



Project Specifications

**IMPROVEMENTS TO THE CAMDEN COUNTY
GOLF ACADEMY**

RTE. 130, Pennsauken, NJ 08109

Prepared by
RADEY ASSOCIATES ARCHITECTS

Commission Number 410
March 2018

**IMPROVEMENTS TO THE
CAMDEN COUNTY GOLF ACADEMY**

PROJECT DIRECTORY

OWNER: Camden County Board of Chosen Freeholders

ARCHITECT: **RADEY ASSOCIATES ARCHITECTS**
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Improvements to the Camden County Golf Academy

Camden County Board of Chosen Freeholders

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INVITATION TO BID
A20-19
IMPROVEMENTS TO THE CAMDEN COUNTY GOLF ACADEMY

Notice is hereby given that sealed bids for **Bid # A20-19 Improvements to the Camden County Golf Academy**, 8001 S Crescent Blvd, Pennsauken Township, NJ 08109 will be received, opened and read in public at Camden County Division of Purchasing, Camden County Courthouse - 17th Floor, 520 Market Street, Camden, New Jersey 0810 on **Friday, April 12, 2019 at 11:00 a.m.** prevailing time by the Purchasing Agent or her designee.

Copies of the Bid Documents may be obtained at the office of Radey Associates Architects, 100 Haddontowne Court, Cherry Hill, NJ, 08034 (856 428-5503) by E-mailing your request to Travis@RadeyAssociates.com

It is strongly recommended that all bidders attend a pre-bid conference to be held at the **Golf Academy**, 8001 S Crescent Blvd, Pennsauken Township, NJ 08109. on **Tuesday, March 26, 2019 at 2:30 p.m.** prevailing time, to fully understand the facilities, difficulties and obstructions attending the execution of work under this contract.

Bidders are required to comply with the requirements of P.L. 1975, c. 127 (N.J.A.C. 17:27) and N.J.S.A. 10:5-31 et. seq.

Bidders are required to comply with the requirements of P.L. 1999, c. 238, (N.J.S.A. 34:11-56.48 to 57), where applicable.

All bidders are responsible for obtaining complete bid documentation from Radey Associates at the address listed above. In the event of any inconsistencies between this advertisement, as published, and the bid documentation, the bid documentation shall control.

By order of the Camden County Board of Freeholders

Anna Marie Wright, QPA
Camden County Purchasing Agent

**CAMDEN COUNTY DIVISION OF PURCHASING
COURTHOUSE - 17TH FLOOR
520 MARKET STREET
CAMDEN, NEW JERSEY 08102-1375
(856) 225-5439**

DATE: March 22, 2019

Bid No. and Title: A20-19: Improvements to the Camden County Golf Academy

BIDS MUST BE RETURNED NO LATER THAN 11:00 AM O'CLOCK, PREVAILING TIME
ON APRIL 12, 2019.

1. PRICES MUST INCLUDE DELIVERIES TO ALL SITES SET FORTH HEREIN.
2. Quotations must be made on these sheets. Camden County is not responsible for any expenses incurred by any firm in preparing or submitting a bid proposal.
3. Prices may be submitted on any or all the items listed unless otherwise specified. Award will be made based on the lowest responsible bid on each item or on an aggregate basis, whichever is in the best interest of Camden County and System Members (if this is a Cooperative Pricing bid).
4. Insert NET UNIT PRICES. Bids must be firm for a minimum of 60 days. Contract prices may not be increased during the term of the contract.
5. Camden County and System Members are exempt from sales tax.
6. The County of Camden reserves the right to accept or reject any part or parts of the responses to this bid in accordance with law.
7. To the extent that any of these instructions directly contradict the bid specifications, the bid specifications shall prevail.
8. Regardless of any language to the contrary, the County of Camden shall not be responsible for the payment of any interest or late fees.
9. Official County bid packages for routine goods and services are available from the Camden County Division of Purchasing at no cost to the vendor. (Bids for highway projects are issued by that department for a fee). All addenda are issued by the Division of Purchasing (or Highway department if applicable). **Potential bidders are cautioned that they are bidding at their own risk if a third party supplied the bid specifications.** Such specifications may or may not be complete. The County is not responsible for third party supplied bid specifications.
10. Bidders are required to comply with the requirements of P.L. 1999, c. 238 (N.J.S.A. 34:11-56.25 et seq.) regarding prevailing wages, where applicable.
11. Bidders are hereby noticed that the County shall correct certain types of clerical errors if found in submitted bids. For example, if the quantity needed or the standard unit of measurement

used, times the unit price, is incorrectly calculated in reaching a total or final price, the County will correct the computational mistake.

12. The county requires bidders to list any exceptions to the bid specifications. For any exceptions listed the County shall determine if it will accept an immaterial, or minor, deviation from its bid specifications as permitted by law. Material exceptions shall be cause for rejection of the bid. Bidders shall not be permitted to remove listed exceptions.
13. P.L. 2012, c.25 prohibits State and local public contracts with persons or entities engaging in certain investment activities in energy or finance sectors of Iran.
14. Official notification of contract awards authorized by the County may be viewed on camdencounty.com. To review, click on the gold "Your Government" tab, scroll to the information box on the left and click on "County Public Information", then click on "Freeholder Meetings". Meetings and agendas are found here. Click on "Freeholder Meeting (AGENDA)" for the month you would like to view. Copies of resolutions and bid results require an OPRA request. See camdencounty.com for OPRA form and process.
15. Should any requirements or language contained in the contract documents/technical specifications be found to conflict with the County's general bid boilerplate (ITB pages), the requirements/language in the bid boilerplate shall prevail.
16. BIDDERS ARE REQUIRED TO USE THE COUNTY'S FORMS AND SHALL NOT RECREATE IN ANY WAY THE FORMS PROVIDED WITH THIS BID. FAILURE TO USE THE COUNTY FORMS OR ADDING TO, AMENDING, ALTERING, OR REVISING THE COUNTY FORMS, INCLUDING, BUT NOT LIMITED TO, CONVERTING THE COUNTY PDF OR HARDCOPY TO A WORD DOCUMENT, SHALL BE CAUSE FOR REJECTION OF THE BID.

WE SUBMIT HEREWITH our prices as indicated on the following bid.

Submitted on APRIL 12, 2019 BY _____
(Name of Company)

Fax No. _____ PER _____
(Signature and Title of
Authorized Representative)

E-Mail: _____ Phone No. _____

BIDDER'S CHECKLIST

THIS BIDDER'S CHECKLIST MUST BE COMPLETED, SIGNED AND SUBMITTED WITH YOUR BID PACKAGE.

1. Bid Guarantee deposit in the form of a certified check, cashier's check or bid bond. See Paragraph 4.1 and **Exhibit A**. (Must be submitted with bid) _____
2. Certificate from a Surety Company or Financial Institution stating that if bid is accepted they will provide the required performance bond or Letter of Credit. See Paragraphs 4.2, 8.1 and 8.2, and **Exhibits B, C, and D**. (Must be submitted with bid, **must include originals – copies will not be accepted**) _____
3. Statement of Corporate Ownership listing the names and **HOME addresses** of all individuals owning ten percent (10%) or more of corporation or partnership stock. See **Exhibit E**. (Must be submitted prior to or with bid) _____
4. Non-collusion Affidavit properly notarized. See **Exhibit F**. _____
5. Affirmative Action Questionnaire with available evidence submitted. See Paragraph 5 and **Exhibit I**. _____
6. Affirmative Action MBE/WBE Tracking Form. See Paragraph 5 and **Exhibit J**. _____
7. Debarment Certification Form. See **Exhibit K**. _____
8. Extension or Non-Extension of Prices to Registered System Members (Other Agencies) See Paragraph 22.1 and **Exhibit L**. N / A _____
9. Textile/Apparel Subcontractor Disclosure Requirements
 - a. **For Bids for Textiles and/or Items of Apparel Only.** Disclosure of all subcontractors and sites and Certification of Compliance for textile and apparel bids. See Paragraphs 23.1 and Paragraph 23.2 and **Exhibit M**. (Must be submitted with bid). N / A _____

[BIDDER'S CHECKLIST CONTINUED NEXT PAGE]

BIDDER'S CHECKLIST (cont'd)

- 10. Proof of compliance with The Public Works Contractor Registration Act, if applicable. See Paragraph 24. (Must be submitted prior to award of contract). _____

- 11. Construction Subcontractor Disclosure Requirements
 - a. **For Bids for Construction Only.**
Disclosure of subcontractors as required by N.J.S.A. 40A:11-16. See Paragraph 26 and **Exhibit N.**
(Must be submitted with bid) _____

- 12. Proof of compliance with the requirements for significant public works projects, where applicable. See Paragraph 27 and **Exhibit O.**
(Must be submitted with bid). _____

- 13. Proof of compliance with the State Contractor Business Registration Program. See Paragraph 31. _____

- 14. Acknowledgement of Receipt of Addenda, whether or not issued, N.J.S.A. 40A:11-23.2. See Paragraph 32 and **Exhibit Q.** (Form must be submitted with bid). _____

- 15. Uniformed Law Enforcement Officer requirement form. **Exhibit R.** N / A

- 16. Certification - Disclosure of Investment Activities in Iran, **Exhibit S.** (Form must be submitted with bid). _____

NAME OF BIDDER

SIGNATURE

DATE

INSTRUCTIONS TO BIDDERS

1. RECEIPT, OPENING, WITHDRAWAL OF BIDS, AND FAILURE TO RESPOND

- 1.1 Sealed Bids will be received by the County on the date, time, location, and in the manner as listed in the advertisement.
- 1.2 Bids must be received at the Camden County department stipulated in the advertisement no later than the due date and time indicated therein. It is recommended that bids be hand delivered to that department. The County assumes no responsibility for delays in any form of courier or mail order delivery service causing the bid to be received at the **department stipulated** later than the due date and time. All late bids will be rejected in accordance with the law.
- 1.3 Any bid may be withdrawn prior to the time for openings of bids or the authorized postponement thereof. Any bid received after the opening of bids will not be considered. No bidder may withdraw a bid within sixty (60) days after the actual opening thereof.

2. QUALIFICATION OF BIDDERS

- 2.1 The County may make such investigation as it deems necessary to determine the ability of the bidder to perform the work and the bidder shall furnish to the County all such information and data for this purpose as the County may request. The County reserves the right to reject any bids if the evidence submitted by, or investigation of such bidder, fails to satisfy the County that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated herein.

3. PREPARATION OF BID

- 3.1 **Bids must be submitted on the prescribed form. ONE ORIGINAL (1) AND TWO (2) COPIES** of the bid should be submitted. The bidder shall fill in all blank spaces in ink or by typewriter, both in words and figures. Bids must be signed in ink by authorities with capacity to legally bind the bidder to its bid proposal.
- 3.2 Each bid shall be based upon the specifications prepared by the County. The bidder accepts the obligation to become familiar with the County's specifications.
- 3.3 Each bid must give the full business address of the bidder and be signed by an authorized representative. Bids by partnerships must furnish the full name of all partners and must be signed in the partnership name by one of the members of the partnership or by an authorized representative, followed by the signature and designation of the person signing. Bids by corporations must be signed in the legal name of the corporation, followed by the name of the State of Incorporation and must contain the signature and designation of the President, Secretary or other person authorized to bind the corporation in the matter. When requested by the County, satisfactory evidence of the authority of the officer signing on behalf of the corporation shall be furnished.
- 3.4 Bids containing any conditions, omissions, unexplained erasures or alterations, items not called for in the proposal form, attachment or additive information not required by the bid documents, or irregularities of any kind, may be rejected by the County. Any

changes, white-outs, strike-outs, etc. on the proposal page must be clear as to meaning and initialed by the person responsible for signing the bid.

- 3.5 The County reserves the right to reject any or all bids or to waive any informalities in the bids received as permitted by law.
- 3.6 All bids must be submitted in sealed envelopes bearing on the outside the name of the bidder, address and subject and title of the specifications. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope, addressed as set forth in the advertisement. The County assumes no responsibility for mailings not received on time at the department stipulated in the advertisement to receive bids. It is therefore recommended that bids be hand delivered.
- 3.7 Bidders must insert prices for furnishing all the materials and/or labor required by these specifications whether or not such requirement is specifically set forth. Prices shall be net, including any charges for packing, crating, containers, etc. and all transportation charges fully pre-paid by the contractor F.O.B. destination and placement at locations specified by the County. No additional charges will be allowed for any transportation costs resulting from partial shipments made at the contractor's convenience when single shipment is ordered.
- 3.8 Payments will be made upon the approval of vouchers submitted by the successful bidder in accordance with the requirements of the Board of Chosen Freeholders and subject to the County's customary billing procedures.
- 3.9 The County reserves the right to grant up to three (3) business days' additional time to bidders after the bid opening to provide the following documents required by the bid specifications:
 - a. Non-collusion affidavit. See **Exhibit F**;
 - b. Affirmative Action Questionnaire with available evidence submitted. See Paragraph 5 and **Exhibit I**;
 - c. Affirmative Action Plan MBE/WBE Tracking Form. See Paragraph 5 and **Exhibit J**;
 - d. Debarment Certification Form (Certification regarding the Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions). See **Exhibit K**.

Such additional time may not in any way affect the price or cost of the bid. All other documents required by the bid specifications must be submitted at the time of the bid opening specified herein or in accordance with law.

4. **BID BOND/CONSENT OF SURETY OR LETTER OF CREDIT**

4.1 **BID BOND**

Each bid must be accompanied by the Certified Check of the bidder or by a Cashier's Check, or by a Bid Bond prepared on the form of bid bond attached hereto as **Exhibit A**, duly executed by the bidder as principal and having surety thereon, a surety company approved by the County, in an amount not less than ten percent (10%) of the

amount of the base bid submitted, said 10% not to exceed \$20,000.00 pursuant to N.J.S.A. 40A:11-21, payable to the Treasurer, Camden County. Only originals submitted on the County's form will be accepted.

4.2 CONSENT OF SURETY OR LETTER OF CREDIT

In addition, the bid must also be accompanied by a Certificate (Consent of Surety) from a Surety Company stating that it will provide said bidder with a Performance Bond in the full amount of the bid. County forms are required to be used. A form of Consent of Surety is attached hereto as **Exhibit B**. Only originals submitted on the County's form will be accepted. A form of Performance Bond is attached hereto as **Exhibit C and must be signed by the successful bidder**. As an alternative to the consent of surety, bidders may provide a letter from a bank or similar financial institution stating that it will issue a Letter of Credit in the full amount of the bid and pursuant to the terms of the Letter of Credit in the specifications (See **Exhibit D**). **This Letter of Credit option is not available on bids exceeding \$100,000. Such bids require a Consent of Surety/Performance Bond. See N.J.S.A. 40A:11-22.**

4.3 Such checks or bid bonds shall be returned to all bidders except the three lowest bidders within ten (10) days after the formal opening of bids. The remaining checks or bid bonds will be returned to the three lowest bidders within three (3) days after the awarding and signing of the contract and approval of the contractor's performance bond, or if no contract has been so executed, within thirty (30) days after the date of the opening of bids, upon demand of the bidder at any time thereafter so long as he has not been notified of the acceptance of his bid.

5. AFFIRMATIVE ACTION

5.1 The successful bidder shall adhere to the mandatory affirmative action language required by P.L. 1975, c.127 (N.J.A.C. 17:27) and N.J.S.A. 10:5-31 et seq.

5.2 For procurement, professional and service contracts, the above-referenced mandatory language shall be that set forth in **Exhibit G**.

5.3 For construction contracts, the above-referenced mandatory language shall be that set forth in **Exhibit H**.

5.4 All bidders should complete the Affirmative Action Questionnaire set forth in **Exhibit I** and follow its instructions.

5.5 All bidders should complete the Affirmative Action Plan MBE/WBE Tracking Form in **Exhibit J**.

6. ADDENDA AND INTERPRETATIONS

6.1 No interpretation of the meaning of any bid document will be made to any bidder orally. Any request for interpretation shall be in writing, addressed to the County's representative stipulated in the bid and must be received at least ten (10) days prior to the date fixed for the opening of bids. All such interpretations and any supplemental instructions will be in the form of written addenda to the specifications and will be distributed to all prospective bidders in accordance with statute. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any

obligation under his bid as submitted. All addenda so issued shall become part of the contract documents.

7. MISCELLANEOUS

- 7.1** At the time of the opening of bids, each bidder will be presumed to have read and to be thoroughly familiar with the specifications and all other bid documents (including addenda). The failure or omission of any bidder to receive or examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect to his bid.
- 7.2** In case of default by the successful bidder, the County of Camden may procure the articles or services from other sources and hold the successful bidder responsible for any excess cost occasioned thereby.
- 7.3** County of Camden is exempt from any State sales tax and Federal excise tax. In submitting this bid, the bidder certifies that its total bid price does not include any such taxes.
- 7.4** For purposes of evaluation where an equivalent is being furnished, the bidder must indicate any variation to the County's specifications no matter how slight. If no variations are indicated, it will be construed that the bid fully and exactly complies with the County's specifications.
- 7.5** All bids submitted shall include in price any applicable permits, or fees required by any other government entity that has jurisdiction to require the same.
- 7.6** In submitting its bid, the bidder certifies that the merchandise to be furnished will not infringe upon any valid patent or trademark and that the successful bidder shall, at its own expense, defend all actions or suits charging such infringement, and will save the County harmless from any damages resulting from such infringement.
- 7.7** The bidder understands and agrees that, if awarded any contract by the County of Camden, it shall be responsible for insuring that it and all subcontractors meet minimum safety, health and equipment requirements including provisions for protecting employees and the public from any hazards encountered in performing its obligations pursuant to this bid.
- 7.8** All Firms are advised that, pursuant to N.J.S.A. 19:44A-20.27, it is their responsibility to file an annual disclosure statement with the New Jersey Election Law Enforcement Commission ("ELEC") if, during the calendar year, they receive a contract(s) in excess of \$50,000 from public entities, including Camden County. It is the firm's responsibility to determine if such filing is necessary. Additional information on this requirement is available from ELEC at 888-313-3532.

8. SECURITY FOR FAITHFUL PERFORMANCE

- 8.1** Simultaneously with its delivery of the executed contract, the successful bidder shall deliver to the County an executed bond in the amount of one hundred percent (100%) of the accepted bid as security for the faithful performance of this contract and for the payment of all persons performing labor or furnishing materials in connection therewith, prepared in the form of contract bond attached hereto and having a surety thereon such

surety company or companies as are acceptable on bonds approved by the County, and as are authorized to transact business in this State.

- 8.2** In the event the successful bidder chooses to supply a Letter of Credit in lieu of the performance bond required by Section 8.1 above, said Letter of Credit shall be delivered to the County simultaneously with the delivery of the executed contract. The Letter of Credit shall be for the full amount of the bid and shall conform to the terms set forth in the terms of Letter of Credit in these specifications. **This Letter of Credit option is not available on construction projects exceeding \$100,000. Such projects require a Performance Bond. See N.J.S.A. 40A:11-22.**

9. INSURANCE REQUIREMENTS

(Where applicable the following insurance requirements shall apply).

9.1 Workers Compensation and Employer's Liability Insurance

This insurance shall be maintained in force during the life of the contract and shall cover all employees engaged in the performance of the contract. This insurance shall comply with all applicable statutes and regulations. Minimum Employer's Liability insurance of \$500,000.00.

9.2 General Liability Insurance

This insurance shall have limits of not less than \$1,000,000.00 per occurrence and \$3,000,000.00 aggregate for bodily injury and property damage and shall be maintained in force during the life of the contract.

9.3 Builders Risk Insurance

This insurance shall cover all building construction, reconstruction, alteration, or related work and shall have limits of not less than the agreed completed value of the project. The coverage shall be written on a replacement cost basis and a copy of such policy shall be provided to the County before construction commences. Coverage shall remain in force until a certificate of occupancy has been issued.

9.4 Automobile Liability Insurance

This insurance shall cover the Contractor for claims arising from owned, hired and non-owned vehicles and shall have limits of not less than \$1,000,000.00 per occurrence for bodily injury and property damage. Coverage shall be maintained in force during the life of the contract.

9.5 Insurance Requirements for Subcontractors

On any construction, reconstruction, alteration, or similar project, the Contractor shall require each Subcontractor to carry insurance coverage equal to or exceeding the type and level of coverage required to be carried by the Contractor. This coverage shall be in addition to the coverage carried by the Contractor.

9.6 Certificates of the Required Insurance

Certificates for the above listed insurance shall be submitted along with the signed contract as evidence that such insurance is in force and shall name the **County of Camden as additional insured**. The notice to proceed and/or purchase order will not be issued by the County until the certificate of insurance is provided with the signed contract. Such coverage shall be with acceptable insurance companies operating on an admitted basis in the State of New Jersey.

9.7 Cancellation

Certificates for the above-listed insurance shall contain a provision that coverage afforded under the policies will not be cancelled without at least thirty (30) days prior written notice to the County of Camden.

10. INDEMNIFICATION

10.1 The contractor shall assume all risk of and responsibility for, and agrees to indemnify, defend, and save harmless the County of Camden and its officials and employees from and against any and all claims, demands, suits, actions, recoveries, judgments and costs and expenses in connection therewith on account of the loss of life, property or injury or damage to the person, body or property of any person or persons whatsoever, which shall arise from or result directly or indirectly from the work and/or materials supplied under this contract. This indemnification obligation is not limited by but is in addition to the insurance obligations contained in this agreement.

11. AWARD

11.1 Award of contract will be made by the Camden County Board of Chosen Freeholders within sixty (60) days after the bid opening or within the time allowed by law.

11.2 Upon award of the contract, appropriate documents shall be forwarded to the successful bidder. The return of the executed contracts and the bonds required by law within thirty (30) days is an element essential to the bid. At the expiration of such time, the County may elect to award the bid to the next lowest responsible bidder and accept as liquidated damages the bid security.

12. QUANTITIES

12.1 Quantities shown are approximate and the Board reserves the right to increase or decrease them to the extent of twenty percent (20%) at the unit price bid. If the number of units in the total is less than ten (10), the County shall have the right to increase or decrease the quantity to not more than ten (10) or less than one at same unit price. Such change, however, will only be upon the written order of the County.

13. PREVAILING WAGE ACT / CERTIFIED PAYROLL SUBMISSIONS

13.1 Pursuant to N.J.S.A. 34:11-56.25 et seq., P.L. 2009, c.249, and as amended, successful bidders on projects for public work shall adhere to all requirements of the New Jersey Prevailing Wage Act.

13.2 The contractor on any public works project for the County shall be required to submit a certified payroll record to the County Department administering said public works project. Such certified payroll record must be submitted within ten (10) days of the payment of the wages. The contractor is also responsible for obtaining and submitting all subcontractors' certified payroll records within the aforementioned time period. The contractor shall submit said certified payrolls in the form set forth in N.J.A.C. 12:60 Appendix A. It will be the contractor's responsibility to obtain any additional copies of the certified payroll form to be submitted by contacting the Office of Administrative Law, CN 049, Trenton, New Jersey 08625 or the New Jersey Department of Labor, Division of Workplace Standards.

14. METHOD OF AWARD

14.1 The County may award the work based on the lowest responsible Base Bid.

14.2 The County may also elect to award the work based on line items or unit prices, whichever is in the best interest of the County.

14.3 If Alternates are provided for in the bid and the County determines it has sufficient funds to award some or all of the Alternates, the lowest responsible Base Bid combined with such Alternates as selected will be awarded until a net amount is reached which is within the funds available. Alternate(s) may also be deferred and awarded at a later date in the sole discretion of the County. **The cost of any Alternate(s) included in the bid shall not be combined with the Base Bid for purposes of determining the lowest responsible bidder for award of contract.**

15. TERM OF CONTRACT

15.1 The term of the contract to be awarded as the result of this bid shall be for one (1) year from the date of execution of the agreement unless otherwise stated.

16. TERMINATION

16.1 The County may terminate the agreement for any reason upon thirty (30) days written notice to the contractor. The County shall only be responsible for payment up to the effective date of termination.

17. AMERICAN GOODS AND PRODUCTS TO BE USED WHERE AVAILABLE

17.1 Pursuant to N.J.S.A. 40A:11-18, only manufactured and farm products of the United States wherever available, shall be used in the execution of the work or supply of goods as specified herein.

18. AVAILABILITY OF FUNDS

18.1 Pursuant to N.J.S.A. 40A:11-15 any contract resulting from this bid shall be subject to the availability and appropriation of sufficient funds annually.

19. PURCHASING FROM STATE CONTRACT

19.1 The County reserves the right to purchase, during the term of any contract to be

awarded, any of the specified materials and/or services through the New Jersey State Cooperative Purchasing Agreement (State Contract) if it is in the County's best interest to do so.

20. BRAND NAMES AND/OR PRODUCT DESCRIPTION

- 20.1 Pursuant to N.J.S.A. 40A:11-13, brand names and/or descriptions used in this specification for bid proposal are to acquaint prospective bidders with the type of equipment (or commodity) described and will be used as a standard by which alternate or competitive materials offered will be judged. Competitive items must be equal to the standard described and be of the same reputation for quality and workmanship. Variations between the equipment described and material offered are to be fully explained by the bidder in an accompanying letter. In the absence of any changes by the bidder, it will be presumed and required that materials as described in these specifications be delivered.

It is recognized that no two pieces of equipment and no two products are engineered or designed the same. Trade names, brand names and models specified herein are provided to establish a minimum standard of quality acceptable to the County for this bid. Substitute brands, makes and models shall be considered and reviewed based on its ability to perform the specified tasks or provide the same quality of goods as specified in the County's bid. This is known as an "Equivalent".

If the bidder seeks to provide an Equivalent product or good, the bidder shall with its bid, submit specifications or cut sheets for such proposed Equivalent product or good. The County's Architect/Engineer, or specifications writer, for the bid shall review the submission provided by the bidder to determine whether the product or good is an Equivalent to the bid specification. The County's Architect/Engineer or specifications writer shall have the final decision on whether a bidder's submitted product specifications are an Equivalent to the named product(s) or good(s) in the bid.

21. WORKER AND COMMUNITY RIGHT TO KNOW

- 21.1 The successful bidder shall comply with all provisions of the Worker and Community Right to Know Act, N.J.S.A. 34:5A-1 et seq., as well as the regulations under the Act (N.J.A.C. 8:59-1.1 et seq.).

22. COOPERATIVE PRICING

- 22.1 If this bid is being issued under the **Camden County Cooperative Pricing System, System Identifier No. 57-CCCPS**, then each bidder must read the **Rules and Instructions for Bids Under the Camden County Cooperative Pricing System** attached hereto and indicate on **Exhibit L** whether its bid proposal is extended or not extended to registered system members (other agencies) by checking the appropriate box.

IMPORTANT NOTICE: A bidder's failure to complete Exhibit L in the case of a bid for the Camden County Cooperative Pricing System shall be deemed to be an extension of prices by that bidder to registered system members (other agencies).

23. BIDS FOR THE PURCHASE OF TEXTILES AND ITEMS OF APPAREL

In accordance with Resolution No. 55 of the Camden County Board of Chosen Freeholders adopted on May 21, 1998, the following terms and conditions shall apply to all bids for the purchase of textiles and/or items of apparel:

23.1 Disclosure of all subcontractors and sites

Each bidder shall set forth in **Exhibit M** of its bid response the name and address of each subcontractor to be used in the provision of the goods or services which are the subject of this bid. Additionally, each bidder shall set forth in **Exhibit M** of its bid the name and address of all locations, including subcontractor locations, substantially involved in the production of the goods or services which are the subject of this bid. Such information shall be considered public information.

23.2 Certification of Compliance.

Bidders shall certify in **Exhibit M** that each location, including subcontractor locations, substantially involved in producing or distributing such goods meet the following standards:

a. Compensation. Wage and benefit levels must be sufficient to meet basic needs and provide some discretionary income for a family of 4 (a "living wage"). For employment within the United States, this shall mean wages of at least \$7 per hour in 1997 dollars, along with affordable family health benefits and company-paid pension benefits typical of responsible employers.

b. Rights. The company respects workers' rights to speak up about working conditions without fear of retaliation, and to form unions of their own choosing without employer resistance. Due process and just cause procedures are used for discipline or discharge. The company complies with all laws, regulations, and ILO standards governing the workplace. The company does not use child labor, forced labor, or corporal punishment. The company does not discriminate in hiring, promotion or compensation based on race, national origin, religion, gender, sexual preference, union affiliation, or political affiliation.

c. Safety and Health. The company provides a safe and healthy work environment.

23.3 Correction and remediation of violations; Proof of compliance

The County may, at its discretion, require correction and remediation of violations of the standards listed above prior to renewing commerce with the contractor. The County may require further proof of compliance with the aforementioned standards. Upon the County's request, the contractor or subcontractor shall make all relevant records available to the County or its designee.

24. COMPLIANCE WITH PUBLIC WORKS CONTRACTOR REGISTRATION ACT

The bidder shall comply with The Public Works Contractor Registration Act, P.L. 1999, c. 238 on all bids for public works as defined in the law. Proof of compliance with this law, when applicable, must be submitted prior to award of contract. The bidder and its named specialty trade sub-contractor(s) listed in Exhibit N (see below), shall provide proof of compliance prior to award of contract or bid will be

rejected as non-compliant. Questions regarding this law may be directed to the New Jersey Department of Labor, Contractor Registration Unit at 609-292-9464. **The County strongly recommends that each bidder provide its public works contractor registration certificate (and certificates for each Exhibit N subcontractor) with submission of bids.**

25. REQUEST FOR TAXPAYER IDENTIFICATION NUMBER AND CERTIFICATION

Upon execution of the contract with the County, the successful bidder shall be required to complete and submit IRS Form W-9, Request For Taxpayer Identification Number And Certification to the County's Division of Accounts Payable, 520 Market Street, 10th Floor, Camden, New Jersey 08102. This requirement shall only apply to the successful bidder. Failure by the successful bidder to meet this requirement shall result in the County withholding such funds as required by IRS regulations.

26. BIDS FOR CONSTRUCTION/DISCLOSURE OF SUBCONTRACTORS

26.1 Definition of Construction Bid.

"Construction" means construction, alteration or repair of any public building when the entire cost of the work will exceed the bid threshold. In addition to construction bids, the County specifically requires that bidders identify all subcontractors in specialty trade categories for all bids where such specialty trades may be required (see below and Section 35).

26.2 Disclosure of Subcontractors.

a. Bidders must list in **Exhibit N**, all subcontractors that they intend to use in the specialty trade categories of: Plumbing and Gas Fitting, and All Kindred Work; Steam Power Plants, Steam and Hot Water Heating and Ventilating Apparatus, and All Kindred Work; Electrical Work; and Structural Steel and Ornamental Iron Work, as required to be listed by N.J.S.A. 40A:11-16. **FAILURE TO LIST THESE REQUIRED SUBCONTRACTORS SHALL BE CAUSE FOR REJECTION OF BID.** Bidders with questions regarding this process should consult their counsel.

b. Substitution of subcontractors shall be permitted only in cases of impossibility, e.g., the death of the subcontractor or where the subcontractor goes out of business.

c. The bidder's proposal will be rejected if the subcontractors listed do not comply with the requirements for the designated work tasks.

d. A general contractor that intends to utilize a specific subcontractor to perform work in one or more of the above-referenced specialty trade categories set forth in N.J.S.A. 40A:11-16 (See **Exhibit N**), shall provide the required information about that subcontractor in the appropriate spaces for each specialty trade category applicable to the contract.

A general contractor that intends to perform work in one or more of the above-referenced specialty trade categories set forth in N.J.S.A. 40A:11-16 (See **Exhibit N**) through the use of its own employees or the general contractor himself rather than through utilization of a subcontractor shall write the word "In-House" next to each applicable category and then insert the name, and the license number where required, of each such employee of the general contractor or the general contractor himself in the appropriate spaces for each specialty trade category applicable to the contract.

If the contract does not involve any of the above-referenced specialty trade categories set forth in N.J.S.A. 40A:11-16, the contractor shall insert the word “None” in each appropriate space provided.

e. If the bidder proposes to perform **plumbing, gas fitting and all kindred work** with its own personnel, it shall follow the requirements of N.J.S.A. 45:14C-1 et seq. and N.J.A.C. 13:32-1.1 et seq.

f. If the bidder proposes to perform **electrical work** with its own personnel, it shall follow the requirements of N.J.S.A. 45:5A-1 et seq. and N.J.A.C. 13:31-1.1 et seq.

27. SIGNIFICANT PUBLIC WORKS PROJECTS

By Resolution No. 71 adopted June 17, 2004, the Board of Chosen Freeholders of the County of Camden (Board) set the following bid specification requirements for significant County public works projects:

- a. “Significant Public Works Project” means construction, reconstruction, demolition, alteration, or repair work, or maintenance work, including painting and decorating, done under contract and paid for in whole or in part out of Camden County funds which equal or exceed the sum of \$25,000.00, which sum shall be adjusted in accordance with the bid threshold provision of N.J.S.A. 40A:11-3 as amended from time to time.
- b. All bids on significant public works projects shall include an apprenticeship program in the appropriate trade(s), registered in the State of New Jersey, with the United States Department of Labor, Bureau of Apprenticeship and Training or contain a statement of agreement not to employ any worker of less than journeyman status on the project; and
- c. A detailed statement of compliance shall be completed by the bidder and the specialty trade subcontractors set forth in Paragraph 26 above and identified in Exhibit N and submitted as a material requirement of the bid for the bid to be accepted. This statement shall be made in **Exhibit O**. Additionally, the successful bidder must submit a detailed statement of compliance as set forth in **Exhibit O** for **all other subcontractors** prior to the commencement of work by said subcontractors.
- d. The County of Camden may refuse to award a contract to a person or entity submitting a bid or proposal if that person or entity has filed or submitted false information or failed to file or submit the information required by Resolution No. 71 adopted by the Board on June 17, 2004. The County may require further proof of compliance with the standards set forth above. Upon request, the contractor shall make all relevant records available to the County or its designee.

28. NO DAMAGES FOR DELAY

Notwithstanding anything to the contrary in the contract documents, any extension of the contract time shall be the sole remedy of the Contractor for any: (1) delay in the commencement, prosecution or completion of the work; (2) hindrance or obstruction in the performance of the work; (3) loss of productivity; or (4) other similar claims whether or not such delays are foreseeable. In no event, shall the Contractor be entitled to any compensation or recovery of any damages in connection with any delay including without limitation consequential

or special damages, lost opportunity cost, impact damages or other remuneration. The aforementioned condition shall apply to any contract awarded as the result of this bid including but not limited to contracts for construction, goods, or services.

29. ALTERNATIVE DISPUTE RESOLUTION

For construction contracts, as defined in N.J.S.A. 40A:11-50, disputes arising under the contract shall be submitted to mediation or non-binding arbitration pursuant to industry standards prior to being submitted to a court for adjudication.

30. COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT

The successful bidder shall comply with the mandatory language of the Americans With Disabilities Act as set forth in **Exhibit P** attached hereto.

31. COMPLIANCE WITH CONTRACTOR BUSINESS REGISTRATION PROGRAM

Pursuant to N.J.S.A. 52:32-44, Camden County is prohibited from entering into a contract with an entity unless the bidder/proposer/contractor, and each subcontractor that is required by law to be named in a bid/proposal/contract has a valid Business Registration Certificate on file with the Division of Revenue and Enterprise Services within the Department of the Treasury.

Prior to contract award or authorization, the contractor shall provide the Contracting Agency with its proof of business registration and that of any named subcontractor(s).

Subcontractors named in a bid or proposal shall provide proof of business registration to the bidder, who in turn, shall provide it to the Contracting Agency prior to the time of contract, purchase order, or other contracting document is awarded or authorized.

During the course of contract performance:

- (1) The contractor shall not enter into a contract with a subcontractor unless the subcontractor first provides the contractor with a valid proof of business registration.
- (2) The contractor shall maintain and submit to the Contracting Agency a list of subcontractors and their addresses that may be updated from time to time.
- (3) The contractor and any subcontractor providing goods or performing services under the contract, and each of their affiliates, shall collect and remit to the Director of the Division of Taxation in the Department of Treasury, the use tax due pursuant to the Sales and Use Tax Act, (N.J.S.A. 54:32B-1 et seq.) on all sales of tangible personal property delivered in the State. Any questions in this regard can be directed to the Division of Taxation at (609) 292-6400. Form NJ-REG can be filed online at www.state.nj.us/treasury/revenue/busregcert.shtml.

Before final payment is made under the contract, the contractor shall submit to the Contracting Agency a complete and accurate list of all subcontractors used and their addresses.

Pursuant to N.J.S.A. 54:49-4.1, a business organization that fails to provide a copy of a business registration as required, or that provides false business registration information, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000, for each proof of business registration not properly provided under a contract with a contracting agency.

The County strongly recommends that each bidder provide its BRC (and BRC's for each subcontractor) with submission of bids.

STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE
FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS

DEPARTMENT OF TREASURY
DIVISION OF REVENUE
PO BOX 252
TRENTON, N.J. 08646-0252

TAXPAYER NAME:
TAX REGISTRATION TEST ACCOUNT

TRADE NAME:
CLIENT REGISTRATION

TAXPAYER IDENTIFICATION#:
970-097-382/500

SEQUENCE NUMBER:
0107330

ADDRESS:
847 ROEBLING AVE
TRENTON NJ 08611

ISSUANCE DATE:
07/14/04

EFFECTIVE DATE:
01/01/01

FORM-BRC(08-01)

Acting Director
John S. Tully

This Certificate is NOT assignable or transferable. It must be conspicuously displayed at above address.

STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE

Taxpayer Name: TAX REG TEST ACCOUNT

Trade Name:

Address: 847 ROEBLING AVE
TRENTON, NJ 08611

Certificate Number: 1093907

Date of Issuance: October 14, 2004

For Office Use Only:
20041014112823533

32. ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA

The bidder shall complete, sign and return with bid **Exhibit Q** attached hereto. Form must be completed and returned with bid regardless of whether addenda were issued by the County.

33. UNIFORMED LAW ENFORCEMENT OFFICERS REQUIREMENT FORM

Pursuant to N.J.S.A. 40A:11-23.1(c) if uniformed law enforcement officers are required for the project, **Exhibit R** will be completed by the County and indicate a good faith estimate of the total cost of traffic control personnel, vehicles, equipment, administrative, or any other costs associated with additional traffic control requirements as determined by the County with input from any other public entity affected by the project. These estimated amounts reflect those costs above and beyond the bidder's traffic control costs.

34. APPROVAL AND CERTIFICATION OF BILLING

Authorization for payment of periodic billing, final payments or retainage monies requires approval and certification by formal resolution of the Camden County Board of Chosen Freeholders. Pursuant to P.L. 2006, c. 96, all billing amounts due under a contract with the successful bidder and all required purchasing documents must be received at least ten (10) days in advance of the next scheduled public meeting of Board of Freeholders for the month in which payment is requested. Approved and certified amounts due will be paid during the County's subsequent payment cycle.

35. PROPRIETARY GOODS

_____ **County to Check if applicable**

If checked off above, the goods set forth in the technical specifications have been certified as proprietary goods in accordance with the Local Public Contracts Law, N.J.S.A. 40A:11-1 et seq. No substitutions or equivalents will be accepted. Please see the technical specifications attached hereto.

36. CONTRACTS WHERE ASPHALT WORK IS INCLUDED IN SPECIFICATIONS

P.L. 2015, c.201 requires the inclusion of a pay item for an asphalt price adjustment for any bid specification that includes the purchase or use of hot mix asphalt; provides for application of a fuel price adjustment where a pay item is eligible (see NJDOT Section 160.03.01, where applicable); for contracts issued for more than 1,000 tons, requires the price adjustment pay item be applied to each ton of hot mix asphalt purchased and used, not just the tonnage exceeding the 1,000 ton threshold; clarifies that the term "hot mix asphalt" includes equivalent asphalt cement-based products (e.g. warm mix asphalt); prohibits disaggregation of quantities to avoid compliance with P.L. 2015, c.201.

37. Pursuant to N.J.S.A. 40A:11-16.6, all construction contracts issued by the County when the total price of the originally awarded contract equals or exceed \$5,000,000.00, shall allow for value engineering construction change orders to be approved after the award of the contract.

38. PERMISSION FOR BIDDER TO WITHDRAW A PUBLIC WORKS BID DUE TO A MISTAKE IN CERTAIN CIRCUMSTANCES

Effective March 4, 2011, N.J.S.A. 40A:11-23.3 authorizes a bidder to request withdrawal of a **public works bid** due to a mistake on the part of the bidder. A mistake is defined by N.J.S.A. 40A:11-2(42) as a clerical error that is an **unintentional and substantial computational error or an unintentional omission of a substantial quantity of labor, material, or both, from the final bid computation.**

A bidder claiming a mistake under N.J.S.A. 40A:11-23.3 must submit a request for withdrawal, **in writing**, by certified or registered mail to the Camden County Purchasing Agent, 520 Market Street, 17th Floor, Camden, New Jersey, 08102. Written requests must be provided within five business days after the receipt and opening of the bids. The bid withdrawal shall be effective as of the postmark of the certified or registered mailing.

A bidder's request to withdraw the bid shall contain evidence, including any pertinent documents, demonstrating that a mistake was made. Such documents and relevant written information **shall** be reviewed and evaluated by the public owner's designated staff pursuant to the statutory criteria of N.J.S.A. 40A:11-23.3.

The County will not consider any written request for a bid withdrawal for a mistake as defined by N.J.S.A. 40A:11-2(42), by a bidder in the preparation of a bid proposal unless the postmark of the certified or registered mailing is within five business days following the opening of bids.

If a bidder is granted a bid withdrawal, the bidder shall be disqualified from future bidding on the same project, including whenever all bids are rejected pursuant to N.J.S.A. 40A:11-13.2

39. N.J.A.C. § 17:44-2.2 AUTHORITY TO AUDIT OR REVIEW CONTRACT RECORDS

(a) Relevant records of private vendors or other persons entering in to contracts with covered entities are subject to audit or review by OSC pursuant to N.J.S.A. 52:15C-14(d).

(b) As of November 15, 2010, all covered entities shall insert the following language in any new contract:

"(The contract partner) shall maintain all documentation related to products, transactions or services under this contract for a period of five years from the date of final payment. Such records shall be made available to the New Jersey Office of the State Comptroller upon request."

40. NEW JERSEY ANTI-DISCRIMINATION PROVISIONS: N.J.S.A. 10:2-1 et seq.

If awarded a contract, the contractor agrees to abide by the New Jersey anti-discrimination provisions contained in N.J.S.A. 10:2-1 et seq. See Exhibit T.

END OF INSTRUCTIONS TO BIDDERS / EXHIBITS BEGIN ON NEXT PAGE

EXHIBIT A
SAMPLE FORM OF BID BOND

A. We, the undersigned

_____ as Principal and
_____ as Surety, are hereby held and firmly bound unto
_____ in the penal sum of _____ Dollars

(\$ _____), lawful money of the United States for the payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. Signed this _____ day of _____, 20 _____.

B. THE CONDITION of the above obligation is such that whereas the Principal has submitted to the _____,
a certain bid attached hereto and hereby made a part of hereto and hereby made a part of hereof, to enter in to a contract in writing for the (insert type of work)
_____.

C. **NOW THEREFORE:**

If said bid shall be rejected, or in the alternate, if said bid shall be accepted and the Principal shall execute and deliver a contract in the form of Agreement required by the Bid Documents and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all respects perform the agreement created by the acceptance of said bid. Then this obligation shall be void, otherwise the same shall remain in force and effect, it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

D. THE SURETY for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall in no way be impaired or affected by an extension of the time within the "OBLIGEE" may accept such bid. And said Surety does hereby waive notice of any such extension.

E. IN WITNESS, WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as corporations have caused their corporate seals to be hereto fixed and these presents to be signed by their proper officers, the day and year set forth above.

_____(L.S.)
PRINCIPAL

SURETY

(SEAL)

BY

NOTE: Bid Bond must be signed by an authorized agent or representative of a surety company and not by the individual or company submitting the bid.

EXHIBIT B

SAMPLE FORM OF CONSENT OF SURETY

BOND NO. _____
(INSERT YOUR BOND NO. HERE)

The _____, a Corporation organized and
(NAME OF YOUR INSURANCE COMPANY)

existing under the laws of the State of _____,

and licensed to do business in the State of New Jersey, hereby consents and agrees that if the
contract for: _____ (INSERT BID NO.)

_____ AND
ITEMS WHICH YOU ARE BIDDING).

be awarded to _____.
(NAME OF YOUR COMPANY)

the undersigned Corporation agrees with the said County of Camden, Courthouse, 520 Market Street,
Camden, New Jersey 08102 to execute the final bond as required by the specifications and to become
the surety in the full amount of the price bid for the faithful performance of the contract.

In Witness, Whereof, the undersigned Corporation has caused this agreement to be signed by its duly
authorized representative and its Corporate Seal to be hereto affixed this _____ day of
_____, 20 ____.

The _____
(NAME OF INSURANCE COMPANY)

By _____
(ATTORNEY-IN-FACT)

Countersigned by:

NOTE: **Consent of Surety must be signed by an authorized agent or
representative of a surety company and not by the individual or
company submitting the bid.**

EXHIBIT C

SAMPLE FORM OF PERFORMANCE BOND

We, the Undersigned

as Principal, and _____

a Corporation organized and existing under the laws of the State of _____ and authorized to do business in the State of New Jersey as surety are held and firmly bound unto _____ hereinafter called the Owner as hereinafter set forth, in the full and just several sums of

(a) _____

_____ Dollars (\$ _____)

for faithful performance of the contract as hereinafter designated in Paragraph "A" and

(b) _____

_____ Dollars (\$ _____)

for payment of labor and material as hereinafter designated in Paragraph "B" and

(c) _____

_____ Dollars (\$ _____)

for maintenance as hereinafter designated in Paragraph "C"; lawful money of the United States of America; to be paid to the Owner, or its Assigns, to which payment well and truly to be made and done, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

Sealed with our respective seals and dated this _____ day of _____, 20 _____.

WHEREAS, the above bonded Principal has entered into a contract with the Owner dated the _____ day of _____, 20 _____ for _____

upon certain terms and conditions in said contract more particularly mentioned; and

WHEREAS, it is one of the conditions of the award of the Owner pursuant to which said contract is about to be entered into, that these presents be executed.

(Sample Form of Performance Bond – continued)

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH:

A. That if the Principal shall faithfully perform the contract on its part to be performed according to the terms of said contract, or any changes or modifications therein made as therein provided; and shall indemnify and save harmless the party of the first part mentioned in the contract aforesaid, its officers, agents and servants, and each and every one of them against and from all suits and costs of every kind and description and from all damages which the said party of the first part in said contract mentioned, or any of its officers, agents or servants may be put by reason of injury to the person or property of others resulting from the performance of said work or through the negligence of the said party of the second part to said contract, or through any improper or defective machinery, implements or appliances used by the said party of the second part in the aforesaid work or through any act or omission on the part of the said party of the second part of its agents, servants or employees, and shall further indemnify and save harmless the party of the first part mentioned in the contract aforesaid its officers, agents and servants from all suits and actions of any kind or character whatsoever, which may be brought or instituted by any subcontractor, materialman or laborer who has performed work or furnished materials in or about the work required to be done pursuant to the said contract or by or on account of, any claims or amount recovered for any infringement of patent, trademark, or copyright; then this part of this obligation designated as part "A" shall be void; otherwise the same shall remain in full force and effect, it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

B. That if the said Principal shall pay all lawful claims of subcontractors, materialmen, laborers, persons, firms or corporations for labor performed or materials, provisions, provender or other supplies or items, fuels, oils, implements or machinery furnished, used or consumed in the carrying forward, performing or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any subcontractor, materialman, laborer, person, firm or corporation having a just claim, as well as for the obligee herein; whether or not the said material and labor enter into and become component parts of the work or improvement or in any amendment, extension or addition to said contract, then this part of this obligation designated part "B", shall be void, otherwise the same shall remain in full force and effect.

C. That if the said Principal shall well and truly keep and perform all the obligations, agreements, terms, and conditions of such contract, on the Principal's part to be kept and performed and said Principal shall be responsible for poor workmanship done or poor materials furnished under said contract for a period of one year from the date of the completion and final acceptance by the party of the first part and mentioned in the contract, and said Principal shall pay for all labor performed and furnished and for all materials used in correcting any poor workmanship done and replacing any poor materials furnished, then this part of this obligation designated part "C", shall be void; otherwise the same shall remain in full force and effect.

It is further agreed that any alterations which may be made in the terms of the contract or in the work to be done or materials to be furnished or labor to be supplied or performed under it or the giving by the Owner of any extension of time for the performance of the Contract or the reduction of the retained percentages as permitted by the Contract or any other forbearance on the part of either the Owner or the Principal to the other, shall not in any way release the Principal and the

(Sample Form of Performance Bond – continued)

Surety or Sureties or either or any of them, their heirs, executors, administrators, successors or assigns, from their liability hereunder, notice to the Surety or Sureties of any alterations, extension or forbearance being hereby waived.

It is further agreed that in case of default in, and/or any action arising out of rights and liabilities secured by this obligation or any part hereto or any person claiming by or through it, either may use for the purpose of establishing its, or their claim, a copy of this obligation certified by the Owner, and the action, or actions, if any, arising on the within bond, shall not be a bar to any subsequent action that may arise through any liability incurred in any other action herein, and based upon any other part of this obligation.

IN WITNESS, WHEREOF, the said Principal and Surety have duly executed this bond under their seals the day and year above written.

If Principal is an individual:

Witness:

By _____ (SEAL)

Surety

By _____
Attorney-in-fact
(Corporate Seal)

If Principal is a partnership:

Witness:

Principal

Partner (SEAL)

Partner (SEAL)

Surety

By _____
Attorney-in-fact
(Corporate Seal)

(Sample Form of Performance Bond – continued)

If Principal is a corporation:

Attest:

Secretary

Corporate Seal:

Attest:

Principal

By _____
President

By _____
Attorney-in-fact
(Corporate Seal)

Approved as to Form _____, 20 _____

Assistant County Counsel

EXHIBIT D

SAMPLE FORM OF TERMS OF LETTER OF CREDIT

1. **AMOUNT:** The amount of this letter of credit shall be for the sum of _____.
(Amount of Contract)

2. **TERM:** The term of this letter of credit shall be in effect and irrevocable for a period commencing on the date of execution of the agreement between the County of Camden and _____.
(Name of Contractor)

and terminating one (1) year after the date of completion and final acceptance by the County of the work performed pursuant to Camden County Bid No.:

(Bid No. and description of services/material to be provided)

3. **CAUSES FOR PROCEEDING AGAINST LETTER OF CREDIT:** The County shall have the absolute right to proceed against this letter of credit if:

(a) Contractor shall fail to faithfully perform according to the terms of the contract and Camden County Bid No. _____, or any changes or modifications therein made as therein provided; or Contractor shall fail to indemnify and save harmless the County of Camden, its officers, agents and servants, and each and every one of them against and from all suits and costs of every kind and description and from all damages which the County, or any of its officers, agents or servants may be put by reason of injury to the person or property of others resulting from the performance of said work or through the negligence of Contractor, or through any improper or defective machinery, implements or appliances used by contractor in the aforesaid work or through any act or omission on the part of Contractor, its agents, servants or employees; or contractor shall fail to further indemnify and save harmless the County, its officers, agents and servants from all suits and actions of any kind or character whatsoever, which may be brought or instituted by any subcontractors, materialman or laborer who has performed work or furnished materials in or about the work required to be done pursuant to said contract, or by or on account of, any claims or amount recovered for any infringement of patent, trademark, or copyright; or _____

(Name of Bank)

agreeing and assenting that this undertaking shall be for the benefit of any subcontractor, materialman, laborer, person, firm or corporation having a just claim, as well as for the County of Camden, whether or not the said material and labor enter into and become component parts of the work or improvement or in any amendment, extension or addition to said contract; or

(b) Contractor shall fail to pay all lawful sums of subcontractors, materialman, laborers, persons, firms or corporations for labor performed or materials, provisions, provender or other supplies or teams, fuels, oils, implements or machinery furnished, used or consumed in the carrying forward, performing or completing of said contract; or

(c) Contractor shall fail to well and truly keep and perform all the obligations, agreements, terms and conditions of such contract, on its part to be kept and performed and Contractor shall be responsible for poor workmanship done or poor materials furnished under said contract for a period of one (1) year from the date of the completion and final acceptance by the County of Camden, and Contractor shall pay for all labor performed and furnished and for all materials used in correcting any poor workmanship done and replacing any poor materials furnished.

It is further agreed that any alterations which may be made in the terms of the contract or in the work to be done or materials to be furnished or labor to be supplied or performed under it or the giving by the County of Camden of any extension of time for the performance of the contract shall not in any way release Contractor, its heirs, executors, administrators, successors or assigns, from its liability hereunder.

NOTE: Letter of Credit must be signed by an authorized agent or representative of a bank or similar financial institution and not by the individual or company submitting the bid.

EXHIBIT E
STATEMENT OF OWNERSHIP DISCLOSURE

N.J.S.A. 52:25-24.2 (P.L. 1977, c.33, as amended by P.L. 2016, c.43)

This statement shall be completed, certified to, and included with all Bid and Competitive Contracting RFP submissions. Failure to submit the required information is cause for automatic rejection of the bid or proposal.

Name of Organization: _____

Organization Address: _____

Part I **Check the box that represents the type of business organization:**

- Sole Proprietorship (skip Parts II and III, execute certification in Part IV)
- Non-Profit Corporation (skip Parts II and III, execute certification in Part IV)
- For-Profit Corporation (any type) Limited Liability Company (LLC)
- Partnership Limited Partnership Limited Liability Partnership (LLP)
- Other (be specific): _____

Part II

- The list below contains the names and **HOME addresses** of all individual stockholders in the corporation who own 10 percent or more of its stock, of any class, or of all individual partners in the partnership who own a 10 percent or greater interest therein, or of all members in the limited liability company who own a 10 percent or greater interest therein. **(COMPLETE THE LIST BELOW IN THIS SECTION)**

OR

- No one stockholder in the corporation owns 10 percent or more of its stock, of any class, or no individual partner in the partnership owns a 10 percent or greater interest therein, or no member in the limited liability company owns a 10 percent or greater interest therein. **(SKIP TO PART IV)**

(Please attach additional sheets if more space is needed):

Name of Individual or Business Entity	Home Address (for Individuals) or Business Address

Part III DISCLOSURE OF 10% OR GREATER OWNERSHIP IN THE STOCKHOLDERS, PARTNERS OR LLC MEMBERS LISTED IN PART II

If a bidder has a direct or indirect parent entity which is publicly traded, and any person holds a 10 percent or greater beneficial interest in the publicly traded parent entity as of the last annual federal Security and Exchange Commission (SEC) or foreign equivalent filing, ownership disclosure can be met by providing links to the website(s) containing the last annual filing(s) with the federal Securities and Exchange Commission (or foreign equivalent) that contain the name and address of each person holding a 10% or greater beneficial interest in the publicly traded parent entity, along with the relevant page numbers of the filing(s) that contain the information on each such person. **Attach additional sheets if more space is needed.**

Website (URL) containing the last annual SEC (or foreign equivalent) filing	Page #'s

Please list the names and HOME addresses of each stockholder, partner or member owning a 10 percent or greater interest in any corresponding corporation, partnership and/or limited liability company (LLC) listed in Part II other than for any publicly traded parent entities referenced above. The disclosure shall be continued until names and addresses of every noncorporate stockholder, and individual partner, and member exceeding the 10 percent ownership criteria established pursuant to N.J.S.A. 52:25-24.2 has been listed. **Attach additional sheets if more space is needed.**

Stockholder/Partner/Member and Corresponding Entity Listed in Part II	Home Address (for Individuals) Business Address (for Corporate Entity)

Part IV Certification

I, being duly sworn upon my oath, hereby represent that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I acknowledge: that I am authorized to execute this certification on behalf of the bidder/proposer; that **Camden County** is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the completion of any contracts with **Camden County** to notify **Camden County** in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with **Camden County** permitting **Camden County** to declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print):		Title:	
Signature:		Date:	

EXHIBIT F

NON-COLLUSION AFFIDAVIT

STATE OF NEW JERSEY)
COUNTY OF)

I, _____ of the City of _____ in the County of, _____ and the State of _____ of full age, being dully sworn according to law on my oath depose and say that: I am _____ of the firm of _____ the bidder making this Proposal for the above named project, and that I executed the said Proposal with full authority to do so; that said bidder had not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above named project; and that all statements contained in said Proposal and in this affidavit are true and correct, and made with full knowledge that the State of New Jersey relies upon the truth of the statements contained in said Proposal and in the statements contained in this affidavit in awarding the contract for the said project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by _____ (N.J.S.A. 52:34-15)

(Name of Contractor)

Subscribed and sworn to
before me this _____ day
of _____, 20__

Notary Public

(Also type or print name of bidder
under signature)

EXHIBIT G

MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE

N.J.S.A. 10:5-31 et seq. (P.L. 1975, C. 127)

N.J.A.C. 17:27

GOODS, PROFESSIONAL SERVICE AND GENERAL SERVICE CONTRACTS

During the performance of this contract, the contractor agrees as follows:

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity 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 to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union of the contractor's commitments under this chapter and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

The contractor or subcontractor agrees to make good faith efforts to meet targeted county employment goals established in accordance with N.J.A.C. 17:27-5.2.

The contractor or subcontractor agrees to inform in writing its appropriate recruitment agencies including, but not limited to, employment agencies, placement bureaus, colleges, universities, and labor unions, that it does not discriminate on the basis of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex, and that it will discontinue the use of any recruitment agency which engages in direct or indirect discriminatory practices.

The contractor or subcontractor agrees to revise any of its testing procedures, if necessary, to assure that all personnel testing conforms with the principles of job-related testing, as established by

the statutes and court decisions of the State of New Jersey and as established by applicable Federal law and applicable Federal court decisions.

In conforming with the targeted employment goals, the contractor or subcontractor agrees to review all procedures relating to transfer, upgrading, downgrading and layoff to ensure that all such actions are taken without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex, consistent with the statutes and court decisions of the State of New Jersey, and applicable Federal law and applicable Federal court decisions.

The contractor shall submit to the public agency, after notification of award but prior to execution of a goods and services contract, one of the following three documents:

1. Letter of Federal Affirmative Action Plan Approval
2. Certificate of Employee Information Report
3. Employee Information Report Form AA302 (electronically provided by the Division and distributed to the public agency through the Division's website at www.state.nj.us/treasury/contract_compliance)

The contractor and its subcontractors shall furnish such reports or other documents to the Division of Purchase & Property, CCAU, EEO Monitoring Program as may be requested by the office from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Division of Public Contracts Equal Employment Opportunity Compliance for conducting a compliance investigation pursuant to N.J.A.C. 17:27-1.1 et seq.

EXHIBIT H

MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE

N.J.S.A. 10:5-31 et seq. (P.L. 1975, C. 127)

N.J.A.C. 17:27

CONSTRUCTION CONTRACTS

During the performance of this contract, the contractor agrees as follows:

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, up-grading, 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 to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer, pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

When hiring or scheduling workers in each construction trade, the contractor or subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. 17:27-7.2; provided, however, that the Division may, in its discretion, exempt a contractor or subcontractor from compliance with the good faith procedures prescribed by the following provisions, A, B and C, as long as the Dept. of LWD, Construction EEO Monitoring Program is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Dept. of LWD, Construction EEO Monitoring Program, that its percentage of active "card carrying" members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C. 17:27-7.2. The contractor or subcontractor agrees that a good faith effort shall include compliance with the following procedures:

(A) If the contractor or subcontractor has a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor shall, within three business days of the contract award, seek assurances from the union that it will cooperate with the contractor or subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et. seq., as supplemented and amended from time to time and the Americans with Disabilities Act. If the contractor or subcontractor is unable to obtain said assurances from the construction trade union at least five business days prior to the commencement of construction work, the contractor or subcontractor agrees to afford equal employment opportunities minority and women workers directly, consistent with this chapter. If the contractor's or subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and women workers consistent with affording equal employment opportunities as specified in this chapter, the contractor or subcontractor agrees to be prepared to provide such opportunities to minority and women workers directly, consistent with this chapter, by complying with the hiring or scheduling procedures prescribed under (B) below; and the contractor or subcontractor further agrees to take said action immediately if it determines that the union is not referring minority and women workers consistent with the equal employment opportunity goals set forth in this chapter.

(B) If good faith efforts to meet targeted employment goals have not or cannot be met for each construction trade by adhering to the procedures of (A) above, or if the contractor does not have a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor agrees to take the following actions:

(1) To notify the public agency compliance officer, the Dept. of LWD, Construction EEO Monitoring Program, and minority and women referral organizations listed by the Division pursuant to N.J.A.C. 17:27-5.3, of its workforce needs, and request referral of minority and women workers;

(2) To notify any minority and women workers who have been listed with it as awaiting available vacancies;

(3) Prior to commencement of work, to request that the local construction trade union refer minority and women workers to fill job openings, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade;

(4) To leave standing requests for additional referral to minority and women workers with the local construction trade union, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area;

(5) If it is necessary to lay off some of the workers in a given trade on the construction site, layoffs shall be conducted in compliance with the equal employment opportunity and non-discrimination standards set forth in this regulation, as well as with applicable Federal and State court decisions;

(6) To adhere to the following procedure when minority and women workers apply or are referred to the contractor or subcontractor:

(i) The contractor or subcontractor shall interview the referred minority or women worker.

(ii) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required in order to perform the work of the construction trade, the contractor or subcontractor shall in good faith determine the qualifications of such individuals. The contractor or subcontractor shall hire or schedule those individuals who satisfy appropriate

qualification standards in conformity with the equal employment opportunity and non-discrimination principles set forth in this chapter. However, a contractor or subcontractor shall determine that the individual at least possesses the requisite skills, and experience recognized by a union, apprentice program or a referral agency, provided the referral agency is acceptable to the Dept. of LWD, Construction EEO Monitoring Program. If necessary, the contractor or subcontractor shall hire or schedule minority and women workers who qualify as trainees pursuant to these rules. All of the requirements, however, are limited by the provisions of (C) below.

(iii) The name of any interested women or minority individual shall be maintained on a waiting list and shall be considered for employment as described in (i) above, whenever vacancies occur. At the request of the Dept. of LWD, Construction EEO Monitoring Program, the contractor or subcontractor shall provide evidence of its good faith efforts to employ women and minorities from the list to fill vacancies.

(iv) If, for any reason, said contractor or subcontractor determines that a minority individual or a woman is not qualified or if the individual qualifies as an advanced trainee or apprentice, the contractor or subcontractor shall inform the individual in writing of the reasons for the determination, maintain a copy of the determination in its files, and send a copy to the public agency compliance officer and to the Dept. of LWD, Construction EEO Monitoring Program.

(7) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Dept. of LWD, Construction EEO Monitoring Program and submitted promptly to the Dept. of LWD, Construction EEO Monitoring Program upon request.

(C) The contractor or subcontractor agrees that nothing contained in (B) above shall preclude the contractor or subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted county employment goal, the contractor or subcontractor shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall not be required to employ women and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the contractor or subcontractor agrees that, in implementing the procedures of (B) above, it shall, where applicable, employ minority and women workers residing within the geographical jurisdiction of the union.

After notification of award, but prior to signing a construction contract, the contractor shall submit to the public agency compliance officer and the Dept. of LWD, Construction EEO Monitoring Program an initial project workforce report (Form AA 201) electronically provided to the public agency by the Dept. of LWD, Construction EEO Monitoring Program, through its website, for distribution to and completion by the contractor, in accordance with N.J.A.C. 17:27-7. The contractor also agrees to submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of this contract to the Division and to the public agency compliance officer.

The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is

necessary, for on-the-job and/or off-the-job programs for outreach and training of minorities and women.

(D) The contractor and its subcontractors shall furnish such reports or other documents to the Dept. of LWD, Construction EEO Monitoring Program as may be requested by the Dept. of LWD, Construction EEO Monitoring Program from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Dept. of LWD, Construction EEO Monitoring Program for conducting a compliance investigation pursuant to N.J.A.C. 17:27-1.1 et seq.

EXHIBIT I

QUESTIONNAIRE ON SUPPLY/SERVICE CONTRACTS

Please complete this questionnaire and submit it with your bid. Any necessary forms will be sent to you by the County upon award.

1. Our Company has a Federal Affirmative Action Plan Approval.

YES _____ NO _____

- A. If yes, submit a photostatic copy of said approval.
- B. If no, submit a photostatic copy of the New Jersey Certificate of Employee Information Report.

NONE OF THE ABOVE _____

2. We have neither State nor Federal Affirmative Action evidence. Please send us Form AA-302 (Affirmative Action Employee Information Report application). (Check if applicable _____).

I certify that the above information is correct to the best of my knowledge.

NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

AN EQUAL OPPORTUNITY EMPLOYER

EXHIBIT J

AFFIRMATIVE ACTION PLAN MBE/WBE TRACKING FORM

Definitions:

A **Minority Business Enterprise (MBE)** is defined in the Camden County Affirmative Action Plan as "a business which is independently owned and operated and is at least 51% owned and controlled by minority group members". Minority group members are defined in the Camden County Affirmative Action Plan as "persons who are Black, Hispanic, Portuguese, Asian-American, American Indian or Alaskan Natives"

A **Women Business (WBE)** is defined in the Camden County Affirmative Action Plan as "a business which is independently owned and operated and is at least 51% owned and controlled by women".

Using the definitions above, please check the following space which best describes your firm:

- _____ **Minority Business Enterprise (MBE)**
- _____ **Women Business Enterprise (WBE)**
- _____ **Neither**

EXHIBIT K

**CERTIFICATION REGARDING THE DEBARMENT, SUSPENSION,
INELIGIBILITY AND VOLUNTARY EXCLUSION -
LOWER TIER COVERED TRANSACTIONS**

I am _____ of the firm of _____,
(your title) (name of your organization)

(address of your organization)

CHOOSE ONE OF THE FOLLOWING

- () A. I hereby certify on behalf of _____ that
(name of your organization)
neither it nor its principals are debarred, suspended, proposed for debarment, declared
ineligible, or voluntarily excluded from participation in this transaction by any federal or state
department, agency, or office.
- () B. I am unable to certify to any of the statements set forth in this certification. I have
attached an explanation to this form.

(Signature)

(Type Name & Title)

(Date)

INSTRUCTIONS FOR CERTIFICATION

1. By signing and submitting this certification, the contracting firm is providing the certification as set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the contracting firm knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government and/or State Government, the County may pursue available remedies including suspension and/or debarment.
3. The contracting firm shall provide immediate written notice to the County if at any time, it learns that its certification was erroneous when submitted or has become erroneous because of changed circumstances.
4. The terms "covered transaction", "debarred", "suspended", "ineligible", "lower tier covered transaction", "participant", "person", "primary covered transaction", "principal", and "voluntarily excluded", as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the County for assistance in obtaining a copy of those regulations.
5. The contracting firm agrees by submitting this certification that, should the covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction.
6. The contracting firm further agrees by submitting this certification that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction," without modification, in all subcontracts to this agreement as authorized by the County.

EXHIBIT L

EXTENSION OF PRICES TO REGISTERED SYSTEM MEMBERS (OTHER AGENCIES)

The undersigned is further:
(ONE BOX ONLY MUST BE CHECKED)

WILLING to provide the item(s) herein bid upon to registered system members of the **Camden County Cooperative Pricing System, System Identifier No. 57-CCCPS**, without substitution or deviation from specifications, size, features, quality, price or availability as herein set forth. It is understood that orders will be placed directly by the registered members identified herein by separate contract, subject to the overall terms of the Master Contract to be awarded by the County of Camden, and that no additional service or delivery charges will be allowed except as permitted by these specifications.

NOT WILLING to extend prices to registered system members of the **Camden County Cooperative Pricing System, System Identifier No. 57-CCCPS**, who have submitted estimates as described above. It is understood that this will not adversely affect consideration of this bid with respect to the needs of Camden County as the Lead Agency.

EXHIBIT M

**DISCLOSURE OF SUBCONTRACTORS AND SITES
AND CERTIFICATION OF COMPLIANCE**

(FOR BIDS FOR TEXTILES AND/OR ITEMS OF APPAREL ONLY)

1. DISCLOSURE OF SUBCONTRACTORS AND SITES – SEE PARAGRAPH 23.1

a. List the name and address of each subcontractor to be used in the provision of the goods or services which are the subject of this bid. If extra space is required, please attach additional pages as needed.

b. List the name and address of all locations, including subcontractor locations, substantially involved in the production of the goods or services which are the subject of this bid. If extra space is required, please attach additional pages as needed.

2. CERTIFICATION OF COMPLIANCE – SEE PARAGRAPH 23.2

I hereby certify that each of the above-referenced locations, including subcontractor locations, substantially involved in producing or distributing the goods or services which are the subject of this bid, meet the standards set forth in Paragraph 23.2 of these specifications.

(Signature)

(Type Name & Title)

(Date)

EXHIBIT N

**BIDS FOR CONSTRUCTION
DISCLOSURE OF SUBCONTRACTORS**

Please list the subcontractors for the specialty trade categories listed below. If you intend to perform the work through your own employees or by yourself rather than through utilization of a subcontractor, write the word "In-House" next to each applicable category and insert the name, and license number where required, of each person in the appropriate spaces. If the contract does not involve a specialty trade listed below, write the word "None" in the appropriate space. For further instructions, see Paragraph 26 herein. **DO NOT LEAVE ANY SPACE BLANK.**

1. Plumbing and Gas Fitting and All Kindred Work:

Name: _____

Address: _____

License Number: _____

2. Steam Power Plants, Steam and Hot Water Heating and Ventilating Apparatus, and All Kindred Work:

Name: _____

Address: _____

License Number: Not Applicable

3. Electrical Work:

Name: _____

Address: _____

License Number: _____

4. Structural Steel and Ornamental Iron Work:

Name: _____

Address: _____

License Number: Not Applicable

EXHIBIT O

**AFFIDAVIT OF COMPLIANCE WITH INSTRUCTIONS TO BIDDERS
PARAGRAPH 27 – SIGNIFICANT PUBLIC WORKS PROJECTS**

NOTE: THE BIDDER AND EACH SPECIALTY TRADE SUBCONTRACTOR AS DEFINED IN PARAGRAPHS 26 & 27 ABOVE MUST EACH COMPLETE A SEPARATE AFFIDAVIT TO BE SUBMITTED WITH THE BID. ALL OTHER SUBCONTRACTORS MUST EACH COMPLETE THIS FORM PRIOR TO COMMENCING WORK. USE AS MANY COPIES OF THIS AFFIDAVIT FORM AS NECESSARY. Must be submitted with the bid or bid will be deemed noncompliant. Failure to submit required Exhibit O(s) is a material defect causing the bid to be rejected.

STATE OF NEW JERSEY:

SS:

COUNTY OF CAMDEN:

The undersigned, of full age, being duly sworn according to law, upon his oath, deposes and says:

1. I have read the specifications for this bid, including Instructions To Bidders, Paragraph 27 – Significant Public Works Projects, and I am aware that Camden County has adopted a resolution establishing workforce standards for significant public works projects. **I am aware that these workforce standards make the following a material requirement of this bid:**

All workers employed on this significant public works project, whether employees of the contractor or any subcontractor, shall have the benefit of the availability of an apprentice training program in the appropriate trade(s), registered in the State of New Jersey, with the United States Department of Labor, Bureau of Apprenticeship and Training.

2. **You MUST choose one of the following:**

a. _____ My company has an apprentice training program in the appropriate trade(s), registered in the State of New Jersey, with the United States Department of Labor, Bureau of Apprenticeship and Training. The registration number for this apprentice training program is NJ (or other State) # _____ ; or

b. _____ My company will not employ any worker of less than journeyman status on this project.

Note: Camden County will monitor the worksite to insure compliance with this material provision and may, in its sole discretion, terminate the contract of any company found to be in violation.

Sworn to and Subscribed

before me this day

of , 20____.

NOTARY PUBLIC

MY SIGNATURE

MY NAME (PRINT OR TYPE)

COMPANY NAME

EXHIBIT P

**AMERICANS WITH DISABILITIES ACT
Mandatory Language**

Equal Opportunity for Individuals with Disabilities.

The Contractor and the County do hereby agree that the provisions of Title II of the Americans With Disabilities Act of 1990 (the "Act") (42 U.S.C. s12101 et seq.), which prohibits discrimination on the basis of disability by public entities in all services, programs, and activities provided or made available by public entities, and the rules and regulations promulgated pursuant thereto, are made a part of this contract. In providing any aid, benefit, or service on behalf of the County pursuant to this contract, the Contractor agrees that the performance shall be in strict compliance with the Act. In the event that the Contractor, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this contract, the Contractor shall defend the County in any action or administrative proceeding commenced pursuant to this Act. The Contractor shall indemnify, protect, and save harmless the County, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The Contractor shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the County's grievance procedure, the Contractor agrees to abide by any decision of the County, which is rendered pursuant to, said grievance procedure. If any action or administrative proceeding results in an award of damages against the County or if the County incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the Contractor shall satisfy and discharge the same at its own expense.

The County shall, as soon as practicable after a claim has been made against it, give written notice thereof to the Contractor along with full and complete particulars of the claim. If any action or administrative proceeding is brought against the County or any of its agents, servants, and employees, the County shall expeditiously forward or have forwarded to the Contractor every demand, complaint, notice, summons, pleading, or other process received by the County or its representatives.

It is expressly agreed and understood that any approval by the County of the services provided by the Contractor pursuant to this contract will not relieve the Contractor of the obligation to comply with the Act and to defend, indemnify, protect, and save harmless the Owner pursuant to this paragraph.

It is further agreed and understood that the Owner assumes no obligation to indemnify or save harmless the Contractor, its agents, servants, employees and subcontractors for any claim which may arise out of their performance of this agreement. Furthermore, the Contractor expressly understands and agrees that the provisions of this indemnification clause shall in no way limit the Contractor's obligations assumed in this agreement, nor shall they be construed to relieve the Contractor from any liability, nor preclude the Owner from taking any other actions available to it under any other provisions of this agreement or otherwise at law.

EXHIBIT Q

**COUNTY OF CAMDEN
ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA**

**BIDDER REQUIRED TO COMPLETE AND RETURN FORM WITH BID REGARDLESS OF
WHETHER ADDENDA WAS ISSUED.
FAILURE TO COMPLETE AND RETURN FORM IS A FATAL DEFECT WHICH CANNOT BE
CURED AND BID WILL BE REJECTED.**

A. Bidder hereby acknowledges receipt of the following Addenda:

<u>Addendum Number</u>	<u>Dated</u>	<u>Initial</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

OR:

B. Bidder acknowledges to the best of his/her knowledge no addendum has been issued by the County: _____ Dated _____ Initial _____

Bidder is required to complete, sign and submit form with bid regardless of whether addenda were issued. Failure to complete and return form is a fatal defect which cannot be cured and bid will be rejected. See: N.J.S.A. 40A:11-23.2

By: _____
(Print or Type Name of Authorized Individual)

Signature: _____

Title: _____

EXHIBIT R

**COUNTY OF CAMDEN
UNIFORMED LAW ENFORCEMENT OFFICERS REQUIREMENT**

Pursuant to N.J.S.A. 40A:11-23.1(c), the County has determined the following:

- () Uniformed law enforcement officers **are not required** for the project.
- () Uniformed law enforcement officers **are required** for the project.

Reasonable estimate of costs for the following:

traffic control personnel	\$ _____
vehicles	\$ _____
equipment	\$ _____
administrative	\$ _____
other (specify)	
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
 Total costs	 \$ _____

The above costs associated with additional traffic control required by the County have been reasonably estimated in cooperation and consultation with the following municipalities affected by the project.

Name of Municipality	Contact person
_____	_____
_____	_____
_____	_____
_____	_____

EXHIBIT S
DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN
PART 1: CERTIFICATION

BIDDERS MUST COMPLETE PART 1 BY CHECKING EITHER BOX. FAILURE TO CHECK ONE OF THE BOXES WILL RENDER THE PROPOSAL NON-RESPONSIVE.

Pursuant to Public Law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates, is identified on the Department of Treasury's Chapter 25 list as a person or entity engaging in investment activities in Iran. The Chapter 25 list is found on the Division's website at: <http://www.state.nj.us.treasury/purchase/pdf/Chapter25List.pdf>

Bidders **must** review this list prior to completing the below certification. **Failure to complete the certification and return it with the bid will render a bidder's proposal non-responsive and the bid will be rejected.** If the Director finds a person or entity to be in violation of law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.

PLEASE CHECK THE APPROPRIATE BOX:

I certify, pursuant to Public Law 2012, c. 25, that neither the bidder listed above nor any of the bidder's parents, subsidiaries, or affiliates is listed on the N.J. Department of the Treasury's list of entities determined to be engaged in prohibited activities in Iran pursuant to P.L. 2012 c. 25, ("Chapter 25 List"). I further certify that I am the person listed above, or I am an officer or representative of the entity listed above and am authorized to make this certification on its behalf. I will skip Part 2 and sign and complete the Certification below.

OR

I am unable to certify as above because the bidder and/or one or more of its parents, subsidiaries, or affiliates is listed on the Department's Chapter 25 List. I will provide a detailed, accurate and precise description of the activities in Part 2 below and sign and complete the Certification below. Failure to provide such will result in the proposal being rendered as non-responsive and appropriate penalties, fines and/or sanctions will be assessed as provided by law.

PART 2: PLEASE PROVIDE FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN - add additional sheets if necessary.

You must provide a detailed, accurate and precise description of the activities of the bidding person/entity, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing below:

Name of Entity: _____; Relationship to Bidder: _____

Description of Activities: _____

Duration of Engagement: _____ Anticipated Cessation Date: _____

Bidder/Offeror Contact Name: _____; Contact Phone: _____

Sign Certification - next page

EXHIBIT S - continued

DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN

BIDDER: _____

Certification:

I, being duly sworn upon my oath, hereby represent that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I acknowledge that I am authorized to execute this certification on behalf of the bidder, that the County of Camden is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the completion of any contracts with the County to notify the County in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the County of Camden, permitting the County to declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print): _____

Signature: _____

Title: _____

Date: _____

EXHIBIT T

NEW JERSEY ANTI-DISCRIMINATION PROVISIONS
N.J.S.A. 10:2-1 et seq.

Pursuant to N.J.S.A. 10:2-1, if awarded a contract, the contractor agrees that:

- a. In the hiring of persons for the performance of work under this contract or any subcontract hereunder, or for the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under this contract, no contractor, nor any person acting on behalf of such contractor or subcontractor, shall, by reason of race, creed, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation or sex, discriminate against any person who is qualified and available to perform the work to which the employment relates;
- b. No contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee engaged in the performance of work under this contract or any subcontract hereunder, or engaged in the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under such contract, on account of race, creed, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation or sex;
- c. There may be deducted from the amount payable to the contractor by the contracting public agency, under this contract, a penalty of \$50.00 for each person for each calendar day during which such person is discriminated against or intimidated in violation of the provisions of the contract; and
- d. This contract may be canceled or terminated by the contracting public agency, and all money due or to become due hereunder may be forfeited, for any violation of this section of the contract occurring after notice to the contractor from the contracting public agency of any prior violation of this section of the contract.

No provision in this section shall be construed to prevent a board of education from designating that a contract, subcontract or other means of procurement of goods, services, equipment or construction shall be awarded to a small business enterprise, minority business enterprise or a women's business enterprise pursuant to P.L.1985, c.490 (C.18A:18A-51 et seq.).

**SECTION 004100
FORM OF PROPOSAL**

Place: CAMDEN COUNTY DIVISION OF PURCHASING
COURTHOUSE - 17TH FLOOR
520 MARKET STREET
CAMDEN, NEW JERSEY 08102-1375

Date: April 12, 2019

Time: 11:00 AM (Prevailing)

For: A20-19: Improvements to the Camden County Golf Academy

The undersigned (NAME OF BIDDER) _____,
after complete examination of the plans, specifications, addenda, form of contract, and bond, hereby proposes to furnish all labor and materials, together with all incidental thereto, to complete the project in accordance with drawings, specifications and addenda prepared by Radey Associates Architects, 100 Haddontowne Court, Cherry Hill, New Jersey, 08034, which are understood as being a part of this Proposal.

NOTE: ALL AMOUNTS SHALL BE SHOWN IN BOTH WORDS AND FIGURES. In case of a discrepancy, the amount shown in words shall govern.

DIVISION I – Furnish all Labor and materials as required to complete the project in accordance with the contract documents.

BASE BID _____ Dollars (\$ _____)

GENERAL CONSTRUCTION ALLOWANCE:Dollars (\$ 10,000.00)

TOTAL BASE BID INCLUDING ALLOWANCE:

_____ Dollars (\$ _____)

UNIT PRICE #1: – Provide a unit price / lineal foot for labor & material to fill and seal cracks in the concrete slab as specified in detail 5/A1.2.

Unit Price #1 _____ Dollars (\$ _____)

UNIT PRICE #2: – Provide a unit price / square foot for labor & material to make repairs in the concrete slab as specified in detail 6/A1.2.

Unit Price #2 _____ Dollars (\$ _____)

UNIT PRICE #3: – Provide a unit price / square foot for labor & material to replace T-111 with 5/8" exterior grade plywood.

Unit Price #3 _____ Dollars (\$ _____)

ALTERNATE BID #1: – Add alternate price to provide all labor and material to install the manufactured riverstone masonry veneer.

Alternate BID #1 _____ Dollars (\$ _____)

**SECTION 004100
FORM OF PROPOSAL**

SEAL IF BID IS BY A CORPORATION

Respectfully submitted,

Date: _____

By: _____
Name of Firm

Affix
Corporate
Seal Here

Signature

Title

Business Address

Phone

The award of the contract will be based on the base bid amount. **Add-alternates will have no bearing** on the base bid award. If significant funds are available Camden County reserves the right to award the add-alternates in the order they are presented.

The date of substantial completion is 65 working days from the notice to proceed.

Liquidated Damages: Should any prime Contractor fail to complete the project and each and every part and appurtenance thereof fully, entirely and in conformity with the provisions of the contract within the times stated in the contract, or within such further time as may have been granted in accordance with the provisions of the contract, then the County may withhold permanently from the Contract's total compensation the appropriate amount of **\$500.00** for each and every day that the work remains incomplete, which said amount shall not be considered a penalty, but liquidated damages for the loss, inconvenience and extra expense to the County by such delays.

Should any requirements in the contract documents be found to conflict with the owner's general bid boilerplate the general bid boilerplate shall prevail.

It is recognized that no two pieces of equipment and no two products are engineered or designed exactly the same. Trade names, brand names and models specified herein are provided to establish a minimum standard of quality acceptable to the County for this bid. Substitute brands, makes and models shall be considered and reviewed on the basis of their ability to perform the specified tasks or provide the same quality of goods as specified in the County's bid. This is known as an "Equivalent".

If the bidder seeks to provide an Equivalent product or good, the bidder shall with its bid submission include specifications or cut sheets for such proposed Equivalent product or good. The County's Architect/Engineer for the bid shall review the submission provided by the bidder to determine whether the product or good is an Equivalent to the bid specification. The County's Architect/Engineer for the bid shall have the final decision on whether a bidder's submitted product specifications are an Equivalent to the named product(s) or good(s) in this bid.

ALL BIDDERS MUST USE THIS FORM

1.1 GENERAL

- A. AIA Document A201 "General Conditions of the Contract for Construction", 2007 Edition, is included in the Project Manual, and shall become a part of the Contract Documents.

END OF DOCUMENT 00610

 **AIA[®] Document A201[™] – 2007****General Conditions of the Contract for Construction**

for the following PROJECT:

(Name and location or address)

THE OWNER:

(Name and address)

THE ARCHITECT:

(Name and address)

TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
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11	INSURANCE AND BONDS
12	UNCOVERING AND CORRECTION OF WORK
13	MISCELLANEOUS PROVISIONS
14	TERMINATION OR SUSPENSION OF THE CONTRACT
15	CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

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

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the

portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and

completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate For Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the

Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner, separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount

for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2., for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or

encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment

property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by

such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

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SUPPLEMENTARY GENERAL CONDITIONS**

The General Conditions of the Contract for the Construction of Buildings Standard Form of the American Institute of Architects, AIA-A-201-2007, Edition, hereinbefore attached as Pages 1 to 40 inclusive, is hereby supplemented, amended or changed for this Project as follows:

ARTICLE 1 - GENERAL PROVISIONS

1.2 Correlation and intent of the contract documents

1.2.3 Add the following: Source of Supply and Quality of Materials: It is recognized that no two pieces of equipment and no two products are engineered or designed exactly the same. Trade names, brand names and models specified herein are provided to establish a minimum standard of quality acceptable to the County for this bid. Substitute brands, makes and models shall be considered and reviewed on the basis of their ability to perform the specified tasks or provide the same quality of goods as specified in the County's bid. This is known as an "Equivalent".

If the bidder seeks to provide an Equivalent product or good, the bidder shall with its bid submission specifications or cut sheets for such proposed Equivalent product or good. The County's Architect/Engineer for the bid shall review the submission provided by the bidder to determine whether the product or good is an Equivalent to the bid specification. The County's Architect/Engineer for the bid shall have the final decision on whether a bidder's submitted product specifications are an Equivalent to the named product(s) or good(s) in this bid.

Wherever on the Plans or in the detailed Specifications, a particular brand or make of material, device or equipment is shown or specified, such material, device, or equipment is to be regarded merely as a standard. Any other brand or make, which in the opinion of the Architect is equal to that specified, will be accepted, conditional to Architect's written approval to the Contractor's written request for substitution. Such request shall be made through the Contractor, not from the supplier or Subcontractor.

It is recognized that no two pieces of equipment and no two products are engineered or designed exactly the same. Trade names, brand names and models specified herein are provided to establish a minimum standard of quality acceptable to the County for this bid. Substitute brands, makes and models shall be considered and reviewed on the basis of their ability to perform the specified tasks or provide the same quality of goods as specified in the County's bid. This is known as an "Equivalent".

If the bidder seeks to provide an Equivalent product or good, the bidder shall with its bid submission specifications or cut sheets for such proposed Equivalent product or good. The County's Architect/Engineer for the bid shall review the submission provided by the bidder to determine whether the product or good is an Equivalent to the bid specification. The County's Architect/Engineer for the bid shall have the final decision on whether a bidder's submitted product specifications are an Equivalent to the named product(s) or good(s) in this bid.

ARTICLE 3 - CONTRACTOR

3.1 Definition

3.1.1 Add the following at the end of this Article: Wherever the words "General Contractor" are used, it shall mean the "Contractor for General Construction". Whenever the word "Contractors" is used, it shall mean each and every Contractor engaged on the building. On

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SUPPLEMENTARY GENERAL CONDITIONS

multiple contract work, the word "Contractor" shall refer to a prime Contractor (i.e., one who signs a direct contract with the Owner).

3.3 Supervision and Construction Procedures

3.3.2 Add the following: There shall be no drinking of alcoholic beverages, etc., allowed on the premises. No person shall be allowed to remain on the job site under the obvious influence of alcohol or the like.

3.3.4 Add: Measurements - Field - Before ordering any material or doing any work, each Contractor or Subcontractor shall verify all measurements at the building and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of difference between actual dimensions and the measurements indicated on the drawings: any difference which may be found, shall be submitted to the Architect for consideration and clarification before proceeding with the work.

3.5 WARRANTY - Add to this article: No work by any contractor shall be performed so as to void any warranties held by the owner or another contractor.

3.6 Taxes - Add to this Article:

3.6.1 New Jersey Sales Tax - Contractors and Subcontractors purchasing materials to be used on publicly funded agencies will NOT be subject to New Jersey Sales Tax. Contractor shall file an exemption certificate from the State of New Jersey.

3.7 Permits, Fees, and Notices - Contractor shall obtain building permit. **The owner shall be responsible for the cost of any permit application fees required.**

3.8 Allowances

General Construction Allowance: (specified on the Form of Proposal)

3.8.2 DELETED

3.8.2.4 Add: Surplus from allowances may be used by the Contractor, when approved in writing by the Architect, for labor and materials required for extra work. No additional overhead or profit shall be allowed on monies spent out of allowances.

3.9 Superintendent

3.9.1 Add the following: The Contractor for General Construction shall be charged with the duty of coordinating the work of the several contractors involved. He shall advise them when the work at the site will be ready for their installations and cooperate with each to expedite the work.

3.10 Contractor's Construction Schedules

3.10.4 Add: Within ten (10) calendar days after the award of the contract, a detailed Gant chart progress schedule shall be submitted by all contractors to the General Contractor. The General Contractor shall propose his own construction phasing plan and master schedule at a suitable scale indicating both estimated and actual progress for each division of the work and the relative milestones.

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- 3.10.5 Add: The General Contractor shall indicate on the progress schedule diagram the rate of progress of all contractors, and shall promptly deliver to the Architects two (2) black and white prints of the same, whenever requested by the Owner or Architect. Gant chart schedules shall be generated from Microsoft Project software.
- 3.12 Shop Drawings, Product Data and Samples
- 3.12.6 Add the following: Architect assumes no responsibility for field dimensions.
- 3.12.8 Add the following: In reviewing shop drawings, the Architect assumes no responsibility for quantities, or for dimensional errors that may be present in the drawings. Final responsibility for dimensional correctness or quantity count of any items or assemblies to be installed in the building shall belong to the Contractor providing and installing same.
- 3.14 Cutting and Patching
- 3.14.3 Add: Consult the various divisions for specific requirements. Generally all prime contractors shall either erect their work ahead of the General Contractor, or shall provide reasonably in advance, a set of shop drawings indicating the required location and sizes of all openings, sleeves and chaises required. The General Contractor shall place all sleeves, anchors, and bearing plates supplied to him according to these drawings.
- 3.18 Delete: Indemnification

ARTICLE 4 – ARCHITECT

- 4.2 ADMINISTRATION OF THE CONTRACT
- 4.2.3 Add: The Architect will not be expected to expedite the job for the Contractor.
- 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION
- 4.2.10 Add the following: If a full-time project representative is provided by the Architect or the Owner, he shall be guided and limited in his authorities, duties, and responsibilities by the articles set forth in A.I.A Document B-352-1993 ED, "Duties, Responsibilities and Limitations of Authority of Full-Time Project Representative".
- 4.2.14 Add: The Architect shall be the sole interpreter of the plans and specifications and the Contractor's performance therewith. It is the intent of these plans and specifications to provide materials of a quality consistent with the average of those provided under similar circumstances in the same general geographical area. The quality of the workmanship shall be determined in relation to the average of workmanship provided by Union tradesmen in the same geographical area. The Architect shall be the sole authority in making such determination.

ARTICLE 5 - SUBCONTRACTORS

- 5.1 Definitions
- 5.2 Delete: Award of subcontracts and other contracts
- 5.3 Sub contractual Relations

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SUPPLEMENTARY GENERAL CONDITIONS**

5.4 Delete: Contingent assignment of subcontracts

ARTICLE 6 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 Owners Right to Perform Construction and to Award Separate Contracts

6.1.3 Delete the words "and of each separate Contractor" in the first sentence.

6.2 Mutual Responsibility

3.3 owner's right to clean up

ARTICLE 7 - CHANGES IN THE WORK

7.1 General

7.2 Change Orders

7.2.1.4 Add: Overhead and profit are hereby fixed at ten percent (10%) each.

7.2.1.5 Add: No change orders shall be valid until signed by the Owner.

7.3 Delete: Construction Change Directives

7.4 Minor Changes in the Work

7.4.1 Add: The changes of this nature if authorized by the Architect shall be paid for from the "General Allowance".

ARTICLE 8 – TIME

8.1 Definitions

8.2 Progress and completion

8.3 Delays and extensions of time

8.3.3 Delete and substitute in lieu of: Notwithstanding anything to the contrary in the Contract Documents, to the fullest extent permitted by law, in no event shall the Owner be responsible to the Contractor for any delay to the Contractor's work. In the event that the Contractor sustains a delay to its work resulting from either the negligence, bad faith, active interference, tortuous conduct of the Owner, which is the sole cause, without contribution of any act or omission of the Contractor, of the delay, the Contractor shall be entitled to submit a claim under the terms of this contract for onsite labor, equipment or supervision costs directly incurred by the Contractor, together with overhead and profit as allowed under the change order provisions of the General Conditions. In no event shall the Contractor have any claim against the Owner for extended home office overhead, unabsorbed home office overhead, loss of business, loss of bonding capacity or other consequential claims or consequential losses associated with any claimed delay, regardless of the cause of such claim delay.

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ARTICLE 9 - PAYMENTS AND COMPLETION

- 9.1 Contract Sum
- 9.2 Schedule of Values
- 9.2.2 Add: All contractors shall submit their schedule of values for approval with support data for material and labor for all renovation and addition work.
- 9.3 Applications for Payment
- 9.3.1 Add: For any contract which exceeds \$100,000, partial monthly payments shall be made as work progresses to cover the amount of work completed as of the time specified in the Contractor's application for payment less a 5% retainage. In lieu of the retainage, a Contractor may agree to deposit with the Owner negotiable bearer bonds of the State of New Jersey or negotiable bearer bonds or notes of any particular subdivision of the State of New Jersey, the value of which is equal to the amount necessary to satisfy the amount that otherwise would be withheld as specified above. The nature and amount of bonds or notes to be deposited shall be subject to the approval of the Owner. "Value" shall mean par value or current market value, whichever is lower. If bonds or notes are deposited, they shall, together with any interest accruing on them, be returned to the Contractor upon successful completion of the terms of the contract.
- For any contract of \$100,000 or less, retainage shall be 10%. When the work is 50% complete, if on schedule, the Architect may, at this point or anytime after, authorize monthly payments to the full value of the monthly estimate. If full monthly payments have been started and progress, workmanship or cooperation should lapse, the Architect may, for this or any other reason, resume the retainage of ten percent (10%).
- 9.3.2 Add: Materials delivered but not installed shall be paid for on the basis of 75% of the invoice, and may be contingent upon insurance by the Contractor against theft and vandalism.
- 9.4 Certificates for Payment
- 9.5 Decisions to withhold certification
- 9.6 Progress Payments
- 9.7 Failure of Payment
- 9.8 Substantial Completion
- 9.9 Partial Occupancy or Use
- 9.10 Final Completion and Final Payment
- 9.10.1 Add: The monies withheld (retainage) by the Owner from monthly payments to the Contractor shall constitute the final payment, to be paid upon final completion and Architect's certification.
- 9.10.2 Add: A proof of payment and affidavit shall be delivered to the surety company and the surety company, after examination as called for in the statement form, shall complete and

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deliver to the Owner, prior to Contractor's final payment, the Statement of Surety Company as attached to these specifications. With the request for final payment, the Contractor shall provide all required special guarantees, warranties, and certificates of approval.

ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

- 10.1 Safety Precautions and Programs
- 10.2 Safety of Persons and Property
- 10.2.8 The General Contractor shall provide all temporary doors and closures to obtain building and construction site security from vandals or burglars as soon as practicable during the course of construction. If a watchman becomes required due to job conditions, then the Owner shall obtain and pay for same.
- 10.3 Hazardous Materials
- 10.6 Emergencies

ARTICLE 11 - INSURANCE AND BONDS (See County Bid Boilerplate)

ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

- 12.1 Uncovering of Work
- 12.2 Correction of Work
- 12.3 Acceptance of nonconforming work

ARTICLE 13 - MISCELLANEOUS PROVISIONS

- 13.1 Governing Laws
- 13.1.2 Add the following: Attention is called to the following State Laws which apply to Public Work in the State of New Jersey.

CHAPTER 9, TITLE 34, Revised Statutes, providing that the citizens of the State of New Jersey who have resided in the State not less than one (1) year be given preference in employment on public works, Contractors shall employ local labor to the extent that qualified employees are available.

CHAPTER 10, TITLE 34, Revised Statutes, providing in the contract for establishment of an eight-hour working day for laborers, workmen, and mechanics.

- 13.2 Successors and Assigns
- 13.3 Written Notice
- 13.4 Rights and Remedies
- 13.5 Tests and Inspections

**SECTION 007300
SUPPLEMENTARY GENERAL CONDITIONS**

- 13.5.6 Add: Testing shall be monitored by or performed by a licensed testing laboratory under a general allowance for testing; as provided for in the division of this specification entitled "Quality Control Services", under General Construction.
- 13.6 Delete: Interest
- 13.7 Commencement of Statutory Limitation Period

ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

- 14.1 Delete: Termination by the Contractor
- 14.2 Termination by the Owner for Cause - Add:
- 14.2.5 The expense of finishing the work shall include compensation for additional architectural, at **\$160** / per man per hour, managerial and administrative services, including legal charges, as well as any additional financial expense incurred. The expenses incurred by the Owner as herein provided, and the damage incurred through Contractor's default, shall be certified by the Architect, whose certificate thereof shall be conclusive. A strike of over twenty (20) working days shall be cause for termination of contract under these conditions. "Strikes" in this instance shall mean local type jurisdictional or "wild-cat" strikes, and not Union-wide contract connected strikes.
- 14.3 Suspension by the Owner for Convenience
- 14.4 Termination by the Owner for Convenience
- 14.4.3 Delete: "along with overhead and profit on the Work not executed."

ARTICLE 15 – CLAIMS AND DISPUTES

- 15.1 Claims
- 15.2 Initial decision
- 15.3 Mediation
- 15.4 Arbitration
- 15.4.4 Consolidation or joinder

ADD: ARTICLE 16 – SUPPLEMENTARTY PROVISIONS

- 16.1 Job Site Meetings
- Regularly stated job site meetings shall be held as determined by the Architect. Each Contractor, or his authorized representative, who shall be authorized to speak for and/or make decisions for the Contractor, shall attend.
- 16.2 Temporary Services

**SECTION 007300
SUPPLEMENTARY GENERAL CONDITIONS**

16.3 Sanitation

All workmen are permitted to use the public restrooms.

16.4 Time of Completion

All work shall be completed within the **time specified on the Form of Proposal**. The length of completion time will begin with the notice to proceed and end at substantial completion. Refer to Article 8 in the A.I.A. General Conditions. Time is of the essence.

END OF SECTION 007300

SECTION 012500
PRODUCT SUBSTITUTION / EQUIVALENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling requests for substitution / equivalents made during bidding and after award of the Contract.
- B. Multiple Prime Contracts: Provisions of this Section apply to the construction activities of each prime Contractor.
- C. Procedural requirements governing the Contractor's selection of products and product options are included under Section: MATERIALS AND EQUIPMENT.

1.3 DEFINITIONS

- A. Substitution / equivalents: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the Contractor after award of the Contract are considered requests for "substitution / equivalents." The following are not considered substitution / equivalents:
 - 1. Pre-bid Substitution / equivalents requested by Bidders during the bidding period, and accepted prior to award of Contract, are considered as included in the Contract Documents.
 - 2. Specified options of products and construction methods included in Contract Documents.
 - 3. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.
- B. Pre-Bid Substitution / equivalents: Products and systems that are submitted by a Bidder for the Architect's consideration in accordance with the Article, Pre-Bid Substitution / equivalents, of this Section.

1.4 SUBMITTALS

- A. General: Make request for substitution / equivalent only as specified. Do not request substitution / equivalents by the submittals procedure specified in Section: SUBMITTALS.
- B. Schedule: Coordinate requests for substitution / equivalent with the Construction Schedule and allow sufficient time for proper review. Pre-bid substitution / equivalents will be considered up to the time stated in Document: INSTRUCTIONS TO BIDDERS.
- C. Substitution / equivalent and Pre-Bid Substitution / equivalent Request Submittal:

1. Submit 3 copies of each request for substitution / equivalent for consideration. Submit requests in the form and in accordance with procedures required for Change Order proposals.
2. Identify the product, or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers. Provide complete documentation showing compliance with the requirements for substitution / equivalents, and the following information, as appropriate:
 - a. State reason for substitution / equivalent.
 - b. Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
 - c. Samples, where applicable or requested.
 - d. A detailed comparison of significant qualities of the proposed substitution / equivalent with those of the Work specified. Significant qualities may include elements such as size, weight, durability, performance and visual effect. Submit comparison in same terms and order as work specified to facilitate comparison.
 - e. Complete coordination information. Identify changes required in other elements of the work to accommodate the substitution / equivalent, including work performed by other Contractors, including one of the following:
 - 1) A statement by the Contractor proposing the substitution / equivalent that he will pay for any additional costs to other Contractors.
 - 2) A statement by each Contractor affected, that identifies changes to the costs, time, arrangement or performance characteristics of his work, and a statement by all other Contractors that the proposed substitution / equivalent will require no change to the cost, time, arrangement or performance characteristics of their work.
 - f. A statement that the Contractor agrees to pay design costs or other costs incurred by the Owner in connection with the substitution / equivalent.
 - g. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors, that will become necessary to accommodate the proposed substitution / equivalent.
 - h. A statement indicating the substitution / equivalent's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution / equivalent. Indicate the effect of the proposed substitution / equivalent on overall Contract Time.
 - i. Cost information, including a proposal of the net change, if any in the Contract Sum.
 - j. Certification by the Contractor that the substitution / equivalent proposed is equal-to or better in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time, that may subsequently become necessary because of the failure of the substitution / equivalent to perform adequately.
3. Architect's Action on Substitution / equivalent Requests:
 - a. Within one (1) week of receipt of the request for substitution / equivalent, the Architect will request additional information or documentation necessary for evaluation of the request.
 - b. Within three (3) weeks of receipt of the request, or two (2) weeks of receipt of the additional information or documentation, whichever is later, the Architect will notify the Contractor of acceptance or rejection of the proposed substitution / equivalent. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified by name.

- c. Acceptance will be in the form of a letter, including a statement that a Change Order will or will not be required, and, if required, the changes in cost and time to be included in that Change Order. The Change Order, if required, will be issued within a reasonable time.
 - d. Rejection will include a statement giving reason for the rejection.
4. Architect's Action on Pre-Bid Substitution / equivalent Requests is specified in Document: INSTRUCTIONS TO BIDDERS.

PART 2 - PRODUCTS

2.1 SUBSTITUTION / EQUIVALENTS

- A. Conditions: The Contractor's substitution / equivalent request will be received and considered by the Architect when one or more of the following conditions are satisfied, as determined by the Architect; otherwise requests will be returned without action except to record noncompliance with these requirements.
- 1. Extensive revisions to Contract Documents are not required.
 - 2. Proposed changes are in keeping with the general intent of Contract Documents.
 - 3. The request is timely, fully documented and properly submitted.
 - 4. The request is directly related to an "or equal" clause or similar language in the Contract Documents.
 - 5. The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly, place an order within thirty (30) days of award of the Contract, or coordinate activities properly.
 - 6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution / equivalent can be approved.
 - 7. A substantial advantage is offered the Owner as determined by the Architect, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, adverse effect on maintenance, and similar considerations.
 - 8. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Contractor certifies that the substitution / equivalent will overcome the incompatibility.
 - 9. The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that the proposed substitution / equivalent can be coordinated.
 - 10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution / equivalent provide the required warranty.
 - 11. Where a proposed substitution / equivalent involves more than one prime Contractor, each Contractor shall cooperate with the other Contractors involved to coordinate the Work, provide uniformity and consistency, and to assure compatibility of products.
- B. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution / equivalent, nor does it constitute approval.

2.2 PRE-BID SUBSTITUTION / EQUIVALENTS

- A. Where the Bid Documents stipulate that a substitution / equivalent will only be considered as a pre-bid substitution / equivalent, it will be considered by the Architect up to the time stated in Document: INSTRUCTIONS TO BIDDERS.

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 25 00

SECTION 01 70 00
PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project closeout for Substantial Completion and Final Completion.
- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions-2 through -16.

1.3 SUBMITTALS

- A. Immediately after issuance Certificate of Substantial Completion and prior to requesting Final Acceptance submit the following:
 - 1. Project Record Documents.
 - 2. Warranties, Permits, Certificates and similar documents as specified in Section: WARRANTIES AND CERTIFICATES.

1.4 SUBSTANTIAL COMPLETION

- A. Notification: In sufficient time to permit scheduling of inspection, but not less than two weeks in advance of such inspection, submit written notice requesting establishment of Substantial Completion, including:
 - 1. A statement that the Work shall be substantially complete by a certain date.
 - 2. A list of work items which shall not be complete at requested date of Substantial Completion, with reasons therefor and with dates for completion of such work items.
 - 3. Specific warranties, workmanship/maintenance bonds, final certifications and similar documents, except those which require a date of Substantial Completion.
- B. Prior to inspection establishing Substantial Completion, complete the following:
 - 1. Obtain release enabling the Owner's full, unrestricted use of the Work and access to services and utilities. Include occupancy permits, and, as applicable to the work, certificates of inspection for:
 - 2. Deliver tools, spare parts, extra stock of material and similar physical items to the Owner.
 - 4. Discontinue or change over and remove from the Project site temporary facilities and services, construction tools and facilities, mock-ups, and similar elements, excepting only those items and elements which the Owner may at his sole discretion, permit to remain in the interest of achieving Substantial Completion.
 - 5. Complete final cleaning.

C. Inspection Procedures:

1. The Architect will either proceed with observation or advise the Contractor of prerequisites to observation.
2. Following the initial observation, the Architect will either prepare the Certificate of Substantial Completion, or will advise the Contractor of work which must be performed before the Certificate will be issued. List of work requiring completion will be the Contractor's list, amended as necessary.
3. The Architect will perform an inspection when requested and when assured that the work has been substantially completed.
4. When Architect concurs that the Work is substantially complete, he will prepare a Certificate of Substantial Completion, accompanied by list of items to be completed or corrected prior to Final Completion, and submit the Certificate to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.
5. Results of the completed inspection will form the initial "punch-list" for final completion.

1.5 FINAL ACCEPTANCE

A. General: Complete the following as soon as possible after Substantial Completion and before requesting the final inspection and acceptance:

1. Submit all documents and similar data pursuant to Article: SUBMITTLAS.
2. Submit final Application for Payments.
3. Submit a certified copy of the Architect final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance and has been endorsed and dated by the Architect.
4. Submit final progress photographs, damage or settlement survey, property survey, and other final record information required by the Contract Documents.
5. Submit Owner's receipts for delivery of small and loose components, maintenance stocks, and salvaged items required to be delivered to Owner.
6. Deliver copies of Contract Documents, except Contractor may retain one complete set for record purposes.
7. Submit a complete list of all Subcontractors and Suppliers including addresses, telephone numbers, fax numbers, and Contact Person.

B. Final Inspection:

1. The Architect will inspect the Work upon receipt of the Contractor's notice that the Work, including punch-list items from earlier inspections, has been completed.
2. Upon completion of observation, the Architect will either review final Certificate for Payment, or will advise the Contractor of work that is incomplete or of obligations that have not been fulfilled, but are required for final acceptance.

C. Final Closeout: Upon completion of work, as evidenced by inspection of facilities and receipt of required closeout documents in acceptable form, a final Certificate for Payment will be issued and final payment made, in accordance with the Conditions of the Contract. Contractor's obligations thereafter shall be limited to correction or replacement of defective work in accordance with the terms of the general warranty, special warranties, and the Conditions of the Contract.

1.6 FINAL APPLICATION FOR PAYMENT

A. Prepare and submit a statement reflecting adjustments to the Contract sum, including:

1. The original Contract Sum.
 2. Additions and deductions resulting from:
 - a. Previous Change Orders and Construction Change Directives
 - b. Deductions for uncorrected work, reinspection fees, liquidated damages as applicable
 - c. Allocated utilities cost
 - d. Other adjustments as applicable
 3. Total Contract Sum, as adjusted
 4. Previous payments
 5. Sum remaining due
- B. The Architect will prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders or Construction Change Directives.

1.7 REINSPECTION FEE

- A. Should Architect/Engineer perform reinspections due to failure of the Work to comply with claims of status of completion made by the Contractor:
1. Owner will deduct the amount of such compensation from the final payment to the Contractor.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 70 00

SECTION 024113
SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section requires the selective removal and subsequent offsite disposal of the following:
 - 1. Portions of existing building indicated on drawings and as required to accommodate new construction.
 - 2. Removal and protection of existing fixtures, materials, and equipment items indicated "salvage."

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Section: SUBMITTALS.
- B. Schedule indicating proposed sequence of operations for selective demolition work to Owner's Representative for review prior to start of work. Include coordination for shutoff, capping, and continuation of utility services as required, together with details for dust and noise control protection.
 - 1. Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.
- C. Photographs of existing conditions of structure surfaces, equipment, and adjacent improvements that might be misconstrued as damage related to removal operations. File with Owner's Representative prior to start of work.

1.4 JOB CONDITIONS

- A. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished.
 - 1. Conditions existing at time of inspection for bidding purposes will be maintained by Owner insofar as practicable. However, minor variations within structure may occur by Owner's removal and salvage operations prior to start of selective demolition work.
- B. Partial Demolition and Removal: Items indicated to be removed but of salvageable value to Contractor may be removed from structure as work progresses. Transport salvaged items from site as they are removed.
 - 1. Storage or sale of removed items on site will not be permitted.

- C. Protections: Provide temporary barricades and other forms of protection to protect Owner's personnel and general public from injury due to selective demolition work.
 - 1. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished and adjacent facilities or work to remain.
 - 2. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.
 - 3. Protect expansion & control joints with suitable coverings when necessary.
 - 4. Construct temporary dustproof partitions where required to separate areas where noisy or extensive dirt or dust operations are performed.
 - 5. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces and installation of new construction to ensure that no water leakage or damage occurs to structure or interior areas of existing building.
 - 6. Remove protections at completion of work.
 - 7. Provide protective measures including but not limited to signage and temporary traffic barriers as required to provide free and safe passage of Owner's personnel and general public to occupied portions of building.

- D. Damages: Promptly repair damages caused to adjacent facilities by demolition work.

- E. Traffic: Conduct selective demolition operations and debris removal to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
 - 1. Do not close, block, or otherwise obstruct streets, walks, or other occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

- F. Flame Cutting: Do not use cutting torches for removal until work area is cleared of flammable materials. At concealed spaces, such as interior of ducts and pipe spaces, verify condition of hidden space before starting flame-cutting operations. Maintain portable fire suppression devices during flame-cutting operations.

- G. Utility Services: Maintain existing utilities indicated to remain in service and protect them against damage during demolition operations.
 - 1. Do not interrupt utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.
 - 2. Maintain fire protection services during selective demolition operations.

- G. Environmental Controls: Use water sprinkling, temporary enclosures, and other methods to limit dust and dirt migration. Comply with governing regulations pertaining to environmental protection.
 - 1. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 PREPARATION

- A. General: Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of areas to be demolished and adjacent facilities to remain.
1. Cease operations and notify Owner's Representative immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.
 2. Cover and protect furniture, equipment, and fixtures from soilage or damage when demolition work is performed in areas where such items have not been removed.
 3. Erect and maintain dust-proof partitions and closures as required to prevent spread of dust or fumes to occupied portions of the building.
 - a. Provide weatherproof closures for exterior openings resulting from demolition work.
 - b. Where selective demolition occurs immediately adjacent to occupied portions of the building, construct dust-proof partitions of minimum 4-inch studs, 5/8-inch drywall (joints taped) on occupied side, 1/2-inch fire-retardant plywood on demolition side. Fill partition cavity with sound-deadening insulation.
 4. Locate, identify, stub off, and disconnect utility services that are not indicated to remain.
 - a. Provide bypass connections as necessary to maintain continuity of service to occupied areas of building. Provide minimum of 72 hours advance notice to Owner if shutdown of service is necessary during changeover.

3.2 DEMOLITION

- A. General: Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
1. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain using power-driven masonry saw or hand tools; do not use power-driven impact tools.
 2. Locate demolition equipment throughout structure and promptly remove debris to avoid imposing excessive loads on supporting walls, floors, or framing.
 3. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
 4. For interior slabs or masonry walls, use removal methods that will not crack or structurally disturb adjacent slabs or partitions. Use power saw where possible.
- B. If unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Owner's Representative in written, accurate detail. Pending receipt of directive from Owner's Representative, rearrange selective demolition schedule as necessary to continue overall job progress without undue delay.

3.3 DISPOSAL OF CONSTRUCTION DEBRIS

- A. No garbage shall be mixed in with the construction & demolition debris.
 - a. Remove from building site debris, rubbish, and other materials resulting from demolition operations. Transport and legally dispose off site.
 - 1. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution.

3.4 CLEANUP AND REPAIR

- A. General: Upon completion of demolition work, remove tools, equipment, and demolished materials from site. Remove protections and leave interior areas broom clean.
 - 1. Repair demolition performed in excess of that required. Return elements of construction and surfaces to remain to the condition existing prior to start of demolition. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

END OF SECTION 02 41 13

SECTION 030130.3
GENERAL PURPOSE CONCRETE REPAIR MORTAR

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Application of one-component, fast setting repair mortar to vertical, overhead, and horizontal surfaces by trowel application.

1.02 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-Place Concrete.
- B. Section 03 40 00 - Precast Concrete.

1.03 REFERENCES

- A. International Concrete Restoration Institute (ICRI)
 - 1. ICRI Technical Guideline No. 310.1R-2008: Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion.
 - 2. ICRI Technical Guidelines No. 310.2-1997: Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.
- B. American Society for Testing and Materials (ASTM)
 - 1. ASTM C109/C109M-02 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2" or [50-mm] Cube Specimens).
 - 2. ASTM C191-01a - Standard Test Method for Time of Setting of Hydraulic Cement by Vicat Needle.
 - 3. ASTM C881 - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
- C. American Concrete Institute (ACI)
 - 1. ACI 305-R89 - Standard on Hot Weather Concreting.
 - 2. ACI 306-R88 - Standard on Cold Weather Concreting.
 - 3. ACI 308 - Standard Specification for Curing Concrete.
 - 4. ACI 347-88 - Guide to Formwork for Concrete.

1.04 SUBMITTALS

- A. Comply with Section 01 33 00 - Submittal Procedures.
- B. Submit manufacturer's product data and application instructions.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Store materials in a clean, dry area in accordance with manufacturer's instructions.
- C. Protect materials during handling and application to prevent damage or contamination.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply below 35° F (1.7° C) or above 90° F (32° C) or when rain is imminent.
- B. Protect from conditions that may cause early water loss: high winds, low humidity, high temperature and direct sunlight.
- C. Protect from freezing for a minimum of 24 hours.

1.07 USAGE REQUIREMENTS

- A. Not designed for use as a topping for concrete.
- B. Not designed for re-sloping concrete.
- C. Not designed for use an underlayment.

1.08 DESIGN REQUIREMENTS

- A. Extend existing control or constructions joints through the patching mortar.
- B. Do not bridge moving cracks.
- C. Follow manufacturer’s recommendations with mixing requirements ensuring no addition of any type of admixtures or concrete modifiers.
- D. Featheredging the repair will result in reduced durability and performance.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Design Basis - W. R. MEADOWS, INC., PO Box 338, Hampshire, Illinois 60140-0338. (800) 342-5976. (847) 683-4500. Fax (847) 683-4544. Web Site: www.wrmeadows.com.
- B. SIKA
- C. MASTER BUILDER
- D. *Or equivalent*

2.02 MATERIALS

- A. Performance-Based Specification:
 - 1. Cementitious Repair Mortar: shall be a one-component, cementitious, fast-setting restoration/repair mortar and shall have the following properties as determined by laboratory testing:
 - a. Compressive Strength, ASTM C109 3,000 psi (20.7 MPa) @ 1 day
6,500 psi (44.8 MPa) @ 28 days
 - b. Set Time, ASTM C191 Initial: 8-12 minutes
Final: 15-20 minutes
- B. Design basis Specification:
 - 1. **MEADOW-PATCH T1- Horizontal repair mortar** *Or equivalent @ upper deck*
 - 2. **MEADOW-PATCH T2 – Concrete resurfacer** *Or equivalent @ lower deck*

2.03 ACCESSORIES

- A. Concrete Curing Compound: 1100-CLEAR CURING COMPOUND or 1220-WHITE PIGMENTED CURING COMPOUND by W. R. MEADOWS. *Or equivalent*
- B. Acrylic Latex Bonding Agent: ACRY-LOK™ by W. R. MEADOWS. *Or equivalent*
- C. Evaporation Retarder: EVAPRE™ by W. R. MEADOWS. *Or equivalent*
- D. Epoxy Bonding Agent: REZI-WELD™ 1000 by W.R. MEADOWS. *Or equivalent*

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to receive repair mortar. Notify architect if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

3.02 SURFACE PREPARATION

- A. Reinforcing Steel:
 1. Perform reinforcing steel preparation in accordance with the ICRI Technical Guideline No. 310.1R-2008.
 2. Completely expose all reinforcing steel, ensuring a minimum clearance of ¾" (19 mm) behind reinforcing steel.
 3. Remove loose scale and corrosion deposits and clean steel to white metal by abrasive blasting.
- B. Concrete Substrate:
 1. Perform surface preparation in accordance with ICRI Technical Guideline No. 310.2-1997.
 2. Mechanically roughen or high pressure water-jet existing concrete substrate to a minimum concrete surface profile (CSP) of CSP-4.
 3. Ensure substrate is structurally sound and free of any contaminants, dirt, coatings, topical or penetrating sealers, paints, residue release agents, curing compounds or any surface or penetrating material that will adversely affect the bond of the mortar.
 4. Remove all unsound concrete and provide a profiled, porous surface for bonding.
 5. Sanding, grinding or wire-abrading or similar type of methods are not recommended surface preparation methods.
 6. Pre-soak repair zone prior to application of the mortar to a saturated, surface dry (SSD) condition, free of standing water.
 7. If water has puddled in low areas, vacuum or use oil-free compressed air to blow-off excessive water. Do not allow puddles in low areas to dry naturally, this will most likely allow the remaining patch area to become too dry to achieve proper bonding.
 8. Prime substrate with a slurry coat of two parts repair mortar to one part acrylic bonding agent while the substrate is properly pre-dampened.
 9. Allow slurry coat to become tacky but not tack-free (dry).
 10. If the slurry coat becomes dry, pre-dampen following step 5 and reapply slurry coat following step 6.
 11. For substrates that are difficult to bond to, or performing surface preparation produces as outlined in steps 1 through 7 is not possible, then the application of structural epoxy bonding agent conforming to ASTM C 881, Type IV, Grade 2, Class B & C may be substitute.
 12. Follow manufacturer's instructions for application of the structural epoxy bonding agent.
 13. The use of the structural epoxy bonding agent may be substituted for steps 1 through 7 for any time.

3.03 APPLICATION

- A. Mixing
 - 1. Mix complete bags using a mortar-type mixer.
 - 2. Alternatively, for small repairs, mix in a clean vessel, using a variable-speed drill with a mixing paddle designed for mixing mortars (not liquids) at 400-600 rpm.
 - 3. Pour 3/4 of the liquid component into the mixer.
 - 4. Slowly add dry component while mixing.
 - 5. Mix for 3-5 minutes or until homogeneous and lump-free.
 - 6. Adjust mix consistency using the remaining 1/4 of container of liquid component.

- B. Placement
 - 1. Compact mortar well into properly prepared substrate prior to bulk placement.
 - 2. Finish surface with a wood or steel trowel, or a sponge float.
 - 3. Do not re-temper or over-work.
 - 4. Ensure maximum thickness does not exceed 2" (5 cm).
 - 5. Follow ACI 305-R89 "Standard on Hot Weathering", or ACI 306-R88 "Standard on Cold Weather Concreting", when applicable.

- D. Curing
 - 1. Cure mortar immediately following application in accordance with ACI 308.
 - 2. Apply a water-based curing compound at the specified rate based on manufacturer's recommendation.

END OF SECTION

SECTION 043018

MANUFACTURED MASONRY VENEER

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Portland cement based manufactured stone veneer and trim.
- B. Related Sections:
 - 1. 09 24 00–Portland Cement Plastering.
- C. Alternates:
 - 1. Reference Section 01 23 00–Alternates.

1.02 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. ANSI A118.4 Specifications for Latex-Portland Cement Mortar.
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM C 39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - 2. ASTM C 67 – Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
 - 3. ASTM C 270 – Standard Specification for Mortar for Unit Masonry.
 - 4. ASTM C 482 – Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement.
 - 5. ASTM C 847 – Standard Specification for Metal Lath.
 - 6. ASTM C 932 – Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering.
 - 7. ASTM C 979 – Standard Specification for Pigments for Integrally Colored Concrete.
 - 8. ASTM C 1032 – Standard Specification for Woven Wire Plaster Base.
 - 9. ASTM C 1059 – Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete.
 - 10. ASTM E2556/E2556M – Standard Specification for Vapor Permeable Flexible Sheet Water-Resistive Barriers Intended for Mechanical Attachment
- C. Other Standards:
 - 1. UBC Standard No. 14-1, Kraft Waterproof Building Paper
 - 2. UU-B-790 Building Paper, Vegetable Based, Kraft , waterproofed, water repellent and fireproof
- D. International Code Council (ICC):
 - 1. ESR Report.
 - 2. ICC AC38 Acceptance Criteria for Water Resistive Barriers
- E. Underwriter's Laboratory (UL): Building Materials Directory.

1.03 SUBMITTALS

- A. Reference Section 01 33 00–Submittal Procedures; submit following items:
 - 1. Product Data.
 - 2. Samples:
 - a. Standard sample board consisting of small-scale pieces of veneer units showing full range of textures and colors.
 - b. Full range of mortar colors.
 - 3. Quality Assurance/Control Submittals:
 - a. Qualifications:
 - 1) Proof of manufacturer qualifications.
 - 2) Proof of installer qualifications.

SECTION 043018

MANUFACTURED MASONRY VENEER

- b. Regulatory Requirements: Evaluation reports.
- c. Veneer manufacturer's installation instructions.
- d. Installation instructions for other materials.

- B. Closeout Submittals: Reference Section 01 78 00–Closeout Submittals; submit following items:
 - 1. Maintenance Instructions.
 - 2. Special Warranties.

1.04 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer Qualifications:
 - 2. Installer Qualifications: Experienced mason familiar with installation procedures and related local, state and federal codes masonry.
- B. Certifications:
 - 1. ICC Evaluation Service – Evaluation Report ESR-1215.
 - 2. ICC ESR-1215, Florida Building Code Supplement
 - 3. ASTM C1670
 - 4. UL – Classification listing in Building Materials Directory: UL 546T (F8002).
- C. Field Sample:
 - 1. Prepare 4 by 4 foot sample at a location on the structure as selected by the Architect. Use approved selection sample materials and colors.
 - 2. Obtain Architect's approval.
 - 3. Protect and retain sample as a basis for approval of completed manufactured stone work. Approved sample may be incorporated into completed work.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Reference Section 01 66 00–Product Storage and Handling Requirements.
- B. Follow manufacturer's instructions.

1.06 PROJECT/SITE CONDITIONS

- A. Environmental Requirements: When air temperature is 40 degrees F (4.5 degrees C) or below, consult local building code for Cold-Weather Construction requirements.

1.07 WARRANTY

- A. Special Warranty: Manufacturer's standard warranty coverage against defects in materials when installed in accordance with manufacturer's installation instructions.

PART 2 - PRODUCTS

2.01 MANUFACTURER BASIS OF DESIGN

- A. Eldorado Stone, LLC *OR EQUAL*
1370 Grand Ave., Bldg. B
San Marcos, CA 92069
- B. Product-basis of design: Colorado River Rock
- C. Substitutions: Must match stone veneer @ La Scala restaurant.

SECTION 043018

MANUFACTURED MASONRY VENEER

2.02 MATERIALS

- A. Stone Veneer:
 - 1. Profile: Colorado River Rock. Include matching corner pieces.
 - 2. Stone Accents: Split Edge Wainscot Sill.
 - a. Color: To be selected.
 - b. Texture: Split Edge.
- B. Veneer Unit properties: Precast veneer units consisting of portland cement, lightweight aggregates, and mineral oxide pigments.
 - 1. Compressive Strength: ASTM C 192 and ASTM C 39, 5 sample average: greater than 1,800 psi (12.4MPa).
 - 2. Shear Bond: ASTM C 482: 50 psi (345kPa), minimum.
 - 3. Freeze-Thaw Test: ASTM C 67: Less than 3 percent weight loss and no disintegration.
 - 4. Thermal Resistance: ASTM C 177: 0.473 at 1.387 inches thick
 - 5. Weight per square foot: 2012 IBC and 2012 IRC, ASTM C1670, 15 pounds, saturated.
- C. Weather Barrier: [ASTM D 226, Type 1, No. 15, non-perforated asphalt-saturated felt paper] [UBC Standard 14-1, kraft waterproof building paper] or [UBC Standard No. 14-1, Kraft Waterproof Building Paper] or [ICC AC-38, synthetic house wrap]
- D. Reinforcing: [ASTM C 847, 2.5lb/yd² (1.4kg/m²) galvanized expanded metal lath] [ASTM C 847, 3.4lb (1.8 kg/m²) galvanized 3/8" rib lath] [ASTM C 1032, 17 gauge (1.3 mm) woven wire mesh] complying with code agency requirements for the type of substrate over which stone veneer is installed.
- E. Mortar:
 - 1. Cement: Portland cement complying with ASTM C 1329.
 - 2. Lime: ASTM C 207.
 - 3. Sand: ASTM C 144, natural or manufactured sand.
 - 4. Color Pigment: ASTM C 979, mineral oxide pigments.
 - 5. Water: Potable.
 - 6. Pre-Packaged Latex-Portland Cement Mortar: ANSI A118.4.
- F. Bonding Agent: Exterior integral bonding agent meeting [ASTM C 932] [ASTM C 1059 Type II]
- G. Water Repellent: Water based silane or siloxane masonry water repellent

2.03 MORTAR MIXES

- A. Standard Installation (Grouted Joints):
 - 1. Mix mortar in accordance with ASTM C 270,
 - 2. Polymer modified mortar complying with ANSI A118.4
 - a. Add color pigment in grout joint mortar in accordance with pigment manufacturer's instructions not to exceed 10% by weight of cement.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates upon which work will be installed.
- B. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.
- C. Commencement of work by installer is acceptance of substrate.

SECTION 043018

MANUFACTURED MASONRY VENEER

3.02 PREPARATION

- A. Protection: Protect adjacent work from contact with mortar.
- B. Surface Preparation: Prepare substrate in accordance with manufacturer's installation instructions for the type of substrate being covered.

3.03 INSTALLATION

- A. Install and clean stone in accordance with manufacturer's installation instructions for Standard Installation (Grouted Joint).
- B. Apply repellent in accordance with repellent manufacturer's application instructions.

3.04 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Manufacturer's Field Service Representative shall make [two] periodic site visits review of on-going installation.

3.05 CLEANING

- A. Reference Section 01 74 00–Cleaning and Waste Management.
- B. Remove protective coverings from adjacent work.
- C. Cleaning Veneer Units:
 - 1. Wash with soft bristle brush and water/granulated detergent solution
 - 2. Rinse immediately with clean water
- D. Removing Efflorescence:
 - 1. Allow veneer to dry thoroughly
 - 2. Scrub with soft bristle brush and clean water
 - 3. Rinse immediately with clean water; allow to dry
 - 4. If efflorescence is still visible, contact ES Customer Service for assistance

END OF SECTION

SECTION 051200
STRUCTURAL STEEL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes fabrication and erection of structural steel work, as shown on drawings including schedules, notes, and details showing size and location of members, typical connections, and types of steel required. Provide structural steel work, including but not limited to base plates; columns; cap plates; splice plates; stiffeners; bracing; fascia angles; beams; girders; lintels supported by structural steel or concrete; hangers; posts; bearing plates; masonry anchors; diaphragms; separators; field connections; and other structural steel shown on the Drawings, except where specifically identified as work of another section.

1. Structural steel is that work defined in American Institute of Steel Construction (AISC) "Code of Standard Practice" and as otherwise shown on drawings.
2. Miscellaneous Metal Fabrications are specified elsewhere in Division 5.
3. Refer to Division 3 for anchor bolt installation in concrete, Division 4 for anchor bolt installation in masonry.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Section: SUBMITTALS.
- B. Product data or manufacturer's specifications and installation instructions for following products. Include laboratory test reports and other data to show compliance with specifications (including specified standards).
1. Structural steel (each type), including certified copies of mill reports covering chemical and physical properties as per ASTM A6, and names and locations of mills and shops of steel to be used on this Project.
 2. High-strength bolts (each type), including nuts and washers.
 - a. Include Direct Tension Indicators if used.
 3. Structural steel primer paint.
- C. Provide certification that welders to be employed in work have satisfactorily passed AWS qualification tests.
1. If recertification of welders is required, retesting will be Contractor's responsibility.

1.4 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of following, except as otherwise indicated:
1. American Institute of Steel Construction (AISC) "Code of Standard Practice for Steel Buildings and Bridges."
 - a. Paragraph 4.2.1 of the above code is hereby modified by deletion of the following sentence:
 - 1) "This approval constitutes the owner's acceptance of all responsibility for the design adequacy of any detail configuration of connections developed by the fabricator as a part of his preparation of these shop drawings."
 2. AISC "Specifications for Structural Steel Buildings," including "Commentary."
 3. "Specifications for Structural Joints using ASTM A 325 or A 490 Bolts" approved by the Research Council on Structural Connections.
 4. American Welding Society (AWS) D1.1 "Structural Welding Code - Steel."
 5. ASTM A 6 "General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use."
 6. SSPC Steel Structural Painting Council:
 - a. Painting Manual, Volume 1: "Good Painting Practice."
 - b. Painting Manual, Volume 2: "Systems and Specifications."
- B. Qualifications for Welding Work: Qualify welding procedures and welding operators in accordance with AWS "Qualification" requirements.
- A. Engineer Qualifications: A professional engineer legally authorized to inspect in jurisdiction where Project is located, and experienced in providing successful engineering services for structural systems similar in extent required for this Project.
- C. Comply with local, state and federal regulations.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site at such intervals to ensure uninterrupted progress of work.
- B. Deliver anchor bolts and anchorage devices, which are to be embedded in cast-in-place concrete or masonry, in ample time to not to delay work.
- C. Store materials to permit easy access for inspection and identification. Keep steel members off ground by using pallets, platforms, or other supports. Protect steel members and packaged materials from erosion and deterioration. If bolts and nuts become dry or rusty, clean and relubricate before use.
1. Do not store materials on structure in a manner that might cause distortion or damage to members or supporting structures. Repair or replace damaged materials or structures as directed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Metal Surfaces, General: For fabrication of work that will be exposed to view, use only materials that are smooth and free of surface blemishes including pitting, rust and scale seam marks, roller marks, rolled trade names, and roughness. Remove such blemishes by grinding, or by welding and grinding, prior to cleaning, treating, and applying surface finishes.
- B. Structural Steel Shapes, Plates, and Bars: ASTM A 36.**
- C. Cold-Formed Welded Steel Tubing: ASTM A 500, Grade B.**
- D. High-Strength Threaded Fasteners: Heavy hexagon structural bolts, heavy hexagon nuts, and hardened washers. Provide one of the following:**
1. **Quenched and tempered medium-carbon steel bolts, nuts, and washers, complying with ASTM A 325.**
 - a. **Where indicated as galvanized, provide units that are zinc coated, either mechanically deposited complying with ASTM B 695, Class 50, or hot-dip galvanized complying with ASTM A 153.**
 2. **Quenched and tempered alloy steel bolts, nuts, and washers, complying with ASTM A 490.**
 3. **Bolts shall be 3/4 inch diameter unless otherwise noted.**
- H. Anchor Bolts: ASTM A 449 - 83a.**
- I. Expansion Bolts: Zinc plated with chromate coating for corrosion protection.
- J. Structural Steel Primer Paint:
1. Provide paint having not less than 50 percent solids and capable of withstanding the following tests without any blistering or cracking, or change in adhesion, film integrity, hardness, or color:
 - a. **Freeze Thaw: ASTM D2246, 30 cycles.**
 - b. **Salt Spray Resistance: ASTM B117, 500 hours.**
 - c. **Light and Water Resistance: ASTM D822, 5000 hours.**
 2. The following products are acceptable provided they are compatible with subsequent field applied coatings, including Section: FINISH PAINTING.
 - a. **"Enviro-Prime Primer No. 19-491", Tnemec Company, Inc.**
 - b. **"Enviro-Guard Heavy Duty Primer 1-2969, grey", Southern Coatings, Inc. / Pratt and Lambert.**
 3. Other products will be considered only if request is accompanied by certified test report showing compliance with the above requirements.
- L. Filler Metal for Welding:

1. For shielded metal-arc welding, welding electrodes shall conform to ASTM A233, E70 series.
2. Submerged arc welding: Grades SAW-1 or Grade SAW-2.

2.2 STEEL SECTIONS

- A. Provide or furnish, as applicable, sections as shown on the Contract Drawings.
- B. Substitutions: Make Substitutions in accordance with requirements of Section: PRODUCT SUBSTITUTIONS.

2.3 CONNECTIONS

- A. Design and detail connections to resist the loads and reactions shown or specified. Details submitted shall supplement and be consistent with details shown.
- B. Take proper account of eccentricity in the design of connections so that there is no overstressing of material either in connections or in connected members.
- C. The design of connections shall be subject to Architect's review.
- D. For both shop and field connections, use welds or 3/4 inch minimum diameter fully tensioned high strength bolts, unless other connection specifically indicated. All beam to column connections are slip critical.
- E. Bolt holes shall not be permitted in beam flanges, except as noted.
- F. Design beams for end reactions as tabulated in the latest edition of the AISC Manual, Part 2, unless the reaction is shown. Shear connections shall be standard double angle connections unless other detail indicated. Use a minimum of two bolts for each connection.
- G. Bolted connections shall be either friction or bearing type. Design bearing type connections with threads included in shear plane.
- H. Size connections so that the distance between the top-most and bottom-most bolts is at least 1/2 the nominal depth of the beam, except that, where this is precluded by beam dimensions, place the top-most and bottom-most bolts to give the maximum distance possible.
- I. Accurately space holes to allow the insertion of high-strength bolts. Do not make hole diameter more than 1/16 inch larger than bolt diameter.

2.4 FABRICATION

- A. Shop Fabrication and Assembly: Fabricate and assemble structural assemblies in shop to greatest extent possible. Fabricate items of structural steel in accordance with AISC Specifications and as indicated on final shop drawings. Provide camber in structural members where indicated.
 1. Properly mark and match-mark materials for field assembly. Fabricate for delivery sequence that will expedite erection and minimize field handling of materials.
 2. Where finishing is required, complete assembly, including welding of units, before start of finishing operations. Provide finish surfaces of members exposed in final structure free of markings, burrs, and other defects.
- B. Bolted Connections:

1. High-Strength Bolted Construction: Install high-strength threaded fasteners in accordance with AISC "Specifications for Structural Joints using ASTM A 325 or A 490 Bolts."
2. Install high strength steel bolts using pneumatic powered impact wrenches with sufficient capacity and an adequate supply of compressed air.
3. Turn of Nut Bolting: Use a hardened washer under either the bolt head or nut, whichever is turned in tightening.
4. At the option of the contractor, load indicator washers may be used.
5. Use a maximum of two washers per bolt.
6. Where a connection must be loosened after final tightening has been completed, reuse of bolts shall be as follows:
 - a. Do not reuse A490 bolts and A325 galvanized bolts
 - b. Reuse other A325 bolts only with specific Architect's review.
 - c. Retightening of previously tightened bolts which have been loosened by tightening of adjacent bolts is not considered a reuse.

C. Welded Connections:

1. Comply with AWS Code for procedures, appearance and quality of welds, and methods used in correcting welding work.
1. Welding shall be done by certified welders. Structurally unsound or sloppy welds shall be rejected. Ensure that passes are of uniform thickness and in a uniform plane, not concave or convex with rounded edges.
2. Welds shall be as shown on the Drawings, but not less than 1/4 inch fillet.

D. Bolt field connections, except where welded connections or other connections are indicated.

E. Assemble and weld built-up sections by methods that will produce true alignment of axes without warp.

F. Steel Wall Framing: Select members that are true and straight for fabrication of steel wall framing. Straighten as required to provide uniform, square, and true members in completed wall framing.

G. Cut, drill, or punch holes perpendicular to metal surfaces. Do not flame-cut holes or enlarge holes by burning. Drill holes in bearing plates.

H. Provide threaded nuts welded to framing and other specialty items as indicated to receive other work.

2.5 SHOP PAINTING

A. General: Shop-paint structural steel, except do not paint the following:

1. Those members or portions of members to be embedded in concrete or mortar. Paint embedded steel that is partially exposed on exposed portions and initial 2 inches of embedded areas only.
2. Do not paint surfaces scheduled to receive sprayed-on fireproofing.
3. Contact surfaces of friction type connections and high-strength bolted field joints, and areas within 2 inches of field welds.
4. Machine-finished surfaces, such as bearing surfaces of columns and column base plates.

B. Surface Preparation: After inspection and before shipping, clean steelwork to be painted. Remove loose rust, loose mill scale, and spatter, slag, or flux deposits. Remove oil and grease deposits with solvents. Clean steel in accordance with Steel Structures Painting Council (SSPC) as follows:

1. SP-3 "Power-Tool Cleaning."

- C. Painting: Immediately after surface preparation, apply structural steel primer paint in accordance with manufacturer's instructions and at a rate to provide dry film thickness of not less than 2 mils. Use painting methods that result in full coverage of joints, corners, edges, and exposed surfaces.
 - 1. Apply 2 coats of paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.
 - 2. Protect milled surfaces from primer by coating with linseed oil.

2.6 GALVANIZING

- A. Hot dip galvanize, after fabrication, the following steel members, and other members as indicated; comply with ASTM A123.
 - 1. Steel members which shall be exposed to weather in the finished Work.
 - 2. Lintels, shelf angles and other members within the exterior wythe of exterior masonry walls.

PART 3 - EXECUTION

3.1 ERECTION

- A. Surveys: Check elevations of concrete and masonry bearing surfaces, and locations of anchor bolts and similar devices, before erection work proceeds, and report discrepancies to Architect. Do not proceed with erection until corrections have been made or until compensating adjustments to structural steel work have been agreed upon with Architect.
- B. Temporary Shoring and Bracing: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made. Provide temporary guy lines to achieve proper alignment of structures as erection proceeds.
- C. Temporary Planking: Provide temporary planking and working platforms as necessary to effectively complete work.
- D. Setting Bases and Bearing Plates: Clean concrete and masonry bearing surfaces of bond-reducing materials and roughen to improve bond to surfaces. Clean bottom surface of base and bearing plates.
 - 1. Set loose and attached base plates and bearing plates for structural members on wedges or other adjusting devices.
 - 2. Tighten anchor bolts after supported members have been positioned and plumbed. Do not remove wedges or shims, but if protruding, cut off flush with edge of base or bearing plate prior to packing with grout.
 - 3. Pack grout solidly between bearing surfaces and bases or plates to ensure that no voids remain. Finish exposed surfaces, protect installed materials, and allow to cure.
 - 4. For proprietary grout materials, comply with manufacturer's instructions.
- E. Field Assembly: Set structural frames accurately to lines and elevations indicated. Align and adjust various members forming part of complete frame or structure before permanently fastening. Clean bearing surfaces and other surfaces that will be in permanent contact before assembly. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - 1. Connections: Comply with requirements as specified under Article: FABRICATION.

- F. Level and plumb individual members of structure within specified AISC tolerances.
- G. ***Establish required leveling and plumbing measurements on mean operating temperature of structure. Make allowances for difference between temperature at time of erection and mean temperature at which structure will be when completed and in service.***
- H. Splice members only where indicated and accepted on shop drawings.
- I. Erection Bolts: Make joints without the use of erection bolts. Where proper fit cannot be obtained, provide additional plumbing, leveling or corrective work as required.
- J. Gas Cutting: Do not use gas cutting torches in field for correcting fabrication errors in primary structural framing. Cutting will be permitted only on secondary members that are not under stress, as acceptable to Architect. Finish gas-cut sections equal to a sheared appearance when permitted.

3.2 FIELD PAINTING

- A. Touch-up Painting: After erection, paint damaged areas of shop coat, exposed surfaces of bolts, and cleaned welds; use same primer as used in the shop.
 - 1. Prior to touch-up, remove rust, dirt and weld slag.
 - 2. Extend touch-up paint a minimum of 2 inches onto undamaged finish.
 - 3. Uniformly apply paint to dry surfaces, to a dry film thickness of not less than 2 mils.
- B. Protective Painting: Apply one field coat of paint to steel members, except galvanized members, which shall be encased in or immediately abut exterior masonry walls. Use same paint used for shop coating, but different in color.

3.3 QUALITY CONTROL

- A. Engage an independent testing and inspection agency to inspect high-strength bolted connections and welded connections and to perform tests and prepare test reports.
- B. General: Materials and fabrication procedures are subject to inspection and tests in mill, shop, and field, conducted by a qualified inspection agency. Such inspections and tests will not relieve Contractor of responsibility for providing materials and fabrication procedures in compliance with specified requirements.
 - 1. Promptly remove and replace materials or fabricated components that do not comply.
- C. The Contractor shall furnish to the Inspector:
 - 1. A complete set of reviewed erection drawings and fabrication drawings.
 - 2. Cutting lists, order lists, material bills and shipping lists.
 - 3. Information as to time and place of rollings and shipment of material to shops.
 - 4. Representative sample pieces requested for testing.
 - 5. Full and ample means and assistance for testing and inspecting materials, and proper facilities for inspection of the work, in the mill, shop and field.
 - 6. A list of qualified welders, including each welder's identifying symbol or mark in accordance with AWS.
 - 7. A copy of each welder's qualifying papers.

- D. Testing agency shall conduct and interpret tests, state in each report whether test specimens comply with requirements, and specifically state any deviations therefrom.
- E. Provide access for testing agency to places where structural steel work is being fabricated or produced so that required inspection and testing can be accomplished.
- F. Testing agency may inspect structural steel at plant before shipment.
- G. Correct deficiencies in structural steel work that inspections and laboratory test reports have indicated to be not in compliance with requirements. Perform additional tests, at Contractor's expense, as necessary to reconfirm any noncompliance of original work and to show compliance of corrected work.
- H. Welding:
 - 1. The Contractor shall maintain records of test results of welding procedures and records of welders employed, date of qualification, and identification symbol or mark. Such records shall be available for examination by the Architect or Inspector. Submit certified copies upon request.
 - 2. Record types and locations of defects found in work. Record work required and performed to correct deficiencies.
 - 3. Perform tests of welds as follows. Inspection procedures listed are to be used at Contractor's option.
 - a. *Liquid Penetrant Inspection: ASTM E 165.*
 - b. *Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration not acceptable.*
 - c. *Radiographic Inspection: ASTM E 94 and ASTM E 142; minimum quality level "2-2T."*
 - d. *Ultrasonic Inspection: ASTM E 164.*
 - 4. Frequency of Testing:
 - a. *Visual inspection of all welded connections, both shop installed and field installed.*
 - b. *Test minimum 50 linear feet of weld by each welder.*
 - c. *Test fifty (50) percent of all field-installed full penetration welds.*
 - d. *Test twenty-five (25) percent of all shop-installed full penetration welds.*
- J. Bolted Connections: Inspect in accordance with AISC specifications.
 - 1. *If the calibrated wrench method of tightening is used, the Inspector shall have full opportunity to witness the calibration tests and to require additional wrench calibrations tests in the field at his discretion.*
 - 2. *The Inspector shall observe the installation and tightening of bolts to determine that the tightening procedure is properly used and that all bolts are tightened.*
 - 3. *When in the opinion of the Inspector and Architect more inspection of the bolt tightness is required, a manual torque-indicator wrench, furnished by the Contractor and calibrated in the presence of the Inspector, shall be utilized. Inspection of resulting connections shall then be made in accordance with the applicable standard specification.*
 - 4. *For Direct Tension Indicators, comply with requirements of ASTM F 959. Verify that gaps are less than gaps specified in Table 2.*
 - 5. *Frequency of Testing:*
 - a. *Test ten (10) percent of both shop installed and field installed bolted connections.*
 - b. *Testing agency shall observe installation of all field-installed bolt connections.*

END OF SECTION 051200

SECTION 061000
ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:

1. *Framing with dimension lumber.*
2. *Wood grounds, nailers, and blocking.*
3. *Wood furring.*
4. *Sheathing.*

- B. Related Sections: The following Sections contain requirements that relate to this Section:

1. *Division 6 Section: FINISH CARPENTRY for nonstructural carpentry items exposed to view and not specified in another Section.*

- C. Provide wood treatments for products specified in this Section complying with requirements of Division 6 Section: WOOD TREATMENTS.

1.3 DEFINITIONS

- A. Rough carpentry includes carpentry work not specified as part of other Sections and generally not exposed, unless otherwise specified.

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Section: SUBMITTALS.

- B. Product data for the following products:

1. *Air infiltration barrier.*
3. *Metal framing anchors.*
4. *Construction adhesives.*

1.5 QUALITY ASSURANCE

- A. Single-Source Responsibility for Engineered Wood Products: Obtain each type of engineered wood products from one source from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.
 - 1. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.
 - 2. Material to be installed in interior spaces: Store in those spaces for not less than 72 hours prior to installation.

PART 2 - PRODUCTS

2.1 LUMBER, GENERAL

- A. Lumber Standards: Furnish lumber manufactured to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
- B. Inspection Agencies: Inspection agencies and the abbreviations used to reference them with lumber grades and species include the following:
 - 1. RIS - Redwood Inspection Service.
 - 2. NLGA - National Lumber Grades Authority (Canadian).
 - 3. SPIB - Southern Pine Inspection Bureau.
 - 4. WCLIB - West Coast Lumber Inspection Bureau.
 - 5. WWPA - Western Wood Products Association.
- C. Grade Stamps: Provide lumber with each piece factory-marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
 - 1. For exposed lumber furnish pieces with grade stamps applied to ends or back of each piece.
- D. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
 - 1. Provide dressed lumber, S4S, unless otherwise indicated.
 - 2. Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated.

2.2 DIMENSION LUMBER

- A. For light framing provide "Stud," "No. 2," or "Standard" grade lumber for stud framing (2 to 4 inches thick, 2 to 4 inches wide, 10 feet and shorter) and "Stud" or "No. 2" grade for other light framing (2 to 4 inches thick, 2 to 6 inches wide), any species.
- B. For exposed framing lumber provide material complying with the following requirements:

1. Definition: Exposed framing refers to dimension lumber that is not concealed by other construction and is indicated to receive a stained or natural finish.
2. Grading: Material hand-selected at factory from lumber of species and grade indicated below that complies with "Appearance" grade requirements of ALSC National Grading Rule; issue inspection certificate of inspection agency for selected material.
 - a. *Hem-Fir, "Select Structural" grade per WWPA rules.*
 - b. *Southern Pine, "Select Structural" grade per SPIB rules.*
 - c. *Redwood, "Clear-All Heart" grade per RIS rules.*
 - d. *Spruce-Pine-Fir, "Select Structural" grade per NLGA rules.*

2.3 BOARDS

- A. Exposed Boards: Where boards will be exposed in the finished work, provide the following:
 1. Moisture Content: 19 percent maximum, "S-DRY" or KD-19.
 2. Where transparent or natural finish or no finish is indicated, provide the following:
 - a. *Redwood, "Select Heart" grade per RIS rules.*
 - b. *Western Red Cedar, "C Select/A All Heart" grade per WWPA rules.*
 3. *Where painted finish is indicated, provide "No. 1 Boards" per SPIB rules, "Select Merchantable Boards" per WCLIB rules, or "No. 2 Common Boards & Better" per WWPA rules.*
- B. Concealed Boards: Where boards will be concealed by other work, provide lumber of 19 percent maximum moisture content (S-DRY or KD-19) and of following species and grade:
 1. Redwood "Merchantable" per RIS rules, Southern Pine "No. 2 Boards" per SPIB rules, or any species graded "Standard" or "No. 2 Common Boards" per WCLIB or WWPA rules.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.
- B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.
- C. Moisture content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.
- D. Grade: "Standard" grade light-framing-size lumber of any species or board-size lumber as required. "No. 2 Common" or "Standard" grade boards per WCLIB or WWPA rules or "No. 2 Boards" per SPIB rules.

2.5 CONCEALED PERFORMANCE-RATED CONSTRUCTION PANELS

- A. General: Where construction panels are indicated for the following concealed types of applications, provide APA Performance-Rated Panels complying with requirements designated under each application for grade designation, span rating, exposure durability classification, edge detail (where applicable), and thickness.

B. Wall Sheathing: APA RATED SHEATHING.

1. **Exposure Durability Classification: EXTERIOR.**
2. **Exposure Durability Classification: EXPOSURE 1.**
3. **Span Rating: As required to suit stud spacing indicated.**
4. **Span Rating: 12/0, 16/0, 20/0 or Wall-16 oc for stud spacing of 16 inches or less.**
5. **Span Rating: 24/0, 24/16, 32/16 or Wall-24 oc for stud spacing of 24 inches or less.**

2.6 CONSTRUCTION PANELS FOR BACKING

A. Plywood Backing Panels: For mounting electrical or telephone equipment, provide fire-retardant-treated plywood panels with grade designation, APA C-D PLUGGED EXPOSURE 1, in thickness indicated, or, if not otherwise indicated, not less than 3/4 inch.

2.7 AIR INFILTRATION BARRIER

A. Woven polyolefin sheet, 0.005 inch thick, with a moisture vapor transmission rate of 70 grams/sq. meter/24 hours per ASTM E 96, Procedure A and a flame spread not exceeding 25 per ASTM E 84.

B. Available Products: Subject to compliance with requirements, air infiltration barriers that may be incorporated in the Work include, but are not limited to, the following: *Or equivalent.*

1. **"Barricade Building Wrap," Simplex Products Division, Anthony Industries, Inc.**
2. **"Tyvek Housewrap," Fibers Department, Du Pont Company.**

2.8 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact, in area of high relative humidity, or for preservative-treated wood provide fasteners with a hot-dip zinc coating per ASTM A 153 or of AISI Type 304 stainless steel.

B. Nails, Wire, Brads, and Staples: FS FF-N-105.

C. Power Driven Fasteners: National Evaluation Report NER-272.

D. Wood Screws: ANSI B18.6.1.

E. Lag Bolts: ANSI B18.2.1.

F. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and where indicated, flat washers.

2.9 METAL FRAMING ANCHORS

A. General: Provide metal framing anchors of type, size, metal, and finish indicated that comply with requirements specified including the following:

1. Current Evaluation/Research Reports: Provide products for which model code evaluation/research reports exist that are acceptable to authorities having jurisdiction and that evidence compliance of metal framing anchors for application indicated with the building code in effect for this Project.
 2. Allowable Design Loads: Provide products for which manufacturer publishes allowable design loads that are determined from empirical data or by rational engineering analysis and that are demonstrated by comprehensive testing performed by a qualified independent testing laboratory.
- B. Galvanizing: For those items indicated or specified for galvanizing, apply zinc coating by the hot-dip process after fabrication complying with ASTM A 153 for galvanizing iron and steel hardware.
1. Use galvanized steel framing anchors for rough carpentry exposed to weather, in ground contact, embedded in concrete and grout, or in area of high relative humidity, and where indicated.
- C. Stainless Steel: For those items indicated to be stainless steel, provide framing anchors complying with Type 304 Stainless Steel as per ASTM A 167.
- D. Painted Steel Sheet: ASTM A 366 (commercial quality) cold rolled steel sheet or ASTM A 570, Grade 33 (structural quality) hot-rolled steel sheet, as standard with manufacturer for type of anchor indicated, coated after fabrication with manufacturers standard, fast-curing, lead-free "universal primer" resistant to normal atmospheric corrosion.
1. Use painted steel framing anchors unless indicated or specified to be galvanized or stainless steel.
- E. Anchor Bolts: Provide 1/2 inch diameter, hot-dip galvanized steel anchor bolts of sufficient length to assure minimum 15 inch embedment in concrete or grout, with a one (1) inch, 90 degree hook at the embedded end.

2.10 MISCELLANEOUS MATERIALS

- A. Sill Sealer Gaskets: Closed cell foam type, 1/8 inch or 1/4 inch thick ethaform; selected from manufacturer's standard widths to suit width of sill members indicated.
1. Use for applications close to ground and areas likely to remain damp.
- B. Adhesives for Field Gluing Panels to Framing: Formulation complying with APA AFG-01 that is approved for use with type of construction panel indicated by both adhesive and panel manufacturer.
1. Adhesive used in connection with treated wood (preservative wood treatment and/or fire retardant treatment) shall be compatible with wood treatments.
- C. Water Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbonate (IPBC) as its active ingredient.

2.11 PRESERVATIVE WOOD TREATMENT BY PRESSURE PROCESS

- A. Comply with requirements specified in Sections: WOOD TREATMENTS.
- B. Extent of Preservative Wood Treatment:
1. *As indicated on drawings*
 3. *All roof sheathing.*

4. *All exterior wall sheathing.*

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Where carpentry work is required to fit with work of other Sections, fabricate in accordance with finally-reviewed shop drawings or product data, as applicable, for work with which it is fitted.
- A. Discard units of material with defects that impair quality of rough carpentry construction and that are too small to use in fabricating rough carpentry with minimum joints or optimum joint arrangement.
- B. Set rough carpentry to required levels and lines, with members plumb and true to line and cut and fitted.
- C. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
- D. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.
- E. Countersink nail heads on exposed carpentry work and fill holes.
- F. Back-kerf all members 2 inch or thicker and 6 inch or wider nominal dimensions, where indicated and in all cases, where installation will not otherwise restrain cupping.
- G. Use common wire nails, unless otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.

3.2 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

- A. Install wood grounds, nailers, blocking, and sleepers where shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.
- B. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.
 - 2. Setting Anchor Bolts for Wood Plates (Wood Blocking):
 - a. Embed all anchor bolts not less than 15 inches.
 - b. Stagger bolts at plates wider than 6 inches.
 - c. Spacing: 4'-0" o.c., except 2'-0" within 8 feet of corners; maximum 12 inches from ends of wood plate at joints; minimum 2 anchors per plate section.
- C. Install permanent grounds of dressed, preservative treated, key-bevelled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material involved. Remove temporary grounds when no longer required.

3.3 WOOD FURRING

- A. Install plumb and level with closure strips at edges and openings. Shim with wood as required for tolerance of finished work.
 - 1. Firestop furred spaces with wood blocking or noncombustible materials, accurately fitted to close furred spaces not exceeding 10 feet in any direction.
- B. Furring to Receive Plywood Paneling: Install 1-inch by 3-inch furring at 2 feet o.c., horizontally and vertically. Select furring for freedom from knots capable of producing bent-over nails and resulting damage to paneling.
- C. Furring to Receive Gypsum Drywall: Install 1-inch by 2-inch furring at 16 inches o.c., vertically.
- D. Furring to Receive Plaster Lath: Install 1-inch by 2-inch furring at 16 inches o.c., vertically.
- E. Suspended Furring: Install suspended furring members of size and spacing indicated, including hangers and attachment devices. Level to a tolerance of 1/8 inch in 10 feet, except 1/4 inch in 10 feet for thick-coat plaster work.

3.4 WOOD FRAMING, GENERAL

- A. Framing Standard: Comply with N.F.P.A. "Manual for Wood Frame Construction," unless otherwise indicated.
- B. Framing with Engineered Wood Products: Install framing composed of engineered wood products to comply with manufacturer's directions.
- C. Install framing members of size and spacing indicated.
- D. Anchor and nail as shown, and to comply with the following:
 - 1. National Evaluation Report No. NER-272 for pneumatic or mechanical driven staples, P-Nails, and allied fasteners.
 - 2. Published requirements of manufacturer of metal framing anchors.
 - 3. "Appendix C - Recommended Nailing Schedule" of the BOCA National Building Code.
- E. Do not splice structural members between supports.
- F. Firestop concealed spaces of wood framed walls and partitions at each floor level and at the ceiling line of the top story. Where firestops are not automatically provided by the framing system used, use closely fitted wood blocks of nominal 2-inch-thick lumber of the same width as framing members.

3.5 STUD FRAMING

- A. General: Arrange studs so that wide face of stud is perpendicular to direction of wall or partition and narrow face is parallel. Install single bottom plate and double top plates using 2-inch-thick members whose widths equal that of studs; except single top plate may be used for non-load-bearing partitions. Nail or anchor plates to supporting construction.
 - 1. ***For exterior walls install 2-inch by 6-inch wood studs spaced 24 inches o.c.***

2. ***For exterior walls install 2-inch by 4-inch wood studs spaced 16 inches o.c.***
 3. ***For interior partitions and walls install 2-inch by 4-inch wood studs spaced 16 inches o.c.***
- B. Construct corners and intersections with not less than 3 studs. Install miscellaneous blocking and framing as shown and as required for support of facing materials, fixtures, specialty items, and trim.
1. Install continuous horizontal blocking row at mid-height of single-story partitions over 8 feet high and at midpoint of multi-story partitions, using 2-inch thick members of same width as wall or partitions.
- C. Frame openings with multiple studs and headers. Install nailed header members of thickness equal to width of studs. Set headers on edge and support on jamb studs.
1. For nonbearing partitions, install double-jamb studs and headers not less than 4 inches deep for openings 3 feet and less in width, and not less than 6 inches deep for wider openings.
 2. For load-bearing partitions, install double-jamb studs for openings 6 feet and less in width, and triple-jamb studs for wider openings. Install headers of depth shown, or if not shown, as recommended by N.F.P.A. "Manual for House Framing."

3.6 FLOOR JOIST FRAMING

- A. General: Install floor joists with crown edge up and support ends of each member with not less than 1-1/2 inches of bearing on wood or metal, or 3 inches on masonry. Attach floor joists as follows:
1. To wood bearing members by toe nailing or metal framing anchors.
 2. To wood supporting members with wood ledgers as shown, or if not shown, with metal joist hangers.
- B. Fire-cut members built into masonry.
- C. Frame openings with headers and trimmers supported by metal joist hangers; double headers and trimmers where span of header exceeds 4 feet.
- D. Do not notch in middle third of joists; limit notches to 1/6-depth of joist, 1/3 at ends. Do not bore holes larger than 1/3-depth of joist or locate closer than 2 inches from top or bottom. Install solid blocking (2 inches thick by depth of joist) at ends of joists unless nailed to header or bearing member.
- E. Lap members framing from opposite sides of beams, girders or partitions not less than 4 inches or securely tie opposing members together. Install solid blocking (2 inches thick by depth of joist) over supports.
- F. Anchor members paralleling masonry with 1/4-inch by 1-1/4-inch metal strap anchors spaced not more than 8 feet o.c. Extend anchors at least 4 inches into masonry, turn up 4 inches and extend over and fasten to 3 joists.
- G. Under jamb studs at openings, install solid blocking between joist.
- H. Under non-load-bearing partitions, install double joists separated by solid blocking equal to depth of studs above.
1. Install triple-joists separated as above, under partitions receiving ceramic tile and similar heavy finishes or fixtures.

- I. Install bridging of type indicated below between joists where nominal depth-to-thickness ratio exceeds 6, at intervals of 8 feet.
 - 1. ***Diagonal wood bridging formed from bevel cut nominal 1-inch by 4-inch lumber, double-crossed and nailed both ends to joists.***
 - 2. ***Solid wood bridging 2 inches thick by depth of joist, end nailed to joist.***
 - 3. ***Steel bridging installed to comply with bridging manufacturer's directions.***

3.7 RAFTER AND CEILING JOIST FRAMING

- A. Ceiling Joists: Install ceiling joists with crown up and to comply with requirements specified above for floor joists. Face nail to ends of parallel rafters.
 - 1. Where principal ceiling joists are at right angles to rafters, frame as indicated with additional short joists from wall plate to first joist; nail to ends of rafters and to top plate and nail to long joists or anchor with framing anchors or metal straps. Install 1 by 8 or 2 by 4 stringers spaced 4 feet o.c. crosswise over principal ceiling joists.
- B. Rafters: Notch to fit exterior wall plates and toe nail or use special metal framing anchors. Double rafters to form headers and trimmers at openings in roof framing (if any), and support with metal hangers. Where rafters abut at ridge, place directly opposite each other and nail to ridge member or use metal ridge hangers.
 - 1. At valleys, install valley rafter of size shown, or if not shown, twice the thickness of regular rafters and 2 inches deeper. Bevel ends of jack rafters for full bearing against valley rafter.
 - 2. At hips, install hip rafters of size shown, or if not shown, of same thickness as regular rafters and 2 inches deeper. Bevel ends of jack rafters for full bearing against hip rafters.
- C. Install faux collar beams (Bid Alternate) as detailed with manufacturers hardware instructions and as detailed. Cut ends to fit slope and nail to rafters.
- D. Install special framing as shown for faux collar beams.

3.8 INSTALLATION OF CONSTRUCTION PANELS

- A. General: Comply with applicable recommendations contained in Form No. E30, "APA Design/Construction Guide - Residential & Commercial," for types of construction panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Plywood Backing Panels: Nail to supports.
 - 2. ***Sheathing: Nail to framing.***

3.10 AIR INFILTRATION BARRIER

- A. Cover sheathing with air infiltration barrier as follows:
 - 1. Apply air infiltration barrier to cover upstanding flashing with 4-inch overlap.

END OF SECTION 061000

SECTION 061200
COMPOSITE DECKING – GAURDRAIL & ALUMINUM HANDRAIL

Part 1 General

1.1 Section Includes

- A. Composite Decking

1.2 Related Sections

- A. Section 061000 – Rough Carpentry

1.3 References

- A. ASTM D-7032-04: Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite Deck Boards and Guardrail Systems (Guards or Handrails), ASTM International.
- B. ASTM D-7031-04: Standard Guide for Evaluating Mechanical and Physical Properties of Wood-Plastic Composite Products, ASTM International
- C. ASTM E-84-01: Test Method for Surface Burning Characteristics of Building Materials, ASTM International.
- D. ASTM D 570: Water Absorption of Plastics
- E. ASTM D 1761: Mechanical Fasteners in Wood
- F. ASTM D -1413-99: Test method for Wood Preservatives by Laboratory Soil-block Cultures
- G. ASTM C177: Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus

1.4 Design/Performance Requirements

- A. Structural Performance:
 - a. Deck: Uniform Load – 100lb/sq.ft.
 - b. Tread of Stairs: Concentrated Load: 750 lbf/sq.ft., and 1/8” max. deflection with a concentrated load of 300 lbf on area of 4 sq. in.
- B. Fire-Surface Burning Characteristics per ASTM E-84.

1.5 Submittals

- A. Product Data Indicate sizes, profiles, surface style, and performance characteristics
- B. Samples: For each product specified, one sample representing actual product color, size, and finish.

1.6 Delivery, Storage, and Handling

- A. Store products on a flat and level surface. Adjust support blocks accordingly
- B. Support bundles on supplied dunnage
- C. When stacking bundles, supports should start approximately 8” from each end and be spaced approximately 2ft on center. Supports should line up vertically/perpendicular to the decking product.
- D. Do not stack decking more than 14 bundles.
- E. Keep material covered using the provided bundle cover until time of installation.

1.7 Warranty

- A. Provide manufactures warranty against rot, decay, splitting, checking, splintering, fungal damage, and termite damage for a period of 10 years for a commercial installation. In addition provide the

Manufacturer's Fade and Stain Warranty against food staining and fading beyond 5 Delta E (CIE units) for a period of 10 years for a commercial installation.

Part 2 Products

2.1 Manufacturers

- A. Contract Documents are based on products supplied by; Trex Company, Inc., 160 Exeter Dr., Winchester, VA 2260, OR EQUAL.
- B. Substitutions: Equal substitutions are permitted under Division 01

2.2 Applications/Scope

- A. Wood-Plastic Composite Lumber for decking;
 - a. Material Description: Composite Decking consisting of recycled Linear Low Density Polyethylene (LLDPE) and recycled wood. The product is extruded into shapes and sizes as follows:
 - i. Basis of Design - Trex 2" SQUARE EDGE BOARDS; 1.3" x 5.5". or equal.
 - ii. Lengths – 12, 16, and 20 feet
 - iii. Color – To be specified by owner from Manufacturer's standard list of colors.

2.2 Accessories

- A. Fasteners:
 - a. Traditionally installed deck screws.
- B. Butyl Tape:
 - a. Install self-adhering butyl tape on top of all deck, ramp and stair framing.
- C. Treads, Perimeter boards and feature boards:
 - a. Use solid, 2" square edge boards. Provide 5/8" overhang @ 3 sides of treads.
 - b. Provide full 1" overhang for all outside perimeter boards.
- D. Risers
 - a. Provide new 1 x 8 risers
- E. Guardrail
 - a. Transcend railing in charcoal with continuous 2 x 6 square edge cocktail rail (to match decking) over existing 6x6 posts and black aluminum, round balusters. Existing posts to be painted to match railing system.
- F. Handrail
 - a. Provide 1-3/8" ADA compliant, aluminum, powder coated, and charcoal black, complete handrail system.

Part 3 Execution

3.1 Installation

- A. Install according to Manufacturer's installation guidelines.
- B. Cut, drill, and rout using carbide tipped blades
- C. Do not use composite wood material for structural applications

3.2 Cleaning

- A. Following cleaning recommendations as found in installation guide.

SECTION 074660
FIBER CEMENT SIDING, PVC TRIM & VENTED VINYL SOFFIT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:

- 1. Fiber Cement Siding.
- 2. Exterior PVC standing and running trim and rails.
- 3. Joint Sealant

- B. Related Sections: The following Sections contain requirements that relate to this Section:

- 1. Division 6 Section: ROUGH CARPENTRY for furring, blocking, and other carpentry work that is not exposed to view.
- 2. Division 7 Section: FLASHING AND SHEET METAL for flashing and other sheet metal work.
- 3. Division 9 Section: PAINTING for back priming and finishing of finish carpentry.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Section: SUBMITTALS.
- B. Product data for each type of factory-fabricated product and process specified, including details of construction relative to materials, dimensions of individual components, profiles, textures, and colors.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Arrange for installation of finish carpentry by a firm that can demonstrate successful experience of at least three years with the specified products.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces.

1.6 WARRANTY

- A. Provide 50 year limited siding warranty.
- B. Color / Finish – provide 15 year limited paint finish warranty.
- C. Register manufacturer's warranty, made out in Owner's name, with copy to Owner.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Allura of Plycem, 15055 Woodham Drive Houston, Texas 77073 main: (844) 4 ALLURA or (844) 425-5872 email: info@elementia.com www.alluraUSA.com (or equivalentl)
- B. Substitutions: Must match color, texture or Boat House texture & stain finish
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600

2.2 FIBER CEMENT BOARD PANELS

A. Basis of Design:

Fiber Cement Board Panels consist of cement, recycled content and cellulose fiber formed under high pressure into boards with integral surface texture; complying with ASTM C 1186 Type A Grade II; machined edges; for nail attachment.

- 1. Surface Burning Characteristics: Flame spread index of 0, smoke developed index of 5, maximum; when tested in accordance with ASTM E 84 (Class I/A).
- 2. Flammability: Noncombustible, when tested in accordance with ASTM E 136.
- 3. Flexural Strength: At least 1450 psi (10 MPa) when in equilibrium condition, and at least 1015 psi (7 MPa) when in wet condition, tested in accordance with ASTM C 1185.
- 4. Coefficient of Thermal Expansion: Less than 1×10^{-5} /inch/inch/degree F (0.5×10^{-5} /degree C), when tested in accordance with ASTM E 228. 07466 / 3
- 5. Freeze Thaw Resistance: At least 80 percent flexural strength retained, when tested in accordance with ASTM C 1185.
- 6. UV Resistance: No cracking, checking, or erosion, when tested for 2000 hours in accordance with ASTM G 26.
- 7. Water Tightness: No water droplets on underside, when tested in accordance with ASTM C 1185.

B. Vertical Siding: Allura Vertical Siding *or equivalent*.

- 1. Thickness: 5/16 inch (7.9 mm), plus or minus .04 inch (1 mm).
- 2. Size: 48 by 96 inches (1220 by 2440 mm).
- 3. Style: Cedar panel, no grooves.
- 4. Sealant/Primer: Sealant/Primer.
- 5. Factory Finish: Factory applied ColorMax Finishing System with 100 percent acrylic solid.
 - a. Color - Red rock falls

C. Simulated Shingle Siding: Allura Shakes *or equivalent*.

- 1. Thickness: 7/16 inch (11.1 mm), plus or minus .04 inch (1 mm).
- 2. Style: Random square straight edge, cut between shingles, 5 inches (127 mm) exposure, 12 inches (305 mm) wide by 48 inches (1219 mm) long.
- 3. Sealant/Primer: Sealant/Primer.
- 4. Factory Finish: Factory applied ColorMax Finishing System with 100 percent acrylic solid color as follows: Standard color TBD.

2.3 VINYL BEAD BOARD VENTED SOFFIT

A. Vinyl T/3-1/3 Soffit: Use with 5/8 inch installation accessories.

- 1. Product Description: Triple 3-1/3 inch Vented Soffit with pebble finish, nominal 0.044 inch material thickness; nominal 12 feet piece length. Net Free Air Space of 9.19 sq.
- 2. Nailing Hem: Single-row, with elongated nailing holes 1-1/4 inches long at 1-5/8 inches on center.
- 3. Color: As selected from manufacturer's full range of standard colors.

4. VSI Certified Vinyl siding with Color Retention: Meets or exceeds requirements of ASTM D 7856, ASTM D 6864, and ASTM D 7251.
- B. Soffit Trim:
1. Soffit J-Trim 3/8 inch: Channel, 1-1/2 inches nailing leg, 3/4 inch forward leg, 3/8 inch channel width. Length 12 foot 6 inches.

2.3 ACCESSORIES

- A. Sheet Metal Z Flashing: Minimum 26 gauge preformed hot-dipped galvanized steel sheet, or coated aluminum.
- B. Fascia Flashing: Minimum .024 coated aluminum.
- C. Adhesives: Comply with manufacturer's recommendations for adhesives.
- D. Sealants: Install Tremco, Dymonic 100, Urethane sealant *or equivalent*, between all vertical panel joints *before* installing batons and trim.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting installation and performance of finish carpentry. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions and Drawing details.
 1. Read warranty and comply with all terms necessary to maintain warranty coverage.
 2. Use trim details indicated on drawings.
 3. Touch up all field cut edges before & after installing.
 4. Pre-drill nail holes if necessary to prevent breakage.
 5. Install sealant between all vertical panel joints *before* installing batons and trim.
- B. Over Wood and Wood-Composite Sheathing: 300 series austenitic stainless steel cladding fasteners by SFS intec, Inc. *or equivalent*
 - a. Fasten siding through sheathing **into sheathing** using:
T20W TORX Pan Head - 625848 TW-S-D12-4,8x38 10-12 X 1-1/2"
 - b. Fasten siding through sheathing **into studs** using:
T20W TORX Pan Head - 55443 TW-S-D12-4,8X60 10-12 X 2-3/8"

- C. Allow space between both ends of siding panels that butt against trim for thermal movement; seal joint between panels and trim with exterior grade sealant to match finish color - *before* installing batons and trim.
- D. Joints in Horizontal Siding: Avoid joints in lap siding except at corners; where joints are inevitable stagger joints between successive courses.
- E. Joints in Vertical Siding: Install Z-flashing in horizontal joints between successive courses of vertical siding.
- F. Install sheet metal flashing above door and window casings and horizontal trim in field of siding.
- G. Do not install siding less than 6 inches (150 mm) from surface of ground nor closer than 1 inch (25 mm) to roofs, patios, porches, and other surfaces where water may collect.
- H. After installation, seal all joints except lap joints of lap siding. Seal around all penetrations. Paint all exposed cut edges.
- I. Finish Painting: Specified in Section 09900.

3.4 STANDING AND RUNNING PVC TRIM AND RAILS, BATONS AND UNIVERSAL SKIRT BOARD

A. MATERIALS

- 1. Universal Skirt Board – Nominal 5/4” x 6” with integrated drip edge interface, Actual 1” x 5 ½”
- 2. Batons – 5/8” x 1 3/4” – actual dimension
- 3. Trim – Nominal dimensions noted on drawings
- 4. Corner Boards – Nominal 5/4 x 4 x 4, Actual 1” x 3 ½” x 3 ½”

B. INSTALL with the minimum number of joints practical, using full-length pieces from maximum lengths of CPVC available. Stagger joints in adjacent and related standing and running trim and rails. Cope at returns and miter at corners to produce tight-fitting joints with manufactures adhesive and full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane back of casings to provide uniform thickness across joints if required. Match color and grain pattern across joints.

- 1. Countersink screw heads to heads on exposed carpentry work using Cortex, stainless steel hidden fastening system *or equivalent*.
- 2. Fit exterior joints to exclude water.
- 3. Gluing:
 For best results, glue all joints such as window surrounds, long fascia runs, etc., with cellular PVC cement to prevent joint separation. The glue joint should be fastened on each side of the joint to allow adequate bonding time.
 Cellular PVC cement has a working time of 10 minutes and will be fully cured in 24 hours.
 If standard pvc cements are used, these products typically cure quickly which will result in limited working time and may reduce adhesive strength.
 For best results, surfaces to be glued should be smooth, clean and in complete contact with each other.
 For best results, always use a scarf joint with two fasteners on each side instead of butt joints.
 To bond Trim and moldings to other substrates, Tremco Dymonic 100 *or equivalent* may be used. Consult adhesive Manufacturer to determine suitability.

3.5 ADJUSTING

- A. Repair damaged or defective finish carpentry where possible to eliminate functional or visual defects. Where not possible to repair, replace finish carpentry. Adjust joinery for uniform appearance.

3.6 CLEANING

- A. Clean finish carpentry on exposed and semi exposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.
- B. At completion of work, remove debris caused by siding installation from project site.
- C. Touch-up, repair or replace damaged products before Substantial Completion

3.7 PROTECTION

- A. Provide final protection and maintain conditions that ensure finish carpentry is without damage or deterioration at time of Substantial Completion.

END OF SECTION 062000

SECTION 083613
SECTIONAL OVERHEAD DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Sectional overhead doors of the following types:
 - 1. Light ribbed steel doors, thermally-broken, insulated.
 - 2. Manual door operator

1.2 RELATED SECTIONS

- A. Section 05500 - Metal Fabrications: Steel channel opening frame.
- B. Section 06100 - Rough Carpentry: Rough wood framing and blocking for door opening.
- C. Section 08710 - Door Hardware: Lock cylinders.

1.3 REFERENCES

- A. ASTM A 653/A 653M - Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. ASTM A 924/A 924M - Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
- C. ASTM B 209/209M - Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- D. ASTM B 221/221M - Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Operation and maintenance data.
- C. Shop Drawings: Include opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.
- D. Selection Samples: For each finish specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.5 WIND PERFORMANCE REQUIREMENTS

- A. Design doors to withstand positive and negative wind loads as calculated in accordance with applicable building code.
 - 1. Design Wind Load: 20 lb/sf.
 - 2. Safety Factor: 1.5 times design wind load.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the types of doors specified in this section, with not less than ten years of documented experience.
- B. Installer Qualifications: Company specializing in installing the types of products specified in this section, with minimum of five years of documented experience, and approved by the door manufacturer.

1.7 WARRANTY

- A. Finish Warranty: Provide manufacturer's standard finish warranty against rust through.
 - 1. Warranty period: 10 years.
- B. Delamination Warranty: Provide manufacturer's standard warranty against delamination.
 - 1. Warranty period: 10 years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Clopay Building Products Company, which is located at: 8585 Duke Blvd. ASD; Mason, OH 45040-3101; Toll Free Tel: 800-526-4301 prompt #3; Fax: 888-434-3193; Email: CIA@clopay.com Web: www.clopaycommercial.com or equal.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 LIGHT RIBBED STEEL DOORS, THERMALLY-BROKEN, INSULATED

- A. Door Construction:
 - 1. Panels: Sandwich construction of exterior and interior steel skins pressure bonded to an expanded core, with skins separated by a continuous silicone filling forming a thermal break.
 - 2. Steel Skins: Formed from roll formed commercial or drawing quality steel sheet, hot-dip galvanized per ASTM A 924/A 924M and ASTM A 653/A 653M, pre-painted with primer and baked-on polyester topcoat; sections formed to create weather tight tongue-in-groove meeting joint, unless otherwise specified.
 - 3. Reinforcing: Galvanized and primed steel reinforcement located under each hinge location, pre-punched for hinge attachment.
 - 4. Handle: High impact polymer step plate/lift handle on bottom panel section.
- B. Coachman series – DESIGN 31 with ARCH top
 - 1. Door Size: 8 ft, wide by 7 ft high.
 - 2. Overall Panel Thickness: 2 inches (51 mm).
 - 3. Steel Skin Thickness: Minimum 24 gauge 0.022 inch (0.56 mm) exterior; minimum 28 gauge 0.015 inch (0.38 mm) interior.
 - 4. Stiles: Steel pre-painted end stiles, minimum 0.049 inch (1.25 mm) thick, engineered for easy hardware attachment through pre-punched holes.
 - 5. Bottom panel section reinforced with continuous 0.050 inch (1.27 mm) aluminum astragal retainer with U-shaped flexible PVC astragal.
 - 6. Thermal Resistance (R-value): 6.5 R-value in accordance with DASMA TDS-163.
 - 7. Windows: None.
 - 8. Finish: Stucco embossed texture with 0.040 inch (100 mm) minor ribs 4 inches or 5 inches (100 or 125 mm) on center, BROWN interior, WHITE exterior
 - 9. Locking: Inside spring loaded slide bolt lock on end stile that engages slot in track.
 - a. Provide one inside slide lock.
 - 10. Weatherstripping: Provide complete perimeter seals. Provide flexible top seal, flexible jamb seal and U shaped bottom seal.
 - 11. Tracks: Vertical tracks minimum 0.061 inch (1.55 mm) galvanized steel tapered and mounted

for wedge type closing. Horizontal tracks minimum 0.075 inch (1.91 mm) galvanized steel, reinforced with minimum 0.0897 inch (2.28 mm) galvanized steel angles as required:

- a. Track Width: 2 inches (50 mm).
 - b. Provide vertical lift tracks as indicated.
12. Spring Counterbalance: Torsion spring counterbalance mechanism sized to weight of the door, with a helically wound, oil tempered torsion spring mounted on a steel shaft; cable drum of die cast aluminum with high strength galvanized aircraft cable with minimum 7 to 1 safety factor.
 - a. Standard Cycle Spring: 10,000 cycle.
 13. Break-Away Bottom Section: Integral part of door; with fiberglass or 1/8 inch (3 mm) polycarbonate lined bottom section with flexible neoprene rubber side edges; exterior to match door face.
 - a. Double breakaway bottom section for doors up to 14 feet (4.3 m) wide.
- C. Operation: Provide chain hoist for manual operation.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine wall and overhead areas, including opening framing and blocking, with installer present, for compliance with requirements for installation tolerances, clearances, and other conditions affecting performance of Work in this Section.
 1. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. **G.C. shall repair or replace all door heads and jambs and mechanically fasten them to the structure for a secure rough opening to the installers satisfaction.** Installer to sign off on the preparation of openings prior to hanging the new doors. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install overhead doors and track in accordance with approved shop drawings and the manufacturer's printed instructions.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 092400
PORTLAND CEMENT PLASTER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:

- 1.. Exterior portland cement plaster (stucco).*

- B. Related Sections: The following sections contain requirements that relate to this Section:**

- 1. Division 4 Section: MANUFACTURED STONE VENEER**

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Section: SUBMITTALS.
- B. Product data consisting of manufacturer's product specifications and installation instructions for each product, including data showing compliance with the requirements specified.

1.4 QUALITY ASSURANCE

- A. Single-Source Responsibility: Obtain materials for portland cement plaster from a single source for each type of material required to ensure consistency in quality of performance and appearance.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver cementitious materials in original packages, containers, or bundles bearing brand name and identification of manufacturer.
- B. Store materials inside, under cover, and in manner to keep them dry, protected from weather, direct sunlight, surface contamination, aging, corrosion, and damage from construction traffic and other causes.

1.6 PROJECT CONDITIONS

- A. Protect contiguous work from moisture deterioration and soiling that might result from plastering operations. Provide temporary covering and whatever other provisions may be necessary to minimize harmful spattering of plaster on other work.
- B. Cold Weather Requirements: Provide heat and protection (temporary or permanent) as required to protect each coat of plaster from freezing for a period of not less than 24 hours after application. Distribute heat uniformly to prevent concentration of heat on plaster near heat sources; provide deflection or protective screens.
 - 2. Exterior Plaster Work: Protect plaster against freezing when ambient temperature is less than 32 deg F (0 deg C) or when 40 deg F (4 deg C) or less and falling. Heat materials and provide temporary protection and heat as required by ACI 306.
 - 3. Interior Plaster Work: Maintain not less than 40 deg F (4 deg C) temperature in areas to be plastered for a period of not less than 48 hours prior to application, during application, and thereafter.
- C. Warm Weather Requirements: Protect plaster against uneven and excessive evaporation and from strong flows of dry air, both natural and artificial. Apply and cure plaster as required by climatic and job conditions to prevent dryout during cure period. Provide suitable coverings, moist curing, barriers to deflect sunlight and wind, or combinations of these, as required.
- D. Ventilation Requirements: Provide natural or mechanical means of ventilation to properly dry interior spaces after portland cement plaster has cured.

PART 2 - PRODUCTS

2.1 PORTLAND CEMENT PLASTER MATERIALS

- A. Base Coat Cements: Type as indicated below:
 - 1. Portland cement, ASTM C 150, type as follows:
 - a. Type I or III.
 - 2. Masonry cement, ASTM C 91, Type N.
 - 3. Plastic cement, ASTM C 150, Type I or II, except for limitations on insoluble residue, air entrainment, and additions subsequent to calcination and with maximum plasticizing agent content not exceeding 12 percent of total volume.
- B. Factory-Prepared Finish Coat: Manufacturer's standard packaged blend of portland cement, ASTM C 150, Type I or III; hydrated lime, Type S, ASTM C 206 or ASTM C 207; aggregate, ASTM C 897; and compatible with base coat and finish texture indicated; in color indicated below:
- C. Lime: Special hydrated lime for finishing purposes, ASTM C 206, Type S, or special hydrated lime for masonry purposes, ASTM C 207, Type S.
- D. Sand Aggregate for Base Coats: ASTM C 897.

- G. **Fiber for Base Coat:** *Alkaline-resistant (AR) glass or polypropylene fibers, 1/2 inch long, free of contaminants, manufactured for use in portland cement plaster.*
- H. Water for Mixing and Finishing Plaster: Drinkable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.

2.2 **MISCELLANEOUS MATERIALS**

- A. **Bonding Agent:** *ASTM C 932.*
- B. **Asphalt-Saturated Felt:** *ASTM D 226, Type I (No. 15), nonperforated.*
- C. **Line Wire:** *18-gage soft annealed steel wire.*

2.4 **PLASTER ACCESSORIES**

- A. General: Comply with material provisions of ASTM C 1063; coordinate depth of accessories with thicknesses and number of coats required.
- B. Metal Corner Reinforcement: Expanded large-mesh diamond metal lath fabricated from zinc-alloy or welded wire mesh fabricated from 0.0475-inch-diameter zinc-coated (galvanized) wire and specially formed to reinforce external corners of portland cement plaster on exterior exposures while allowing full plaster encasement.
- C. Metal Corner Beads: Small nose corner beads fabricated from zinc alloy, with expanded flanges of expanded large-mesh diamond lath to allow full encasement by plaster.
- D. Casing Beads: Square-edged style, with expanded flanges and removable protective tape, of the following material:
 - 3. Material: Aluminum, coated with clear plastic.
- E. Control Joints: Prefabricated, of material and type indicated below:
 - 3. Material: Aluminum, coated with clear plastic.
 - 5. Two-Piece Type: Pair of casing beads with back flanges formed to provide slip-joint action, adjustable for joint widths from 1/8 inch to 5/8 inch.
- F. Foundation Sill (Weep) Screed: Manufacturer's standard profile designed for use at sill plate line to form plaster stop and prevent plaster from contacting damp earth, fabricated from zinc-coated (galvanized) steel complying with ASTM A 525 for coating designation G60 in size indicated.

2.5 **PORTLAND CEMENT PLASTER MIXES AND COMPOSITIONS**

- A. General: Comply with ASTM C 926 for base and finish coat mixes as applicable to plaster bases, materials, and other requirements indicated.

- B. Base Coat Mixes and Compositions: Proportion materials for respective base coats in parts by volume per sum of cementitious materials for aggregates to comply with the following requirements for each method of application and plaster base indicated. Adjust mix proportions below within limits specified to attain workability.
 - 1. ***Fiber Content: Add fiber to following mixes after ingredients have mixed at least 2 minutes. Comply with fiber manufacturer's directions but do not to exceed 2 lbs. per cu. ft. of cementitious materials. Reduce aggregate quantities accordingly to maintain workability.***
 - 2. Three-Coat Work Over Concrete Unit Masonry: Base coat as indicated below:
 - a. Scratch Coat: 1 part portland cement, 0 to 3/4 parts lime, 2-1/2 to 4 parts sand.
 - b. Brown Coat: 1 part portland cement, 0 to 3/4 parts lime, 3 to 5 parts sand.
- D. Factory-Prepared Finish Coats: Add water only; comply with finish coat manufacturer's directions.

2.6 MIXING

- A. Mechanically mix cementitious and aggregate materials for plasters to comply with applicable referenced application standard and with recommendations of plaster manufacturer.

PART 3 - EXECUTION

3.1 PREPARATIONS FOR PLASTERING

- A. Clean plaster bases and substrates for direct application of portland cement plaster, removing loose material and substances that might impair the work.
- B. Etch concrete and masonry surfaces indicated for direct portland cement plaster application. Scrub with acid etch solution on previously wetted surface and rinse thoroughly with clean water. Repeat the application if necessary to obtain adequate suction and mechanical bond of plaster (where dash coat or bonding agent or additive is not used).
- C. Apply bonding agent on concrete and masonry surfaces indicated for direct portland cement plaster application; comply with manufacturer's instructions for application.
- D. Apply dash coat on concrete surfaces indicated for direct portland cement plaster application. Moisture-cure dash coat for at least 24 hours after application before plastering.
- E. Install temporary grounds and screeds as necessary to ensure accurate rodding of plaster to true surfaces; coordinate with scratch-coat work.
 - 1. Refer to Division 6 sections for the installation of permanent wood grounds (if any).
- F. Flashing: Refer to the Division 7 sections for the installation of flashing as indicated under exterior portland cement plastering.

- G. Surface Conditioning: Immediately before plastering, dampen the surfaces of concrete and masonry that are indicated for direct application of plaster, except where a bonding agent has been applied. Experiment with moisture application to determine degree of saturation that will result in optimum suction for plastering.

3.2 INSTALLATION OF PLASTERING ACCESSORIES

- A. General: Comply with referenced lathing and furring installation standards for provision and location of plaster accessories of type indicated, unless otherwise indicated. Miter or cope accessories at corners; install with tight joints and in alignment. Attach accessories securely to plaster bases to hold accessories in place and alignment during plastering.
- B. Accessories for Portland Cement Plaster: Install accessories of type indicated at following locations:
 - 2. External Corners: Install corner beads at external corners.
 - 4. Casing Beads: Install at terminations of plaster work unless otherwise indicated.
 - 5. Control Joints: Install control joints at locations indicated or, if not indicated, at locations complying with the following criteria and approved by Architect.
 - a. Where an expansion or control joint occurs in surface of construction directly behind plaster membrane.
 - b. Where, in plastered surfaces of ceilings and walls, distances between and areas within control joints exceed, respectively, the following measurements:
 - 1) **18 feet in either direction and 144 sq. ft.**
 - 2) **10 feet in either direction and 100 sq. ft.**
 - c. Where portland cement plaster panel sizes or dimensions change, extend joints full width or height of plaster membrane.

3.3 PLASTER APPLICATION

- A. Portland Cement Application Standard: Apply portland cement plaster materials, compositions, and mixes to comply with ASTM C 926.
- B. Sequence plaster application with the installation and protection of other work so that neither will be damaged by the installation of the other.
- C. Do not use materials that are frozen, caked, lumpy, dirty, or contaminated by foreign materials.
- D. Do not use excessive water in the mixing and application of plaster materials.
- E. Tolerances: Do not deviate more than 1/8 inch in 10'-0" from a true plane in finished plaster surfaces, as measured by a 10'-0" straightedge placed at any location on surface.
- F. Plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground, unless otherwise indicated. Where interior plaster is not terminated at metal by casing beads, cut basecoat free from metal before plaster sets and groove finish coat at the junctures with metal.
- G. Corners: Make internal corners and angles square; finish external corners flush with corner beads on interior work, square and true with plaster faces on exterior work.

- H. Number of Coats: Apply portland cement plaster, of composition indicated, to comply with the following requirements:
 - 1. Use three-coat work over the following plaster bases:
 - a. Metal lath.
 - b. Concrete masonry.
 - c. Concrete, cast-in-place or precast when surface condition complies with ASTM C 926 for plaster bonded direct to solid base.
- I. Moist-cure plaster base and finish coats to comply with ASTM C 926, including recommendations for time between coats and curing in "Annex A2 Design Considerations."

3.4 CUTTING AND PATCHING

- A. Cut, patch, repair, and point-up portland cement plaster as necessary to accommodate other work. Repair cracks and indented surfaces. Point-up finish plaster surfaces around items that are built into or penetrate plaster surfaces. Repair or replace the work to eliminate blisters, buckles, check cracking, dry outs, efflorescence, excessive pinholes, and similar imperfections. Repair or replace the work as necessary to comply with required visual effects.

3.5 CLEANING AND PROTECTION

- A. Remove temporary covering and whatever other provisions were made to minimize spattering of plaster on other work. Promptly remove plaster from door frames, windows, and other surfaces that are not to be plastered. Repair surfaces that have been stained, marred or otherwise damaged during the plastering work. When plastering work is completed, remove unused materials, containers, equipment, and plaster debris.
- B. Provide final protection and maintain conditions in a manner suitable to Installer that ensures plaster work's being without damage or deterioration at time of Substantial Completion.

END OF SECTION 092400

SECTION 099000
PAINTING

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 surface preparation, painting, and finishing of exposed interior and exterior items and surfaces.

1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop-priming and surface treatment specified under other Sections.

- B. Paint exposed surfaces whether or not colors are designated in schedules, except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the Architect will select from standard colors or finishes available.

1. Painting includes field-painting exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment.

- C. Painting is not required on prefinished items, finished metal surfaces, concealed surfaces, operating parts, and labels, unless indicated otherwise.

1. Prefinished items not to be painted include the following factory-finished components:

- a. Finished mechanical and electrical equipment.
- b. Light fixtures.
- c. Switchgear.
- d. Distribution cabinets.

2. Concealed surfaces not to be painted include wall or ceiling surfaces in the following generally inaccessible areas:

- a. Foundation spaces.
- b. Furred areas.
- c. Utility tunnels.
- d. Pipe spaces.
- e. Duct shafts.
- f. Plenum above suspended ceilings

3. Finished metal surfaces not to be painted include:

- a. Anodized or finish coated aluminum.
- b. Stainless steel.

- c. Chromium plate.
 - d. Copper.
 - e. Bronze.
 - f. Brass.
4. Operating parts not to be painted include moving parts of operating equipment, such as the following:
- a. Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.
 - d. Motor and fan shafts.
5. Labels: Do not paint over Underwriters Laboratories, Factory Mutual or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.
6. Finished Materials not to be painted: Concrete, masonry and ceramic materials with integral finishes, including facing brick, glazed unit masonry, tile, concrete masonry units with special finishes, concrete with exposed aggregate or other architectural finishes, unless specifically indicated.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Section: SUBMITTALS.
- B. Product data for each paint system specified, including block fillers and primers.
 - 1. Provide the manufacturer's technical information including label analysis and instructions for handling, storage, and application of each material proposed for use.
 - 2. List each material and cross-reference the specific coating, finish system, and application. Identify each material by the manufacturer's catalog number and general classification.
 - 3. Certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).
- C. Samples for initial color selection in the form of manufacturer's color charts. Chips shall not be smaller than 4 inch square.
- D. Samples for Verification Purposes (Drawdown): Provide samples of each color and material selected to be applied, with texture to simulate actual conditions, on representative samples of the actual substrate.

1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent to those indicated for the Project that have resulted in a construction record of successful in-service performance.
- B. Single-Source Responsibility: Provide primers and undercoat paint produced by the same manufacturer as the finish coats.
- C. Coatings Maintenance Manual: Upon conclusion of the project, the Contractor in conjunction with the Paint manufacturer/supplier shall furnish a coatings maintenance manual, such as Sherwin-Williams

“ Custodian Project Color and Product Information” report or equal.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the job site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:
1. Product name or title of material.
 2. Product description (generic classification or binder type).
 3. Manufacturer's stock number and date of manufacture.
 4. Contents by volume, for pigment and vehicle constituents.
 5. Thinning instructions.
 6. Application instructions.
 7. Color name and number.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain containers used in storage in a clean condition, free of foreign materials and residue.
1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

1.6 JOB CONDITIONS

- A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 deg F (10 deg C) and 90 deg F (32 deg C).
- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 deg F (7 deg C) and 95 deg F (35 deg C).
- C. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by the manufacturer during application and drying periods.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide products of one of the following:
- 1. The Glidden Company (Glidden).**
 - 2. Benjamin Moore and Co. (Moore).**
 - 3. PPG Industries, Pittsburgh Paints (PPG).**
 - 4. Pratt and Lambert (P & L).**
 - 5. The Sherwin-Williams Company (S-W)**
 - 6. Or equivalent**
- B. Reference Manufacturer: The products of Sherwin-Williams. have been indicated for reference purposes in the paint schedule to establish minimum standard of quality.

2.2 PAINT MATERIALS, GENERAL

- A. **Material Compatibility:** Provide block fillers, primers, finish coat materials, and related materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by the manufacturer based on testing and field experience.
- B. **Material Quality:** Provide the manufacturer's best-quality trade sale paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.
- C. Lead content shall not exceed 0.06 percent lead, as lead metal based on the total non-volatile (dry-film) of paint by weight.
- D. Materials and systems for each application are specified in Schedule in PART 3 of this section.
 - 1. If project includes a substrate for which a specific painting system is not listed in this Section, provide system recommended for that substrate by paint manufacturer, as reviewed by Architect.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions under which painting will be performed for compliance with paint application requirements. Surfaces receiving paint must be thoroughly dry before paint is applied.
 - 1. Do not begin to apply paint until unsatisfactory conditions have been corrected.
 - 2. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.
- B. **Coordination of Work:** Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
 - 1. Notify the Architect about anticipated problems using the materials specified over substrates primed by others.

3.2 PREPARATION

- A. **General:** Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Cover and protect floors and other adjacent finished surfaces before starting work. Remove these items, if necessary, to completely paint the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skilled in the trades involved.
- B. **Cleaning:** Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease prior to cleaning. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- C. **Surface Preparation:** Clean and prepare surfaces to be painted according to the manufacturer's instructions for each particular substrate condition and as specified.

1. Provide barrier coats over incompatible primers or remove and reprime. Notify Architect in writing about anticipated problems using the specified finish-coat material with substrates primed by others.

2. **Cementitious Materials:** Prepare concrete, concrete masonry block, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen, as required, to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
 - a. Use abrasive blast-cleaning methods if recommended by the paint manufacturer.
 - b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces where moisture content exceeds that permitted in manufacturer's printed directions.
 - c. Clean concrete floors to be painted with a 5 percent solution of muriatic acid or other etching cleaner. Flush the floor with clean water to remove acid, neutralize with ammonia, rinse, allow to dry, and vacuum before painting.

3. **Wood:** Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
 - a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
 - b. Prime, stain, or seal wood to be painted immediately upon delivery, except where such work is specified to be done by fabricator. Prime edges, ends, faces, undersides, and backsides of wood, including cabinets, counters, cases, and paneling.
 - c. When transparent finish is required, backprime with spar varnish.
 - d. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on backside.
 - e. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately upon delivery.
 - f. When transparent finish is required or scheduled use clear sanding sealer for priming. Sand sealed surfaces with fine sand paper and/or steel wool. On open grained hardwood, apply stain-tinted filler before first varnish coat. Remove all dust, dirt and debris from surfaces prior to beginning finish coats. Apply two coats of spar varnish. Use thinned spar varnish for first coat; after drying rub surface with fine steel wool to remove glaze and clean with tack rags before applying finish coat. Final coat shall be free of runs, sags, brush marks and other surface imperfections.
 - g. **Columns & railing posts** – fill all checks and cracks

4. **Ferrous Metals:** Clean ungalvanized ferrous metal surfaces that have not been shop-coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with recommendations of the Steel Structures Painting Council (SSPC) –**SP3 - Power Tool Cleaning method on steel columns.**
 - a. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by the paint manufacturer, and touch up with the same primer as the shop coat.

5. **TEE Box metal deck ceiling & structure:** SSPC-SP16 Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals This standard covers the requirements for brush-off blast cleaning of uncoated or coated metal surfaces other than carbon steel by the use of abrasives. These requirements include visual verification of the end

condition of the surface and materials and procedures necessary to achieve and verify the end condition. A brush-off blast cleaned non-ferrous metal surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, metal oxides (corrosion products), and other foreign matter. Intact, tightly adherent coating is permitted to remain. A coating is considered tightly adherent if it cannot be removed by lifting with a dull putty knife

6. **New Steel Handrails:** Shop prep & paint. Prep using **SSPC-SP6 / NACE 3** – Commercial Blast Cleaning. A commercial blast cleaned surface when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Staining shall be limited to no more than 33% of each square inch of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or previously applied paint. Before blast cleaning, visible spots of oil or grease shall be removed by any of the methods specified in SSPC-SP 1 or other agreed upon methods. For complete instructions refer to Joint surface preparation standard SSPC-SP6/NACE No. 3

- D. **Materials Preparation:** Carefully mix and prepare paint materials according to manufacturer's directions.
 1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 2. Stir material before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.
 3. Use only thinners approved by the paint manufacturer and only within recommended limits.

3.3 APPLICATION

- A. **General:** Apply paint according to manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.
- B. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 1. Paint colors, surface treatments, and finishes are indicated in the schedules.
 2. Provide finish coats that are compatible with primers used.
 3. The number of coats and the film thickness required are the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce a smooth even surface according to the manufacturer's directions.
 4. Apply additional coats if undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color, and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.
 5. The term exposed surfaces includes areas visible when permanent or built-in fixtures, convactor covers, covers for finned tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
 6. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 7. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, nonspecular black paint.
 8. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.

9. Finish exterior doors on tops, bottoms, and side edges same as exterior faces.
 10. Sand lightly between each succeeding enamel or varnish coat.
 11. Omit primer on metal surfaces that have been shop-primed and touch-up painted.
- C. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. Allow sufficient time between successive coats to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.
- D. Application Procedures: Apply paint using brush or roller method, except where spray application specifically authorized. The number of coats and paint film thickness required is the same regardless of the application method.
1. Spray application may be used only for the painting of exposed metal deck and structure, for touchup of factory-spray-painted work, and for other finished work as specifically authorized. Mask or otherwise protect adjacent work and surfaces exposed to overspray, except where such surfaces are to receive a subsequent finish whose bond shall not be adversely affected by overspray. Comply with regulations to protect against fire and health hazards.
 - a. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.
 2. Brushes: Use brushes best suited for the material applied.
 3. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
- E. Minimum Coating Thickness: Apply materials no thinner than the manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- F. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.
- G. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime-coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.
- H. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling such as laps, irregularity in texture, skid marks, or other surface imperfections.
- I. Pigmented (Opaque) Finishes: Completely cover to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
1. On smooth substrates,: After application of first coat, verify that surface imperfections have been adequately removed. Examine under illumination equivalent to that in finished work. Correct any imperfections found and recoat corrected areas. Obtain approval before proceeding with second coat.

- J. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with specified requirements.
 - 1. Where indicated match overall quality of appearance of existing adjacent work.

3.4 FIELD QUALITY CONTROL

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

3.5 CLEANING

- A. Cleanup: At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
 - 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

3.6 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
 - 1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.7 EXTERIOR PAINT SCHEDULE

- A. ***Ferrous and Non-Ferrous Metal on columns:***
 - 1. ***Referenced System: By Sherwin-Williams (or equivalent – typ.)***
 - 2. ***Finish Type: Acrylic Latex.***
 - 3. ***Pretreatment for non-ferrous metals (galvanized, aluminum, copper)***
 - 4. ***Primer/First Coat: S-W MACROPOXY 646 FAST CURE EPOXY***
 - 5. ***Finish: Two Coats: ACROLON 218 HS ACRYLIC POLYURETHANE***
 - 6. ***Gloss or Sheen: Semi-gloss, 40 to 55 @ 60 degrees.***

C. *Wood (Opaque Finish): Existing Gaurdrail posts, deck and ramp posts, columns, perimeter framing, all exposed framing, stringers, fascia and deck lattice:*

1. *Referenced System: By Sherwin-Williams.*
2. *Finish Type: Acrylic latex.*
3. *Finish: Two coats S-W A-100 Exterior Latex*
5. *Gloss or Sheen: Satin, 40 to 55 @ 60 degrees.*

~~E. *Wood (Opaque Finish): Exposed Deck framing and posts, Skirt lattice, South Stair tower*~~

- ~~1. *Referenced System: By Sherwin-Williams.*~~
- ~~2. *Finish Type: Acrylic latex.*~~
- ~~3. *Primer/First Coat: Macropoxy 646 Fast Cure Epoxy*~~
- ~~4. *Finish: Two coats Aerolon 218 HS Polyurethane*~~
- ~~5. *Gloss or Sheen: Semi-gloss, 40 to 55 @ 60 degrees.*~~

F. *Galvanized Metal Decking (exposed): Tee box*

1. *Referenced System: By Sherwin-Williams*
2. *Finish Type: Low VOC Waterborne Acrylic Dryfall.*
3. *First Coat: B42W81*
4. *Finish: B42W81*
5. *Gloss or Sheen: Flat, 40-55 @ 60 degrees.*

G. *CPVC Trim:*

1. *Referenced System: By Sherwin-Williams*
2. *Finish Type: Vinyl Safe*
3. *First Coat: 1st Coat: S-W SuperPaint Exterior Latex Satin, A89 Series*
4. *Second Coat: S-W SuperPaint Exterior Latex Satin, A89 Series*
5. *Gloss or Sheen: Satin, 40-55 @ 60 degrees.*

END OF SECTION 09900

SECTION 133419
METAL BUILDING SYSTEMS

1.1 SECTION INCLUDES

- A. Metal Building System:
1. Metal wall system.

1.2 REFERENCE STANDARDS

- A. American Institute of Steel Construction (AISC):
1. AISC 360 - Specification for Structural Steel Buildings.
 2. AISC 341 – Seismic Provisions for Structural Steel Buildings (when appropriate).
 3. AISC Design Guide 3 – Serviceability for Steel Buildings

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer’s original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
1. Store and handle materials in accordance with manufacturer’s instructions.
 2. Keep materials in manufacturer’s original, unopened containers and packaging until installation.
 3. Do not store materials directly on ground.
 4. Store materials on flat, level surface, raised above ground, with adequate support to prevent sagging.
 5. Protect materials and finish during storage, handling, and installation to prevent damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Metal Building System Manufacturer: Butler Manufacturing, PO Box 419917, Kansas City, Missouri 64141. Phone 816-968-3000. Website www.butlermfg.com. *or equivalent*

2.2 METAL WALL SYSTEM

- A. Exterior Metal Wall System: Butler Manufacturing™ “Butlerib® II” wall system. *Or equivalent*
- B. Wall System Design: Design wall panels in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
- C. Wall Panels:
1. Roll-formed panels, 3 feet wide with 4 major corrugations, 1-1/2 inches high, 12 inches on center, with 2 minor corrugations between each of the major corrugations entire length of panel.
 2. One piece from base to building eave.
 3. Factory punch or field drill wall panels at panel ends and match factory-punched or field-drilled holes in structural members for proper alignment.
 4. Panel Material and Finish:
 - a. 26-gauge painted Galvalume aluminum-zinc alloy (approximately 55 percent aluminum, 45 percent zinc), ASTM A 792.
 - b. Paint with exterior colors of finish system, full-strength, 70 percent “Kynar 500” or “Hylar 5000” fluoropolymer (PVDF) coating.

SECTION 133419
METAL BUILDING SYSTEMS

- c. PVDF Coating Warranty: Metal building system manufacturer shall warrant coating for 25 years for the following.
 - 1) Not to peel, crack, or chip.
 - 2) Chalking: Not to exceed ASTM D 4214, #8 rating.
 - 3) Fading: Not more than 5 color-difference units, ASTM D 2244.

D. Fasteners:

- 1. Wall Panel-to-Structural Connections: Torx-head “Scrubolt™” fasteners.
- 2. Wall Panel-to-Panel Connections: Torx-head self-drilling screws.
- 3. Exposed Fasteners: Factory painted to match wall color.

2.3 INSTALLATION – METAL WALL SYSTEM

A. Metal Wall System Installation:

- 1. Install wall system in accordance with metal building system manufacturer’s instructions at locations indicated on the Drawings.
- 2. Install wall system weathertight.
- 3. Install side laps with minimum of 1 full corrugation.
- 4. Seal wall panels at base with metal trim.
- 5. Seal wall panels at base with metal trim and foam or rubber closures.
- 6. Exterior Trim: Apply same finish as exterior color of wall panels, except the following:
 - a. Gutters, Downspouts, Eave Trim, Gable Trim, Door-Side Flashings, and Header Flashings: Paint with exterior colors of “Butler-Cote™” finish system, full-strength, 70 percent “Kynar 500” or “Hylar 5000” fluoropolymer (PVDF) coating in standard color of metal building system manufacturer.
- 7. Flashings, Trim, Closures, and Similar Items: by metal building system manufacturer.

2.4 PROTECTION

- A. Protect installed metal building system to ensure that, except for normal weathering, metal building system will be without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 26 0534

CONDUIT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Galvanized steel rigid metal conduit (RMC).
- B. Aluminum rigid metal conduit (RMC).
- C. Intermediate metal conduit (IMC).
- D. Flexible metal conduit (FMC).
- E. Liquidtight flexible metal conduit (LFMC).
- F. Electrical metallic tubing (EMT).
- G. Conduit fittings.
- H. Accessories.

1.2 RELATED REQUIREMENTS

- A. Section 26 0526 - Grounding and Bonding for Electrical Systems.
 - 1. Includes additional requirements for fittings for grounding and bonding.
- B. Section 26 0529 - Hangers and Supports for Electrical Systems.
- C. Section 26 2100 - Low-Voltage Electrical Service Entrance: Additional requirements for electrical service conduits.

1.3 REFERENCE STANDARDS

- A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC); 2005.
- B. ANSI C80.3 - American National Standard for Steel Electrical Metallic Tubing (EMT); 2005.
- C. ANSI C80.5 - American National Standard for Electrical Rigid Aluminum Conduit (ERAC); 2005.
- D. ANSI C80.6 - American National Standard for Electrical Intermediate Metal Conduit (EIMC); 2005.
- E. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- F. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT); National Electrical Contractors Association; 2013.
- G. NECA 102 - Standard for Installing Aluminum Rigid Metal Conduit; National Electrical Contractors Association; 2004.
- H. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; National Electrical Manufacturers Association; 2012 (ANSI/NEMA FB 1).
- I. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- J. UL 1 - Flexible Metal Conduit; Current Edition, Including All Revisions.
- K. UL 6 - Electrical Rigid Metal Conduit-Steel; Current Edition, Including All Revisions.
- L. UL 6A - Electrical Rigid Metal Conduit-Aluminum, Red Brass, and Stainless Steel; Current Edition, Including All Revisions.
- M. UL 360 - Liquid-Tight Flexible Steel Conduit; Current Edition, Including All Revisions.
- N. UL 514B - Conduit, Tubing, and Cable Fittings; Current Edition, Including All Revisions.
- O. UL 797 - Electrical Metallic Tubing-Steel; Current Edition, Including All Revisions.
- P. UL 1242 - Electrical Intermediate Metal Conduit-Steel; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate minimum sizes of conduits with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.

2. Coordinate the arrangement of conduits with structural members, ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
3. Verify exact conduit termination locations required for boxes, enclosures, and equipment installed under other sections or by others.
4. Coordinate the work with other trades to provide roof penetrations that preserve the integrity of the roofing system and do not void the roof warranty.
5. Notify Engineer of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

B. Sequencing:

1. Do not begin installation of conductors and cables until installation of conduit is complete between outlet, junction and splicing points.

1.5 SUBMITTALS

- A. See Section 01340 - Administrative Requirements for submittals procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits and fittings.
- C. Project Record Documents: Record actual routing for conduits 1" trade size and larger.

1.6 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conduit and fittings in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 CONDUIT APPLICATIONS

- A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70 and product listing.
- B. Unless otherwise indicated and where not otherwise restricted, use the conduit types indicated for the specified applications. Where more than one listed application applies, comply with the most restrictive requirements. Where conduit type for a particular application is not specified, use galvanized steel rigid metal conduit.
- C. Concealed Within Hollow Stud Walls: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).
- D. Concealed Above Accessible Ceilings: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).
- E. Interior, Damp or Wet Locations: Use galvanized steel rigid metal conduit.
- F. Exposed, Interior, Not Subject to Physical Damage: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).
- G. Exposed, Interior, Subject to Physical Damage: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or aluminum rigid metal conduit.
 1. Locations subject to physical damage include, but are not limited to:
 - a. Where exposed below 8 feet, except within electrical and communication rooms or closets.
- H. Exposed, Exterior: Use aluminum rigid metal conduit.
- I. Connections to Vibrating Equipment:
 1. Dry Locations: Use flexible metal conduit.
 2. Damp, Wet, or Corrosive Locations: Use liquidtight flexible metal conduit.
 3. Maximum Length: 6 feet unless otherwise indicated.
 4. Vibrating equipment includes, but is not limited to:
 - a. Transformers.
 - b. Motors.

2.2 CONDUIT REQUIREMENTS

- A. Existing Work: Where existing conduits are indicated to be reused, they may be reused only where they comply with specified requirements, are free from corrosion, and integrity is verified by pulling a mandrel through them.
- B. Electrical Service Conduits: Also comply with Section 26 2100.
- C. Fittings for Grounding and Bonding: Also comply with Section 26 0526.
- D. Provide all conduit, fittings, supports, and accessories required for a complete raceway system.
- E. Provide products listed, classified, and labeled as suitable for the purpose intended.
- F. Minimum Conduit Size, Unless Otherwise Indicated:
 - 1. Branch Circuits: ¾ inch trade size.
 - 2. Branch Circuit Homeruns: 1 inch (27 mm) trade size.
 - 3. Control Circuits: 1/2 inch (16 mm) trade size.
 - 4. Flexible Connections to Luminaires: 3/8 inch (12 mm) trade size.
- G. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.3 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

- A. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.
- B. Fittings:
 - 1. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel or malleable iron.
 - a. Do not use die cast zinc fittings.
 - 3. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

2.4 ALUMINUM RIGID METAL CONDUIT (RMC)

- A. Description: NFPA 70, Type RMC aluminum rigid metal conduit complying with ANSI C80.5 and listed and labeled as complying with UL 6A.
- B. Fittings:
 - 1. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use aluminum.
 - 3. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

2.5 INTERMEDIATE METAL CONDUIT (IMC)

- A. Description: NFPA 70, Type IMC galvanized steel intermediate metal conduit complying with ANSI C80.6 and listed and labeled as complying with UL 1242.
- B. Fittings:
 - 1. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel, malleable iron, or die cast zinc.
 - 3. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

2.6 FLEXIBLE METAL CONDUIT (FMC)

- A. Description: NFPA 70, Type FMC standard wall steel flexible metal conduit listed and labeled as complying with UL 1, and listed for use in classified firestop systems to be used.
- B. Fittings:
 - 1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel, malleable iron, aluminum, or die cast zinc.

2.7 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

- A. Description: NFPA 70, Type LFMC polyvinyl chloride (PVC) jacketed steel flexible metal conduit listed and labeled as complying with UL 360.
- B. Fittings:
 - 1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel, malleable iron, aluminum, or die cast zinc.

2.8 ELECTRICAL METALLIC TUBING (EMT)

- A. Description: NFPA 70, Type EMT steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.
- B. Fittings:
 - 1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel or malleable iron.
 - 3. Connectors and Couplings: Use compression (gland) or set-screw type.
 - a. Do not use indenter type connectors and couplings.
 - 4. Damp or Wet Locations (where permitted): Use fittings listed for use in wet locations.

2.9 ACCESSORIES

- A. Conduit Joint Compound: Corrosion-resistant, electrically conductive; suitable for use with the conduit to be installed.
- B. Solvent Cement for PVC Conduit and Fittings: As recommended by manufacturer of conduit and fittings to be installed.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as shown on drawings.
- B. Verify that mounting surfaces are ready to receive conduits.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install conduit in a neat and workmanlike manner in accordance with NECA 1.
- C. Install galvanized steel rigid metal conduit (RMC) in accordance with NECA 101.
- D. Install aluminum rigid metal conduit (RMC) in accordance with NECA 102.
- E. Install intermediate metal conduit (IMC) in accordance with NECA 101.
- F. Conduit Routing:
 - 1. Unless dimensioned, conduit routing indicated is diagrammatic.
 - 2. When conduit destination is indicated and routing is not shown, determine exact routing required.
 - 3. Conceal all conduits unless specifically indicated to be exposed.
 - 4. Conduits in the following areas may be exposed, unless otherwise indicated:
 - a. Electrical rooms.
 - b. Mechanical equipment rooms.
 - c. Roof
 - 5. Unless otherwise approved, do not route conduits exposed:
 - a. Across floors.
 - b. Across roofs.
 - c. Across top of parapet walls.
 - d. Across building exterior surfaces.
 - 6. Arrange conduit to maintain adequate headroom, clearances, and access.
 - 7. Arrange conduit to provide no more than the equivalent of four 90 degree bends between pull points.
 - 8. Route conduits above water and drain piping where possible.

9. Maintain minimum clearance of 6 inches between conduits and piping for other systems.
 10. Group parallel conduits in the same area together on a common rack.
- G. Conduit Support:
1. Secure and support conduits in accordance with NFPA 70 and Section 26 0529 using suitable supports and methods approved by the authority having jurisdiction.
 2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
 3. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conduits to lay on ceiling tiles.
 4. Use of wire for support of conduits is not permitted.
 5. Where conduit support intervals specified in NFPA 70 and NECA standards differ, comply with the most stringent requirements.
- H. Connections and Terminations:
1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
 2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
 3. Use suitable adapters where required to transition from one type of conduit to another.
 4. Provide drip loops for liquidtight flexible conduit connections to prevent drainage of liquid into connectors.
 5. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
 6. Provide insulating bushings or insulated throats at all conduit terminations to protect conductors.
 7. Secure joints and connections to provide maximum mechanical strength and electrical continuity.
- I. Penetrations:
1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
 2. Make penetrations perpendicular to surfaces unless otherwise indicated.
 3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
 4. Conceal bends for conduit risers emerging above ground.
 5. Seal interior of conduits entering the building from underground at first accessible point to prevent entry of moisture and gases.
 6. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
 7. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty. Include proposed locations of penetrations and methods for sealing with submittals.
- J. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment. This includes, but is not limited to:
1. Where conduits cross structural joints intended for expansion, contraction, or deflection.
- K. Condensation Prevention: Where conduits cross barriers between areas of potential substantial temperature differential, provide sealing fitting or approved sealing compound at an accessible point near the penetration to prevent condensation. This includes, but is not limited to:
1. Where conduits pass from outdoors into conditioned interior spaces.
 2. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.
- L. Provide grounding and bonding in accordance with Section 26 0526.
- 3.3 FIELD QUALITY CONTROL
- A. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
 - B. Correct deficiencies and replace damaged or defective conduits.

3.4 CLEANING

- A. Clean interior of conduits to remove moisture and foreign matter.

3.5 PROTECTION

- A. Immediately after installation of conduit, use suitable manufactured plugs to provide protection from entry of moisture and foreign material and do not remove until ready for installation of conductors.

END OF SECTION

SECTION 26 0537

BOXES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Outlet and device boxes up to 100 cubic inches, including those used as junction and pull boxes.
- B. Cabinets and enclosures, including junction and pull boxes larger than 100 cubic inches.

1.2 RELATED REQUIREMENTS

- A. Section 26 0529 - Hangers and Supports for Electrical Systems.
- B. Section 26 0534 - CONDUIT:
 - 1. Conduit bodies and other fittings.
 - 2. Additional requirements for locating boxes to limit conduit length and/or number of bends between pulling points.
- C. Section 26 2726 - Wiring Devices:
 - 1. Wall plates.

1.3 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; National Electrical Contractors Association; 2010.
- C. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; National Electrical Manufacturers Association; 2012 (ANSI/NEMA FB 1).
- D. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports; National Electrical Manufacturers Association; 2013 (ANSI/NEMA OS 1).
- E. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); National Electrical Manufacturers Association; 2014.
- F. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- G. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations; Current Edition, Including All Revisions.
- H. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations; Current Edition, Including All Revisions.
- I. UL 508A - Industrial Control Panels; Current Edition, Including All Revisions.
- J. UL 514A - Metallic Outlet Boxes; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
 - 2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 - 3. Coordinate minimum sizes of boxes with the actual installed arrangement of conductors, clamps, support fittings, and devices, calculated according to NFPA 70.
 - 4. Coordinate minimum sizes of pull boxes with the actual installed arrangement of connected conduits, calculated according to NFPA 70.
 - 5. Coordinate the placement of boxes with millwork, furniture, devices, equipment, etc. installed under other sections or by others.
 - 6. Coordinate the work with other trades to preserve insulation integrity.

7. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted boxes where indicated.
8. Notify Engineer of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

1.5 SUBMITTALS

- A. See Section 01340 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for cabinets and enclosures, boxes for hazardous (classified) locations, floor boxes, and underground boxes/enclosures.

1.6 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 BOXES

- A. General Requirements:
 1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
 2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
 3. Provide products listed, classified, and labeled as suitable for the purpose intended.
 4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
 5. Provide grounding terminals within boxes where equipment grounding conductors terminate.
- B. Outlet and Device Boxes Up to 100 cubic inches, Including Those Used as Junction and Pull Boxes:
 1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
 2. Use cast iron boxes or cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
 3. Use cast iron boxes where exposed galvanized steel rigid metal conduit or exposed intermediate metal conduit (IMC) is used.
 4. Use cast aluminum boxes where aluminum rigid metal conduit is used.
 5. Use suitable masonry type boxes where flush-mounted in masonry walls.
 6. Use raised covers suitable for the type of wall construction and device configuration where required.
 7. Use shallow boxes where required by the type of wall construction.
 8. Do not use "through-wall" boxes designed for access from both sides of wall.
 9. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
 10. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
 11. Boxes for Supporting Luminaires and Ceiling Fans: Listed as suitable for the type and weight of load to be supported; furnished with fixture stud to accommodate mounting of luminaire where required.
 12. Boxes for Ganged Devices: Use multigang boxes of single-piece construction. Do not use field-connected gangable boxes.
 13. Wall Plates: Comply with Section 26 2726.
- C. Cabinets and Enclosures, Including Junction and Pull Boxes Larger Than 100 cubic inches:
 1. Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E, or UL 508A.
 2. NEMA 250 Environment Type, Unless Otherwise Indicated:
 3. Junction and Pull Boxes Larger Than 100 cubic inches:
 - a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as shown on drawings.
- B. Verify that mounting surfaces are ready to receive boxes.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Perform work in a neat and workmanlike manner in accordance with NECA 1 and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.
- C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- D. Flush-mount boxes in finished areas unless specifically indicated to be surface-mounted.
- E. Unless otherwise indicated, boxes may be surface-mounted where exposed conduits are indicated or permitted.
- F. Box Locations:
 - 1. Locate boxes to be accessible. Provide access panels in accordance with Section 08 3100 as required where approved by the Architect.
 - 2. Unless dimensioned, box locations indicated are approximate.
 - 3. Locate boxes as required for devices installed under other sections or by others.
 - 4. Locate boxes so that wall plates do not span different building finishes.
 - 5. Locate boxes so that wall plates do not cross masonry joints.
 - 6. Do not install flush-mounted boxes on opposite sides of walls back-to-back. Provide minimum 6 inches horizontal separation unless otherwise indicated.
 - 7. Locate junction and pull boxes as indicated, as required to facilitate installation of conductors, and to limit conduit length and/or number of bends between pulling points in accordance with Section 26 0534.
 - 8. Locate junction and pull boxes in the following areas, unless otherwise indicated or approved by the Architect:
 - a. Concealed above accessible suspended ceilings.
 - b. Within joists in areas with no ceiling.
 - c. Electrical rooms.
 - d. Mechanical equipment rooms.
- G. Box Supports:
 - 1. Secure and support boxes in accordance with NFPA 70 and Section 26 0529 using suitable supports and methods approved by the authority having jurisdiction.
 - 2. Provide independent support from building structure except for cast metal boxes (other than boxes used for fixture support) supported by threaded conduit connections in accordance with NFPA 70. Do not provide support from piping, ductwork, or other systems.
 - 3. Installation Above Suspended Ceilings: Do not provide support from ceiling grid or ceiling support system.
- H. Install boxes plumb and level.
- I. Flush-Mounted Boxes:
 - 1. Install boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that front edge of box or associated raised cover is not set back from finished surface more than 1/4 inch or does not project beyond finished surface.
 - 2. Install boxes in combustible materials such as wood so that front edge of box or associated raised cover is flush with finished surface.
 - 3. Repair rough openings around boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that there are no gaps or open spaces greater than 1/8 inch at the edge of the box.
- J. Install boxes as required to preserve insulation integrity.

- K. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.
 - L. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 8400.
 - M. Close unused box openings.
 - N. Install blank wall plates on junction boxes and on outlet boxes with no devices or equipment installed or designated for future use.
 - O. Provide grounding and bonding in accordance with Section 26 0526.
- 3.3 CLEANING
- A. Clean interior of boxes to remove dirt, debris, plaster and other foreign material.
- 3.4 PROTECTION
- A. Immediately after installation, protect boxes from entry of moisture and foreign material until ready for installation of conductors.

END OF SECTION

SECTION 26 5600
EXTERIOR LIGHTING

1.01 SECTION INCLUDES

- A. Exterior luminaires.

1.02 RELATED REQUIREMENTS

- A. Section 26 0526 - Grounding and Bonding for Electrical Systems.
- B. Section 26 0537 - Boxes.

1.03 REFERENCE STANDARDS

- A. IES LM-79 - Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products; Illuminating Engineering Society; 2008.
- B. IES LM-80 - Approved Method: Measuring Luminous Flux and Color Maintenance of LED Packages, Arrays, and Modules; Illuminating Engineering Society; 2015.
- C. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
- D. NECA/IESNA 501 - Standard for Installing Exterior Lighting Systems; 2006.
- E. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- F. UL 1598 - Luminaires; Current Edition, Including All Revisions.
- G. UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products; Current Edition, Including All Revisions.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Notify Architect of any conflicts or deviations from the contract documents to obtain direction prior to proceeding with work.

1.06 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings:
 - 1. Indicate dimensions and components for each luminaire that is not a standard product of the manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Receive, handle, and store products according to NECA/IESNA 501 and manufacturer's written instructions.
- B. Keep products in original manufacturer's packaging and protect from damage until ready for installation.

1.08 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year manufacturer warranty for all LED luminaires, including drivers.

PART 2 PRODUCTS

2.01 LUMINAIRE TYPES

- A. Furnish products as indicated in luminaire schedule included on the drawings.

2.02 LUMINAIRES

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products that are listed and labeled as complying with UL 1598, where applicable.
- C. Provide products listed, classified, and labeled as suitable for the purpose intended.
- D. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.
- E. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, poles, foundations, supports, trims, accessories, etc. as necessary for a complete operating system.
- F. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.
- G. LED Luminaires:
 - 1. Components: UL 8750 recognized or listed as applicable.
 - 2. Tested in accordance with IES LM-79 and IES LM-80.
 - 3. LED Estimated Useful Life: Minimum of 50,000 hours at 70 percent lumen maintenance, calculated based on IES LM-80 test data.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as shown on the drawings.
- B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate conductors in accordance with NFPA 70.
- C. Verify that branch circuit wiring installation is completed, tested, and ready for connection to luminaires.
- D. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

- A. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

- A. Coordinate locations of outlet boxes provided under Section 26 0537 as required for installation of luminaires provided under this section.
- B. Install products according to manufacturer's instructions.
- C. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 1 (general workmanship) and NECA/IESNA 501 (exterior lighting).
- D. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.
- E. Install accessories furnished with each luminaire.
- F. Bond products and metal accessories to branch circuit equipment grounding conductor.

END OF SECTION