shall be not less than 7 gage (3/16") plate 1-1/4" X 9". Approved equal is a 12-gauge continuous channel with formed holes drilled and tapped. The manufacture to provide test information that this type reinforcement is equal to a 3/16" or 7-gauge plate reinforcement.
   4. Reinforce tops and bottoms of all doors with a continuous steel channel not less than 14-gauge galvanized A60, extending the full width of the door and welded to the face sheet. Doors with an inverted top channel shall have a steel closure channel screwed in place so that the web of the channel is flush with the face sheets and screwed into the door.
   5. Doors shall be reinforced, stiffened, sound deadened and insulated with impregnated kraft honeycomb core completely filling the inside of the doors and laminated to inside faces of both panels using contact adhesive applied to both panels and honeycomb core.
   6. Acceptable Manufactures:
      a) Steelcraft Manufacturing - L.
      b) Curries Company - 707T with flush top closure and 12-gauge hinge reinforcement.
      c) Ceco Door Products - Regent.

SECTION 08110 – STEEL DOORS AND FRAMES

2.06 STEEL FRAMES

A. Materials - exterior and as indicted on the schedule.
   1. Are to be hot dipped zinc coated steel that complies with ASTM designations A924 A60, 16ga.galvanized and back coated with bitumastic product at CMU wall assembly.
   2. All frames are to have back welded face seams only of the frame corner or intersection. Grind and dress smooth the weld area. Apply a factory baked on zinc rich primer over the grinding area, and finish with a matching prime paint.
   3. Provide steel wrap around frames at all interior CMU assemblies to the size and design as shown or implied on the architectural drawings.
   4. Acceptable Manufactures:
      a) Steelcraft Manufacturing - F series

B. Materials all other frames as indicted on the schedule.
   1. Are to be hot dipped zinc coated steel that complies with ASTM designations A924 A60, 16ga.Will comply with ASTM A366-68 or ASTM A569-66T, 16ga.
   2. All frames are to have back welded face seams only of the frame corner or intersection. Grind and dress smooth the weld area. Apply a factory baked on zinc rich primer over the grinding area, and finish with a matching prime paint.
   3. Acceptable Manufactures:
      a) Steelcraft Manufacturing - F series
      b) Curries Company - M series
      c) Ceco Door Products - SF series

C. Fabrication
   1. General design and construction
      a) Provide steel frames for doors, transoms, sidelights, borrowed lites, and other openings to the size and design as shown on the architectural drawings.
      b) All finished work to be strong and rigid, neat in appearance, square, true and free of defects.
      c) Jamb depths, trim, profile, and backbends to be as scheduled and shown on approved shop drawings.
      d) When shipping limitations so dictate, frames for large openings shall be fabricated in sections designed for splicing in the field by others.
      e) Hardware reinforcements are to be in accordance with the minimum standard gages as listed in SDI-100.
      f) Frames shall be mortised, reinforced, drilled and tapped at the factory for template mortised hardware only, in accordance with approved hardware schedule and template provided by the hardware contractor. Where surface mounted hardware is to be applied, frames shall have reinforcing plates only; all drilling and tapping shall be done by others.
      g) Hinge reinforcements, to be 7-gauge steel.

D. Anchors
   1. Floor anchors shall be provided at each jamb.
   2. Anchors for in masonry are to be of the wire type.
   3. Anchors for stud partitions are to be steel of a suitable design not less than 18-gauge in thickness.

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4. Dust boxes/mortar guards to be no less than 26-gauge
5. All frames that are welded, to be provided with a steel spreader temporarily attached to the bottom of both jambs to serve as a brace during shipping and handling. Spreader bars are for bracing only not to be used to size the frame opening.
6. Loose glazing stops are to be of 18-gauge galvanized at labeled openings and 20-gauge galvanized on non-labeled openings, butted at the corner joints and secured to the frame with countersunk cadmium or zinc-plated screws.
7. Provide 3 silencers on single door and 2 silencers for double door openings.

2.07 LABELED DOORS AND FRAMES

A. Construct and install doors and frames to comply with current issue of National Fire Protection Association (NFPA) Standard Number 80, as scheduled.
B. Doors and/or frames for labeled openings are to bear either a stamped or applied label from Warnock Hersey or Underwriters' Laboratory

2.08 PRIME FINISH:

A. Doors and frames are to be cleaned, and chemically treated to insure maximum finish paint adhesion. All surfaces of the door and frame exposed to view shall receive a coat of rust inhibiting baked on primer applied at the factory. The finish shall meet the requirements for acceptance stated in ANSI A224.1 "Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces." The baked on prime finish is not intended to be the final layer of protection from the elements. Field painting using a good grade of paints is to be used in accordance with the recommendations of the door and frame manufacturer. For specialty types of finished coatings, the paint supplier should also be consulted.

3.0 EXECUTION

3.01 INSPECTION

A. It is the responsibility of the General Contractor to make sure that all dimensions for existing opening or existing frames (strike height, hinge spacing, hinge back set, etc.) given to the steel manufacturer are accurate.
B. It is the responsibility of the General Contractor to see that any scratches or disfigurements caused in shipping or handling are properly cleaned and touched up with a rust inhibiting primer.

3.02 INSTALLATION

A. Frames
   1. Prior to installation, all frames must be checked for rack, twist and out of square conditions.
   2. Place frames prior to enclosing walls and ceilings. Set frames accurately in position, plumbed and braced securely until permanent anchors are set.
   3. Fill frames in masonry walls with mortar.
   4. When temperature conditions necessitate an additive to be used in the plaster or mortar to prevent freezing, the contractor installing the frames will coat the inside of the frames, in the field, with a corrosion inhibiting bituminous material.
   5. SDI-105, "Recommended Erection Instructions for Steel Frames" and SDI-110 "Standard Steel Doors and Frames for Modular Masonry Construction" shall indicate the proper installation procedures.

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B. Doors
   1. Install doors plumb and in true alignment in a prepared opening and fasten them to achieve the maximum operational effectiveness and appearance.
   2. Proper door clearance must be maintained in accordance with SDI-110.
   3. Where necessary, only metal hinge shims are acceptable to maintain clearances.
   4. "Installation Guide for Doors and Hardware" published by DHI is recommended for further details.

C. Hardware must be applied in accordance with hardware manufacturer's templates and instructions.

3.03 ADJUST AND CLEAN

A. Check and re-adjust operating finish hardware items in hollow metal work just prior to final inspection. Leave work in complete and proper condition.
B. Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply to touch-up or compatible air-drying primer.

3.04 SCHEDULES

After installation, copies of the door schedules will be turned over to the owner when the building is accepted.

(END OF SECTION 08110)

SECTION 08710 – DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes commercial door hardware for the following:

1. Swinging doors.
2. Sliding doors.
3. Other doors to the extent indicated.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.
2. Electromechanical door hardware.
3. Automatic operators.
4. Cylinders specified for doors in other sections.

C. Related Sections:

1. Division 08 Section "Hollow Metal Doors and Frames".
2. Division 08 Section "Flush Wood Doors".
3. Division 08 Section "Aluminum-Framed Entrances and Storefronts".
4. Division 08 Section "Automatic Door Operators".
5. Division 28 Section "Access Control Hardware Devices"

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ANSI/SDI A250.13 - Testing and Rating of Severe Windstorm Resistant Components for Swing Door Assemblies.
3. ICC/IBC - International Building Code.
4. NFPA 70 - National Electrical Code.
5. NFPA 80 - Fire Doors and Windows.
6. NFPA 101 - Life Safety Code.
7. NFPA 105 - Installation of Smoke Door Assemblies.
8. UL/ULC and CSA C22.2 - Standards for Automatic Door Operators Used on Fire and Smoke Barrier Doors and Systems of Doors.
9. State Building Codes, Local Amendments.

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E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:

1. ANSI/BHMA Certified Product Standards - A156 Series.
2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
3. ANSI/UL 294 - Access Control System Units.
4. UL 305 - Panic Hardware.
5. ANSI/UL 437- Key Locks.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.

3. Content: Include the following information:

   a. Type, style, function, size, label, hand, and finish of each door hardware item.
   b. Manufacturer of each item.
   c. Fastenings and other pertinent information.
   d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
   e. Explanation of abbreviations, symbols, and codes contained in schedule.
   f. Mounting locations for door hardware.
   g. Door and frame sizes and materials.
   h. Warranty information for each product.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected

SECTION 08710 – DOOR HARDWARE

by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Shop Drawings: Details of electrified access control hardware indicating the following:

1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:

   a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
   b. Complete (risers, point-to-point) access control system block wiring diagrams.
   c. Wiring instructions for each electronic component scheduled herein.

2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.

D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

E. Informational Submittals:

1. Hurricane Resistant Openings (State of Florida): Within the State of Florida, provide copy of current State of Florida Product Approval or Metro-Dade County Notice of Acceptance (NOA) as proof of compliance that doors, frames and hardware for exterior opening assemblies have been tested and approved for use at the wind load and design pressure level requirements specified for the Project.

   a. Hurricane Resistant Components (State of Florida): Within the State of Florida, provide copy of independent, third party certified listing to ANSI A250.13.

2. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

SECTION 08710 – DOOR HARDWARE

1.4 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).

C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.

2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

F. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

SECTION 08710 – DOOR HARDWARE

H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.
4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures

I. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

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B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.7 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.

D. Special Warranty Periods:

1. Ten years for mortise locks and latches.
2. Five years for exit hardware.
3. Fifteen years for manual overhead door closer bodies.
4. Five years for motorized electric latch retraction exit devices.
5. Two years for electromechanical door hardware.

1.8 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

SECTION 08710 – DOOR HARDWARE

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:

1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 HANGING DEVICES

A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:

a. Two Hinges: For doors with heights up to 60 inches.
b. Three Hinges: For doors with heights 61 to 90 inches.
c. Four Hinges: For doors with heights 91 to 120 inches.
d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.

3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.

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b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.

4. Hinge Options: Comply with the following:

a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.

5. Manufacturers:

a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK).
b. Stanley Hardware (ST).

B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 certified continuous geared hinge. with minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.

1. Manufacturers:

a. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
b. Stanley Hardware (ST).

2.3 POWER TRANSFER DEVICES

A. Electrified Quick Connect Transfer Hinges: Provide electrified transfer hinges with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.

1. Manufacturers:

a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - QC (# wires) Option.
b. Stanley Hardware (ST) - C Option.

B. Electrified Quick Connect Continuous Geared Transfer Hinges: Provide electrified transfer continuous geared hinges with a removable service panel cutout accessible without de-mounting door from the frame. Furnish with Molex™ standardized plug connectors with sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.

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1. Manufacturers:

   a. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE) - SER-QC (# wires) Option.

C. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Provide one each of the following tools as part of the base bid contract:

   a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Electrical Connecting Kit: QC-R001.
   b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Connector Hand Tool: QC-R003.

2. Manufacturers:

   a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - QC-C Series.
   b. Stanley Hardware (ST) - WH Series.

2.4 DOOR OPERATING TRIM

A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified.

1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
2. Furnish dust proof strikes for bottom bolts.
3. Surface bolts to be minimum 8" in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.

5. Manufacturers:

   a. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
   b. Trimco (TC).

B. Coordinators: ANSI/BHMA A156.3 certified door coordinators consisting of active-leaf, hold-open lever and inactive-leaf release trigger. Model as indicated in hardware sets.

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1. Manufacturers:

   a. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
   b. Trimco (TC).

C. Door Push Plates and Pulls: ANSI/BHMA A156.6 certified door pushes and pulls of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
4. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.

5. Manufacturers:

   a. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
   b. Trimco (TC).

2.5 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.

C. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:

1. Threaded mortise cylinders with rings and cams to suit hardware application.
2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
4. Tubular deadlocks and other auxiliary locks.
5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
6. Keyway: Manufacturer's Standard.

D. Patented Cylinders: ANSI/BHMA A156.5, Grade 1 Certified Products Directory (CPD) listed cylinders employing a utility patented and restricted keyway requiring the use of a

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patented key. Cylinders are to be protected from unauthorized manufacture and distribution by manufacturer's United States patents. Cylinders are to be factory keyed with owner having the ability for on-site original key cutting.

1. Patented key systems shall not be established with products that have an expired patent. Expired systems shall only be specified and supplied to support existing systems.

2. Manufacturers:

   a. Corbin Russwin (RU) - Access 3 AP.
   b. Sargent (SA) - Degree DG1.

E. Keying System: Each type of lock and cylinders to be factory keyed.

1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. New System: Key locks to a new key system as directed by the Owner.

F. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).

G. Construction Keying: Provide construction master keyed cylinders.

H. Key Registration List (Bitting List):

1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.6 KEY CONTROL

A. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.

1. Manufacturers:

   a. Lund Equipment (LU).
   b. MMF Industries (MM).
   c. Telkee (TK).

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P. Electronic Key Management System: Provide an electronic key control system with Stand-alone Plug and Play features including advanced RFID technology. Touchscreen interface with PIN access for keys individually locked in place. Minimum 1,000 system users and 21 iFobs for locking receptors. System shall have a minimum 250,000 audit events screen displayed or ability to be exported via USB port.

1. Manufacturers.

   a. Medeco (MC).
   b. Traka (TA).

2.7 MECHANICAL LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.

1. Manufacturers:

   a. Corbin Russwin Hardware (RU) - ML2000 Series.
   b. Sargent Manufacturing (SA) - 8200 Series.

2.8 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

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2.9 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.

2. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.

3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.

4. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.

5. Flush End Caps: Provide flush end caps made of architectural metal in the same finish as the devices as in the Hardware Sets. Plastic end caps will not be acceptable.

6. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.

   a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
   b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.

7. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.

8. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.

9. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.

10. Rail Sizing: Provide exit device rails factory sized for proper door width application.

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11. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

12. Hurricane and Tornado Resistance Compliance: Conventional exit devices are to be U.L. listed for windstorm assemblies where applicable. Provide the appropriate hurricane or tornado resistant products that have been independent third party tested, certified, and labeled to meet state and local windstorm building codes applicable to project.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.

1. Manufacturers:

a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
b. Sargent Manufacturing (SA) - 80 Series.

2.10 ELECTROMECHANICAL EXIT DEVICES

A. Electromechanical Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices subject to same compliance standards and requirements as mechanical exit devices. Electrified exit devices to be of type and design as specified below and in the hardware sets.

1. Energy Efficient Design: Provide devices which have a holding current draw of 15mA maximum, and can operate on either 12 or 24 volts. Locks are to be field configurable for fail safe or fail secure operation.

2. Where conventional power supplies are not sufficient, include any specific controllers required to provide the proper inrush current.

3. Motorized Electric Latch Retraction: Devices with an electric latch retraction feature must use motors which have a maximum current draw of 600mA. Solenoid driven latch retraction is not acceptable.

4. Manufacturers:

a. Corbin Russwin Hardware (RU) - ED5000 Series.
b. Sargent Manufacturing (SA) - 80 Series.

2.11 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

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1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.

2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.

3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.

4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.

5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.

6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Manufacturers:

   a. Corbin Russwin Hardware (RU) - DC6000 Series.
   b. Norton Door Controls (NO) - 7500 Series.
   c. Sargent Manufacturing (SA) - 351 Series.

2.12 ELECTROMECHANICAL DOOR OPERATORS

A. General: Provide low energy operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for compliance with UL 325. Coordinate operator mechanisms with door operation, hinges, and activation devices.

1. Fire-Rated Doors: Provide door operators for fire-rated door assemblies that comply with NFPA 80 for fire-rated door components and are listed and labeled by a qualified testing agency.

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B. Standard: Certified ANSI/BHMA A156.19.

C. Performance Requirements:

1. Opening Force if Power Fails: Not more than 15 lbf required to release a latch if provided, not more than 30 lbf required to manually set door in motion, and not more than 15 lbf required to fully open door.
2. Entrapment Protection: Not more than 15 lbf required to prevent stopped door from closing or opening.

D. Configuration: Surface mounted or in-ground as required. Door operators to control single swinging and pair of swinging doors.

E. Operation: Power opening and spring closing operation capable of meeting ANSI A117.1 accessibility guideline. Provide time delay for door to remain open before initiating closing cycle as required by ANSI/BHMA A156.19.

F. Features: Operator units to have full feature adjustments for door opening and closing force and speed, backcheck, motor assist acceleration from 0 to 30 seconds, time delay, vestibule interface delay, obstruction recycle, and hold open time from 0 up to 30 seconds.

G. Provide outputs and relays on board the operator to allow for coordination of exit device latch retraction, electric strikes, magnetic locks, card readers, safety and motion sensors and specified auxiliary contacts.

H. Brackets and Reinforcements: Manufacturer's standard, fabricated from aluminum with nonferrous shims for aligning system components.

I. Wireless Interface: Operator units shall have a wireless interface via a mobile device for ease of installation and setup.

J. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Norton Door Controls (NO) - 6300 Series.

2.13 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.

2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and

SECTION 08710 – DOOR HARDWARE

provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.

3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.

4. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:

   a. Stainless Steel: 300 grade, 050-inch thick

5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.

6. Manufacturers:

   a. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO)
   b. Trimco (TC).

2.14 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Manufacturers:

   a. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
   b. Trimco (TC).

2.15 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

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B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Manufacturers:

1. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
2. Reese Enterprises, Inc. (RE).

2.16 ELECTRONIC ACCESSORIES

A. Push-Button Switches: Industrial grade momentary or alternate contact, back-lighted push buttons with stainless-steel switch enclosures. 12/24 VDC bi-color illumination suitable for either flush or surface mounting.

1. Manufacturers:

a. Alarm Controls (AK) - TS Series.
b. Securitron (SU) - PB Series.

B. Switching Power Supplies: Provide power supplies with either single or dual voltage configurations at 12 or 24VDC. Power supplies shall have battery backup function with an integrated battery charging circuit and shall provide capability for power distribution, direct lock control and Fire Alarm Interface (FAI) through add on modules. Power supplies shall be expandable up to 16 individually protected outputs. Output modules shall provide individually protected, continuous outputs and/or individually protected, relay controlled outputs.

1. Manufacturers:

a. Securitron (SU) - AQD Series.

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2.17 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.18 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

SECTION 08710 – DOOR HARDWARE

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

A. Field Inspection (Punch Report): Reference Division 01 Sections "Closeout Procedures". Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.

1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.
2. Submit documentation of incomplete items in the following formats:

a. PDF electronic file.
b. Electronic formatted file integrated with the Openings Studio™ door opening management software platform.

SECTION 08710 – DOOR HARDWARE

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

1. Quantities listed are for each pair of doors, or for each single door.

2. The supplier is responsible for handing and sizing all products.

3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

B. Manufacturer's Abbreviations:

SECTION 08710 – DOOR HARDWARE

1. MK - McKinney
2. PE - Pemko
3. RO - Rockwood
4. SA - SARGENT
5. NO - Norton
6. SU - Securitron
7. OT - Other

Hardware Sets

Set: 1.0
Doors: 1-01

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	ND80HD RHO	626	SCH
1	EA	SFIC EVEREST CORE	80-037	626	SCH
1	EA	LOCK GUARD	LG12	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH TBSRT	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	188SBK PSA	BK	ZER
1	EA	THRESHOLD	65A-223	A	ZER

Notes: Balance of weatherstripping by aluminum door manufacturer. Provide brackets and spacers as required for door closers. All exterior doors on this project shall meet FBC standards for windstorm. The door hardware specified is listed as a basis of design. If alternate hardware is proposed, please provide third-party test results and compliance information to the architect.

(END OF SECTION 08710)

SECTION 09110 - LATH AND STUCCO

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this section.

1.02 Description of Work: This section of the specifications is intended to cover the furnishing of all labor, materials, and/or incidentals necessary to the completion of all requirements of the Drawings, notes, schedules, and these specifications concerning lathing and stucco work. Contractor to price-out traditional lath and stucco and EIFS finish, refer to Section 07241 of this manual.

2.0 GENERAL REQUIREMENTS

2.01 All lathing and stucco work shall be by skilled mechanics using such material and methods as will ensure compliance with the requirements of the Drawings and schedules and the following: All lightweight framing shall be securely attached to structural system in a manner which will make this framing rigid.

2.02 All stucco shall have: true planes and surfaces free from waves or other blemishes, true lines, and molds; lathing shall be securely fastened to the structural system and framing members.

2.03 Stucco shall be securely bonded to supporting lath or other surfaces. Stucco shall be free from defects attributable to poor curing conditions and/or mixing and handling such as might produce checks, alligatoring, softness, crumbling, or spalling.

3.0 LATHING AND ACCESSORIES

3.01 Metal Lath: USG 3.4 lb. expanded galvanized diamond mesh. Provide self-furring where applied over existing or new sheathing.

3.02 Gypsum Lath: USG gypsum sheathing, T & G joint, 1/2" thick, exterior water-resistant core and water repellant paper both sides.

3.03 Lathing Accessories: 1-1/2" and 3/4" 16 gauge galvanized cold rolled painted lathing channels. 1/4" Pencil Rods. Hangers of 8 gauge galvanized annealed steel wire.

3.04 Furring Channels: Galvanized, minimum 26 ga. 7/8" x 2-3/4" hat shaped.

3.05 Trim: Fry, Plastic Components, Inc., as detailed, for control or expansion joints, casing beads, etc.

3.06 Equal products by Gold Bond are approved.

3.07 Drip Molding: Fascia drip molding to be similar to "F style drip (delete reveal between drip leg and sheathing casement bead) by Fry Reglet #3467 to accept 1/2" thick exterior water-resistant USG gypsum sheathing. Contractor to ensure that exposed edges are true and flat with horizontal plain when finished with stucco work and painting.

SECTION 09110 - LATH AND STUCCO

3.08 Channel Screed shall be equal to FRY #PCS-75-50 (¾" deep x ½" high reveal).

4.0 EXTERIOR STUCCO

4.01 Stucco:

A. Scratch Coat - 1 bag Portland Cement, 1 bag Waterproofed Mortar Mix, 6 cubic feet sand.
B. Brown Coat - Same as scratch coat.
C. Finish Coat - 1 bag Portland Cement, 1 bag Waterproofed Mortar Mix, 6 cubic feet sand.
D. Color to be selected by Architect.

5.0 APPLICATION OF LATHING

5.01 Furring channels shall be installed at 16" o.c. maximum.

5.02 Gypsum sheathing shall be attached to channels with 1" type S-12 screws at 16" o.c. maximum.

5.03 Self Furring Metal Lath shall be applied over sheathing. Lath shall be attached thru sheathing to furring channels with 1-1/4" type S-12 screws at 8" o.c.

6.0 APPLICATION OF STUCCO

6.01 Ascertain before commencing this work that all sheathing, d.p.m, built-in flashing, etc., has been accepted.

6.02 Expansion joints shall be as detailed. Contractor shall provide additional expansion joints in plaster at any other point that required them to prevent future cracking. Locations shall be as approved by the Architect.

6.03 Provide protection during stuccoing for all areas and materials not to receive stucco.

6.04 All work liable to be damaged by stucco shall be covered and protected. Scraping all the shop paint from metal and other materials in order to clean up stucco work will not be acceptable to the Architect.

6.05 All materials shall be suitably protected from the weather at the job site.

6.06 Mixing and Proportioning: All base coats, and finish coats shall be proportioned and mechanically mixed in accordance with the product Manufacturer's printed instructions.

6.07 Stucco on Metal Lathed Surfaces: Shall be applied in three coats to a total of 3/4" thickness. Scratch coat shall be applied in a thin coat thoroughly pushed through lath, and after it has set hard and firm, but before dry, apply a second coat, bringing it to a straight and even surface with rod and darby. Scratch and brown coats shall be crossraked, apply finish coat specified.

SECTION 09110 - LATH AND STUCCO

6.08 For finish coat, scratch stucco in thoroughly and immediately double back to a true, even surface. Float to bring aggregate to the surface to produce a finish of uniform texture free of slick spots, cat faces and other blemishes. Finish coat to be a floated light sand texture. Use no water in floating. Dampcure surface with water for not less than **48 hours** after setting.

6.09 Particular attention shall be paid to the problem of keeping stucco damp. Proper drying procedure during the curing period is essential. Individual fascia panels to be floated from one control joint to another to insure a true flat surface.

6.10 The finish coat is to be painted to match the adjacent buildings fascia.

7.0 JOB COMPLETION

7.01 Patching: Point up around trim, etc., cut out all defective stucco and patch, matching adjacent work carefully.

7.02 Guarantee: This Contractor shall guarantee the work called for in this Section for a period of 1 year after Final Acceptance of the job and to replace free of charge all stucco which may have loosened, scaled off, popped or shown defects due to workmanship.

(END OF SECTION 09110)

SECTION 09900 - PAINTING

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

1.02 Specialty Contractors: Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not.

1.03 Description of Work: The extent of painting work is shown on the Drawings and schedules and specified herein. The work includes the painting and finishing of interior and exterior exposed items and surfaces throughout the project, except as otherwise indicated. "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers: and other applied US26D materials, whether used as prime, intermediate or finish coats.

1.04 Painting Not Included: The following categories of work are not included as part of the field-applied finish work or are included in other sections of these Specifications.

1.05 Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under the various sections for structural steel, miscellaneous metal, hollow metal work and similar items; also, for fabricated components such as architectural woodwork, wood casework, and shop-fabricated or factory-built mechanical and electrical equipment or accessories.

1.06 Mechanical and Electrical Work: The painting of certain items of mechanical and electrical work is specified in Divisions 15 and 16.

1.07 Prefinished Items: Unless otherwise indicated, do not include painting when factory-finishing or install-finishing is specified for such items (but not limited to) architectural woodwork and casework, prefinished windows, prefinished aluminum, fascia, rain drainage and trim, finished mechanical and electrical equipment, including light fixtures, switchgear, and distribution cabinets.

1.08 Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, foundation spaces, furred areas, utility tunnels, pipe spaces, duct shafts and elevator shafts.

1.09 Finished Metal Surfaces: Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finished painting, unless otherwise indicated.

1.10 Operating Parts and Labels: finish edge parts of operating units and mechanical and electrical parts, such as valve and damper operators, linkages, sinkage sensing devices and motor and fan shafts, will not require finish painting, unless otherwise indicated. Do not paint over any Code-required labels, such as Underwriters' Laboratories, Inc. and Factory Mutual, or any equipment identifications, performance rating, name plates or nomenclature plates.

SECTION 09900 - PAINTING

1.11 Submittals-Product Data: For information only, submit two copies of the Manufacturer's technical information, including the paint label analysis and application instructions, for each material proposed for use. Transmit a copy of each manufacturer's instructions to the paint applicator.

1.12 Submittals-Samples: Submit samples for the architect's review of color and texture only. Compliance with all other requirements is the exclusive responsibility of the contractor. Provide a listing of the material and application for each coat of each finish sample.

1.13 Delivery and Storage: Deliver all materials to the job site in their original, new and unopened packages and containers bearing the Manufacturer's names and labels and the following information:

A. Name and title of material
B. Manufacturer's stock number and date of manufacture
C. Manufacturer's name
D. Contents, by volume, for major pigment and vehicle constituents
E. Thinning instructions
F. Application instructions
G. Color name and number

1.14 Comply with health and fire regulations in the handling and storage of paint materials. Do not store painting materials in the building.

1.15 Environmental Requirements: Apply paints only when the temperature of the surfaces to be painted and the surrounding air temperatures are between 50 degrees F and 90 degrees F., unless otherwise permitted by the paint Manufacturer's printed instructions. Do not apply paint in areas where dust is being generated and where the illumination is inadequate. Do not apply paint in snow, rain, fog, or mist; when the relative humidity exceeds 85%; or to damp or wet surfaces, unless otherwise permitted by the paint Manufacturer's printed instructions or unless the area and surfaces to be painted are enclosed and heated within the temperature limits specified by the paint Manufacturer, during the application and drying periods.

1.16 Guarantee: Guarantee all paint products and their application for a period of one year after final acceptance. The guarantee shall cover the replacement of defective material evidences by blistering, spalling, flaking, fading, powdering, or any other undesirable characteristics. Failures caused by extraneous sources, such as water leakage or physical abuse, will not be the responsibility of this subcontractor.

2.0 PRODUCTS

2.01 Colors and Finishes: Paint colors, surface treatments, and finishes are indicated in the SCHEDULES of the contract documents. Prior to beginning the work, the architect will furnish color chips for the surfaces to be painted. Use representative colors when preparing samples for review.

2.02 Color Pigments: Use pure, non-fading, applicable types of color pigments, to suit the substrates and the service indicated.

2.03 Lead Content: **ONLY LEAD-FREE PAINT SHALL BE USED.**

SECTION 09900 - PAINTING

2.04 Paint Coordination: Provide finish coats which are compatible with the prime coats used. Review other sections of these Specifications in which prime paints are to be provided, to insure the compatibility of the total coatings system for the various substrates. Upon the request from other trades, furnish information on the characteristics of the finish materials proposed for use, to ensure that compatible prime coats are used. Provide barrier coats over incompatible primers; or remove and re-prime as required. Notify the architect, in writing, of any anticipated problems in using the specified coating systems with substrates primed by others.

2.05 Material Quality: Provide the best quality grade of the various types of coatings as regularly manufactured by acceptable paint material Manufacturers. Materials not displaying the Manufacturer's identification as a standard, best-grade product will not be acceptable. Provide an undercoat paint produced by the same Manufacturer as the finish coats. Use only thinners approved by the paint Manufacturer; and use only within the recommended limits. Use paint materials which will withstand normal washing to remove pencil marks, ink, ordinary soiling, etc. without showing discoloration, loss of gloss, staining or other damage.

2.06 Proprietary Names: The proprietary names used to designate colors or materials are not intended to imply that the products of the named Manufacturers are required to the exclusion of equivalent products of other Manufacturers.

2.07 Paint Systems: Use products of the paint Manufacturers listed below, unless substitutions are approved in accordance with Division 1 of these Specifications. The approved Manufacturers are referred to as follows:

G-------Glidden Paint Company
P---------Pittsburgh Paint Company
S-W-----Sherwin-Williams Paint Company
Porter---Porter Paints

2.08 Provide the following paint systems for the various substrates as indicated:

EXTERIOR SYSTEMS

FERROUS METAL

Gloss Finish (Water Base)

1st Coat: *S-W Pro Industrial Pro-Cryl® Universal Primer, B66-1310 Series* (2-4 mils dry)
2nd Coat: *S-W Pro Industrial Acrylic Gloss, B66W11 Series*
3rd Coat: *S-W Pro Industrial Acrylic Gloss, B66W11 Series* (4 mils wet, 1.5 mils dry per coat)

SECTION 09900 - PAINTING

STUCCO & CONCRETE

Flat Finish
1st Coat: S-W Loxon® Exterior Ceiling Acrylic Masonry Primer, LX02W50
(8 mils wet, 3.2 mils dry)
2nd Coat: S-W A-100® Exterior Latex Flat, A6 Series
3rd Coat: S-W A-100® Exterior Latex Flat, A6 Series
(4 mils wet, 1.4 mils dry per coat)

Satin Finish
1st Coat: S-W Loxon® Exterior Walls Acrylic Masonry Primer, LX02W50
(8 mils wet, 3.2 mils dry)
2nd Coat: S-W A-100® Exterior Latex Satin, A82 Series
3rd Coat: S-W A-100® Exterior Latex Satin, A82 Series
(4 mils wet, 1.4 mils dry per coat)

WATERPROOFING SYSTEM
1st Coat: S-W Loxon® XP, LX11W51 Series
(14-18 mils wet; 6.4-8.3 mils dry)
2nd Coat: S-W Loxon® XP, LX11W51 Series
(14-18 mils wet; 6.4-8.3 mils dry)

METAL PIPING (ALKYD)
Gloss System (Solvent Base)
1st Coat: S-W Kem Bond® Kem KromikUniversal Metal Primer B50AZ6
(8 mils wet, 5 mils dry)
2nd Coat: S-W Pro Industrial Alkyd Urethane Enamel B54W151 (2-4 mils dry per coat)
3rd Coat: S-W Pro Industrial Alkyd Urethane Enamel B54W151 (2-4 mils dry per coat)

INTERIOR SYSTEMS

DRYWALL /PLASTER: Semi-gloss Latex System
1st Coat: S-W Pro Mar 200 Zero Voc Primer, B28w2600
(4 mils wet, 1.2 mils dry)
2nd Coat: S-W ProMar® 200 Zero VOC Latex Semi-Gloss, B31 Series
3rd Coat: S-W ProMar® 200 Zero VOC Latex Semi-Gloss, B31 Series
(4 mils wet, 1.6 mils dry per coat)

FERROUS METAL
1st Coat: S-W Pro-Cryl® Universal Metal Primer, B66W1310
(2-4 miles dry)
2nd Coat: *S-W Pro Industrial Acrylic Gloss, B66W11 Series*
3rd Coat: *S-W Pro Industrial Acrylic Gloss, B66W11 Series*
(4 mils wet, 1.5 mils dry per coat)

INTERIOR UNDERSIDE OF ROOF DECK
1. S-W Pro-Cryl Universal Acrylic Primer, B66W1310
2. Finish – S-W Pro Industrial Water Base Dryfall Flat B42B82

SECTION 09900 - PAINTING

STAINED WOODWORK, WOOD DOORS, BASEBOARDS, WOOD TRIM, STAIN & VARNISH
1st Coat: Minwax Wood Stain (Color to be determined by Architect
2nd Coat: S-W Sher-Wood® Natural Filler, D70T1 (Optional)
3rd Coat: Minwax Fast Drying Varnish
4th Coat: Minwax Fast Drying Varnish
(4 mils wet, 1.3 mils dry per coat)

CMU Walls Interior Space

DRYWALL / PLASTER: Gloss Acrylic System
1st Coat: S-W Pro Mar 200 Zero VOC Primer, B28w2600
(4 mils wet, 1.2 mils dry)

2nd Coat: S-W Pro Industrial Water Base Epoxy Gloss B73-300
3rd Coat: S-W Pro Industrial Water Base Epoxy Gloss B73-300
(8 mils wet, 3 mils dry per coat)

CMU
1st Coat: S-W Prep-Rite Block Filler, B25W25
2nd Coat: S-W Pro Mar 200 Zero VOC Latex Semi-Gloss B31W2651
3rd Coat: S-W Pro Mar 200 Zero VOC Latex Semi-Gloss B31W2651
(4 mils wet, 1.3 mils dry per coat)

Refer to Section 09900 (4.0)

3.0 EXECUTION

3.01 Surface Preparation (Wood): Perform preparation and cleaning procedures in strict accord with the paint Manufacturer's instructions and as herein specified, for each particular substrate condition. Remove all hardware, hardware accessories, machines surfaces, plates, lighting fixtures and similar items in place and not to be finished-painted; or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for the complete painting of the item's adjacent surfaces. Following completion of the painting of each space or area, reinstall the removed items, the work to be done by workmen skilled in the trades involved. Clean the surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to the mechanical cleaning. Program the cleaning and painting so that contaminants from the cleaning process will not fall onto wet, newly painted surfaces. Spotting-in of rubbed-off places in shop coats shall be done by the trade installing the materials, unless otherwise provided, before any field painting is done; and such spotting-in will not be considered as one of the coats specified or called for on the schedules.

3.02 Surface Preparation (Wood): for non-prefinished doors, clean wood surfaces to be painted of all dirt, oil or other foreign substances, with scrapers, mineral spirits and sandpaper, as required. Sandpaper smooth those finished surfaces exposed to view, and dust off. Scrape and clean small, dry, seasoned knots; and apply a thin coat of white shellac or other recommended knot sealer, before application of the priming coat. After priming, fill

SECTION 09900 - PAINTING

holes and imperfections in finish surfaces with putty or plastic wood filler. Sandpaper smooth when dried.

3.03 Surface Preparation (Ferrous Metals): Clean ferrous surfaces which are not galvanized, or shop coated of oil, grease, dirt, loose mill scales and other foreign substances, by solvent or mechanical cleaning.

3.04 Surface Preparation (Cementitious Material): Prepare cementitious surfaces of concrete, concrete block and cement plaster to be painted by removing all efflorescence, chalk, dust, dirt, grease and oils and by roughening as required to remove glaze. Determine the alkalinity and moisture content of the surfaces to be painted by performing the appropriate tests. If the surfaces are found to be sufficiently alkaline to cause blistering and burning of the finish paint correct this condition before the application of the paint. Do not paint over surfaces where the moisture content exceeds that permitted by Manufacturer's printed directions. If concrete or concrete masonry contain excessive voids, pits, burrs or uneven surfaces to permit filling with the specified prime or filler coat and to provide a satisfactory finish surface after normal painting trade preparation procedures, then the Contractor shall be notified for corrective work before proceeding with the painting.

3.05 Materials Preparation (General): Mix and prepare painting materials in accordance with the Manufacturer's directions. Store materials not in actual use in tightly covered containers. Maintain the containers used in storage, mixing and application of paint in a clean condition, free of foreign materials and residue. Stir materials before application to produce a mixture of uniform density; and stir as required during the application of the materials. Do not stir surface film into the material. Remove the film and lumps and, if necessary, strain the material before using.

3.06 Apply in accord with the Manufacturer's directions and with the following directives:

3.07 Use applicators and techniques best suited for the substrate and the type of material being applied.

3.08 Apply additional coats when undercoats, stains or other conditions show through the final coat of paint, until the paint film is of uniform finish, color, and appearance. Give special attention to insure that all surfaces, including edges, corners, crevices, welds and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

3.09 Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment or furniture with a prime coat only, before final installation of the equipment.

3.10 Paint interior surfaces of ducts or plenums, where visible through registers or grilles, with a flat, non-specular black paint.

3.11 Paint the back sides of access panels and removable or hinged covers to match the exposed surfaces.

3.12 Finish all doors on the tops, bottoms and side edges the same as the exterior faces, unless otherwise indicated.

SECTION 09900 - PAINTING

3.13 Sand lightly between each succeeding enamel or varnish coat at acoustical wall slat system. Refer to Section 06200 (4.0) and detail within drawings if 06200 (4.0) is not used. Detail requires two coats of min wax or equal stain, sand and seal.

3.14 Metal work to be concealed upon completion, with the exception of open-web steel joists, shall be give one field coat in addition to the shop coats.

3.15 Paint exterior ferrous metal.

3.16 Paint prime-coated mechanical equipment, piping and access panels exposed in occupied areas.

3.17 Paint equipment room walls and surfaces, unless otherwise scheduled.

3.18 Surfaces shall be smooth and free from raised grain or other defects after painting.

3.19 Each coat of paint and/or enamel shall be evenly worked out and allowed to dry before any subsequent coat is applied or any rubbing is done, with at least 48 hours drying time allowed between coats.

3.20 TINT EACH COAT OF PAINT A DIFFERENT SHADE FROM THAT OF THE PRECEDING COAT TO SIMPLIFY VERIFICATION OF COATS. FINISH COATS SHALL BE THE EXACT SHADES SELECTED.

3.21 Edges of paint adjoining other materials or other colors shall be full and clean-cut without overlapping.

3.22 Paint exposed ducts and piping, covered or uncovered, unless otherwise scheduled, the same color as adjacent surfaces.

3.23 Paint over interior exposed caulking with the color to match the trim of the adjacent wall.

3.24 Brush application is required for painting on metal work and for enameling and varnishing of woodwork. Other painting may be applied by spray, rollers or brushes, at the discretion of the painting subcontractor, as long as all requirements of these Specifications are met.

3.25 On metal work to be concealed after the work is finished, use one field coat of paint after the prime or shop coat is spotted-in where scraped off. Paint for concealed metal shall be the same as for exterior metal work.

3.26 Omit the 1st coat (primer) on metal surfaces which have been shop-primed, and touch-up painted, unless otherwise indicated.

3.27 Scheduling Painting (General): Apply the 1st-coat material to surfaces that have been cleaned, pretreated or otherwise prepared for painting, as soon as practicable after preparation and before subsequent surface deterioration. Allow a sufficient time between successive coatings to permit proper drying. Do not recoat until the paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure and the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat. Repair scratched or rubbed places in final coats before the work is ready for

SECTION 09900 - PAINTING

acceptance. Surfaces in areas adjoining special coatings shall be painted after the coating application. Complete painting prior to the installation of the finish flooring.

3.28 Minimum Coating Thickness: Apply each material at not less than the Manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated; or, if not indicated, as recommended by the coating Manufacturer.

3.29 Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

3.30 Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, cloudiness, color irregularity, runs, brush marks, orange peel, nail holes, or other surface imperfections. Provide satin finish for final coats, unless otherwise indicated.

3.31 Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work that is not incompliance with the specified requirements.

3.32 Clean-Up: During the progress of the work, remove from the site all discarded paint materials, rubbish, cans and rags, at the end of each workday. Upon completion of the painting work, clean window glass and other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage the finished surfaces.

3.33 Protection: Protect the work of other trades, whether to be painted or not, against damage by the painting and finishing work. Correct any damage by cleaning, repairing or replacing and repainting, as acceptable to the architect. Provide WET PAINT signs as required to protect newly painted finished work. Remove temporary protective wrappings provided by others for the protection of their work, after completion of the painting operations. At the completion of the work of other trades, touch up and restore all damaged or defaced painted surfaces.

3.34 Preparation of Surfaces:

A. All surfaces shall be clean-free of dirt, grease and any foreign matter that would adversely affect the adhesion, finished appearance or protective properties of special coatings.

B. If for any reason the surface cannot be properly prepared, the condition shall be reported to the General Contractor or Architect, who will be responsible for rectifying the unsatisfactory condition.

C. Coatings shall not be applied to surfaces with a temperature of less than 50 degrees F.

D. Ferrous Metal Surfaces: Remove all rust, mil scale and weld flux by power tool cleaning, (SSPC-SP-3-63) (Steel Structure Painting Council).

1. Remove weld flux spatters and alkali contaminants by washing with water.
2. Shop coated metal shall be washed free of grease, dirt, oil or dust with mineral spirits. Spot prime bare metal specified rust-inhibitive primer prior to painting, and prime with primer/undercoat as recommended by Manufacturer.

4.0 SPECIAL COATINGS (EPOXY)

SECTION 09900 - PAINTING

4.01 All exposed masonry or as specified on schedule.

4.02 Products:

A. Except as otherwise noted, proprietary names used herein refer to Glid Tile products' as manufactured by Glidden Paint Company.

B. Similar products of the same type and quality of the following Manufacturer may be approved in lieu of those listed.
1. Desco Products, IV, Armite
2. Vitricon, Inc. Vipoxey 260

C. Substitutions will not be considered unless list of proposed products are reason for requesting substitutions is submitted in writing for review by the Architect within 10 days of Contract Date.

4.03 The System: The System consists of two-coat application. Masonry surfaces shall be coated with block filler. Such filler shall be applied in such a manner as to completely fill and bridge all pinholes and voids in a single application. Finish coats shall consist of veiling and finish coat (see below).

4.04 Estimates: Estimates shall be based on using materials and colors as specified.

4.05 Special Coatings shall be applied in strict accordance with Manufacturer's directions as printed on containers or as instructed herewith. Materials shall be applied at rates as specified by the Architect to produce film thickness as called for in the Specifications.

4.06 Application Schedule (Masonry Block and Cinder Block):

A. First Coat - block filler primer applied at a rate not to exceed 70 square feet per gallon, applied to completely fill all pinholes and voids; yield 10 to 12 mils average dry film thickness or primer coat to existing painted surfaces.

B. Second coat - base color coat applied at a rate as recommended by Manufacturer.

(END OF SECTION 09900)

SECTION 10200 - LOUVERS

1.0 GENERAL

1.01 Work Included: This section covers the work necessary to furnish and install, completely, the building louvers as identified on the plans and specs.

1.02 Specialty Contractors: Each specialty contractor is expected to be knowledgeable in their trade and is to provide all necessary components and support requirements to ensure the product they are providing is complete and includes all miscellaneous incidentals whether shown or not.

1.03 General:

A. SEE GENERAL and SUPPLEMENTARY GENERAL CONDITIONS and Division 1, GENERAL REQUIREMENTS, which contain information and requirements that apply to the work specified herein and are mandatory for this project.

B. In addition, see Section 01100, ALTERNATES, for specific alternate construction requirements which may affect the work of this Section.

1.04 Related Work Specified and Preformed under Other Sections: Section 07920 - Sealants and Caulking: Sealants around louver frame.

1.05 References: Air Movement and Control Association, Inc., (AMCA) Standards and Certified Ratings Program.

1.06 Submittals: Submittals during construction shall be made in accordance with Section 01300, Submittals. In addition, the following specific information shall be provided:

A. Test Data: Submit manufacturer's test data where required herein.

B. Shop Drawings: Shop drawings showing large scale details of louvers, anchorage, and relationship to adjoining construction.

C. Product Data: Descriptive data of louvers including standard drawings and louver free area; parts list, if applicable; installation instructions; and maintenance procedures.

D. Design Calculations: Submit design calculations for wind load requirements specified herein specifically for this Project, prepared under the direction of and signed, dated and sealed by a Registered Structural Engineer. The indiscriminate submittal of general structural calculations that have not been specifically prepared for this Project will be rejected.

1.07 Delivery Storage and Handling: Deliver, store, and handle materials or equipment under provisions of Section 01620, MATERIALS, STORAGE, and PROTECTION.

1.08 Field Measurements: The Contractor shall verify all dimensions, shall make any field measurements necessary and shall be fully responsible for accuracy and layout of work. The Contractor shall review the Drawings and any discrepancies shall be reported to the Architect for clarification prior to starting fabrication, application or installation.

1.09 Guarantee: Provide a written guarantee against defects in materials and workmanship for a period of one year from the date of Final Acceptance of the Project by the Owner. Any defects occurring during this warranty period shall be repaired at no cost to the Owner.

SECTION 10200 - LOUVERS

2.0 PRODUCTS

2.01 Manufacturers:

A. All building louvers as herein specified shall, for the purpose of establishing the standard of quality and general configuration desired, be as manufactured by Construction Specialties Inc., Airstream Products Division, Penn Ventilator Co., Inc., Red Lion and Gantry Roads. Products of other manufacturers, meeting the requirements specified herein, will be considered in accordance with Section 01300.

B. Like items of material or equipment specified herein shall be the end products of one manufacturer in order to achieve standardization for appearance, operation, maintenance, spare parts and manufacturer's service.

2.02 Design Criteria: All portions of building louvers, including anchorage, shall be designed to withstand wind loads in accordance with components and Cladding provisions of ANSI A58.1-82 for 110 mph wind velocities, building importance factor of 1.15 and exposure category "c".

2.03 Louver Types: Model JF Stationary Louver. Units to be 4" in depth. Louver shall be rated and tested in accordance with AMCA Standards and shall bear the AMCA Certified Ratings seal.

2.04 Finish: All visible surfaces of louvers shall be finished with an Architectural Class I anodic coating with integral color as selected by the Architect (Aluminum Association Designation AA-M21C22A42).

2.05 Ancillary Items:

A. Isolation Paint for Aluminum and Dissimilar Metals: Single-component, coal-tar pitch based bituminous paint, 68% minimum solids by volume, brush applied at minimum 10 mils dry film thickness.

B. Mullions: Provide Manufacturer's standard mullions, in same finish as louvers, where shown on Drawings and as required.

C. Provide bug screen and all required clipping devices.

3.0 EXECUTION

3.01 Inspection: Assure that openings are free of irregularities that would interfere with installation. Do not install louvers until defects have been corrected.

3.02 Installation: Install louvers as shown on shop drawings. Follow procedures in manufacturer's printed installation instructions.

3.03 Adjust and Clean: Repair damage to louvers to match original or replace.

(END OF SECTION 10200)

SECTION 10522 - FIRE SAFETY

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this section.

1.02 Description of Work: This section of the specifications intended to cover the furnishing and installing Fire Safety items. These items have no particular relationship to each other or to other branches of the work. This section includes the following: Fire Cabinets, Hoses, Fire Blankets, and Fire Extinguishers.

1.03 Shop Drawings: Provide shop drawings and/or product data for all items. Showing dimensions, layout, construction details, and installation details. Provide all work in compliance with NFPA 10.

1.04 Samples: Provide samples when normally required for color and finish selection.

1.05 Product Delivery, Storage, and Handling: Deliver items cartoned, crated, wrapped, or otherwise protected from shipping hazards. Damaged items are to be removed from the site and replaced with new, undamaged items at no cost to the Owner.

1.06 Guarantee: Provide a one-year guarantee against defects in materials and workmanship for all items and/or as called hereinafter. Certification date shall be no earlier than the date of Substantial Completion.

2.0 PRODUCTS AND EXECUTION

2.01 Fire Extinguishers:

A. Manufacturers. Products of the following manufacturers, provided they comply with requirements of contract documents, will be among those considered acceptable:

1. JL Industries
2. Larsen's
3. Amerex Corporation
4. Ansul Fire Protection/ A Grinnell Company
5. Figgie Fire Protection
6. Buckeye Fire Equipment Co.
7. Fire-End & Croker Corporation
8. General Fire Extinguisher Corporation
9. Potter-Roemer Division/ Smith Industries, Inc.
10. Walter Kidde, The Fire Extinguisher Co.

B. Fire Extinguishers FEC1-Exterior Surface Mounted

1. Rating: 4A:60B:C.
2. Type: Multipurpose dry chemical (ammonium phosphate)
3. Cabinet mounted.

SECTION 10522 - FIRE SAFETY

2.02 Cabinets and Cabinet Accessories:

A. Manufacturers: Products of the following manufacturers, provided they comply with requirements of contract documents, will be among those considered acceptable:
1. J. L. Industries
2. Larsen's Manufacturing Company
3. Modern Metal Products, Division of Technico
4. Potter-Roemer Division/Smith Industries, Inc.
5. Samson Metal Products, Inc.
6. Thomas Enterprises

B. Cabinet FEC-2 Semi-Recessed Mounted:
1. To have one extinguisher bottle – size box accordingly
2. Style – Semi-Recessed with rolled edges, 2½" projection equal to Larsen's FS-BZ-24-09-6R Vertical DUO clear acrylic door with Red or Black vertical die cut letters
3. Finish to be satin anodized
4. Concealed continuous type hinges allowing full 180 degree opening of door

C. Cabinet FEC1-Exterior Surface Mounted:
1. To house one extinguisher: Extinguisher - FEC1
2. Size: Large enough to house fire extinguisher.
3. Style: Surface mounted, square trim.
4. Single flat door:
   a) Narrow vertical glazing panel
      1) Acrylic view panel in door
      2) Clear.
   b) Door material: Aluminum, satin anodized. Color: Aluminum, satin anodized.
   c) Surface mounted door handle, with the word "FIRE" on it.
   d) Friction or roller catch.
5. Time (box flange or frame): Same material and finish as door.
6. Box: Manufacturer's standard material and construction.
7. Provide wall bracket for extinguisher, inside cabinet.

D. Hinges: Provide hinges for each door; concealed or continuous type; allow full 180 degree opening of door.

3.0 EXECUTION

3.01 Preparation: Prepare openings for recessed cabinets.

3.02 Installation:

A. Perform installation in accordance with the manufacturer's instructions except where more stringent requirements are shown or specified, and except where project conditions require extra precautions or provisions to ensure satisfactory performance of the work.
B. Install cabinets at locations indicated.
C. Install so that top of bottle is 48 inches above finish floor.

SECTION 10522 - FIRE SAFETY

D. Install so that top of the extinguisher or blanket is not more than 54" above finished floor and complies with State and Federal accessibility requirements.

E. Fire extinguishers are to be certified and dated no earlier than the date of the certified Substantial Completion.

(END OF SECTION 10522)

SECTION 10950 - MISCELLANEOUS SPECIALTIES

1.0 GENERAL

1.01 Related Documents: The General Provisions of the Contract, including the General and Supplementary General Conditions and General Requirements, apply to the work specified in this Section.

1.02 Description of Work: This section of the Specifications intended to cover the furnishing and installing miscellaneous specialty items. These items have no particular relationship to each other or to other branches of the work. This Section includes the following:

- ADA Wall-Mounted Signage

1.03 Shop Drawings: Provide shop drawings and/or product data for all items showing dimensions, layout, construction details, and installation details.

1.04 Samples: Provide samples when normally required for color and finish selection.

1.05 Product Delivery, Storage, and Handling: Deliver items cartoned, crated, wrapped, or otherwise protected from shipping hazards. Damaged items are to be removed from the site and replaced with new, undamaged items at no cost to the Owner.

1.06 Guarantee: Provide a one-year guarantee against defects in materials and workmanship for all items and/or as called hereinafter.

2.0 PRODUCTS AND EXECUTION

2.01 Approved Manufacturers: Best Signage, Mohawk Signage, Kay Enterprises (352) 732-8467. Provide two (2) complete color sample chains of actual samples to be used for color selection presentation boards.

2.11 Signage Schedule: (See schedule on the following pages)

SIGNAGE SCHEDULE

RM NO.	DOOR NUMBER	ROOM NAME	PUSH / PULL	INT / EXT	TYPE	GRAPHICS	PLAN HOLDER
100	1-01	Pump Room	-	-	-	-	-
100	1-01	Pump Room	Push		D,P	-	Yes
100	1-02	Utility Yard			-	-	-

(END OF SECTION 10950)

EXHIBIT 3: BID FORM/ SCHEDULE OF VALUES

Alachua County, Florida
Procurement
Theodore "TJ" White, Jr. CPPB, Procurement Manager
County Administration Building, Gainesville, FL 32601

HOFFMAN CONSTRUCTION INC. RESPONSE DOCUMENT REPORT

ITB No. ITB 24-499-LC
Alachua County Courthouse Complex Accessory Energy Facility
RESPONSE DEADLINE: September 4, 2024 at 2:00 pm
Report Generated: Monday, September 9, 2024

Hoffman Construction Inc. Response

CONTACT INFORMATION

Company:
Hoffman construction Inc.

Email:
hoffmanconst@yahoo.com

Contact:
Joe Hoffman

Address:
635 SW 186th St
Newberry, FL 32669

Phone:
N/A

Website:
N/A

Submission Date:
Sep 4, 2024 12:56 PM (Eastern Time)

ADDENDA CONFIRMATION

Addendum #1
Confirmed Aug 19, 2024 5:48 PM by Joe Hoffman

Addendum #2
Confirmed Aug 19, 2024 5:48 PM by Joe Hoffman

Addendum #3
Confirmed Aug 19, 2024 5:48 PM by Joe Hoffman

Addendum #4
Confirmed Sep 3, 2024 11:44 AM by Joe Hoffman

PRICE TABLES

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total
1	Courthouse Complex Accessory Energy Facility	1	Lump Sum	$1,148,880.00	$1,148,880.00
TOTAL					**$1,148,880.00**

EXHIBIT 4: GENERAL CONSTRUCTION NOTICE TO PROCEED

NTP No.: _____ Agreement No.: 14296

Invoice/Billing Reference No.: _____

Project Description: #14296 - Alachua County Courthouse Complex Accessory Energy Facility with Hoffman Construction, Inc. - construction of the proposed Alachua County Court Complex Accessory Energy Facility located at 151 Southwest 2nd Avenue, Gainesville, FL.

County: Alachua County, a Charter County and political subdivision of the State of Florida

Date Issued: _____

County Project Manager:

Contractor: Hoffman Construction, Inc.

Contractor's Address: 635 SW 186th Street, Newberry, FL 32669

Architect/Engineer: Paul Stresing Associates, Inc.

This Notice to Proceed (NTP) is issued in accordance with the terms of the General Construction Agreement No. _____, dated _____ between the County and the Contractor ("Agreement"). Execution of this NTP by County shall serve as authorization for the Contractor to perform the Work for the above project as set forth in that certain the Agreement, including its exhibits, and further delineated in the specifications, conditions and requirements stated in the following listed documents which are attached hereto and made a part hereof.

ATTACHMENTS:

[ ] DRAWINGS/PLANS/SPECIFICATIONS
[ ] SCOPE OF WORK
[ ] SPECIAL CONDITIONS
[ ] SCHEDULE OF VALUES
[ ] _____

The Contractor shall provide said services pursuant to this Notice to Proceed, its attachments and the above-referenced Agreement, which is incorporated herein by reference as if it had been set out in its entirety. Whenever the Notice to Proceed conflicts with said Agreement, the Agreement shall prevail.

TIME FOR COMPLETION: The Work authorized by this Notice to Proceed shall be commenced upon the date written above or upon issuance of and shall substantially complete within One Hundred Eighty (180) working days of this NTP with Final Completion occurring 30 working days after the County delivers the final List to the Contractor as provided in section 5.3 of the Agreement, unless extended in accordance with §218.735(7)(c), Florida Statutes .

METHOD OF COMPENSATION:

The amount paid for this job shall be:
$ _____.

The County shall make payment to Contractor in strict accordance with the payment terms of the above-referenced Agreement and in accordance with the Schedule of Values.

It is expressly understood by Contractor that this and Notice to Proceed, until executed by the County, does not authorize the performance of any services by Contractor and that the County, prior to its execution of the Notice to Proceed, reserves the right to authorize a party other than Contractor to perform the services called for under this document if it is determined that to do so is in the best interest of the County.

IN WITNESS WHEREOF, the Parties hereto agree to this Notice to Proceed and have executed it on this _____ day of _____, 20_____.

CONTRACTOR

By: _____

Date: _____

Title: _____
Print Name and Title

ALACHUA COUNTY, FLORIDA

By: _____
Alachua County

Date: _____

ARCHITECT/ENGINEER/COUNTY (as applicable)

By: _____

Date: _____

Title: _____
Print Name and Title

EXHIBIT 5: CLOSEOUT CHECKLIST

Contract Closeout occurs when all obligations are met and all legal, administrative, and managerial tasks are executed.

Contract No. 14296 – Alachua County Courthouse Complex Accessory Energy Facility
Complete all applicable items.

ACTION/ITEM	Date Completed *(by Vendor)*	*Vendor (initials)*	County *(initials)*
General Requirements (Should be required on most Contracts)	[redacted]	[redacted]	[redacted]
All contractual obligations are completed *(include list of exceptions as an attachment)*			
All invoices, except for the final, are submitted and paid			
All testing reports have been received and analyzed			
Final amount paid via this Contract			
Parties agree that no claims, issues, or unresolved matters exist on the contract			
Contract Specific Requirements (All may not apply)	[redacted]	[redacted]	[redacted]
All inspections are completed and accepted			
Any County-furnished property is returned			
The contractor has closed any subcontracts that may exist			
All sub-contractor(s) have been paid in full *(include a table of sub-contractor(s) names with total amounts paid to each as an attachment)*			
Any access or security badges and keys are returned and are accounted for			
All warranties, training material, or other final deliverables are obtained			
All Bond requirements have been met			
Certificates of substantial completion or final completion are obtained			
Other administrative or contractual requirements are met *(include list of items as an attachment)*			

CONTRACT ADMINISTRATOR APPROVAL TO CLOSEOUT CONTRACT

_____ _____
Vendor/Contractor Signature Date

_____ _____
Department Administrator Signature Date

EXHIBIT 6: PAYMENT BOND FORM

CONTRACTOR (PRINCIPAL)
COMPANY (LEGAL NAME):
PRINCIPAL BUSINESS ADDRESS (No PO Box):
TELEPHONE NUMBER:

SURETY
COMPANY (LEGAL NAME):
PRINCIPAL BUSINESS ADDRESS (No PO Box):
TELEPHONE NUMBER:

OWNER (OBLIGEE)
NAME: Alachua County Board of County Commissioners
PRINCIPAL BUSINESS ADDRESS: 12 S.E. First Street, Gainesville, Florida 32601
TELEPHONE NUMBER: 352-374-5204

AGREEMENT DETAILS
DATE EXECUTED:
AMOUNT:
GENERAL DESCRIPTION:
STREET ADDRESS OF PROJECT:
PO NO. , RFP, OR BID NO. :

BOND
BOND NUMBER:
DATE:
AMOUNT:

KNOW ALL MEN BY THESE PRESENTS:

That Principal, hereinafter called Contractor, and Surety, as identified above, are bound to Alachua County, Florida, as Obligee, and hereinafter called the County, in the amount identified above, for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

This payment bond is executed pursuant to §255.05, Florida Statutes, and claimants must comply with the notice and time limitations of §255.05(2). Florida Statutes.

WHEREAS, Contractor has by written Agreement entered into an Agreement, identified above, with Alachua County, which Contract Documents are by reference made part hereof, and for the purposes of this Bond are hereafter referred to as the "Agreement."

THE CONDITION OF THIS BOND is that if Contractor promptly makes payments to all persons defined in §713.01, Florida Statutes, who furnish labor, materials and supplies used directly or indirectly by Contractor in the performance of the Agreement; then CONTRACTOR'S OBLIGATION SHALL BE VOID; OTHERWISE, IT SHALL REMAIN IN FULL FORCE AND EFFECT.

The surety hereby waives notice of and agrees that any changes in or under the Agreement and compliance or noncompliance with any formalities connected with the Agreement or the changes do not affect surety's obligation under this bond.

The provisions of this bond are subject to the time limitations of §255.05(2). In no event will the Surety be liable in the aggregate to claimants for more than the penal sum of this Payment Bond, regardless of the number of suits that may be filed by claimants.

Signed and sealed this_____day of_____, 20_____.

CONTRACTOR (PRINCIPAL)
Signed, sealed and delivered in the presence of:

_____ _____

_____ By:_____
Witnesses as to Contractor
Name:_____
Title:_____

STATE OF _____
COUNTY OF _____
Sworn to (or affirmed) and subscribed before me by means of ☐ physical presence or ☐ online notarization, this day of _____, 20____, by _____.

_____
Signature of Notary Public

_____
Printed Name of Notary Public

Personally Known OR Produced Identification
Type of Identification Produced:_____

SURETY
SIGNATURE: _____
SEAL
PRINTED NAME AND TITLE: ATTORNEY IN FACT

EXHIBIT 7: PERFORMANCE BOND FORM

CONTRACTOR (PRINCIPAL)
COMPANY (LEGAL NAME):
PRINCIPAL BUSINESS ADDRESS (No PO Box):
TELEPHONE NUMBER:

SURETY
COMPANY (LEGAL NAME):
PRINCIPAL BUSINESS ADDRESS (No PO Box):
TELEPHONE NUMBER:

OWNER (OBLIGEE)
NAME: Alachua County
PRINCIPAL BUSINESS ADDRESS: 12 S.E. First Street, Gainesville, Florida 32601
TELEPHONE NUMBER: 352-374-5204

AGREEMENT DETAILS
DATE EXECUTED:
AMOUNT:
GENERAL DESCRIPTION:
STREET ADDRESS OF PROJECT:
PO NO. , RFP, OR BID NO. :

BOND
BOND NUMBER:
DATE:
AMOUNT:

KNOW ALL MEN BY THESE PRESENTS:

That Principal, hereinafter called Contractor, and Surety, as identified above, are bound to Alachua County, Florida, as Obligee, and hereinafter called the County, in the amount identified above, for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, Contractor has by written Agreement entered into an Agreement, identified above, with County, which Contract Documents are by reference made a part hereof, and for the purposes of this Bond are hereafter referred to as the "Agreement";

THE CONDITION OF THIS BOND is that if Contractor:

1. performs the Agreement between Contractor and County, at the times and in the manner prescribed in the Agreement; and
2. pays County all losses, damages, including liquidated damages and damages caused by delay, expenses, costs and attorney's fees including appellate proceedings, that County sustains as a result of default by Contractor under the Agreement; and
3. performs the guarantee of all Work and materials furnished under the Agreement for the time specified in the Agreement; then THIS BOND IS VOID, OTHERWISE IT REMAINS IN FULL FORCE AND EFFECT.

Whenever Contractor shall be, and is declared by County to be, in default under the Agreement, and County having performed County's obligations there under, the Surety may promptly remedy the default, or shall promptly:

1. complete the Agreement in accordance with its terms and conditions; or
2. obtain a bid or bids for completing the Agreement in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if County elects, upon determination by County and Surety jointly of the lowest responsible bidder, arrange for an Agreement between such Bidder and County, and make available as Work progresses sufficient funds, paid to County, to pay the cost of completion and other costs and damages for which the Surety may be liable hereunder.

No right of action shall accrue on this bond to or for the use of any person of corporation other than County named herein.

The Surety, for value received, hereby stipulates and agrees that no changes, extensions of time, alterations or additions to the terms of the Agreement or other Work to be performed hereunder, or the specifications referred to therein shall in any way affect its obligations under this bond, and it does hereby waive notice of any such changes, extensions of time, alterations or additions to the terms of the Agreement or to Work or to the specifications.

This instrument shall be construed in all respects as a common law bond. It is expressly understood that the time provisions and statute of limitations under §255.05, Florida Statutes, shall not apply to this bond.

In no event will the Surety be liable in the aggregate to Obligee for more than the penal sum of this Performance Bond regardless of the number of suits that may be filed by Obligee.

Signed and sealed this_____day of_____, 20_____.

CONTRACTOR (PRINCIPAL)

Signed, sealed and delivered in the presence of:

_____ _____

_____ By:_____

Witnesses as to Contractor Name:_____ Title:_____

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me by means of ☐ physical presence or ☐ online notarization, this day of _____, 20____, by _____.

_____

Signature of Notary Public

_____

Printed Name of Notary Public

Personally Known OR Produced Identification

Type of Identification Produced:_____

SURETY

SIGNATURE: _____

SEAL

PRINTED NAME AND TITLE:

_____

EXHIBIT 8: INSURANCE

TYPE "A" INSURANCE REQUIREMENTS
"ARTISAN CONTRACTORS / SERVICE CONTACTS"

Contractor shall procure and maintain for the duration of this Agreement insurance against claims for injuries to persons or damages to property, which may arise from or in connection with the performance of the Work hereunder by Contractor/vendor, his agents, representatives, employees or subcontractors.

COMMERCIAL GENERAL LIABILITY

Coverage must be afforded under a per occurrence form policy for limits not less than $1,000,000 General Aggregate, $1,000,0000 Products / Completed Operations Aggregate, $1,000,000 Personal and Advertising Injury Liability, $1,000,000 each Occurrence, $50,000 Fire Damage Liability and $5,000 Medical Expense.

AUTOMOBILE LIABILITY

Coverage must be afforded including coverage for all Owned vehicles, Hired and Non-Owned vehicles for Bodily Injury and Property Damage of not less than $1,000,000 combined single limit each accident.

WORKERS COMPENSATION AND EMPLOYER'S LIABILITY

Coverage to apply for all employees at STATUTORY Limits in compliance with applicable state and federal laws; if any operations are to be undertaken on or about navigable waters, coverage must be included for the USA Longshoremen & Harbor Workers Act.

Employer's Liability limits for not less than $100,000 each accident; $500,000 disease policy limit and $100,000 disease each employee must be included.

BUILDER'S RISK / INSTALLATION FLOATERS (when applicable)

When this contract or agreement includes the construction of and/or the addition to a permanent structure or building; including the installation of machinery and/or equipment, the following insurance coverage must be afforded:

Coverage Form: Completed Value, All Risk in an amount equal to 100% of the value upon completion or value of equipment to be installed.

When applicable: Waiver of Occupancy Clause or Cessation of Insurance clause. Flood Insurance as available under the National Flood Insurance Program.

EMPLOYEE FIDELITY COVERAGE (only applicable to vendors whose employees handle funds)

Employee Dishonesty coverage must be afforded for not less than $500,000 Blanket all employees ISO Form

OTHER INSURANCE PROVISIONS

The policies are to contain, or be endorsed to contain, the following provisions:

I Commercial General Liability and Automobile Liability Coverages

a. The Alachua County Board of County Commissioners, its officials, employees and volunteers are to be covered as an Additional Insured as respects: Liability arising out of activities performed by or on behalf of Contractor/Vendor; to include Products and/or Completed Operations of Contractor/Vendor; Automobiles owned, leased, hired or borrowed by Contractor.

b. Contractor's insurance coverage shall be considered primary insurance as respects the County, its officials, employees and volunteers. Any insurance or self-insurance maintained by the County, its officials, employees or volunteers shall be excess of Contractor/Vendor's insurance and shall be non-contributory.

II <u>All Coverages</u>

Contractor/Vendor shall provide a Certificate of Insurance to the County with a thirty (30) day notice of cancellation. The certificate shall indicate if cover is provided under a "claims made" or "per occurrence" form. If any cover is provided under claims made from the certificate will show a retroactive date, which should be the same date of the agreement (original if contact is renewed) or prior.

<u>SUBCONTRACTORS</u>

Contractor/Vendor shall be responsible for all subcontractors Working on their behalf as a condition of this Agreement. All subcontractors of Contractor/Vendor shall be subject to the same coverage requirements stated herein.

CERTIFICATE HOLDER: Alachua County Board of County Commissioners

MAIL, EMAIL or FAX CERTIFICATES

REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK

EXHIBIT 8-A: CERTIFICATE OF INSURANCE

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 9/10/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Acentria Insurance – Newberry 216 NW 135th Way, Suite 30 Newberry FL 32669 License#: L100460	CONTACT NAME: Tyler Ramey PHONE (A/C, No, Ext): 352-571-6028 FAX (A/C, No): E-MAIL ADDRESS: tyler.ramey@acentria.com
INSURED Hoffman Construction, Inc 635 SW 186th Street Newberry FL 32669 HOFFCON-02	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Southern-Owners Insurance Company — 10190 INSURER B : Auto-Owners Insurance Company — 18988 INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 821915518 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC [ ] OTHER:	Y		78110765	11/11/2023	11/11/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 1,000,000 $ 50,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
B	AUTOMOBILE LIABILITY X ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY	Y		4812288900	11/11/2023	11/11/2024	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 1,000,000 $ $ $ $
A	X UMBRELLA LIAB [X] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED [X] RETENTION $ 10,000			4740064301	11/11/2023	11/11/2024	EACH OCCURRENCE AGGREGATE $	$ 1,000,000 $ 1,000,000 $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N [ ] N / A If yes, describe under DESCRIPTION OF OPERATIONS below						PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

The Alachua County Board of County Commissioners, its officials, employees and volunteers are to be covered as an Additional Insured as respects: Liability arising out of activities performed by or on behalf of the Contractor/Vendor; to include Products and/or Completed Operations of the Contractor/Vendor; Automobiles owned, leased, hired or borrowed by the Contractor when required by written contract or agreement.

CERTIFICATE HOLDER	CANCELLATION
Alachua County Board of County Commissioners 12 SE 1st Street Gainesville FL 32601	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Charles H. Fydrich

ACORD 25 (2016/03) The ACORD name and logo are registered marks of ACORD

EXHIBIT 9: CONTRACTOR'S FINAL PAYMENT AFFIDAVIT

STATE OF FLORIDA
COUNTY OF ____

Before me, the undersigned authority, personally appeared _____, who after being duly sworn, deposes and says:

(1) He or she is the (title) _____, of _____, which does business in the State of Florida, hereinafter referred to as the "Contractor."

(2) Contractor, pursuant to that certain General Construction Agreement No. _____ ("Agreement") with Alachua County, a charter county and political subdivision of the State of Florida, hereinafter referred to as the "Owner," has furnished or caused to be furnished labor, materials, and services for Bid or RFP No. 24-499-LC; #14296 - Alachua County Courthouse Complex Accessory Energy Facility with Hoffman Construction, Inc., as more particularly set forth in said Agreement.

(3) This affidavit is executed by Contractor in accordance with §713.06 of the Florida Statutes for the purposes of obtaining final payment from the Owner in the amount of $_____.

(3) Contractor certifies, represents and warrants that it has paid all persons defined in §713.01, Florida Statutes, who furnished labor, services, or materials for the prosecution of the Work provided for in the Agreement ("Claimants"), all amounts owed them from any previous payments received by Contractor from the Owner and has not withheld any such amounts.

(4) Contractor certifies, represents and warrants that all Work to be performed under the Agreement has been fully completed, and all Claimants have been paid in full.

(5) In accordance with the Contract Documents and in consideration of $_____ paid, Contractor releases and waives for itself and all Claimants, including their successors and assigns, all claims demands, damages, costs and expenses, whether in agreement or in tort, against Owner relating in any way to the performance of the Agreement.(6) Contractor certifies, represents and warrants for itself and its subcontractors, materialmen, successors and assigns, that all charges for labor, materials, supplies, lands, licenses and other expenses for which Owner might be sued or for which a lien or a demand against any payment bond might be filed, have been fully satisfied and paid.

(7) Contractor agrees to indemnify, defend and save harmless Owner from all demands or suits, actions, claims of liens or other charges filed or asserted against Owner arising out of the performance by Contractor of the Work covered by the Agreement.

Contractor:

By:_____

_____

Its: _____

_____ Date:_____

Witnesses

[Corporate Seal]

STATE OF _____

EXHIBIT 10: FINAL PAYMENT BOND WAIVER FORM

WAIVER OF RIGHT TO CLAIM AGAINST THE PAYMENT BOND
(FINAL PAYMENT)

OWNER: Alachua County, a charter county and political subdivision of the State of Florida

CONTRACTOR: Hoffman Construction, Inc.

PROJECT: General Construction Agreement No. 14296 ("Agreement") for labor, materials, and services for Bid No. 24-499-LC - Alachua County Courthouse Complex Accessory Energy Facility

The undersigned Claimant, for itself and its successors and assigns, and in consideration of the final payment made in the amount of $_____, hereby waives and releases its right to claim against the payment bond, and further waives, releases and discharges the Owner and Contractor from any and all claims, demands, obligations, damages, actions, and causes of action, direct or indirect, in law or in equity, for labor, services or materials furnished through _____(insert date) to_____, on the job of **Alachua County**, a charter county and political subdivision of the State of Florida, for improvements associated with the above referenced Project.

DATED ON _____.

Claimant: _____

By: _____
(Name)
Title: _____
(Print Title)

STATE OF _____
COUNTY OF _____
Sworn to (or affirmed) and subscribed before me by means of ☐ physical presence or ☐ online notarization, this day of _____, 20____, by _____.

_____
Signature of Notary Public

_____
Printed Name of Notary Public

Personally Known OR Produced Identification
Type of Identification Produced:_____

EXHIBIT 11: CERTIFICATION OF MEETING ALACHUA COUNTY WAGE ORDINANCE

The undersigned certifies that all employees, contracted and subcontracted, completing services as part of this Agreement are paid, and will continue to be paid, in accordance with Chapter 22, Article XII of the Alachua County Code of Ordinance ("Wage Ordinance").

Hoffman Construction Inc
635 SW 186th Street
Newberry, FL 32669
(352) 472-6182
hoffmanconst@yahoo.com

Project Description: **#14296 - Alachua County Courthouse Complex Accessory Energy Facility**; construction of the proposed Alachua County Court Complex Accessory Energy Facility located at 151 Southwest 2nd Avenue, Gainesville, FL.

CONTRACTOR

By: DocuSigned by: E022F722F8AD4E2...

Print: Joe Hoffman

Title: President

Date: 10/3/2024

IF CONTRACTOR IS NOT A NATURAL PERSON, PLEASE PROVIDE A CERTIFICATE OF INCUMBENCY AND AUTHORITY, OR A CORPORATE RESOLUTION, LISTING THOSE AUTHORIZED TO EXECUTE AGREEMENTS ON BEHALF OF YOUR ORGANIZATION. IF ARE A NATURAL PERSON, THEN YOUR SIGNATURE MUST BE NOTARIZED.

EXHIBIT 12: PLANS

Alachua County Courthouse Complex Accessory Energy Facility, Phase III 100% Bid Documents dated May 24, 2024, are exempt pursuant to Section 119.071(3)(b)(1), and will be attached to this Agreement prior to execution.

EXHIBIT 13: ADDENDA

Alachua County, Florida
Procurement
Theodore "TJ" White, Jr. CPPB, Procurement Manager
County Administration Building, Gainesville, FL 32601
(352) 374-5202

ADDENDA REPORT

ITB No. ITB 24-499-LC

Alachua County Courthouse Complex Accessory Energy Facility

RESPONSE DEADLINE: September 4, 2024 at 2:00 pm

Monday, September 9, 2024

Addenda Issued:

Addendum #1
Jul 17, 2024 12:38 PM
This addendum fixes Submittal questions. No Mandatory Pre-Bid Meeting is required for this solicitation.

Addendum #2
Jul 25, 2024 3:22 PM
Please use the See What Changed link to view all the changes made by this addendum.

Addendum #3
Aug 6, 2024 9:44 AM
This addendum adds a second addendum in the attached documents.

Addendum #4
Aug 20, 2024 11:03 AM
This addendum extends bid opening to September 4, 2024, and the question submission deadline to August 25, 2024.

Addendum #3 is added as Attachment E in the Attachments Sections.

Addenda Acknowledgements:

Addendum #1

Proposal	Confirmed	Confirmed At	Confirmed By
Hoffman construction Inc.	X	Aug 19, 2024 5:48 PM	Joe Hoffman

Addendum #2

Proposal	Confirmed	Confirmed At	Confirmed By
Hoffman construction Inc.	X	Aug 19, 2024 5:48 PM	Joe Hoffman

ADDENDA REPORT
ITB No. ITB 24-499-LC
Alachua County Courthouse Complex Accessory Energy Facility

Addendum #3

Proposal	Confirmed	Confirmed At	Confirmed By
Hoffman construction Inc.	X	Aug 19, 2024 5:48 PM	Joe Hoffman

Addendum #4

Proposal	Confirmed	Confirmed At	Confirmed By
Hoffman construction Inc.	X	Sep 3, 2024 11:44 AM	Joe Hoffman

PAUL STRESING ASSOCIATES, INC.

ARCHITECTURE • SPACE PLANNING • INTERIOR DESIGN
E-mail: PSA@PaulStresingAssociates.com
14617 Main Street, Alachua, Florida 32615
Telephone (386) 462-6407

Paul R. Stresing, President
Certificate of Authorization No. AA-0003377
Florida Architectural License No.AR0013985

American Institute of Architects
National Council of Architectural
Registration Boards

ADDENDUM NO. 1

DATED July 25, 2024

THE DRAWINGS & PROJECT MANUAL for
Alachua County
Courthouse Complex
Accessory Energy Facility
(Project No. 22-812)

The above referenced drawings and project manual are here by modified, corrected, and / or supplemented as follows:

1. **Specification Manual Section 01010 – Summary of Work:**
   A. At subsection 1.02 end of subsection "Note" add the following clarification. "This project's Scope-of-Work consists of the building, the enclosure screen wall assembly, equipment housekeeping pads as shown and detailed in these drawings. The Mechanical Equipment installation is outside the scope of this work. Mechanical documents are for coordination only."

2. **Architectural Drawing Sheet A.1.0:**
   A. At the General Notes section, add the following note after item No.1 (F) and before item No.2 "Note: This projects Scope-of-Work consists of the building, the enclosure screen wall assembly, equipment housekeeping pads as shown and detailed in these drawings. The Mechanical Equipment installation is outside the scope of this work. Mechanical documents are for coordination only."

END OF ADDENDUM NO. 1

TOTAL NUMBER OF PAGES WITH ATTACHMENTS = 1
(If any pages of this Addendum are missing or illegible, it is the Contractor's responsibility to contact Paul Stresing Associates, Inc. (386- 462-6407) for replacement pages.

PAUL STRESING ASSOCIATES, INC.
ARCHITECTURE • SPACE PLANNING • INTERIOR DESIGN
E-mail: PSA@PaulStresingAssociates.com
14617 Main Street, Alachua, Florida 32615
Telephone (386) 462-6407

Paul R. Stresing, President
Certificate of Authorization No. AA-0003377
Florida Architectural License No.AR0013985

American Institute of Architects
National Council of Architectural
Registration Boards

ADDENDUM NO. 2

DATED August 2, 2024

THE DRAWINGS & PROJECT MANUAL for
Alachua County
Courthouse Complex
Accessory Energy Facility
(Project No. 22-812)

This information is provided to clarify the Phase I Building Construction and Phase II (under separate cover) Equipment Installation Scope-of-Work:

Phase I – Phase I construction will consist of the complete construction of the reinforced CMU building and screen wall construction as defined in the Architectural drawings issued in this Bid Scope-of-Work and the attached Mechanical, Electrical & Plumbing (M-E-P) work and / or coordination efforts.

END OF ADDENDUM NO. 2

TOTAL NUMBER OF PAGES WITH ATTACHMENTS = (3) 8 ½ X 11 & (4) 24 X 36
(If any pages of this Addendum are missing or illegible, it is the Contractor's responsibility to contact Paul Stresing Associates, Inc. (386- 462-6407) for replacement pages.

Page **1** of **1**

Addendum No. 2

Addendum No. 2, dated August 1, 2024, for Alachua County Courthouse Complex Accessory Energy Facility, as prepared by MATERN PROFESSIONAL ENGINEERING, INC., Maitland, Florida.

This Addendum No. 2 shall ONLY be utilized by the General Contractor and his/her sub-contractors to provide additive or deductive pricing as it relates to the attached drawings describing the proposed change in scope and is not in any way a directive to proceed with the purchasing of materials, labor or construction.

The following clarifications, amendments, additions, revisions, changes and/or modifications are to change the original Contract Documents only in the amount and to the extent hereinafter specified and set forth in this Addendum No. 2.

CHANGES TO DRAWINGS

MECHANICAL

ITEM NO. 1.: DRAWING SHEET NO. M101 – FLOOR PLAN - CEP - MECHANICAL
A. Revised the thermal energy storage tank yard layout to reduce the overall length of the yard from 102'-0" to 90'-0". Relocated the ice tank pads and tanks to the west in order to accommodate the new yard dimension. Revised the piping layout as shown on this sheet, based on the shifting of the tanks.

ITEM NO. 2.: DRAWING SHEET NO. M503 – ICE STORAGE SYSTEM – SCHEMATIC DIAGRAM
A. Revised the schematic tank layout to match the new floor plans shift 3 tanks to the plan west to accommodate the reduction in the thermal energy storage tank yard.

ELECTRICAL

ITEM NO. 3.: DRAWING SHEET NO. E101 – FLOOR PLAN - CEP - POWER
A. Revise receptacle layout.
B. Revise BAS connection location.

ITEM NO. 4.: DRAWING SHEET NO. E401 – FLOOR PLAN - CEP - LIGHTING
A. Revise wall mounted lighting layout
B. Revise photocell location.
C. Revise exterior switch location.

SCOPE NARRATIVE

This information is provided to clarify the Phase I Building Construction and Phase II (under separate cover) Equipment Installation Scope-of-Work:

Phase I – Phase I construction will consist of the complete construction of the reinforced CMU building and screen wall construction as defined in the Architectural drawings issued in this Bid Scope-of-Work and the following Mechanical, Electrical & Plumbing (M-E-P) work and / or coordination efforts.

- The Mechanical Scope-of-Work of the Phase I work will consist of the following:

130 Candace Drive, Maitland, Florida 32751-3331 // 407.740.5020
Orlando • Fort Myers • Jacksonville • Tampa
FL CA #6086 • Federal CAGE# 0SCD3 | CSA Small Business Contract #47QSHA19D0026 • www.matern.net
ALABAMA • FLORIDA • GEORGIA • NEW JERSEY • NORTH CAROLINA • PENNSYLVANIA • SOUTH CAROLINA • TENNESSEE • TEXAS • VIRGINIA

All four (4) chilled water sleeves through the walls of the building. The sleeve through the wall or slab for the refrigerant piping for direct expansion system to cool the building. The knockout of the slab for the two (2) 10" CHW underground pipes entering the building.

- The Plumbing Scope-of-Work Phase I work will consist of the following:
  All the plumbing scope shown on sheet P101, including the backflow preventer and makeup water meter assembly. The final domestic water connection to the pump skid, shall be in Phase II.

- The Electrical Scope-of-Work of the Phase I work will consist of the following:
  Power & Lighting:
  1. ***Provide the slab knockout for the conduits required for the high voltage/switchgear.***
  2. ***Provide the slab knockout for the conduits required for the low voltage panel.***
  3. ***Provide the conduits from the transformer to the switchgear, terminated above the slab knockout with a pull string for the Phase II contractor to pull the wire. This conduit shall be directional bored from the transformer location to the switchgear location, no trenching or saw cutting is permitted.***
  4. ***Provide all conduit and receptacles for the entire facility with a pull string for the Phase II contractor to pull the wire. The conduit(s) shall terminate at the low voltage panel provided in Phase II.***
  5. ***Provide all conduits to the five (5) exterior disconnects for the facility with a pull string for the Phase II contractor to pull the wire (disconnects not provided in Phase I). The two (2) chiller disconnect conduit(s) shall terminate at the high voltage/switchgear panel provided in Phase II. The three (3) heat tape and condensing unit disconnect conduit(s) shall terminate at the low voltage panel provided in Phase II.***
  6. ***Provide all the lighting interior and exterior for the project shown on sheet E401, including all switching. This includes all conduit and wire, terminated at the high voltage/switchgear panel in the building. All scope on sheet E401 shall be done in Phase I.***

Note: The Phase II future Scope-of-Work will consist of the compete installation of the owner ordered equipment identified in the M-E-P documents. The Phase II Scope-of-Work is provided in the Phase I bid documents for coordination by both the Phase I & II contractors. The Phase II efforts will be under separate cover and by an M-E-P prime contractor. The Phase I Scope-of-Work contractor will be responsible for coordinating and installing all through the wall and slab sleeve for the Phase II installation work. Phase II contractor will be responsible for any and all roughing of this work, all additional materials and labor and the neat finishing of any and all transitions they have created. The Phase II contractor will be responsible to walk the project existing conditions and provide ALL items not installed in Phase I.

END OF ADDENDUM NO.2

Sheets:
M101
M503
E101
E401

PAUL STRESING ASSOCIATES, INC.
ARCHITECTURE • SPACE PLANNING • INTERIOR DESIGN
E-mail: PSA@PaulStresingAssociates.com
14617 Main Street, Alachua, Florida 32615
Telephone (386) 462-6407

Paul R. Stresing, President
Certificate of Authorization No. AA-0003377
Florida Architectural License No.AR0013985

American Institute of Architects
National Council of Architectural
Registration Boards

ADDENDUM NO. 3

DATED August 19, 2024

THE DRAWINGS & PROJECT MANUAL for
Alachua County
Courthouse Complex
Accessory Energy Facility
(Project No. 22-812)

The above referenced drawings and project manual are here by modified, corrected, and / or supplemented as follows:

1. **Project Manual Section 01100 – Alternates / Substitutions:**
   Clarification: Manufacturers seeking prior approval of unrecognized products must comply with this section and the request form must include support documentation and technical data to support their request.

2. **Project Manual Section 05700 – Ornamental Fencing, Gates and Grilles:**
   A. At subsection 4.02 delete reference to the gates and louver description in its entirety and add in its place the following:
   Gate Components:
   - 4" x 6" x 1/8" thick pre-finished, pre-engineered aluminum perimeter and intermediate frame, infill louver members to be equal to Eastern Metal Supply (EMS) 4" Airfoil blade extrusions as detailed in revised and attached detail SD-01.
   - Provide heavy duty industrial hinges (4 per each gate min.) and add stiffening plates on jamb as required to accommodate weight of gate.
   - Provide 90° gate restrictor to prevent damage to the gate and / or the brick wainscot when opening.
   - Provide shop drawings with engineered anchoring into reinforced CMU end wall condition.

   Louver Components:
   - 2" x 8" x 1/8" thick wall pre-finished, pre-engineered aluminum frame (install on P.T. 1X wood sub buck blocking) set in a matching aluminum sill pan with turned up sides and welded seams set in a full bed of mastic. Install in strict conformance with pre-engineered requirements. Any gaps greater than ¼" to receive backer rod and closure break metal prior to caulking.

- Infill louver members to be equal to Eastern Metal Supply (EMS) 6" Airfoil blade extrusions as detailed.

B. At subsection 5.01 add EMS (Eastern Metal Supply), 800-432-2204, C.R. Lawrence Co., 323-588-1281 and approved equal (refer to Section 01100 of the Project Manual for request for prior approval, provide 16" square sample for review).

3. **Project Manual Section 08710 – Door hardware:**
   A. At subsection 1.2 (B) delete reference to subcategory 3 "Automatic Operations"
   B. At subsection 1.2(B) add the following to subcategory 3 vacated in item A above. Add in its place, "3. Contractor to provide door and frame preparation only. Once the owner takes ownership, the owner will install the card access control system. prior to the shop drawing submission owner will have their card access vender provide wire diagrams as outlined in subsection 1.3.C, 1.6, 2.3, 2.10, 2.12, & 2.16 General Contractor to coordinate as part of their responsibility."
   C. At subsection 2.6 Key Control Cabinet, delete this section in its entirety. The cabinet is not required as part of this project. General Contractor to provide all electrical rough-in and blow string. General Contractor to provide and install electrized hinges. The owner provided card reader, contractor to wire and provide all card reading devices.

4. **Architectural Drawing Sheet A.1.0 – Wall Types & A.5.0 Details 1, 3, 4, 7 & 9:**
   A. Add the following note: refer to Project Manual Section 09900 Painting for all paint preparation and finish requirements.

5. **Architectural Drawing Sheet A.3.0 – Exterior Elevations / A.2.0 – Floor Plan:**
   A. Add the following note, Actual Finish Floor Elevation 169.25' coordinate with civil engineering drawings.
   B. At the CMU screen wall assembly add the following note to East and West elevations, "Contractor may elect to direct apply (3) coat stucco system to screen wall CMU if approved by manufacturer. The final coat of the stucco system to be integral color to match building."

6. **Architectural Drawing Sheet A.2.0 – Door Schedule:**
   A. Door No.2 delete reference to 5'-0" width and add in its place 4'-0".
   B. Door No.3 delete reference to 5'-0" width and add in its place 4'-0".

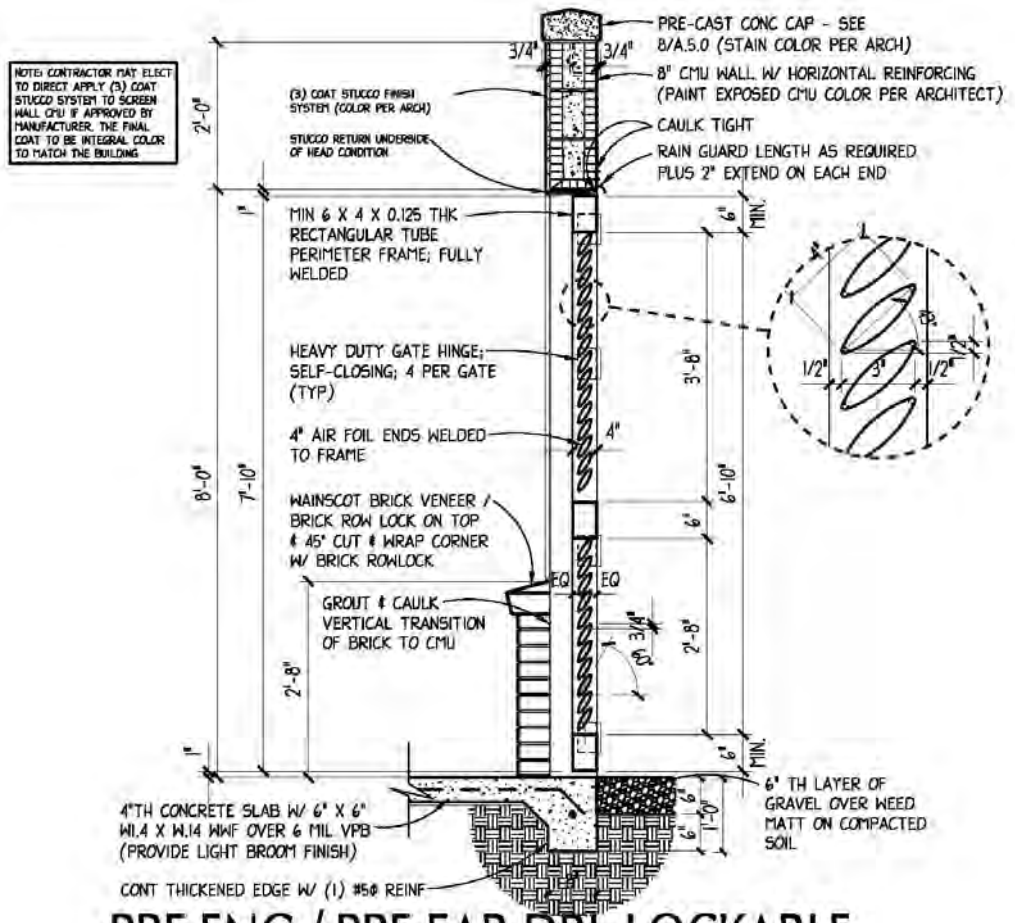
7. **Architectural Drawing Sheet A.5.0 – Details:**
   A. Move Detail No.1 to drawing sheet A.5.1 and renumber it to read Detail No.6 not Detail No.1.
   B. Add new Detail No.1 (see attached SD-01) to be bound here in after to these documents.
   C. Replace revised Detail No.2 (see attached SD-02) to be bound here in after to these documents.
   D. Add new Detail No.9 (see attached SD-03) to be bound here in after to these documents.
   E. Add note to detail 3 & 4 "Contractor may elect to direct apply (3) coat stucco system to screen wall CMU in lieu of metal lath underlayment if approved by manufacturer. The final coat to be integral color to match building."

8. **Architectural Drawing Sheet A.5.1 – Details:**

   A. Detail 2/A.5.1 - Add 6" min dimension below the bottom edge of the coping to the top edge of the cant strip. Add a note 4" MIN. R-25 dimension on the thickness of the rigid insulation.
   B. Detail 3/A.5.1 – reduce cont. pt blocking as needed to reflect minimum R-25 (assumed 4 ½" thick) rigid insulation (thickness varies with R-values per inch depending on the manufacturer). Graphically show thru-bolts to secure PT Wood Nailers to steel angle.
   C. Detail 3/A.5.1, I revised to show steel angle threaded stud anchors @ 24" O.C. for wood blocking attachment option.

END OF ADDENDUM NO. 3

TOTAL NUMBER OF PAGES WITH ATTACHMENTS = (6) 8 ½ X 11 & (0) 24 X 36
(If any pages of this Addendum are missing or illegible, it is the Contractor's responsibility to contact Paul Streaing Associates, Inc. (386- 462-6407) for replacement pages.



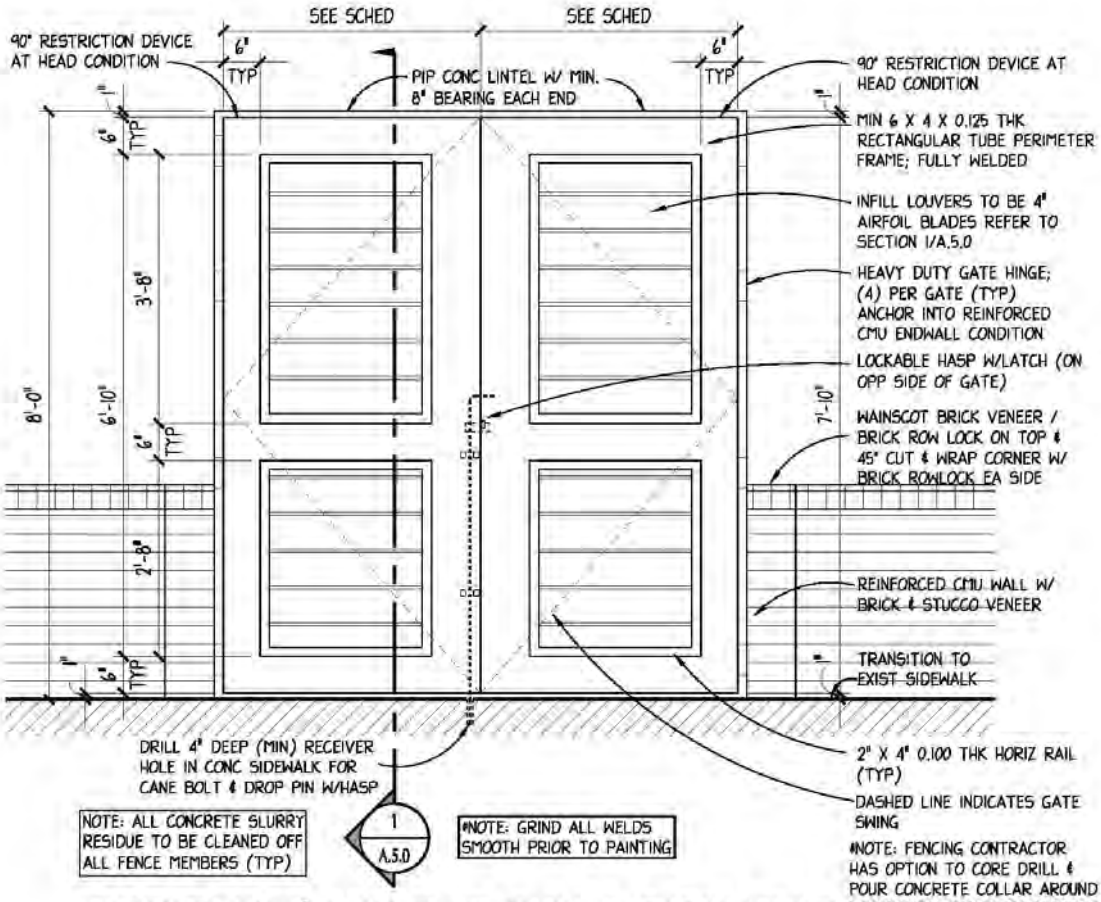
PRE-ENG / PRE-FAB DBL LOCKABLE MAINTENANCE GATE SECTION

1/2" = 1'-0"

1
A.5.0

REFER TO DRAWING A.5.0

ALACHUA COUNTY	ADDENDUM No.3		
COURTHOUSE COMPLEX ACCESSORY ENERGY FACILITY GAINESVILLE, FLORIDA	PAUL STRESING ASSOCIATES, INC.	DRAWN BY: JC DATE: 08/12/2024 PROJECT FILE: 22-012	SHEET NO. SD-01



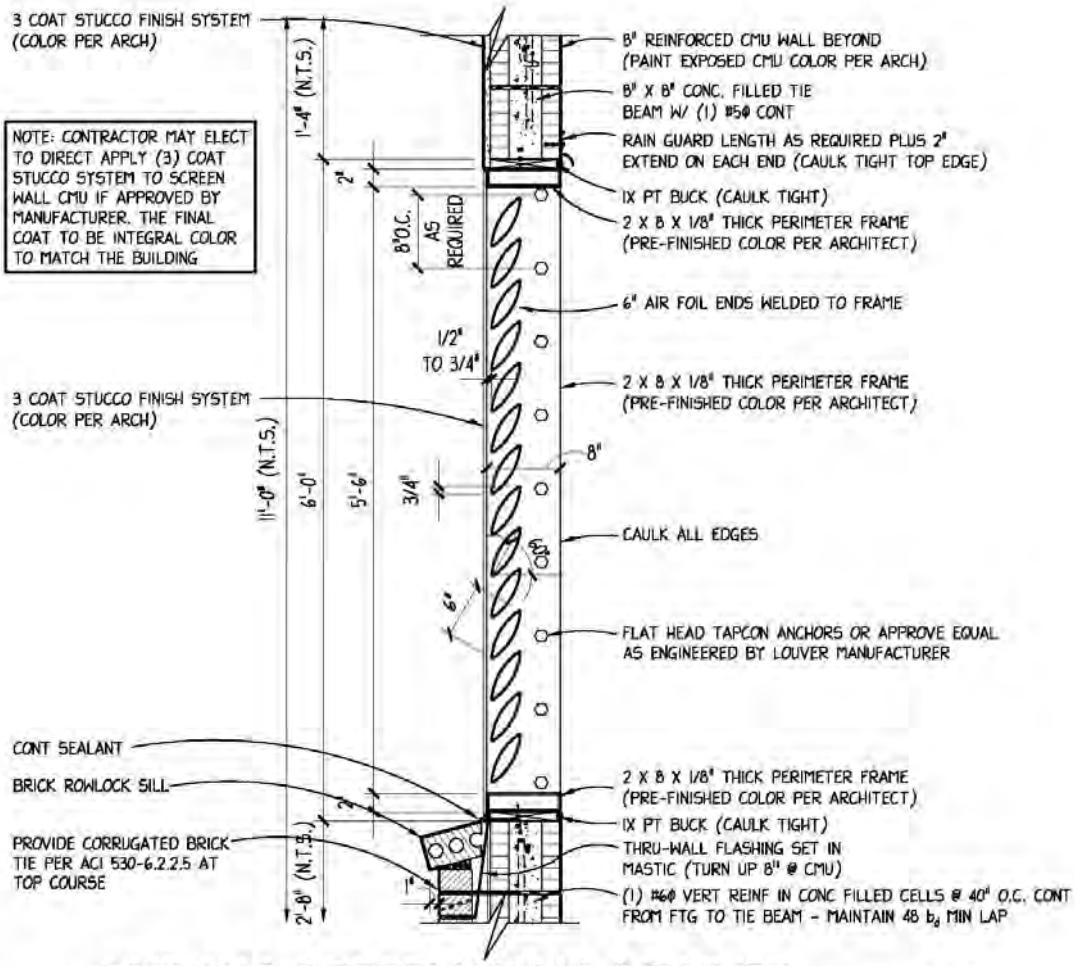
PRE-ENG / PRE-FAB DBL LOCKABLE MAINTENANCE GATE DETAIL

2
A.5.0

1/2" = 1'-0"

REFER TO DRAWING A.5.0

ALACHUA COUNTY	ADDENDUM No.3		
COURTHOUSE COMPLEX ACCESSORY ENERGY FACILITY GAINESVILLE, FLORIDA	PAUL STRESING ASSOCIATES, INC.	DRAWN BY: JC DATE: 08/12/2024 PROJECT FILE: 22-012	SHEET NO. SD-02



TYPICAL SCREEN WALL LOUVER

9
A.5.0

SCALE = N.T.S.

REFER TO DRAWING A.5.0

ALACHUA COUNTY	ADDENDUM No.3		
COURTHOUSE COMPLEX ACCESSORY ENERGY FACILITY GAINESVILLE, FLORIDA	PAUL STRESING ASSOCIATES, INC. ALACHUA, FLORIDA	DRAWN BY: JC DATE: 08/12/2024 PROJECT FILE: 22-012	SHEET NO. SD-03

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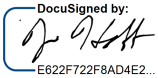
Joe Hoffman Hoffmanconst@yahoo.com President Hoffman construction inc. Security Level: Email, Account Authentication (None)	DocuSigned by:  E622F722F8AD4E2... Signature Adoption: Drawn on Device Using IP Address: 174.212.35.55 Signed using mobile	Sent: 10/2/2024 1:58:16 PM Viewed: 10/2/2024 8:30:56 PM Signed: 10/3/2024 1:26:56 PM
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