Ward 3 Recreation

Various Projects at Power Center Sports Complex

LAKE CHARLES
WARD 3
RECREATION

Recreation District One of Ward Three of Calcasieu Parish
Board Members:

Sally Fenet, President
Gary Seemion, Vice President
Bobby Jefferson, Secretary
Mark Young
Bannette Williams
Chris Barrett
Judson McCord
Shawn Papillion

Project Manual and Specifications
August 08, 2025

KUDLA ARCHITECTURE
429 Kirby Street
Lake Charles, LA
70601
p: 337.436.3650
www.kudlaarchitect.com

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ADVERTISEMENT

The Recreation District One of Ward Three of Calcasieu Parish Purchasing Agent, on behalf of the Recreation District One of Ward Three of Calcasieu Parish, does hereby advertise for sealed bids and will open same on:

1. September 11, 2025.

2. At the Office of Recreation District One of Ward Three of Calcasieu Parish at the hour of 2:00 p.m. Central Time Zone.

3. For the Ward 3 Recreation District Various Projects at Power Center Sports Complex.

4. Contract documents, including drawings and technical specifications, are on file for review at the office of Kudla Architecture, 429 Kirby Street, Lake Charles LA 70601, 337.436.3650. Hard copies are available for a non-refundable deposit of $2500.00. A complete set of documents may be obtained electronically from the Project Architect by request to bids@kudlaarchitect.com.

   *Prime bidders is defined as licensed Building Contractors bidding this job as such.

5. All bids must be accompanied by bid security equal to five percent (5%) of the sum of the base bid and all alternates, and must be in the form of a certified check or cashier's check drawn on a bank insured by the FDIC, or the Special District Bid Bond Form contained in bidding documents, which shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent (10%) of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents, all in accordance with LSA—R.S. 38:2218. No Bid Bond indicating an obligation of less than five percent (5%) by any method is acceptable.

6. The successful bidder shall be required to furnish a Performance and Payment Bond in an amount equal to one hundred percent (100%) of the Contract amount, which shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent (10%) of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents, all in accordance with LSA—R.S. 38:2219.

7. Bids shall be accepted only from contractors who are licensed under LSA—R.S. 37:2150-2163 for the classification of "Building Construction." No bid may be withdrawn for a period of forty-five (45) days after receipt of bids, except under the provisions of LSA—R.S. 38:2214.

8. The Owner reserves the right to reject any and all bids for just cause as permitted by LA R.S. 38:2214B. The ability of an entity to reject any bid is applicable only when administered in accordance with the Public Bid Law. In accordance with LSA—R.S. 38:2212B.(1), the provisions and requirements of this Section, and those stated in the bidding documents shall not be waived by any entity.

9. The Owner shall incur no obligation to the Contractor/Bidder until the Contract between the Owner and the Contractor/Bidder is fully executed.

10. Minority owned firm and small businesses are encouraged to participate. Any person with disabilities requiring special accommodations should contact the Owner.

11. A Non-Mandatory Pre-Bid Conference will be held on September 4, 2025 at 8:00 a.m. Central Daylight Savings Time Zone at the project site.

12. Official action on this bid will be taken within forty-five (45) days by the Recreation District One of Ward Three of Calcasieu Parish, except as may be extended by mutual written consent with the lowest responsible bidder.

13. All bids must be plainly marked and should contain the following on the outside of the envelope:

BID FOR "Ward 3 Recreation District Various Projects"

Sally Fenet, Board President

RUN: Lake Charles American Press – August 14, 2025
August 21, 2025
August 28, 2025

INSTRUCTIONS TO BIDDERS

ARTICLE I

Definitions

1.1 The bidding documents include the following:
Front End Documents-Bid Packages for Construction
Advertisement for Bids
Instructions to Bidders
Contract Form
Insurance Requirements
Scope of Work
Louisiana Uniform Public Work Bid Form
Louisiana Uniform Public Work Unit Price Form (if applicable)
Bid Bond
Subcontractor Listing
Contractor Compliance Certificate on Electrical Subcontractors
Non-Collusion Affidavit of Prime Bidder
Affidavit (R.S. 38:2224 2190 2290-2296)
Attestation Form (R.S. 38:2227)
Affidavit Form (R.S.38:2212.10)
Monthly Form Electrical Subcontractors Certification
General Conditions of the Contract for Construction,
AIA Document A201-2017
Performance and Payment Bond Form
Louisiana Department of Revenue Form R-1020
Change Order Form
Recommendation of Acceptance Form
Beneficial Occupancy Form
Specifications
Supplementary Conditions
Drawings
Addenda issued during bid period and acknowledged in Bid Form
Special Provisions
Roofing Manufacturing Warranty & Approved Applicator Letter (if applicable)
Verification of Items in Supplementary Conditions

1.1.1 Forms turned in with the bid. The Louisiana Uniform Public Work Bid Form, Bid Bond Form, and a Corporate Resolution or written evidence of the authority of the person signing the bid are the only forms that are turned in by the date and time specified.

1.1.2 Forms turned in within ten (10) days after the bid opening. The Subcontractor's Listing, the Contractor Compliance Certificate on Electrical Subcontractors, the Non-Collusion Affidavit of Prime Bidder, the Affidavit (LSA—R.S. 38:2224 2190 2290-2296), Attestation Form (R.S. 38:2227), Affidavit Form (R.S. 38:2212.10), and the Roofing Manufacturing Warranty and Approved Applicator Letter (if applicable). These forms can be sent to the Project Architect or Project Engineer, on behalf of the Iowa Fire Protection District No. One of Ward Eight, hereinafter referred to as "Owner".

1.2 All definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201-2017, or in other Contract Documents are applicable to the Bidding Documents.

1.3 Addenda are written on graphic instruments issued by the Architect prior to the opening of bids which modify or interpret the bidding documents by additions, deletions, clarifications, corrections, and prior approvals.

1.4 A Bid is a complete and properly signed bid to do the work or designated portion thereof for the sums stipulated therein supported by data called for by the Bidding Documents.

1.5 Base Bid is the sum stated in the Bid for which the Bidder offers to perform the work described as the Base, to which work may be added for sums stated in Alternate Bids.

1.6 An Alternate Bid (or Alternate) is an item on the bid form that may either increase or decrease the quantity of work or change the type of work within the scope of the project, material, or equipment specified in the bidding documents or both.

1.7 A Unit Price Form shall be used if the contract includes unit prices and will be made a part of the bid documents, if applicable.

1.8 A Bidder is one who submits a bid for a prime contract with the Owner for the work described in the proposed contract documents.

1.9 A Sub-Bidder or Subcontractor is one who submits a bid to a Bidder for materials and/or labor for a portion of the work.

1.10 Where the word "Architect" is used in any of the Documents, it shall refer to the Prime Designer of the project, an Architect or Engineer.

1.11 The executed Contract between the parties shall include all plans, specifications, instructions, general conditions, any addenda issued, and the proposal, including alternates, unit prices, and allowances (if applicable) of the bid.

ARTICLE II

Bidder's Representation

2.1 Each Bidder by making his bid represents that:

2.1.1 He has read and understands the Bidding Documents and his bid is made in accordance therewith.

2.1.2 He has visited the site and has familiarized himself with the local conditions under which the work is to be performed.

2.1.3 His bid is based upon the materials, systems, and equipment described in the Bidding Documents as advertised and as modified by Addenda.

2.2 The Bidder must be fully qualified under any state or local licensing law for Contractors in effect at the time and at the location of the work before submitting his bid. In the State of Louisiana, Revised Statutes 37:2150 et.seq. will be considered, if applicable. The Contractor shall be responsible for determining that all of his Sub-Bidders or prospective Subcontractors are duly licensed in accordance with law.

ARTICLE III

Bidding Documents

3.1 Copies

3.1.1 Bidding Documents may be obtained from the Architect for a deposit as stated in the Advertisement for Bids. The deposit will be refunded as stated in the Advertisement for Bids. No deposits will be refunded on Bidding Documents returned later than ten (10) days after receipt of Bids.

3.1.2 Complete sets of Bidding Documents shall be used in preparing bids; neither the Owner nor the Architect assumes any responsibility for errors of misinterpretation resulting from the use of incomplete sets of Bidding Documents.

3.1.3 The Owner or Architect, in making copies of the Bidding Documents available on the above terms, do so only for the purpose of obtaining bids on the work and do not confer a license or grant for any other use.

3.2 Interpretation or correction of Bidding Documents.

3.2.1 Bidders shall promptly notify the Architect of any ambiguity, inconsistency or error which they may discover upon examination of the Bidding Documents or of the site and local conditions.

3.2.2 Bidders, requiring clarification or interpretation of Bidding Documents, shall make a written request to the Architect to reach him at least seven (7) days prior to the date of receipt of bids.

3.2.3 Any interpretation, correction or change of the Bidding Documents will be made by Addendum. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections or changes.

3.3 Substitutions

3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

3.3.2 Substitution prior approvals are not required, but recommended. If a potential supplier wishes to submit for prior approval on a particular product other than the product specified in the Contract Documents, he shall do so no later than seven (7) working days prior to the date for receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including model numbers, drawings, cuts, performance and test data, and other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed substitute is upon the Bidder. The Architect's decision of approval or disapproval of a proposed substitution shall be final. The Contractor shall ensure that the products used in preparation of his bid to be on this project, are equivalent to that specified in appearance, performance, size, installation type, and shape. Any material found to not be equivalent to that specified will be rejected.

3.3.3 If the Architect approves any proposed substitution, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

3.4 Addenda

3.4.1 Addenda will be mailed or delivered to all who are known by the Architect to have received a complete set of Bidding Document

3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

3.4.3 Addenda shall not be issued within a period of seventy-two (72) hours prior to the advertised time for the opening bids, excluding Saturdays, Sundays, and any other legal holidays; however, if the necessity arises to issue an addendum modifying plans and specifications within the seventy-two (72) hour period prior to the advertised time for the opening of bids, then the opening of bids shall be extended for at least seven (7) but not more than twenty-one (21) working days , without the requirement of re-advertising. The Owner shall be consulted prior to the issuance of such an Addendum, and shall approve such issuance.

3.4.4 Each Bidder shall ascertain from the Architect prior to submitting his bid that he has received all Addenda issued, and he shall acknowledge their receipt on the Bid Form.

ARTICLE IV

Bidding Procedures

4.1 Form and Style of Bids.

4.1.1 Bids shall be submitted on the forms provided by the Architect.

4.1.2 All blanks on the Bid Form shall be filled in by typewriter or manually in ink

4.1.3 Where so indicated by the makeup of the Bid Form, sums shall be expressed in both words and figures, and in case of discrepancy between the two, the written words shall govern.

4.1.4 Any interlineations, alteration or erasure must be initialed by the signer of the Bid or his authorized representative.

4.1.5 Bidders are cautioned to complete all Alternates or Unit Prices should such be required in the Bid Form. Failure to submit alternate prices will render the bid informal and may cause its rejection.

4.1.6 Bidder shall make no additional stipulation on this Bid Form nor qualify his Bid in any other manner.

4.1.7 The bidding documents shall only require the following information at the time designated in the advertisement for bid opening: Bid Security or Bid Bond, Acknowledgment of Addenda, Base Bid, Alternates, Signature of Bidder, Name, Title, and Address of Bidder, Name of Firm or Joint Venture, Corporate Resolution or written evidence of the authority of the person signing the bid and Louisiana Contractors License Number, and unit price information on public works projects where required. Written evidence of authority of the person signing the bid for public works shall be submitted at the time of bidding. Written evidence of authority and all supporting documents detailed in R.S. 38:2212 (5).

4.1.8 On any Bid in excess of Fifty Thousand Dollars ($50,000), the Contractor shall certify that he is licensed under R.S. 37:2150-2163 and show his license number on the Bid above his signature of his duly authorized representative as well as on the outside of the Bid envelope.

4.2 Bid Security

4.2.1 All bids must be accompanied by bid security equal to five percent (5%) of the sum of the base bid and all alternates, and must be in the form of certified check or cashier's check drawn on a bank insured by the FDIC, or the Special District Bid Bond Form contained in the bidding documents, which shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent (10%) of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents. No Bid Bond indicating an obligation of less than five percent (5%) by any method is acceptable.

Bid security furnished by the Contractor shall guarantee that the Contractor will, if awarded, perform the work according to the terms of his bid, enter into the Contract and furnish the Performance and Payment Bonds as required by these Contract Documents, within fifteen (15) days after written notice that the Contract is ready for signature.

Should the Awarded Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the as stipulated damages, not as penalty.

4.2.2 The Owner will have the right to retain the bid security of Bidders until either (a) the Contract has been executed and bonds have been furnished, or (b) the specified time has elapsed so that bids may be withdrawn, or (c) all bids have been rejected.

4.3 Submission of Bids

4.3.2 Bids shall be sealed in an opaque envelope and will be received until the time specified and at the place specified in the Advertisement for Bids. It shall be the specific responsibility of the Bidder to deliver his sealed bid to Owner at the appointed place and prior to the announced time for the opening of bids. Late delivery of a bid for any reason, including late delivery by U. S. Mail, or express delivery, shall disqualify the bid. The bid envelope shall be identified on the outside with the name of project, and name, address, and license number of the Bidder.

If the bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "Bid Enclosed" on the face thereof. Such bids shall be sent by Registered or Certified Mail, Return Receipt Requested, addressed to 3210 Power Center Parkway, Lake Charles, LA 70607.

Bids shall be deposited at the designated location prior to the time on the date for receipt of bids indicated in the Advertisement for Bids, or an extension thereof made by Addendum. Bids received after the time and date for receipt of bids will be returned unopened.

Bidder shall assume full responsibility for timely delivery at location designated for receipt of bids.

Oral, telephonic, or telegraphic bids or modifications to bids are invalid and will not receive consideration. The Owner will not consider notation written on outside of Bid Envelope which has the effect of amending the Bid.

4.4 Modification or Withdrawal of Bid

4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder during the time stipulated in the Advertisement for Bids, for the period following the time and bid date designated for the receipt of bids, and Bidder so agrees in submitting his bid, except in accordance with LSA—R.S. 38:2214 C., which states, in part, Bids containing patently obvious mechanical, clerical or mathematical errors may be withdrawn by the Contractor, if clear and convincing sworn, written evidence of such errors is furnished to the public entity within forty-eight (48) hours of the bid opening excluding Saturdays, Sundays, and legal holidays.

4.4.2 Prior to the time and date designated for receipt of Bids, Bids submitted early may be modified or withdrawn only by notice to the party receiving bids at the place and prior to the time designated for receipt of bids.

4.4.3 Withdrawn Bids may be resubmitted up to the time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

4.4.4 Bid Security shall be in an amount sufficient for the Bid as modified or resubmitted.

ARTICLE V

Consideration of Bids

5.1 Opening of Bids

5.1.1 The properly identified bids received on time will be opened publicly and read aloud, and a tabulation abstract of the amounts of the Base Bid and any Alternates and/or unit prices, if applicable, will be made available to Bidders.

5.2 Rejection of Bids

5.2.1 The Owner reserves the right to reject any and all bids for just cause as permitted by LA R.S. 38:2214 (B). The ability of an entity to reject any bid is applicable only when administered in accordance with the Public Bid Law. In accordance with LSA—R.S. 38:2212 B.(1), the provisions and requirements of this Section and those stated in the bid documents shall not be waived by any entity. The Owner shall have the right to reject any or all bids and in particular to reject a Bid not accompanied by any required bid security or data required by the Bidding Documents or a Bid in any way incomplete or irregular.

5.3 Acceptance of Bid

5.3.1 Determination of the low bidder shall be on the basis of the sum of the Base Bid and Alternates accepted. The Owner reserves the right to accept Alternates in any order, which does not affect determination of the lower Bidder.

5.3.2 It is the intent of the Owner to award a contract to the lowest responsible Bidder in accordance with the requirements of the Bidding Documents, and if the bid does not exceed the funds available.

ARTICLE VI

Post Bid Information

6.1 Forms required within ten (10) days after the bid opening.

6.1.1 The apparent low bidder shall submit to the Owner, or the Project Architect or Project Engineer, on behalf of the Owner, within ten (10) days after the bid opening, a list of all Subcontractors or other persons or organizations (if any) proposed for the principal portions of the work. Also, the Contractor shall provide a designation of the work to be performed by the Contractor with his own forces.

6.1.2 See enclosed Subcontractor's Listing Form. The specifications on projects of public improvement shall set forth those categories of subcontractors whose names must be submitted and shall provide that no Subcontractor whose name has not been included on the list submitted by the apparent low bidder to the Owner, or the Project Architect or Project Engineer, on behalf of the Owner, within ten (10) days after the bid opening, may be engaged in connection with the project as bid or perform work in connection therewith unless any change or modification has been approved by the Owner, or unless the General Contractor has submitted to the Owner an affidavit in the appropriate format certifying that he has entered into bona fide written contracts with the listed Subcontractors. In the latter case, Owner approval of any modification will not be required, but notice of the change must be given to the Owner prior to the actual change.

6.1.3 In addition to the list of names of Subcontractors submitted in conjunction with a project of public improvement, the Subcontractor's license number and federal identification number shall also be provided.

6.1.4 See enclosed Contractor Compliance Certificate on Electrician Subcontractors. There shall be a requirement that any party bidding to perform electrical work of any nature under this contract shall not be deemed a "responsible bidder" unless it certifies that it will employ electricians on the project(s) in question who are certified as participating in a program of training and education or as having successfully completed such programs that are conducted or supervised by the National Joint Apprenticeship and Training Committee of the Electrical Industry and the Louisiana Department of Labor, Office of Regulatory Services, Labor Programs Section, Apprenticeship Division. The electrical Subcontractor shall provide through the General Contractor on a monthly basis a signed certificate on a form provided by the Owner verifying compliance with the provisions of this section. This form shall be executed and submitted to the Owner, or the Project Architect or Project Engineer, on behalf of the Owner, within ten (10) days after the bid opening by the apparent low bidder.

6.1.5 See enclosed Non-Collusion Affidavit of Prime Bidder. The apparent low bidder shall execute the Non-Collusion Affidavit of Prime Bidder, and it must be submitted to the Owner, or the Project Architect or Project Engineer, on behalf of the Owner, within ten (10) days after the bid opening.

6.1.6 See enclosed Affidavit (RS 38:2224, 2190, 2290-2296). The apparent low bidder shall execute an affidavit, in accordance with LSA—R.S. 38:2290-2296 as amended, to the effect that he has not entered in to a collusive agreement with any other person, firm or corporation in regard to any bid submitted to the Owner, or the Project Architect or Project Engineer, on behalf of the Owner, within ten (10) days after the bid opening.

6.1.7 See enclosed Attestation Form (R.S.38:2227). The apparent low bidder shall execute an attestation, in accordance with LSA—R.S. 38:2227 to the effect that he has have past criminal convictions and it must be submitted to the Owner, or the Project Architect or Project Engineer, on behalf of the Owner, within ten (10) days after the bid opening.

6.1.8 See enclosed Affidavit Form (RS 38:2222.10). The apparent low bidder shall execute an affidavit, in accordance with LSA—R.S. 38:2222.10 (C). that he is registered and participates in a status verification system, that he shall continue during the term of the contract, and shall require all Subcontractors to submit a sworn affidavit verifying compliance. This form must be submitted to the Owner, or the Project Architect or Project Engineer, on behalf of the Owner, within ten (10) days after the bid opening.

6.2 At the preconstruction conference, the Contractor shall submit the following information to the Architect:

A breakdown of the contract cost into divisions of the C.S.I. No payments will be made to the Contractor until this is received.

ARTICLE VII

Performance and Payment Bonds

7.1 Bonds Required

7.1.1 The successful bidder shall be required to furnish a Performance and Payment Bond in an amount equal to one hundred percent (100%) of the Contract amount, which shall be written by a surety or insurance company currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent (10%) of policyholders' surplus as shown in the A.M. Best's Key Rating Guide or by an insurance company in good standing licensed to write bid bonds which is either domiciled in Louisiana or owned by Louisiana residents.

7.2 Time of Delivery and Form of Bond

7.2.2 Bond shall be in the form furnished by the Owner, entitled Performance and Payment Bond, a copy of which is included in the Bidding Documents.

7.2.3 The Bidder shall require the Attorney-in-Fact, who executes the required bond on behalf of the surety to affix thereto a certified and current copy of his power of attorney.

ARTICLE VIII

Contract

8.1 Form to be Used

8.1.1 Form of the Contract to be used shall be furnished by the Owner, a copy of which is bound in the Bidding Documents.

8.2 Award

8.2.1 Before award of the contract, the successful Bidders shall furnish to the Owner a certified copy of the minutes of the corporation of partnership meeting which authorized the party executing the Bid to sign on behalf of the Contractor.

ARTICLE IX

Insurance Requirements

SEE ATTACHED INSURANCE REQUIREMENTS

ARTICLE X

Completion Time & Stipulated Damages

The completion of the Contract must be within the time stated in the Special Provisions section included in these bid documents, subject to such extensions as may be granted under AIA Document A201-2017, Paragraph 8.3, Delays and Extensions of Time in the General Conditions and the Supplementary Conditions, or the Contractor will be subject to pay to the Owner, Stipulated Damages in the amount as stated in the Special Provisions section included in these bid documents and the executed contract between the Owner and the Contractor.

ARTICLE XI

Pre-Bid Conference

11.1 If deemed necessary, a pre-bid conference may be held at least ten (10) days before the date for receipt of bids. The Architect shall coordinate the setting of the date, time, and place for the pre-bid conference as stated in the advertisement and should invite the Owner and all who have received sets of the Bidding Documents to attend. The purpose of the pre-bid conference is to familiarize Bidders with the requirements of the Project and the intent of the Contract Documents, and to receive comments and information from interested Bidders.

11.2 Any revision of the Bidding Documents, made as a result of the pre-bid conference, shall not be valid unless included in an Addendum issued in accordance with Paragraph 3.4 of the Instructions to Bidders.

ARTICLE XII

12.1 The Owner expresses its desire that fair wages be paid to employees working on the contract.

ARTICLE XIII

Use of Minority Subcontractors

13.1 The Owner has gone on official record to encourage General Contractors to award at least ten percent (10%) of their subcontracted work to minority Contractors.

13.2 For the purposes of this Article, minority shall be defined as stipulated by LA—R.S. 38:2233.2E. (1) (2) which are as follows:

E. (1) "Minority" means a person who is a citizen or lawful permanent resident of the United States and who is:

(a) American Indian or Alaskan Native: having origins in any of the original peoples of North America.

(b) Asian American: having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

(c) Black: having origins in any of the black racial groups of Africa.

(d) Female.

(e) Hispanic: of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish or Portuguese culture or origin regardless of race.

(2) "Minority business enterprise" or "Minority-owned business" means a small business organized for profit performing a commercially useful function which is owned and controlled by one or more minority individuals or minority business enterprises. "Owned and controlled" means a business in which one or more minorities or minority business enterprises own at least fifty-one percent (51%) or in the case of a corporation at least fifty-one percent (51%) of the voting stock and control at least fifty-one percent (51%) of the management and daily business operations of the business.

ARTICLE XIV

Sales and Use Tax Exemption

14.1 In accordance with applicable rules adopted and promulgated by the Louisiana Department of Revenue, the Owner shall designate the Contractor and all Subcontractors as its agents for the purchase and lease of materials, supplies or equipment for the project. The Contractor and all Subcontractors shall accept the agency designation. The designation and acceptance thereof shall be made on the form prescribed by the Louisiana State Department of Revenue which form shall be part of the contract between the Owner and the Contractor. A copy of this form is hereby made part of these front end documents.

The agency relationship between the Owner and the Contractor and all Subcontractors shall relieve the Contractor and Subcontractors (1) from paying any state or local sales or state or local use taxes on materials, supplies or equipment which is affixed to and/or made a part of the real estate of the project or work or which is permanently incorporated into the project or work and, (2) from paying any state or local use taxes on any materials, supplies or equipment which is leased and used exclusively for the project or work. Accordingly, in preparing their bids and computing costs, the Contractor and Subcontractors shall not consider sales and/or use taxes which would otherwise be due.

The Contractor and Subcontractors shall furnish a copy of such certificate to all vendors or suppliers of any of the materials, supplies or equipment described above.

The Contractor and Subcontractors shall make all purchases and leases on behalf of and as the agent of the Owner.

Rules and regulations of the Louisiana Department of Revenue shall prevail over any conflicting provisions or specifications of the contract.

ARTICLE XV

Drug Screen Testing

15.1 By submittal of this bid, Contractor hereby certifies that it has in place and employs a pre-employment drug screen test for each employee of Contractor and administers periodic random drug screen testing for each such employee and agrees that it will not enter into any Subcontractor agreement, whether verbal or written, unless said Subcontractor has in place and employs pre-employment drug screen testing and periodic random drug screen testing. All such pre-employment drug screen testing and random testing shall meet or exceed the standards for drug screen testing as promulgated by the Associated General Contractors of Louisiana.

ARTICLE XVI

Dismissal of Contractor's Employee

16.1 At the request of the Owner, the Contractor shall remove from the Owner's project, any employee of the Contractor or Subcontractor. Any work of the Contractor may be suspended until such removal has occurred. The Contractor shall indemnify the Owner against any claims arising from the removal of any such employee from the Owner's project.

CONTRACT BETWEEN THE
RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH
AND

STATE OF LOUISIANA
PARISH OF CALCASIEU

THIS AGREEMENT is hereby made and entered into this _____ day of _____ 2025, by and between the **RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH**, hereinafter referred to as "DISTRICT," a political subdivision of the State of Louisiana, represented herein by its duly authorized President, Sally Fenet, and ----------, hereinafter referred to as "CONTRACTOR," and represented herein by its duly authorized President, ----------.

WHEREAS, the DISTRICT has solicited, received and analyzed competitive bids for the improvements to the facilities, identified as project "Ward 3 Recreation District Various Projects" which is the legal responsibility of the DISTRICT;

WHEREAS, the DISTRICT has duly awarded the CONTRACTOR as the successful proposer for the referenced activity, products and/or services as hereinafter set forth and in accordance with all local, state and federal regulations governing the expenditure of public funds as discussed in Section 3 below;

WHEREAS, the DISTRICT considers the public benefit of properly maintaining a publicly owned facility in order to meet the needs of the DISTRICT employees and citizens to be proportionate to the costs associated with this activity;

WHEREAS, the CONTRACTOR can provide all materials, equipment and labor and perform all the work required to accomplish the designated scope of work in a thorough and workmanlike manner to the satisfaction of the DISTRICT and in accordance all plans and specifications, instructions, general and/or standard terms and conditions, any addenda issued, and the "Bid" documents, (where applicable) on file with the DISTRICT, which are as much a part of this agreement as if repeated verbatim herein.

NOW THEREFORE, the DISTRICT and the CONTRACTOR do mutually agree to the following terms and conditions of this agreement:

1. **Scope of Work**

The DISTRICT hereby agrees to engage the CONTRACTOR to provide the construction activity, products and/or services inclusive in the DISTRICT'S "Bid". This project involves the new construction of a building and associated site improvements.

Any additional construction activity, products and/or services not specifically listed in the "Bid" but required by the DISTRICT and available to the CONTRACTOR may be added to the terms of this agreement at a mutually agreed upon price, subject to the verification of cost reasonableness of said change order. Any change order is also subject to any grant limitations, if applicable.

2. Term of Agreement

The initial term of this agreement shall commence upon execution of this agreement and shall continue until the completion of the project listed in the Scope of Work and all payments have been made. The work will be substantially completed within TWO HUNDRED (200) calendar days after the date when the contract time commences to run as established in the Notice to Proceed. This activity may be funded by a federal grant therefore the time period including extensions must comply with the performance period of the grant.

If the time frame extends beyond the completion time period then the CONTRACTOR will notify the DISTRICT or the DISTRICT'S architect/engineer and follow the specific procedures identified in the plans and specifications, instructions, general and/or standard terms and conditions, any addenda issued, and the "Bid" documents, where applicable. Stipulated damages will be assessed in accordance with the plans and specifications, instructions, general and/or standard terms and conditions, any addenda issued, and the "Bid" documents, where applicable for any project not completed within the contractually authorized time period. If these referenced documents are silent with respect to this information then stipulated damages will be assessed in the amount of two hundred seventy dollars ($270) per day for any project not completed within the contractually authorized time period.

3. Payment Terms

Under this agreement, the DISTRICT agrees to pay the CONTRACTOR ---------- dollars ($----------) which is inclusive of all amounts properly due under the terms and conditions set forth in the "Bid" documents. If the "Bid" documents are silent with respect to payment and related terms then the CONTRACTOR will issue at least monthly invoices for which the DISTRICT will, in all good faith, attempt to review and process for payment within a reasonable time period. If the "Bid" documents are silent with respect to retainage amounts, then ten (10) percent of the total payment amount will be withheld for projects less than five hundred thousand ($500,000) dollars or five (5) percent of the total payment amount will be withheld for projects equal to or greater than five hundred thousand ($500,000) dollars both of which are provided in Louisiana Revised Statute 38:2248. A retainage bond shall not be acceptable, in lieu of withholding these amounts.

The CONTRACTOR'S request for final retainage payment shall constitute a waiver of all claims by the CONTRACTOR against the DISTRICT other than claims previously made in writing and still unsettled.

The CONTRACTOR acknowledges that, if the DISTRICT receives any indication, notice or claim of non-payment from a supplier, consultant, subcontractor, or any other party the DISTRICT shall be entitled to withhold payment of the amount claimed as unpaid or issue a dual check made payable to the CONTRACTOR and the unpaid supplier, consultant, subcontractor, or other party.

If this agreement extends beyond the current fiscal year and notwithstanding anything to the contrary and when applicable, the CONTRACTOR acknowledges and agrees that pursuant to the applicable state law, this agreement is subject to an annual appropriation dependency requirement to the effect that the renewal of this agreement is contingent upon the appropriation of funds to fulfill the requirements of this agreement. If the DISTRICT fails to appropriate sufficient monies to provide for payments under this agreement, then this agreement shall terminate on the last day of the last fiscal year for which funds were appropriated.

4. Amendments and Assignments

If there is a need to review and/or revise this agreement, the requesting party shall comply with the provisions of the "Bid" documents. If the "Bid" documents are silent with respect to amendments then the requesting party shall submit a written amendment to the other party, with the understanding that no amendment to this agreement shall be valid unless it is agreed and signed by both parties. This agreement shall not be assignable by either party without written consent of the other, except for assignment resulting from merger, consolidation, or reorganization of the assigning party.

5. Records, Audits and Other Grant Compliance Issues

For audit purposes, all records will be made available by both parties to any authorized representative of either party and said records will be retained for three (3) years after the close out of the grant or three (3) years from the final contractual payment under this agreement, whichever is later. If any confidential information is obtained during the course of this agreement, both parties agree not to release that information without the approval of the other party unless instructed otherwise by court order, grantor, auditor, public information request or as required by law.

6. Liability, Indemnity and Insurance

The CONTRACTOR shall perform the scope of services hereunder in accordance with all plans, specifications, instructions, general and/or standard terms and conditions, any addenda issued and the "Bid" documents, where applicable, as well as complying with all applicable laws and grant regulations. All products and/or services will be provided or performed in a thorough and workmanlike manner to the satisfaction of the DISTRICT.

This agreement is intended for the benefit of the DISTRICT and the CONTRACTOR and does not confer any rights upon any other third parties. All rights by and between the DISTRICT

and the CONTRACTOR are limited to the actions outlined in the applicable local, state and federal laws, regulations and policies.

The CONTRACTOR will indemnify, defend, and hold harmless the DISTRICT, including the DISTRICT'S employees and agents, from and against any and all claims or liabilities arising from the fault of the CONTRACTOR, its employees, subcontractors or agents in carrying out the CONTRACTOR'S duties and obligations under the terms of this agreement. The DISTRICT will indemnify, defend, and hold harmless the CONTRACTOR, including the CONTRACTOR'S employees and agents, from and against any and all claims or liabilities arising from the fault of the DISTRICT, its employees or agents in carrying out the DISTRICT'S duties and obligations under the terms of this agreement. This section will survive the termination of this agreement. In the event that either party takes any action to enforce this mutual indemnity provision, the prevailing party shall be entitled to recover reasonable attorney's fees and costs arising as a result thereof.

The CONTRACTOR will comply with the insurance requirements as specified by the DISTRICT and included as Exhibit C. Evidence of compliance with the attached insurance requirements will be provided by the CONTRACTOR to the DISTRICT prior to the commencement of any work.

As specified in the "Bid" documents, the CONTRACTOR is also required to provide both a Payment and a Performance Bond, each in the amount equal to one hundred percent (100%) of the contract amount. The CONTRACTOR is also required to maintain all contracting and/or other licenses as may be required by the Louisiana State Licensing Board for Contractors as well as other regulatory agencies.

7. Independent Contractor Status

The CONTRACTOR shall provide the services contemplated under this agreement as an independent CONTRACTOR and not as an employee, agent, joint venturer, subcontractor or partner of the DISTRICT. Nothing in this agreement shall be construed as creating any other relationship between the CONTRACTOR and the DISTRICT, or between any employee, agent, joint venturer, subcontractor or agent of the CONTRACTOR and the DISTRICT. During the term of this agreement, all persons employed by CONTRACTOR shall be an employee of the CONTRACTOR for purposes of the CONTRACTOR'S benefit programs for plans now existing or hereafter created, workers' compensation, compensation, and payment and withholding of federal, state and local income, social security, unemployment, Medicare, and other payroll taxes.

The CONTRACTOR acknowledges independent CONTRACTOR status within the meaning of Louisiana workers' compensation law, specifically Louisiana Revised Statute 23:1021 (6). The CONTRACTOR is rendering a service, other than manual labor, for a specified recompense for a specified result either as a unit or as a whole, under the control of the DISTRICT as to the result of this work only, and not as to the means by which such result is accomplished.

8. Warranties, Termination and Dispute Resolution

The CONTRACTOR warrants the following: (a) that it has the experience and ability to perform the scope of work required in this agreement, (b) that it will perform said scope of work in a professional, competent and timely manner, (c) that its services, reports and materials furnished hereunder will be as represented, (d) that it has the power to enter into and perform this agreement, and (e) that its performance of this agreement shall not infringe upon or violate any third party's rights or any federal, state or municipal laws that may result from the services provided herein.

While both parties agree to negotiate all contractual disputes in good faith, the DISTRICT reserves the right to terminate this agreement at any time upon written notice of termination, in which event, the CONTRACTOR will be reimbursed for all services satisfactorily provided up until the date of termination. The CONTRACTOR may terminate this agreement "for cause" with written notice to the DISTRICT within fifteen (15) days stating the cause for termination. Upon receipt, the DISTRICT shall have thirty (30) days to satisfactorily remedy, correct or remove the cause for termination. If the notice of termination is by the DISTRICT then the DISTRICT may withhold payment of any costs and fees related to, arising from or incidental to the stated cause or causes for termination. If the cause is related to the CONTRACTOR, or subcontractor, being disbarred from contracting on any projects involving federal funds then the DISTRICT is not liable for any work completed after the date of disbarment regardless of the notification date to the DISTRICT.

If the parties are unable to independently and satisfactorily resolve any disagreement then both parties agree that any contractual disagreement will be resolved under the jurisdiction of the 14th Judicial District Court for Calcasieu Parish, Louisiana. In addition, if it is necessary to enforce this agreement in any judicial forum, then the parties agree that whoever prevails in the litigation shall be entitled to reasonable attorney's fees and costs as fixed by the Court.

9. Severability, Entire Agreement and Captions

This agreement shall be governed by and construed in accordance with the laws of the State of Louisiana. If any provision of this agreement is held invalid, void or unenforceable under any law or regulation or by a court of competent jurisdiction, such provision will be deemed amended in a manner which renders it valid, or if it cannot be so amended, it will be deemed to be deleted. Such amendment or deletion will not affect the validity of any other provision of this agreement. This agreement, any Hazard Mitigation Grant Program documentation, any attached documents, and any referenced documents, including the "Bid" documents, represent the entire agreement between the DISTRICT and the CONTRACTOR and supersede all prior negotiations, representations or agreements, either written or oral. In the event of a conflict between this agreement and other documents, the terms of this agreement shall control.

Each paragraph of this agreement has been supplied with a caption to serve only as a guide to the contents. The caption does not control the meaning of any paragraph or in any way

determine its interpretation.

10. No Authorship Presumptions

The DISTRICT and the CONTRACTOR have had an opportunity to negotiate the language of this agreement in consultation with legal counsel prior to its execution. No presumption shall arise or adverse inference be drawn by virtue of authorship. The DISTRICT and the CONTRACTOR hereby waive the benefit of any rule of law that might otherwise be applicable in connection with the interpretation of this agreement, including but not limited to, any rule of law to the effect that any provision of this agreement shall be interpreted or construed against the party who (or whose counsel) drafted that provision. The rule of no authorship presumption set forth in this paragraph is equally applicable to any person that becomes a party by reason of assignment and/or assumption of this agreement and any successor to a signatory party.

11. Address of Notices and Communications

All notices between the DISTRICT and the CONTRACTOR provided for pursuant to this agreement shall be in writing. The name and address of the DISTRICT'S representative is:

Sally Fenet, Board President
RECEREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH
3210 Power Center Parkway
Lake Charles LA 70607

The name and address of the CONTRACTOR'S representative is:

In the event that the mailing address of the DISTRICT or the CONTRACTOR changes during the terms of this agreement, or that there is a change in the designated points of contact, the party with the address change or change of contact shall immediately notify the other party of the change.

[The remainder of this page is intentionally left blank.]

WITNESSES:

RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH:

BY: _____

Witness Signature

SALLY FENET, PRESIDENT

Printed Witness Name

Witness Signature

Printed Witness Name

WITNESSES:

CONTRACTOR:

BY: _____

Witness Signature

----------, President

Printed Witness Name

Witness Signature

Printed Witness Name

Section A – Types of Coverage Required

Where applicable, any **Contractor, Subcontractor, Consultant, Architect, Engineer, Other Professional or Vendor (hereinafter referred to as Contractor collectively)**, who performs services for the Owner in the amount of one hundred thousand dollars or greater shall maintain the following insurance coverage with insurances companies acceptable to the Owner. Those insurance companies must be rated in the current A.M. Best Rating Guide with an "A-"rating or better. In the event that insurance requirements are included elsewhere within any other procurement documents, the requirements contained within this article shall supersede any such reference.

In connection therewith, the Contractor agrees to provide to the Owner, at the Contractor's expense and prior to any entry on the Owner's property, proof of liability insurance coverage set forth. The Contractor agrees to furnish to the Owner certificates evidencing said insurance coverage for the full term of this agreement which certificates shall name the Owner as an additional named insured on all policies except errors and omissions policies and shall provide for thirty (30) days advanced written notice to the Owner in the event of cancellation or alteration of the policies.

The Contractor agrees to maintain the coverage limits and endorsements as listed herein. The Contractor's obligation to provide the required insurance will not be waived by the Contractor's failure to provide the certificate of insurance, the Owner's acceptance of a certificate of insurance showing coverage varying from the required coverage, or the Owner's allowance to commence work.

No work shall commence under any contract until the following insurance coverage is obtained by the Contractor:

(1) Worker's Compensation

(a) Standard Louisiana Coverage (Always Required) – Worker's Compensation coverage: (i) should cover all employees, including owners, (ii) must be statutory for medical and indemnity and (iii) should have a minimum limit for employer's liability of:

Employer's Liability -	$1,000,000 each accident
	$1,000,000 each employee – disease
	$1,000,000 policy limit – disease

(b) Maritime Coverage

☐ Required ☒ Not Required

When specifically required by the Owner (as denoted with an "X" in the above "Required" box), the Contractor shall procure and maintain during the life of this contract a Worker's Compensation Policy specifically covering maritime activities. The scope of the project will determine whether maritime insurance is required but if the project is going to be performed over any body of water then this separate coverage should be obtained.

(2) Contractor's Liability Insurance (Always Required)

(Note: The term Contractor refers collectively, where applicable, to any Contractor, Subcontractor, Consultant, Architect, Engineer or Vendor performing services for the Owner)

(a) Contractor's Comprehensive General Liability
("Claims Made Policies" may not be used)

$1,000,000 per occurrence
$2,000,000 general aggregate (☒ Limit applies to specific project ☐ Limit applies to policy)
$1,000,000 products/completed operations aggregate
$1,000,000 personal injury and advertising coverage

Sub Contractor Comprehensive General Liability – Any Sub Contractors utilized on the project will be (☒ Required ☐ Not Required) to maintain the above comprehensive general liability policy limits.

(b) Contractor's Automobile Liability (Owner, Non-Owned, and Hired Car)

$1,000,000 per occurrence

Sub Contractor Automobile Liability – Any Sub Contractors utilized on the project will be (☒ Required ☐ Not Required) to maintain the above automobile liability policy limit.

(c) Contractor's Umbrella Policy

Unless specifically excluded for project specific reasons, the Contractor shall procure and maintain during the life of this contract an Umbrella Policy as follows:

$5,000,000 each occurrence
$5,000,000 general aggregate

☐ Coverage Specifically Excluded For Project

(3) Owner's Contractor Protective Liability Policy (OCP Policy)

☒ Required ☐ Not Required

When specifically required by the Owner (as denoted with an "X" in the above "Required" box), the Contractor shall procure and maintain during the life of this contract an Owner's Contractor Protective Liability Policy (OCP) in a minimum amount of $1,000,000 (per occurrence) and $2,000,000 (general aggregate). This type of policy provides the Owner with separate coverage up to the above limits as opposed to shared coverage when the Owner is only named as an additional insured on the Contractor's main policy.

(4) Property Insurance (Builder's Risk Insurance)

☒ Required ☐ Not Required

Note that Builder's Risk for Flood Coverage is separate and may need to be considered for any project work occurring in a flood prone area.
For this project, Builder's Risk for Flood is:
☐ Required ☒ Not Required

When specifically required by the Owner (as denoted with an "X" in the above "Required" box), the Contractor shall purchase and maintain property insurance covering the work site up to the full insurable value equal to the Contract sum and the insurance shall be endorsed to comply with any waiver of rights provisions. The property insurance shall be "All Risks Builder's Risk Completed Value Form" insurance or equivalent manuscript policy, 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 including theft of materials whether or not attached to any structure, vandalism/malicious mischief, collapse, earthquake, windstorm, false work, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any law.

The property insurance shall also contain an endorsement or specific provision to cover damages, losses and expenses incurred in the repair or replacement of any insured property (including, but not limited to charges of engineers, architects, attorneys and others). The Property insurance also shall include by endorsement or special provision the following additional coverage elections: operational testing (if risk is present), off premises storage not on the site or in transit and property in transit. When required, no work may commence on the site until the Builder's Risk Insurance is obtained.

The Contractor is to provide Builder's Risk Insurance to protect the Owner, Architect, Engineer, Contractor, and any Subcontractors as to any interests that may exist. Until acceptance of work by the Owner, all work in connection with a particular contract is in the custody, charge and care of the Contractor who will take every necessary precaution against injury or damage to any part thereof whether arising from execution or from the non-execution of the work.

Contractor shall be responsible for payment of the deductible for Builder's Risk Insurance or any other property coverage deemed required to be purchased for this Contract, whether acquired by the Owner or otherwise.

(5) Errors & Omissions Policy (Professional Liability Insurance)

(Applicable Only to Professional Services Contracts including, but not limited to, Architect, Engineer, Consultant or Other Professional Contracts)

☐ Required ☒ Not Required

This policy covers negligent acts, errors and omissions in its performance of professional services with minimum policy limits of $1,000,000 per occurrence and $1,000,000 general aggregate.

Section B – Other Insurance Requirements

(1) Additional Insured Classification and Waiver of Subrogation (Always Required)

The Owner must be listed as an additional insured on all policies except for worker's compensation and professional liability insurance policies. All policies will provide a thirty day written notice of cancellation. Waiver of subrogation will be given to the Owner on all policies which means that the Contractor's insurer(s) will have no right of recovery or subrogation against the Owner.

Except for professional liability insurance, it is the intention of the parties that the insurance policy shall protect both parties and be the PRIMARY COVERAGE for any and all losses covered. Again all policies required above shall be primary to any insurance carried by the Owner. The insurance companies shall have no recourse against the Owner for payment of any premiums or for assessments under any of the above policies.

(2) Indemnification for all Contractors, Except for Architects, Engineers or Other Licensed Professionals (Always Required)

The Contractor will indemnify, defend, and hold harmless the Owner, including the Owner's employees and agents, from and against any and all claims or liabilities, arising from the fault of the Contractor, its employees, subcontractors or agents in carrying out the Contractor's duties and obligations under the terms of this agreement. The Owner will indemnify, defend, and hold harmless the Contractor, including the Contractor's employees and agents, from and against any and all claims or liabilities, arising from the fault of the Owner, its employees or agents in carrying out the Owner's duties and obligations under the terms of any agreement. This section will survive the termination of any agreement. In the event that either party takes any action to enforce this mutual indemnity provision, the prevailing party shall be entitled to recover reasonable attorney's fees and costs arising as a result thereof.

(3) Indemnification for Architects, Engineers or Other Licensed Professionals (Always Required)

The Contractor will indemnify and hold harmless the Owner, including the Owner's employees and agents, from and against any and all claims or liabilities, arising from the fault of the Contractor, its employees, subcontractors or agents in carrying out the Contractor's duties and obligations under the terms of this agreement. The Owner will indemnify and hold harmless the Contractor, including the Contractor's employees and agents, from and against any and all claims or liabilities, arising from the fault of the Owner, its employees or agents in carrying out the Owner's duties and obligations under the terms of any agreement. This section will survive the termination of any agreement. In the event that either party takes any action to enforce this mutual indemnity provision, the prevailing party shall be entitled to recover reasonable attorney's fees and costs arising as a result thereof.

(4) Statutory Employer Status (Always Required Except for Architects, Engineers or Other Licensed Professionals)

The Owner as principal whether as the direct or statutory employer, mutually agree with the Contractor that it is their intention, and the intention of the contract between them, to recognize the Owner as the statutory employer of the Contractor's employees, whether direct or statutory, while the Contractor's employees, direct or statutory, are performing work or services with respect to this contract. It is also recognized that the work contemplated by this contract is a part of the trade, business or occupation of the Owner and it is an integral part of or essential to the ability of the Owner to generate its goods, products or services. It is the express intention of the Owner and the Contractor that the Owner as the statutory employer, shall, in accordance with LSA—R.S. 23:1061, be granted the exclusive remedy protections of LSA—R.S. 23:1032, and shall be liable to pay any employee employed in the execution of the work, or to his dependent, compensation which it would have been liable to pay if the employee had been immediately employed by it. In the event the Owner is required as the statutory employer to pay any workers' compensation benefits, it shall be entitled to indemnity from the Contractor for such benefits.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: **RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH IOWA FIRE PROTECTION DISTRICT**
3210 Power Center Parkway
Lake Charles LA 70607

BID FOR: Ward 3 Recreation Various Projects

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: Kudla Architecture and dated: 8/8/25
(Owner to provide name of entity preparing bidding documents.)

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) _____ .

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

_____ Dollars ($ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

All work from item #7 – Main Building Drainage Improvements Dollars ($ _____)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

All work from item #8 – South Ball Field Drainage Improvements Dollars ($ _____)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

NA Dollars ($_____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

THE FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

**** A CORPORATE RESOLUTION OR WRITTEN EVIDENCE** of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA R.S. 38:2218(A) attached to and made a part of this bid

BID BOND FORM

FOR

WARD 3 RECEREATION VARIOUS PROJECTS

Date:_____

KNOW ALL MEN BY THESE PRESENTS:

That_____of_____, as Principal, and_____, as Surety, are held and firmly bound unto the RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH (Obligee), in the full and just sum of five (5%) percent of the total amount of this proposal, including all alternates, lawful money of the United States, for payment of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally firmly by these presents.

Surety represents that it is listed on the current U. S. Department of the Treasury Financial Management Service list of approved bonding companies as approved for an amount equal to or greater that the amount for which it obligates itself in this instrument or that it is a Louisiana domiciled insurance company with at least an A - rating in the latest printing of the A. M. Best's Key Rating Guide. If surety qualifies by virtue of its Best's listing, the Bond amount may not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide.

Surety further represents that it is licensed to do business in the State of Louisiana and that this Bond is signed by surety's agent or attorney-in-fact. This Bid Bond is accompanied by appropriate power of attorney.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas said Principal is herewith submitting its proposal to the Obligee on a Contract for:

_____

NOW, THEREFORE, if the said Contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the Contract in writing and give a good and sufficient bond to secure the performance of the terms and conditions of the Contract with surety acceptable to the Obligee, then this obligation shall be void; otherwise this obligation shall become due and payable.

_____ _____

PRINCIPAL (BIDDER) SURETY

BY: _____ BY:_____

AUTHORIZED OFFICER-OWNER-PARTNER AGENT OR ATTORNEY-IN-FACT (SEAL)

SUBCONTRACTOR LISTING

(See Post Bid Information, Article VI for further instructions.)

Page ____ of _____ Pages

Work Description	Subcontractor & Location	√ if minority	Phone #	LA. Contractor's License #	Federal I.D. #

THIS FORM MUST BE SUBMITTED TO THE OWNER, OR
PROJECT ARCHITECT/ENGINEER ON BEHALF OF THE OWNER,
WITHIN TEN (10) DAYS AFTER THE BID OPENING.

CONTRACTOR COMPLIANCE CERTIFICATE ON ELECTRICAL SUBCONTRACTORS

In accordance with Article VI, I, the undersigned, do hereby certify that this construction firm will comply with the following requirement of the RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH :

Any party bidding to perform electrical work of any nature under this contract shall not be deemed a "responsible bidder" unless it certifies that it will employ electricians on the project(s) in question who are certified as participating in a program of training and education or as having successfully completed such programs that are conducted or supervised by the National Joint Apprenticeship and Training Committee of the Electrical Industry and the Louisiana Department of Labor, Office of Regulatory Services, Labor Programs Section, Apprenticeship Division. The electrical sub-contractor shall provide through the general contractor on a monthly basis a signed certificate on a form provided by the Owner verifying compliance with the provisions of this section.

I will require the electrical subcontractor(s) to submit a signed certificate on the form provided by the Owner on a monthly basis, and said certificate will be submitted by this firm along with the monthly invoice and other appropriate documents.

_____
BIDDER

BY: _____

_____
NAME & TITLE

_____
ADDRESS

DATE: _____

THIS FORM MUST BE SUBMITTED TO THE OWNER,
OR THE PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, WITHIN TEN (10) DAYS AFTER THE BID OPENING.

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

STATE OF LOUISIANA
PARISH OF CALCASIEU

_____, being first duly sworn, deposed and says that

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

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

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

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communications or conference with any other Bidder or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through the collusion, conspiracy, connivance or unlawful agreement any advantage against the RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH or any person interested in the proposed Contract; and

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

Company Name: _____

By: _____

_____
Title

SUBSCRIBED AND SWORN TO BEFORE ME, NOTARY PUBLIC, on this _____ day of _____, 20___.

_____
NOTARY PUBLIC

My Commission Expires: _____

THIS FORM MUST BE SUBMITTED TO THE OWNER, OR THE PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, WITHIN TEN (10) DAYS AFTER THE BID OPENING.

AFFIDAVIT (RS 38:2224, 2190, 2290-2296)

RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH

NAME: _____
LOCATION: _____

STATE OF LOUISIANA
PARISH OF CALCASIEU

Before me, the undersigned authority, duly commissioned and qualified within and for the State and the Parish aforesaid, personally came and appeared _____, representing _____, who, being by me first duly sworn deposed and said that he has read this affidavit and does hereby agree under oath to comply with all provisions herein as follows:

PART I
Section 2224 of Part I of Chapter 10 of Title 38
of the LA. Revised Statutes of 1950 as amended.

(1) That affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and

(2) That no part of the contract price received by affiant as paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction of the public building or project were in the regular course of their duties for affiant.

PART II
Section 2190 of the Part I of Chapter 10 of Title 38
of the LA. Revised Statutes of 1950 as amended.

That affiant, if he be an architect or engineer, or representative thereof, does not own a substantial financial interest, either directly or indirectly, in any corporation, firm partnership, or other organization which supplies materials for the construction of a public building or project when the architect or engineer has performed architectural or engineering services, either directly or indirectly, in connection with the public building or project for which the materials are being supplied.

For the purpose of this section, a "substantial financial interest" shall exclude any interest in stock being traded on the American Stock Exchange or the New York Stock Exchange.

AFFIDAVIT (RS 38:2224, 2190, 2290-2296)

That affiant, if subject to the provisions of this section, does hereby agree to be subject to the penalties involved for the violation of this section.

PART III

That affiant does hereby state that he has read and agrees to comply with and be subject to the provisions of Part V of Chapter 10 of Title 38 of the Louisiana Revised Statutes of 1950, being Sections 2290 through 2296 of Title 38 as amended.

_____

SWORN TO AND SUBSCRIBED before me on this ____ day of _____,

20____.

_____

NOTARY PUBLIC

THIS FORM MUST BE SUBMITTED TO THE OWNER, OR THE PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, WITHIN TEN (10) DAYS AFTER THE BID OPENING.

ATTESTATION FORM
(R.S. 38:2227)
(Past Criminal Convictions of Bidders)

RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH

Appearer, as a Bidder on the above-entitled Public Works Project, does hereby attest that:

LA. R.S. 38:2227 PAST CRIMINAL CONVICTIONS OF BIDDERS

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:

(a) Public bribery (R.S. 14:118)
(b) Corrupt influencing (R.S. 14:120)
(c) Extortion (R.S. 14:66)
(d) Money laundering (R.S. 14:230)

B. Within the past five years from the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

(a) Theft (R.S. 14:67)
(b) Identity Theft (R.S. 14:67.16)
(c) Theft of a business record (R.S.14:67.20)
(d) False accounting (R.S. 14:70)
(e) Issuing worthless checks (R.S. 14:71)
(f) Bank fraud (R.S. 14:71.1)
(g) Forgery (R.S. 14:72)
(h) Contractors; misapplication of payments (R.S. 14:202)
(i) Malfeasance in office (R.S. 14:134)

_____ _____
NAME OF BIDDER **NAME OF AUTHORIZED SIGNATORY OF BIDDER**

_____ _____
DATE **TITLE OF AUTHORIZED SIGNATORY OF BIDDER**

_____
SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER

THIS FORM MUST BE SUBMITTED TO THE OWNER, OR THE PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, WITHIN TEN (10) DAYS AFTER THE BID OPENING.

AFFIDAVIT FORM
(R.S. 38:2212.10(C))
(Verification of Employees E-Verify)

RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH

Appearer, as a Bidder on the above-entitled Public Works Project, does hereby attest that:

LA. R.S. 38:2212.10 Verification of Employees (E-Verify)

A. Appearer is registered and participates in a status verification system (E-Verify) to verify that all employees in the state of Louisiana are legal citizens of the United States or are legal aliens.

B. If awarded the contract, Appearer shall continue, during the term of the contract, to utilize a status verification system (E-Verify) to verify the legal status of all new employees in the state of Louisiana.

C. If awarded the contract, Appearer shall require all subcontractors to submit to it a sworn affidavit verifying compliance with Paragraphs (A) and (B) of this Subsection.

_____ _____
NAME OF BIDDER **NAME OF AUTHORIZED SIGNATORY OF BIDDER**

_____ _____
DATE **TITLE OF AUTHORIZED SIGNATORY OF BIDDER**

_____
SIGNATURE OF AUTHORIZED
SIGNATORY OF BIDDER

_____
WITNESS

_____
WITNESS

_____
NOTARY PUBLIC

THIS FORM MUST BE SUBMITTED TO THE OWNER, OR THE PROJECT ARCHITECT/ENGINEER, ON BEHALF OF THE OWNER, WITHIN TEN (10) DAYS AFTER THE BID OPENING.

MONTHLY FORM
ELECTRICAL SUBCONTRACTOR'S CERTIFICATION

(See Post Bid Information, Article VI for further instructions)

NOTE: this electrical subcontractor's certification shall be properly filled out, executed, and submitted by the electrical subcontractor(s) through the general contractor on a monthly basis, and must be attached to the monthly invoice submitted by the general contractor to the Owner. Electrical subcontractor(s) may make more copies of this form, if additional pages are necessary.

PROJECT: RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH

MONTH OF _____, 20____. Page _____ of _____ Pages

NAME OF EMPLOYEES IN WORK FORCE THIS MONTH	PARTICIPATING/COMPLETED TRAINING & EDUCATION PROGRAM (please check one)	
	YES	NO

CERTIFIED BY: _____

DATE: _____

AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

Ward 3 Various Projects at Power Center Sports Complex
3210 Power Center Parkway
Lake Charles LA 70607

THE OWNER:
(Name, legal status and address)

Recreation District One of Ward Three of Calcasieu Parish
3210 Power Center Parkway
Lake Charles, LA 70607

THE ARCHITECT:
(Name, legal status and address)

Kudla Architecture
429 Kirby Street

Lake Charles LA 70601

ADDITIONS AND DELETIONS:
The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes 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 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.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™–2017, Guide for Supplementary Conditions.

TABLE OF ARTICLES

INDEX
(Topics and numbers in bold are Section headings.)

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 or proposal 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. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 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.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 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 retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and 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 the 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 suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, 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 suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon written protocols governing the transmission and use of, and reliance on, Instruments of Service or any other information or documentation in digital form.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to written protocols governing the use of, and reliance on, the information contained in the model shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

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 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 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.

§ 2.3.2 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.

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

§ 2.3.4 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.

§ 2.3.5 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.

§ 2.3.6 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.

§ 2.4 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.

§ 2.5 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 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 default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for 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. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

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 its 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 2.3.4, 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 submit 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, subject to Section 15.1.7, 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. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be 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 notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative 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 approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 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

§ 3.5.1 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.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 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 14 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 that an equitable adjustment be made 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, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim 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 notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice 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 and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably 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, or fails to provide submittals in accordance with the approved 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 make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and 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 how 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 the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect 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 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.

§ 3.12.10.1 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 be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The

Contractor shall cause such services or certifications to be provided by an appropriately 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 and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and 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.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 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, 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, or patching shall be restored to the condition existing prior to the cutting, fitting, or 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 construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its 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 and 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 the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with 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 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 an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the 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 that 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 Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 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.

§ 4.2 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.

§ 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 promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) 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

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 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 13.4.2 and 13.4.3, whether or not the 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, 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 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 order 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 Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 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 the 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, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice 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 for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, 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 that the Contractor, by these Contract 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; 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 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 term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 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 any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its 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 or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has 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 notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work 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. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 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 that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor 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. The Contractor shall proceed promptly with changes in the Work, 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 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine 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 7.3.4 shall be limited to the following:

- **.1** Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- **.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, directly related to the change; and

.5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 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.

§ 7.3.7 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.

§ 7.3.8 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 may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

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, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 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 (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended 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

§ 9.1.1 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.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent 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. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and 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 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, suppliers, or other persons or entities that 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 (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole 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 in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. 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. 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 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 suppliers 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 either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

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

§ 9.5.4 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 supplier 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 Contractor shall reflect such payment on its next Application 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 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 and suppliers 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 or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to 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 or provided by 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, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 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' 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 shutdown, 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; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and 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 the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the 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 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 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. 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 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, (3) a written statement that the Contractor knows of no 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, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and 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, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance 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 the lien, claim, security interest, or encumbrance, 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, corrected, 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 the 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;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a 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, a Subcontractor, or a Sub-subcontractor; 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 implement, 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 the owners and users of adjacent sites and utilities of the safeguards.

§ 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. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is 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, notice of the 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 and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. 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 notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's 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 the material or substance or who are to perform the task of removal or safe containment of the 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 by the amount of the Contractor's reasonable additional costs of shutdown, 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 hazardous 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 hazardous 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 reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances 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 reimburse 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 Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 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.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve

the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 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; (2) the Architect and Architect's consultants; and (3) Separate Contractors, 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 those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 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, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to

fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement 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 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

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, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before 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 any 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 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 2.5.

§ 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 of the Owner or Separate Contractors, whether completed or partially completed, 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, excluding that jurisdiction's choice of law rules. 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 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 the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 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.

§ 13.3.2 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 thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 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 tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or

approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 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 13.4.1, 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 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 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.

§ 13.4.4 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.

§ 13.4.5 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.

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

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties 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.

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, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, 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 reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, 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' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work 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' 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 or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;

.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 reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner 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' 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 under 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 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 Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

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, a change in the Contract Time, 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. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the 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 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by 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 under this Section 15.1.3.1 shall 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.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 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.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 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.

§ 15.1.6.2 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.

§ 15.1.7 Waiver of 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 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, 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. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a 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 the 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 receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, 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 15.1.7, 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 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 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. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. 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 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party 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

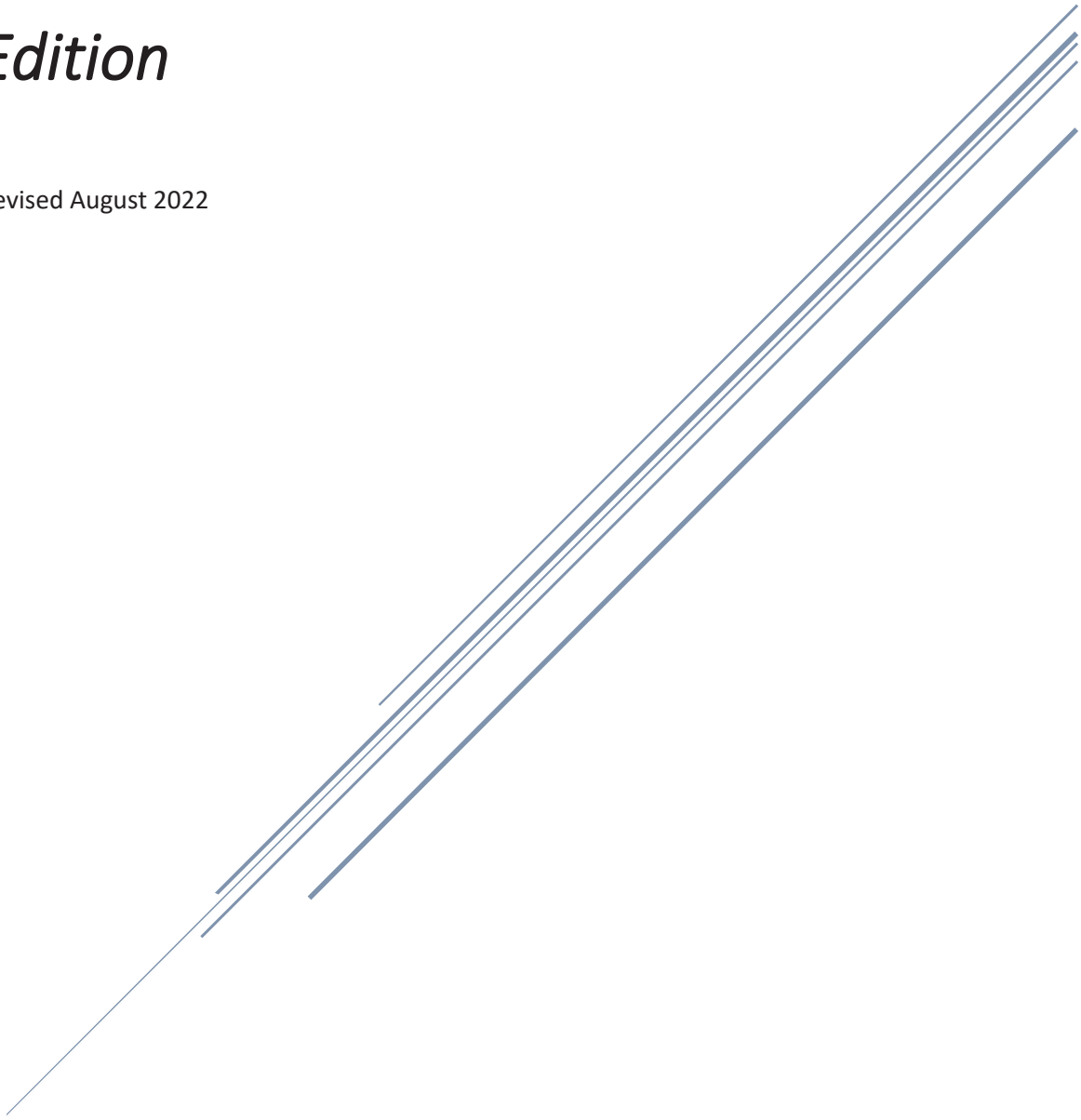
similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party 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 those of the Owner and Contractor under this Agreement.

Supplementary Conditions for the AIA A201-2017 Edition

Revised August 2022



Contents

Supplementary Conditions for the AIA A201-2017 Edition

SUPPLEMENTARY CONDITIONS

Note to Reader

These Supplementary Conditions modify, change, delete from or add to the General Conditions of the Contract for Construction AIA Document A201, 2017 Edition. Where any Article of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of the Article, Paragraph, Subparagraph or Clause shall remain in effect. Articles, Paragraphs, Subparagraphs or Clauses modified or deleted have the same numerical designation as those occurring in the General Conditions.

ARTICLE 1 GENERAL PROVISIONS

§1.1 Basic Definitions

§1.1.1 The Contract Documents

Delete the third sentence and add the following sentence: “The Contract Documents shall include the Bidding Documents as listed in the Instructions to Bidders and any modifications made thereto by addenda.”

ARTICLE 2 OWNER

§2.2 EVIDENCE OF THE OWNER’S FINANCIAL ARRANGEMENTS

Delete Section 2.2.

§2.3.1 In the first sentence, delete: all before “the Owner shall secure…”

§2.3 Information and Services Required of the Owner

§2.3.5 (Add the following sentence to the end of Subparagraph 2.3.5): "The Owner shall not be responsible for any explanation or interpretation of the Contract Documents."

(Add the following Paragraph 2.6)

§2.6 Owner's Right of Partial Occupancy

§2.6.1 The Owner shall have the right to use any and all portions of the building that have reached such a stage of completion as to permit occupancy or use provided that such occupancy or use does not hamper the Contractor or prevent his efficient completion of the Contract. Use form provided in the Contract Documents entitled "Beneficial Occupancy.

ARTICLE 3 CONTRACTOR

§3.6 TAXES

(Delete Paragraph 3.6 and replace with the following)

The Contractor shall not pay any State or local sales taxes for materials and equipment which become fixed and permanent property of the governmental entity for this project. All forms and guidelines shall be in accordance with the Louisiana Department of Revue and Taxation. Contained in the bidding documents, the Louisiana Department of Revenue Form R-1020 entitled Designation of Construction Contractor as Agent of Governmental Entity and Exemption Certificate, for use by the Contractor, Subcontractors, and Material Suppliers for the Project which is required by the State of Louisiana Department of Revenue and Taxation, Sales Tax Division.

§3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS (La R.S. 40:1724[A])

Delete and Add §3.7.1 “The Contractor shall make arrangements for such tests, inspections and approvals with third-party Testing Laboratory and the Contractor shall bear all related costs of tests, inspections and approvals.

Delete Section 3.7.5 and substitute the following:

3.7.5 If, during the course of the Work, the Contractor discovers human remains, unmarked burial or archaeological sites, burial artifacts, or wetlands, which are not indicated in the Contract Documents, the Contractor shall follow all procedures mandated by State and Federal law, including but not limited

to La R.S. 8:671 et seq., the Office of Coastal Protection and Restoration, and Sections 401 & 404 of the Federal Clean Water Act. Request for adjustment of the Contract Sum and Contract Time arising from the existence of such remains or features shall be submitted in writing to the Owner pursuant to the Contract Documents.

§3.8 ALLOWANCES

Delete Sections 3.8.1, 3.8.2, and 3.8.3 in their entirety and add the following new Section 3.8.1:

3.8.1 Allowances shall not be made on any of the Work.

§ 3.9 SUPERINTENDENT

3.9.1 Add the following to the end of the paragraph:

Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

§3.10 CONTRACTOR'S CONSTRUCTION AND SUBMITTAL SCHEDULES

3.10.1 For projects with a contract sum greater than $1,000,000.00, the

Contractor shall include with the schedule, for the Owner's and Architect's information, a network analysis to identify those tasks which are on the critical path, i.e., where any delay in the completion of these tasks will lengthen the project timescale, unless action is taken. A revised schedule shall be submitted with each Application and Certificate for Payment. No payment shall be made until this schedule is received.

3.10.3 In the first sentence, delete the word "general". After the first sentence, add the following:

If the Work is not on schedule, as determined by the Architect, and the Contractor fails to take action to bring the Work on schedule, then the Contractor shall be deemed in default under this Contract and the progress of the Work shall be deemed unsatisfactory. Such default may be considered grounds for termination by the Owner for cause in accordance with Section 14.2.

Add the following Sections:

3.10.4 Submittal by the contractor of a schedule or other documentation showing a completion date for his Work prior to the completion date stated in the contract shall not impose any obligation or responsibility on the Owner or Architect for the earlier completion date.

3.10.5 In the event the Owner employs a commissioning consultant, the Contractor shall cooperate fully in the commissioning process and shall require all subcontractors and others under his control to cooperate. The purpose of such services shall be to ensure that all systems perform correctly and interactively according to the provisions of the Contract Documents.

§3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following: This requirement is of the essence of the contract. The Architect shall determine the value of these documents and this amount shall not be approved for payment to the Contractor until all of the listed documents are delivered to the Architect in good order, completely marked with field changes and otherwise complete in all aspects.

§3.18 INDEMNIFICATION

Delete section and refer to the contractual language in section 6 of the Owner/District's sample contract.

ARTICLE 4 ARCHITECT

§4.1 General

(Delete Subparagraph 4.1.1 and replace with the following)

§4.1.1 The term Architect, when used in the Contract Documents, shall mean the prime designer (Architect, Professional Engineer, or Landscape Architect), or his authorized representative, lawfully licensed to practice architecture, engineering, or landscape architecture in the state of Louisiana, identified as such in the Owner-Contractor Agreement, and is referred to throughout the Contract Documents as if singular in number and masculine in gender.

ARTICLE 5 SUBCONTRACTORS

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

Delete Section 5.2.1, and substitute the following:

5.2.1 Unless otherwise required by the Contract Documents, the Contractor shall furnish at the Pre-Construction Conference, to the Owner and the Architect, in writing, the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. No Contractor payments shall be made until this information is received.

Delete Section 5.2.2, and substitute the following:

5.2.2 The Contractor shall be solely responsible for selection and performance of all subcontractors. The Contractor shall not be entitled to claims for additional time and/or an increase in the contract sum due to a problem with performance or nonperformance of a subcontractor.

Delete Sections 5.2.3 and 5.2.4 and substitute the following:

5.2.3 The Contractor shall notify the Architect and the Owner when a subcontractor is to be changed and substituted with another subcontractor.

§5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

Delete Sections 5.4, 5.4.1, 5.4.2 and 5.4.3

ARTICLE 7 CHANGES IN THE WORK

§7.1 General

(Add the following Subparagraph)

§7.1.4 As part of the pre-construction conference submittals, the contractor is to submit the following prior to the commencement of work.

- Fixed job site overhead cost itemized with documentation to support daily rates.
- Insurance and Bond Premium Rates, as a percentage, with supporting information from the General Contractor’s carrier.

§7.2 Change Orders

(Add the following Subparagraphs 7.2.2 through 7.2.8)

§7.2.2 The cost to the Owner resulting from the change in the work shall be the sum of:

1. Contractor's material and labor cost
2. Subcontractor's (as defined in Article 5.1.1) material and labor cost
3. Overhead and Profit

The credit to the Owner resulting from a change in the work shall be the sum of:

1. Contractor's material and labor cost
2. Subcontractor's material and labor cost
3. Credit will not be required for overhead and profit

§7.2.3 Before a change order is prepared, the Contractor shall provide and deliver to the Architect the following information, not subject to waiver, within ten (10) days after being notified to prepare said change order:

1. An itemized list of material and labor cost for each subcontractor's work including quantities and unit costs for each item of labor and each item of material.
2. An itemized list of material and labor costs for Contractor's work including quantities and unit costs for each item of labor and each item of material.
3. Overhead and profit shall be computed by one of the following methods: (not to exceed 25% on any portion of work).
    a. When all of the work is Contractor's work; 15% of the cost of the work as defined hereafter
    b. When the work is all Subcontract work; 15% of the cost of the work for Subcontractor's overhead and profit plus 10% of the cost of the work for Contractor's overhead and profit.
    c. When the work is a combination of Contractor's work and Subcontractor's work; 15% of the cost of the work for Subcontractor's overhead and profit plus 10% of the cost of the work for Contractor's overhead and profit plus 15% of the cost of the Contractor's work for the Contractor's overhead and profit.

§7.2.4 The Contractor shall include extensions of time if any with the change order request and shall submit substantiation for such extension of time.

§7.2.5 Cost of the work for the purpose of change orders shall be costs necessarily incurred in performance of the work and paid by the Contractor which shall consist of:

1. Wages paid.
2. Cost of all materials and supplies.
3. Cost of necessary machinery and equipment.
4. Cost of applicable taxes, insurance, fringe benefits, unemployment compensation, social security, old age and bond premiums.
5. Any other documents costs.

§7.2.6 Subcontractor's cost shall consist of items in 7.2.5 above plus overhead and profit as defined in 7.2.3.

§7.2.7 Cost of the work whether Contractor's Cost of Subcontractor's cost shall not apply to the following:

1. Salaries or other compensation of the Contractor's personnel at the Contractor's principal office and branch offices.
2. Expenses of the Contractor's principal offices, branch offices, and the field office.
3. Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the work.
4. Overhead and general expenses of any kind or the cost of any items not specifically and expressly included above in the Cost of the Work.
5. Costs due to the negligence of the Contractor, any Subcontractor, anyone directly employed by any of them, or for whose acts any of them may be liable, including but not limited to the correction of defective or nonconforming work, disposal of material and equipment wrongly supplied, or making good any damage to property.

§7.2.8 When applicable, as provided by the Agreement, the Cost to the Owner for change orders shall be determined by quantities and unit prices. The quantity of any item shall be as submitted by the Contractor and approved by the Architect. Unit prices shall cover cost of material, labor, equipment, overhead and profit.

§7.3 CONSTRUCTION CHANGE DIRECTIVES

Use the term, “Field Order” instead of Construction Change Directive. Field Order(s) requires Owner’s approval.

7.3.3 In the first sentence after “following methods” insert: “, but not to exceed a specified amount”.

§7.4 Minor Changes in the Work

(Add the following after the last sentence): "However, any changes which effect a reduction in quantity or quality of materials or equipment shall not be made without the written approval of the Owner."

ARTICLE 8 TIME

§8.1 Definitions

§8.1.2 (Change the words "in the Agreement" to read "by the written notice to proceed")

(Add the following Subparagraph)

§8.1.5 The date of Beneficial Occupancy shall be the date when a certain portion or portions of a project are complete to a point where they can be occupied by the Owner.

§8.2 Progress and Completion

(Delete Subparagraph 8.2.1 and substitute the following)

§8.2.1 Time is of the essence and completion of the work must be within the time stated in the Agreement, subject to such extensions as may be granted under Paragraph 8.3. The Contractor agrees to commence work not later than fourteen days after the transmittal date of written notice to proceed from the Owner and to substantially complete the project within the time stated in the Agreement. The Owner will suffer financial loss if the project is not substantially complete in the time set forth in the Contract Documents. The Contractor and his surety shall be liable for and shall pay to the Owner the sum stated in the Contract Documents as fixed, agreed and stipulated damages for each consecutive calendar day (Saturday, Sunday, and holidays included) of delay until the work is substantially complete.

§8.3 Delays and Extensions of Time

§8.3.1 Change the words "by change order for such reasonable time as the Architect may determine" to read "as recommended by the Architect, subject to Owner's approval of the change order".

(Delete Subparagraph 8.3.3)

ARTICLE 9 PAYMENTS AND COMPLETION

§9.1 CONTRACT SUM

Delete Section 9.1.2.

(Delete Paragraph 9.2 and substitute the following)

§9.2 Schedule of Values

At the Pre-construction Conference, the contractor shall submit to the Owner and the Architect a Schedule of Values prepared as follows:

1. The Schedule of Values Form as submittal shall be on AIA Document G703.
2. Use the index (table of contents) of the specifications as a basis for format for listing costs of work for sections under Division 1 through 33. Use each section number under each division for subtitles. Each section shall be subdivided into separate line items for the total cost (with overhead and profit) of separate items in sections.
3. The total of all items shall equal the total Contract Sum.

§9.3 Applications for Payment

(Delete Subparagraph 9.3.1 and substitute the following)

§9.3.1 Monthly, the Contractor shall submit to the Architect an itemized Application of Certificate for Payment on the most recent versions of AIA Document G702, accompanied by AIA Document G703, notarized if required, supported by such data substantiating the right to payment as the Owner or the Architect may require. Application for payment shall be submitted on or about the first of each month for the value of labor and materials incorporated in the work and of material suitably stored at the site as of the twenty-fifth day of the preceding month, less normal retainage as follows:

1. Projects with Contract sum of less than $500,000.00 - 10% of the Contract sum.
2. Projects with Contract sum of more than $500,000.00 - 5% of the Contract sum.

(Delete Subparagraph 9.3.1.1)

Delete Section 9.3.2 and substitute the following:

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. Payments for materials or equipment stored on the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, including applicable insurance.

§9.5 DECISIONS TO WITHHOLD CERTIFICATION

Section 9.5.1.7: Delete the word "repeated". Delete Section 9.5.4.

§9.6 Progress Payments

(Delete Subparagraph 9.6.1 and substitute the following)

§9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in a timely manner.

§9.8 Substantial Completion

(Delete the words "or designated portion thereof" wherever they appear in Subparagraphs 9.8.1 through 9.8.5).

§9.8.2 Delete the words "or portion thereof which the Owner agrees to accept separately" where they appear in 9.8.2.

§9.8.5 (Delete the second and third sentences of Subparagraph 9.8.5 and substitute the following): "The normal retainage shall not be due the Contractor until expiration of the forty-five-day lien period and submission to the Architect of a clear lien certificate and invoice for same".

(Add the following Subparagraphs 9.8.7)

§9.8.7 A "punch list" of "exceptions" and the dollar value related thereto will be prepared. A monetary value will be assigned to each item so that a "special" retainage can be withheld for exceptions to acceptance in addition to the "normal" retainage.

§9.9 Partial Occupancy or Use

(Delete the entire Paragraph 9.9.1 and replace with)

9.9.1 Partial Occupancy is that stage in the progress of the Work when a designated portion of the Work is sufficiently complete in accordance with the Contract Documents so the

Owner can occupy or utilize the designated portion of the Work for its intended use. The Owner may occupy or use any substantially completed portion of the Work so designated by separate agreement with the Contractor and authorized by public authorities having jurisdiction over the Work. Such occupancy or use may commence provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, 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 the designated 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.

§9.10 Final Completion and Final Payment

§9.10.2 (Completely delete that part of the sentence following (5) and substitute the following): "Contractor shall furnish a clear lien certificate from the Clerk of Courts not less than forty-five (45) days after the recordation of acceptance. The cost of recordation shall be the responsibility of the Contractor."

§9.10 FINAL COMPLETION AND FINAL PAYMENT

Delete Section 9.10.4 and replace with the following:

9.10.4 The making of final payment shall not constitute a waiver of Claims by the Owner for the following:

9.10.4.1 Claims, security interests, or encumbrances arising out of the Contract and unsettled;

9.10.4.2 failure of the Work to comply with the requirements of the Contract Documents irrespective of when such failure is discovered;

9.10.4.3 terms of special warranties required by the Contract Documents; or

9.10.4.4 audits performed by the Owner, after final payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§10.2 SAFETY OF PERSONS AND PROPERTY

10.2.2 In the first sentence, between the words: “bearing on” and “safety”, add the words: “the health and,”

§10.3 HAZARDOUS MATERIALS

§10.3.1 In the second sentence after (PCB) add: “or lead”.

§10.3.2 After the first sentence, delete all remaining sentences.

Add at the end: “The Contract time shall be extended appropriately.” Delete Section 10.4 and substitute the following:

§10.4 EMERGENCIES

In an emergency affecting the safety of persons or property, the Contractor shall notify the Owner and Architect immediately of the emergency, simultaneously acting at his discretion to prevent damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency Work shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

(Delete Article 11 in its entirety refer to Insurance Requirements in Contract Documents)

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§12.2 CORRECTION OF WORK

12.2.1 Before Substantial Completion

At the end of the paragraph, add the following sentences:

"If the Contractor fails to correct Work identified as defective within a thirty (30) day period, through no fault of the Designer, the Owner may hold the Contractor in default. If the Owner finds the Contractor in default, the Surety shall be notified. If within thirty

(30) days after notification, the Surety has not corrected the nonconforming Work, through no fault of the Architect or Owner, the Owner may contract to have nonconforming Work corrected and hold the Surety and Contractor responsible for the cost, including architectural fees and other indirect costs. If the Surety fails to correct the Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may elect not to accept bonds submitted in the future by the Surety. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts.

§12.2.2 After Substantial Completion

12.2.2.1 At the end of the paragraph delete the last sentence and add the following sentences:

"If the Contractor fails to correct nonconforming Work, or Work covered by warranties, within a thirty (30) day period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the non-conforming or warranty Work, through no fault of the Architect or Owner, the Owner may contract to have the nonconforming or warranty Work corrected and hold the Surety responsible for the cost including architects fees and other indirect costs. Corrections by the Owner shall be in accordance with Section 2.4. If the Surety fails to correct the nonconforming or warranty Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may not accept bonds submitted, in the future, by the Surety."

ARTICLE 13 MISCELLANEOUS PROVISIONS

§13.1 GOVERNING LAW

Delete all after the word "located".

§13.2 SUCCESSORS AND ASSIGNS

13.2.1 In the second sentence, delete "Except as … 13.2.2" Delete Section 13.2.2.

§13.4 TESTS AND INSPECTIONS

In Section 13.4.1, delete the second sentence and substitute the following:

The Contractor shall make arrangements for such tests, inspections and approvals with the Testing Laboratory and shall bear all related costs of tests, inspections and approvals.

Delete the last two sentences of Section 13.4.1.

§13.5 INTEREST

Delete Section 13.5.

(Add new Paragraph 13.6)

§13.6 Recordation of Contract and Bond

§13.6.1 The Owner shall record the Agreement between the Owner and Contractor and Performance and Payment Bond with the Clerk of Court in the parish in which the work is to be performed.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

Delete Section 14.1.1.4.

In Section 14.1.3, after the word “profit,” delete the words “on Work not executed” and substitute the following: “for Work completed prior to stoppage”.

§14.2 Termination by the Owner for Cause

Add the following Section:

14.2.1.5 failure to complete the punch list within the lien period as provided in 9.8.7.

14.2.3 Add the following sentence:

“Termination by the Owner shall not suspend assessment of stipulated damages against the Surety.”

Add the following Section:

14.2.5 If an agreed sum of stipulated damages has been established, termination by the Owner under this Article shall not relieve the Contractor and/or Surety of his obligations under

the stipulated damages provisions and the Contractor and/or Surety shall be liable to the Owner for per diem stipulated damages.

(Add the following Subparagraph 14.2.5)

§14.2.5 If an agreed sum of stipulated damages has been established, termination by the Owner under this article will not relieve the Contractor and/or surety of his obligations under the stipulated damages provisions and the Contractor and/or surety shall be liable to the Owner for per diem stipulated damages.

ARTICLE 15 CLAIMS AND DISPUTES

15.1 CLAIMS

Delete Section 15.1.2, Time Limit on Claims, (See La R.S. 38:2189, and 38:2189.1).

15.1.3.1 Add the following to the end of the paragraph:

“A Reservation of Rights and similar stipulations shall not be recognized under this contract as having any effect. A party must make a claim as defined herein within the time limits provided.”

15.1.4.2 In the first sentence of the Section, delete “Initial Decision Maker’s” and replace with “Architect’s”. In the second sentence of the Section, delete “the decision of the Initial Decision Maker” and replace with: “his/her decision”.

Delete Section 15.1.6.2 and substitute the following:

15.1.6.2 If adverse weather conditions are the basis for a claim for additional time, the Contractor shall document that weather conditions had an adverse effect on the scheduled construction. An increase in the contract time due to weather shall not be cause for an increase in the contract sum. At the end of each month, the Contractor shall make one Claim for any adverse weather days occurring within the month. The Claim must be accompanied by sufficient documentation evidencing the adverse days and the impact on construction. Failure to make such Claim within twenty-one (21) days from the last day of the month shall prohibit any future claims for adverse days for that month. No additional adverse weather days shall be granted after the original or extended contract completion date, except those adverse weather days associated with a National Weather Service named storm or federally declared weather related disaster directly affecting the project site.

15.2 INITIAL DECISION

15.2.1 In the second sentence, delete the word “will” and replace with: “shall always”. In the second sentence, delete the phrase: “, unless otherwise indicated in the Agreement.”

In the third sentence, delete the word “mediation” and replace with: “litigation”.

At the end of the third sentence, add: “arising prior to the date final payment is due”. Delete the fourth sentence.

15.2.5 In the middle of the first sentence, delete all after the phrase: “rejecting the Claim”. In the second sentence, delete the phrase: “and the Architect, if the Architect is not serving as the Initial Decision Maker,”.

In the third sentence, delete all after: “binding on the parties” and add the following:

“except that the Owner may reject the decision or suggest a compromise or both”. Delete Section 15.2.6.

Delete Section 15.2.6.1.

15.3 MEDIATION

Delete Section 15.3.

15.4 ARBITRATION

Delete Section 15.4.

(Add the following as Articles 16 – 20)

ARTICLE 16 EQUAL OPPORTUNITY

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

§16.2 The Contractor and all Subcontractors shall, in all solicitations or advertisement for employees placed by them or on their behalf, state that all qualified applicants receive consideration for employment without regard to race, religion, color, sex or national origin.

ARTICLE 17 DOCUMENT INTENT

§17.1 The Contract Documents are intended to produce a piece of work complete in every respect and the Contractor shall furnish all things necessary to complete the work within the meaning and intent of the said documents. It shall be the responsibility of the Contractor to provide everything necessary to complete the work as enumerated in these Supplementary Conditions.

ARTICLE 18 COORDINATION OF TRADES

§18.1 The Contract Documents are intended to produce a piece of work complete in every respect and the Contractor shall furnish all things necessary to complete the Work within the meaning and intent of said documents. It shall be the responsibility of the Contractor to provide everything necessary to complete the Work.

§18.2 If installation of conduits, piping and ductwork become a problem, it will be expected that the various Subcontractors with the General Contractor will coordinate their work to complete the installation at no additional cost to the Owner.

Attention is called to priority list for installation in the Mechanical Section of this Specification as enumerated here:

1. Sanitary Drain and Waste
2. Storm Drain and Sewer
3. Acid Waste
4. Steam Supply
5. Heating Hot Water
6. Chilled Water
7. Clinical Gases
8. Air Conditioning Supply Duct
9. Sprinkler System
10. Natural Gas
11. Domestic Hot Water
12. Domestic Cold Water
13. Electric Conduit

Items not required will be deleted, but adjusted sequence will remain.

§18.3 It will be the responsibility of the Contractor and all Subcontractors to review all architectural, structural, mechanical and electrical plans. After the contract is signed, it will be the responsibility of the Contractor and all Subcontractors to provide necessary rough-in and connection, mechanical and electrical, to all items and equipment necessary to place this unit or equipment in complete operating condition. If item is shown on any one segment (architectural, structural, mechanical or electrical), it shall be considered as being required by all and will be provided with all utility hook-up at no additional cost to the Owner, unless specifically noted otherwise.

§18.4 Electrical panel locations shall be reviewed, and locations adjusted for reasonable access by conduits within walls. If structure interferes with access to panels, the panel will be relocated at no cost to the Owner. Further, if the electrical panels cannot be flush mounted two options remain:

1. If the space is 1/2” or less from the wall, provide a finished wood trim filler at perimeter of panel 2-1/2” wide with mitered corners.
2. Subcontractor shall arrange with the General Contractor to provide an increase in wall thickness so that the panel may be flush mounted with no additional cost to the Owner.

§18.5 Plans will generally be complete with regard to pipe chases and furred areas. If additional furring is required, this should be called to the attention of the Architect for an addendum. After the contract is signed it will be the responsibility of the Contractor to provide all pipe chases, increases in wall dimension and other furring necessary to the completion of the project with required finishes at no additional cost to the Owner. No exposed piping or conduit will be permitted.

ARTICLE 19 PRODUCT AND COLOR SELECTIONS

§19.1 Although one carpet, vinyl wall covering, paint and/or other similar items are specified and scheduled, it is not the intent of the documents to use a single selection for all such scheduled areas.

ARTICLE 20 OPEN WALL AND CEILING INSPECTION

§20.1 No finish material or construction will be issued on walls, partitions and ceilings until a representative of the Architect in the presence of the General Contractor and his Subcontractors make an open wall inspection of all plumbing piping, fixtures, supports, electrical conduit wall bracing, duct work and support, etc. Contractor will notify Architect forty-eight (48) hours prior to requested inspection.

PERFORMANCE AND PAYMENT BOND

To these presents personally came and intervene_____, herein acting for _____, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact business in the State of Louisiana, as surety, who declared that having taken cognizance of this contract and of the Construction Documents mentioned herein, he hereby in his capacity as its Attorney-In-Fact obligates his said company, as Surety for the said Contractor, unto the said Owner, RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH up to the sum of _____($_____)DOLLARS.

The condition of this performance and payment bond shall be that should the Contractor herein not perform the contract in accordance with the terms and conditions hereof, or should said Contractor not fully indemnify and save harmless the Owner, RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH from all costs and damages which he may suffer by said Contractor's non-performance or should said Contractor not pay all persons who have and fulfill obligations to perform labor and/or furnish materials in the prosecution of the work provided for herein, including by way of example workmen, laborers, mechanics, and furnishers of materials, machinery, equipment, and fixtures, then said Surety agrees and is bound to so perform the contract and make said payment(s). Provided, that any alterations which may be made in the terms, of the contract or in the work to be done under it, or the giving by the Owner, RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH

of any extensions of time for the performance of the contract, or any other forbearance on the part of either the Owner, RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH or the Contractor to the other shall not in any way release the Contractor or the Surety from their liability hereunder, notice to the Surety of any such alterations, extensions, or other forbearance being hereby waived.

IN WITNESS WHEREOF, the parties herein on this _____ day of _____, 20___, have executed this agreement in five (5) counterparts, each of which shall, without proof of accountancy for the other counterparts, be deemed an original thereof.

WITNESSES: As to Principal

_____ _____

_____ _____

WITNESSES: As to Surety

_____ _____
SURETY

_____

_____ _____
(Attorney-In-Fact)

_____

R-1020 (4/12)

LDR
Contributing to a better quality of life

Designation of Construction Contractor as Agent of a Governmental Entity Sales Tax Exemption Certificate

_____ , an agency of the United
Legal Name of Governmental Entity

States government, or an agency, board, commission, or instrumentality of the State of Louisiana or its political subdivisions, including parishes, municipalities and school boards, does hereby designate the following contractor as its agent for the purpose of making sales tax exempt purchases on behalf of the governmental body:

Name of Contractor		
Address		
City	State	ZIP

This designation of agency shall be effective for purchases of component construction materials, taxable services and leases and rentals of tangible personal property for the following named construction project:

Construction Project	Contract Number

This designation and acceptance of agency is effective for the period

Beginning Date *(mm/dd/yyyy)*	End Date *(mm/dd/yyyy)*

Purchases for the named project during this period by the designated contractor shall be considered as the legal equivalent of purchases directly by the governmental body. Any materials purchased by this agent shall immediately, upon the vendor's delivery to the agent, become the property of this government entity. This government entity, as principal, assumes direct liability to the vendor for the payment of any property, services, leases, or rentals made by this designated agent. This agreement does not void or supersede the obligations of any party created under any construction contract related to this project, including specifically any contractual obligation of the construction contractor to submit payment to the vendors of materials or services for the project.

This contractor-agent is not authorized to delegate this purchasing agency to others; separate designations of agency by this governmental entity are required for each contractor or sub-contractor who is to purchase on behalf of this governmental entity. The undersigned hereby certify that this designation is the entirety of the agency designation agreement between them. In order for a purchase for an eligible governmental entity through a designated agent to be eligible for sales tax exemption, the designation of agency must be made, accepted, and disclosed to the vendor before or at the time of the purchase transaction.

Designation of Agency		
Signature of Authorized Designator		Date *(mm/dd/yyyy)*
Name of Authorized Designator		
Name of Governmental Entity		
Address		
City	State	ZIP

Acceptance of Agency		
Signature of Contractor or Subcontractor Authorized Acceptor		Date *(mm/dd/yyyy)*
Name of Contractor's or Subcontractor's Acceptor		
Name of Contractor		
Address		
City	State	ZIP

This designation of agency form, when properly executed by both the contractor and the governmental entity, shall serve as evidence of the sales tax exempt status that has been conferred onto the contractor. No other exemption certificate form is necessary to claim exemption from sales taxes. The agency agreement evidenced by this sales tax exemption certificate must be implemented at the time of contract execution with the governmental entity. The contract between the governmental entity and his agent must contain provisions to authenticate the conferment of agency.

CHANGE ORDER

CHANGE ORDER NO.: DATE: -----

PROJECT: WARD 3 RECREATION VARIOUS PROJECTS

TO: RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH

You are hereby directed to make the following change(s) in this contract as per the attached itemized breakdown:

The Original Contract Sum	--
Net Change by Previous Change Orders	--
Contract Sum prior to this Change Order	--
Contract Sum will be increased by this Change Order –Attach Details	--
New Contract Sum including this Change Order	--

Contract Time will be extended by - (--) days

Revised Contract Completion Date: ----------.

RECOMMENDED	ACCEPTED
Architect/Engineer/Project Manager Kudla Architecture LLC	Contractor
By: _____	By: _____
Dated: _____	Dated: _____

APPROVED

Iowa Fire Protection District No. One of Ward Eight

By: _____
Dated: _____

RECOMMENDATION OF ACCEPTANCE

TO: Sally Fenet Dated: ---

Project Name: WARD 3 RECREATION VARIOUS PROJECTS

Architect/Engineer: Kudla Architecture

Contractor:

Using Agency: RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH

I certify to the best of my knowledge and belief that this project is complete or substantially complete in accordance with the plans and specifications to the point where it can be used for the purpose which was intended. It is recommended that it be accepted.

Date of Acceptance by Architect/Engineer: --

Contract Date of Completion: --

Number of Days (Overrun) (Underrun): --

Stipulated Damages Per Day Stipulated in Contract: --

Value of Punch List (Attach Itemized List): NONE

Was part of the project occupied prior to Acceptance? If so, portion occupied, attach Beneficial Occupancy Form.

Accepted:

_____

Architect/Engineer

Below Completed by Owner:

Contract accepted as substantially complete by the Iowa Fire Protection District No. One of Ward Eight on _____.

_____

Sally Fenet, President

Not for Recordation

BENEFICIAL OCCUPANCY

Project Name: _____

Project No.: _____

Architect/Engineer: _____

Contractor: _____

OWNER: RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH

The below described portion of subject project is, to the best of my knowledge and belief, complete to a point where the user desires to use in according with the Contract Documents.

The Owner's occupancy of any portion of this building does not violate any applicable warranties.

Date Occupied: _____

Architect/Engineer	Contractor
By:_____	By:_____
Date: _____	Date: _____

RECREATION DISTRICT ONE OF WARD THREE OF CALCASIEU PARISH

By: _____

Date:_____

Punch List:

NONE _____

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Work covered by the Contract Documents.
2. Work phases.
3. Work under other contracts.
4. Use of premises.
5. Owner's occupancy requirements.
6. Specification formats and conventions.

B. See Division 01 Section "Multiple Contract Summary" for division of responsibilities for the Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Ward 3 Recreation District Various Projects

1. Project Location: 3200 Power Center Parkway, Lake Charles LA 70607

B. Owner: Ward 3 Recreatino District

1. Owner's Representative: Kip Texada

C. Architect: Kudla Architecture, 429 Kirby Street, Lake Charles, LA, 70601

D. The Work consists of the following:

a. Tennis Court Awning and Bleacher Improvements
b. Coffee Shop Renovation
c. Addition of Covered Drive-up Canopy
d. Replacement of Surfacing at Adventure Cove Park
e. New Skate Park Skating Area & Canopy
f. New 1200 sf Storage Building

E. Project will be constructed under a single prime contract.

1.3 WORK PHASES

A. The Work shall be conducted in a single phase.

1.4 USE OF PREMISES

A. General: Contractor shall have full use of premises for construction operations, including use of Project site, during construction period. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

B. General: Contractor shall have limited use of premises for construction operations as indicated on Drawings by the Contract limits.

C. Use of Site: Limit use of premises to areas within the Contract limits indicated in contract documents. Do not disturb portions of Project site beyond areas in which the Work is indicated.

a. Limit site disturbance, including earthwork and clearing of vegetation, to 40 feet (12.2 m) beyond building perimeter; 10 feet (3 m) beyond surface walkways, patios, surface parking, and utilities less than 12 inches (300 mm) in diameter; 15 feet (4.5 m) beyond primary roadway curbs and main utility branch trenches; and 25 feet (7.6 m) beyond constructed areas with permeable surfaces (such as pervious paving areas, stormwater detention facilities, and playing fields) that require additional staging areas in order to limit compaction in the constructed area.

1.5 OWNER'S OCCUPANCY REQUIREMENTS

A. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.

1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before Owner occupancy.
3. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of building.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building.

1.6 WORK RESTRICTIONS

A. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet (8 m) of entrances, operable windows, or outdoor air intakes.

B. The work area shall be accessed through the stairway on the southwest corner of the building. A temporary construction corridor shall be constructed of metal studs and ½" sheetrock from the stairway to the work area. This enclosure shall be provided with a single 3068 door equipped with panic hardware to allow uninterrupted access from the upstairs terminal waiting area to the southwest stairway. This door shall be secured to not allow access from the work area to the waiting area under any circumstance. Provisions shall be made by the contractor to protect all existing finish materials at areas required for access to the work area. Any sheetrock finishing or other activity causing dust, debris, or other contaminant shall be contained by either fixed or temporary methods when the potential to foul the operational environment of the terminal exists. These methods shall be determined by the contractor, approved by the architect, and provided by the contractor within the scope of his construction contract.

1.7 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "MasterFormat" numbering system.

1. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

    a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PRE-CONSTRUCTION MEETING

A. A pre-construction meeting will be held at a time and a place designated by the Architect, for the purpose of identifying responsibilities of the Owner's and Architect's personnel and explanation of administrative procedures.

B. The Contractor shall also use this meeting for the minimum following agenda:
    1. Construction Schedule
    2. Use of areas of site
    3. Delivery and storage
    4. Safety
    5. Security
    6. Cleaning up
    7. Subcontractor procedures related to:
        a. Submittals
        b. Change Orders
        c. Application for payment
        d. Record Documents

C. Attendees shall include:
    1. Owner
    2. Architect
    3. Contractor, Project Manager, & Superintendent
    4. Major Subcontractors & vendors
    5. Other interested parties

3.2 SECURITY PROCEDURES

A. Limit access to the site to persons involved in the work.

B. Provide secure storage for materials for which Owner has made payment and which are stored on site.

C. Secure completed work to prevent loss.

3.3 COORDINATION

A. If necessary, inform each party involved, in writing, of procedures required for coordination; include requirements for giving notice, submitting reports, and attending meetings.
   1. Inform the Owner when coordination of his work is required.

END OF SECTION 011000

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Schedule of values.

B. Applications for payment.

C. Change procedures.

D. Defect assessment.

1.2 SCHEDULE OF VALUES

A. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

B. Format: Utilize Table of Contents of this Project Manual. Identify each line item with number and title of major specification Section.

C. General Conditions shall be broken down to show all items comprising this section.

D. Include within each line item, direct proportional amount of Contractor's overhead and profit.

E. Revise schedule to list approved Change Orders, with each Application For Payment.

1.3 APPLICATIONS FOR PAYMENT

A. Submit three copies of each application on AIA Form 0702 - Application and Certificate for Payment and AIA 0703 - Continuation Sheet for 0702.

B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

C. Submit updated construction schedule with each Application for Payment.

D. Payment Period: Submit at intervals stipulated in the Owner/Contractor Agreement.

E. Submit with transmittal letter as specified for Submittals in Section 01 33 00 - Submittal Procedures.

F. Substantiating Data: When Architect requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
   1. Construction progress schedules, revised and current as specified in Section 013216.
   2. Do not include off-site stored materials in Application For Payment. Owner will not approve payment for off-site stored materials.

1,4 CHANGE PROCEDURES

A. Submittals: Submit name of individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

B. The Architect will advise of minor changes in the Work not involving adjustment to Contract

Sum/Price or Contract Time by issuing supplemental instructions on AIA Form G710.

C. The Architect may issue a Proposal Request including a detailed description of proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with stipulation of overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within 14 days.

D. Contractor may propose changes by submitting a request for change to Architect, describing proposed change and its full effect on the Work. Include a statement describing reason for the change, and effect on Contract Sum/Price and Contract Time with full documentation. Document requested substitutions in accordance with Section 01 60 00 - Product Requirements.

E. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for Change Order as approved by Architect.

F. Construction Change Directive: Architect may issue directive, on AIA Form G713 Construction Change Directive signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.

G. Document each quotation for change in cost or time with sufficient data to allow evaluation of quotation.

H. Change Order Forms: State Change Order Form.

I. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in Conditions of the Contract.

J. Correlation Of Contractor Submittals:
1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
3. Promptly enter changes in Project Record Documents.

1.5 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Architect, it is not practical to remove and replace the Work, the Architect will direct appropriate remedy or adjust payment.

C. The defective/ non-conforming Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Architect, and Owner.

D. Defective / non-conforming work will be partially repaired to instructions of Architect and Owner, and unit sum/price will be adjusted to new sum/price at discretion of Architect, and Owner.

E. Individual specification sections may modify these options or may identify specific formula or percentage sum/price reduction.

F. Authority of Architect and Owner to assess defects and identify payment adjustments is final.

G. Non-Payment For Rejected Products: Payment will not be made for rejected products for any of the following:
1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products not completely unloaded from transporting vehicle.
4. Products placed beyond lines and levels of required Work.

5. Products remaining on hand after completion of the Work.
6. Loading, hauling, and disposing of rejected products.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including Application for Payment forms with Continuation Sheets, Submittals Schedule and Contractor's Construction Schedule.
2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven (7) days before the date scheduled for submittal of initial Applications for Payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the Schedule of Values:

a. Project name and location.
b. Name of Architect.
c. Architect's project number.
d. Contractor's name and address.
e. Date of submittal.

2. Submit draft of **AIA Document G703 Continuation Sheets**
3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

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

8. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

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

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

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.

C. Payment Application Times: Progress payments shall be submitted to Architect by the last of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

D. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.

E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

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

F. Transmittal: Submit four (4) signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.

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

1. List of subcontractors.
2. Schedule of Values.
3. Contractor's Construction Schedule (preliminary if not final).
4. Schedule of unit prices.
5. Submittals Schedule (preliminary if not final).
6. List of Contractor's staff assignments.
7. List of Contractor's principal consultants.
8. Copies of building permits.
9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
10. Initial progress report.
11. Report of preconstruction conference.
12. Certificates of insurance and insurance policies.

I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Coordination and project conditions.

B. Field engineering.

C. Preconstruction meeting.

D. Site mobilization meeting.

E. Progress meetings.

F. Pre-installation meetings.

G. Cutting and patching.

1.2 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.

C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.

E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.

F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD ENGINEERING

A. Employ Land Surveyor registered in State of Louisiana and acceptable to Architect.

B. Locate and protect survey control and reference points. Promptly notify Architect of discrepancies discovered.

C. Control datum for survey is that shown on Drawings.

D. Verify set-backs and easements; confirm drawing dimensions and elevations.

E. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

F. Submit copy of site drawing and certificate signed by Land Surveyor certifying elevations and locations of the Work are in conformance with Contract Documents.

G. Maintain complete and accurate log of control and survey work as Work progresses.

1. On completion of foundation walls and major site improvements, prepare certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

H. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

I. Promptly report to Architect loss or destruction of reference point or relocation required because of changes in grades or other reasons.

J. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

1.4 PRECONSTRUCTION MEETING

A. Architect will schedule meeting after execution of Owner/Contractor Agreement.

B. Attendance Required: Owner, Architect, and Contractor.

C. Agenda:

1. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
2. Designation of personnel representing parties in Contract, and Architect.
3. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
4. Scheduling.

D. Architect will record minutes and distribute copies within two days after meeting to participants, with copies to Owner, Contractor, and those affected by decisions made.

1.5 SITE MOBILIZATION MEETING

A. Architect will schedule meeting at Project site prior to Contractor occupancy.

B. Attendance Required: Owner, Architect, Special Consultants, and, Contractor, Contractor's Superintendent, and major Subcontractors.

C. Agenda:

1. Use of premises by Owner and Contractor.
2. Owner's requirements.
3. Construction facilities and controls provided by Owner.
4. Temporary utilities provided by Owner,
5. Survey and building layout.
6. Security and housekeeping procedures.
7. Schedules.

8. Application for payment procedures.
9. Procedures for testing.
10. Procedures for maintaining record documents.
11. Requirements for start-up of equipment.
12. inspection and acceptance of equipment put into service during construction period.

D. Architect will record minutes and distribute copies within two days after meeting to participants, with copies to Contractor, Owner, and those affected by decisions made.

1.6 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.

B. Contractor will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.

C. Attendance Required: Job superintendent, major subcontractors and suppliers, Owner, Architect, as appropriate to agenda topics for each meeting.

D. Agenda:
1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems impeding planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. 13. Other business relating to Work.

E. Architect will record minutes and distribute copies within two days after meeting to participants, with copies to Contractor, Owner, and those affected by decisions made.

1.7 PRE-INSTALLATION MEETINGS

A. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.
B. Require attendance of parties directly affecting, or affected by, Work of specific section.
C. Notify Architect 14 days in advance of meeting date.
D. Prepare agenda and preside at meeting:
1. Review conditions of installation, preparation and installation procedures.
2. Review coordination with related work.
E. Architect will record minutes and distribute copies within two days after meeting to participants, with copies to Contractor, Owner, and those affected by decisions made.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

A. Employ skilled and experienced installer to perform cutting and patching.
B. Submit written request in advance of cutting or altering elements affecting:
1. Structural integrity of element.
2. Integrity of weather-exposed or moisture-resistant elements.
3. Efficiency, maintenance, or safety of element.
4. Visual qualities of sight exposed elements.
5. Work of Owner or separate contractor.

C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:

1. Fit the several parts together, to integrate with other Work.
2. Uncover Work to install or correct ill-timed Work.
    i. 3Remove and replace defective and non-conforming Work.
3. Remove samples of installed Work for testing.
4. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.Cut masonry and concrete materials using masonry saw or core drill.

1. Restore work with new products in accordance with requirements of Contract Documents.

2. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

3. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

4. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of penetrated element.

5. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.

6. Identify hazardous substances or conditions exposed during the Work to Architect for decision or remedy.

END OF SECTION

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. Coordination Drawings.
2. Project meetings.
3. Requests for Interpretation (RFIs).

B. See Division 01 Section "Multiple Contract Summary" for a description of the division of Work among separate contracts and responsibility for coordination activities not in this Section.

C. See Division 01 Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

1.2 DEFINITIONS

A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.3 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.
4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.

7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

1.4 SUBMITTALS

A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:

   a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
   b. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

2. Sheet Size: At least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).
3. Number of Copies: Submit three (3) opaque copies of each submittal. Architect will return one copy.
4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

1.5 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three (3) days of the meeting.

B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than ten (10) days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:

   a. Tentative construction schedule.
   b. Phasing.
   c. Critical work sequencing and long-lead items.
   d. Designation of key personnel and their duties.
   e. Procedures for processing field decisions and Change Orders.
   f. Procedures for RFIs.
   g. Procedures for testing and inspecting.
   h. Procedures for processing Applications for Payment.
   i. Distribution of the Contract Documents.
   j. Submittal procedures.
   k. Preparation of Record Documents.
   l. Use of the premises

m. Work restrictions.
n. Owner's occupancy requirements.
o. Responsibility for temporary facilities and controls.
p. Construction waste management and recycling.
q. Parking availability.
r. Office, work, and storage areas.
s. Equipment deliveries and priorities.
t. First aid.
u. Security.
v. Progress cleaning.
w. Working hours.

3. Minutes: Architect will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

a. The Contract Documents.
b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals.
h. Review of mockups.
i. Possible conflicts.
j. Compatibility problems.
k. Time schedules.
l. Weather limitations.
m. Manufacturer's written recommendations.
n. Warranty requirements.
o. Compatibility of materials.
p. Acceptability of substrates.
q. Temporary facilities and controls.
r. Space and access limitations.
s. Regulations of authorities having jurisdiction.
t. Testing and inspecting requirements.
u. Installation procedures.
v. Coordination with other work.
w. Required performance results.
x. Protection of adjacent work.
y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Conduct progress meetings at weekly intervals. Coordinate dates of meetings with preparation of payment requests.

1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or

performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

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

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

        1) Review schedule for next period.

    b. Review present and future needs of each entity present, including the following:

        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.
        4) Deliveries.
        5) Off-site fabrication.
        6) Access.
        7) Site utilization.
        8) Temporary facilities and controls.
        9) Work hours.
        10) Hazards and risks.
        11) Progress cleaning.
        12) Quality and work standards.
        13) Status of correction of deficient items.
        14) Field observations.
        15) RFIs.
        16) Status of proposal requests.
        17) Pending changes.
        18) Status of Change Orders.
        19) Pending claims and disputes.
        20) Documentation of information for payment requests.

3. Minutes: Architect will record and distribute to Contractor the meeting minutes.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.

    a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

1.6 REQUESTS FOR INTERPRETATION (RFIs)

A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.

1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:

1. Project name.
2. Date.

3. Name of Contractor.
4. Name of Architect[
5. RFI number, numbered sequentially.
6. Specification Section number and title and related paragraphs, as appropriate.
7. Drawing number and detail references, as appropriate.
8. Field dimensions and conditions, as appropriate.
9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
10. Contractor's signature.
11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

C. Hard-Copy RFIs:

1. Identify each page of attachments with the RFI number and sequential page number.

D. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow seven (7) working days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for coordination information already indicated in the Contract Documents.
    d. Requests for adjustments in the Contract Time or the Contract Sum.
    e. Requests for interpretation of Architect's actions on submittals.
    f. Incomplete RFIs or RFIs with numerous errors.

2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."

    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within ten (10) days of receipt of the RFI response.

E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven (7) days if Contractor disagrees with response.

F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 01 32 16

CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. References.

B. Quality assurance.

C. Format.

D. Schedules.

E. Submittals.

F. Review and evaluation.

G. Updating schedules.

H. Distribution.

1.2 REFERENCES

A. The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry, Washington, D.C., The Associated General Contractors of America (AGC).

1.3 QUALITY ASSURANCE

A. Scheduler: Contractor's personnel or Specialist Consultant specializing in CPM scheduling with two documented years minimum experience in scheduling construction work of complexity comparable to this Project, and having use of computer facilities capable of delivering detailed graphic printout.

B. Contractor's Administrative Personnel: Documented experience in using and monitoring CPM schedules on comparable projects.

1.4 FORMAT

A. Listings: Reading from left to right, in ascending order for each activity. Identify each activity with applicable specification section number.

B. Diagram Sheet Size: 24 inches high x width required.

C. Scale and Spacing: To allow for notations and revisions.

1.5 SCHEDULES

A. Prepare network analysis diagrams and supporting mathematical analyses using Critical Path Method, under concepts and methods outlined in AGC's "The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry".

B. Illustrate order and interdependence of activities and sequence of work; how start of given activity depends on completion of preceding activities, and how completion of activity may restrain start of subsequent activities.

C. Illustrate complete sequence of construction by activity, identifying work of separate floors. Indicate dates for submittals including dates for Owner furnished items and return of submittals; dates for procurement and deliv-

ery of critical products; and dates for installation and provision for testing. Include legend for symbols and abbreviations used.

D. Mathematical Analysis: Tabulate each activity of detailed network diagrams, using calendar dates, and identify for each activity:

1. Preceding and following event numbers.
2. Activity description.
3. Estimated duration of activity, in maximum 15 day intervals.
4. Earliest start date.
5. Earliest finish date.
6. Actual start date.
7. Actual finish date.
8. Latest start date.
9. Latest finish date.
10. Total and free float; accrue float time to Owner and to Owner's benefit.
11. Monetary value of activity, keyed to Schedule of Values.
12. Percentage of activity completed.
13. Responsibility.

E. Analysis Program: Capable of accepting revised completion dates, and recomputation of scheduled dates and float.

F. Required Sorts: List activities in sorts or groups:

1. By preceding work item or event number from lowest to highest.
2. By longest float, then in order of early start.
3. By responsibility in order of earliest possible start date.
4. In order of latest allowable start dates.
5. In order of latest allowable finish dates.
6. Contractor's periodic payment request sorted by Schedule of Values listings.
7. Listing of basic input data generating report.
8. Listing of activities on critical path.

G. Coordinate contents with schedule of values in Section 01 33 00 - Submittal Procedures.

1.6 SUBMITTALS

A. Within 14 days after date of Owner-Contractor Agreement, submit proposed preliminary network diagram
B. Participate in review of preliminary and complete network diagrams jointly with Architect.

C. Within 21 days after joint review of proposed preliminary network diagram, submit draft of proposed complete network diagram for review. Include written certification that major mechanical and electrical Subcontractors have reviewed and accepted proposed schedule.

D. Within 14 days after joint review, submit complete network analysis consisting of network diagrams and mathematical analysis.

E. Submit updated network schedules with each Application for Payment.

F. Submit number of opaque reproductions Contractor requires, plus one copy Architect will retain.

G. Submit under transmittal letter form specified in Section 01 33 00 - Submittal Procedures.

1.7 REVIEW AND EVALUATION

A. Participate in joint review and evaluation of network diagrams and analysis with Architect at each submittal.

B. Evaluate project status to determine work behind schedule and work ahead of schedule.

C. After review, revise network diagrams and analysis incorporating results of review, and esubmit within 14 days.

1.8 UPDATING SCHEDULES

A. Maintain schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity. Annotate diagrams to graphically depict current status of Work.

    i. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

C. Indicate changes required to maintain Date of Substantial Completion.

D. Submit sorts required to support recommended changes.

E. Prepare narrative report to define problem areas, anticipated delays, and impact on schedule.

    i. Report corrective action taken or proposed and its effect.

1.9 DISTRIBUTION

A. Following joint review, distribute copies of updated schedules to Contractor's project site file, to Subcontractors, suppliers, Architect, and Owner.

END OF SECTION

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. See Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule.

C. See Division 01 Section "Closeout Procedures" for submitting warranties.

D. See Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

E. See Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.

F. See Division 01 Section "Demonstration and Training" for submitting videotapes of demonstration of equipment and training of Owner's personnel.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Architect's responsive action.

B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

    a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Submittals Schedule: Comply with requirements in Division 01 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.

C. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow [15] days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow [15] days for review of each resubmittal.

D. Identification: Place a permanent label or title block on each submittal for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information on label for processing and recording action taken:

a. Project name.
b. Date.
c. Name and address of Architect.
d. Name and address of Contractor.
e. Name and address of subcontractor.
f. Name and address of supplier.
g. Name of manufacturer.
h. Submittal number or other unique identifier, including revision identifier.

1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

i. Number and title of appropriate Specification Section.
j. Drawing number and detail references, as appropriate.
k. Location(s) where product is to be installed, as appropriate.
l. Other necessary identification.

E. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.

F. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

1. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.

G. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, received from sources other than Contractor.

1. Transmittal Form: Use AIA Document G810

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked "reviewed"

I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Use only final submittals with mark indicating “approved” taken by Architect.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

a. Manufacturer's written recommendations.
b. Manufacturer's product specifications.
c. Manufacturer's installation instructions.
d. Manufacturer's catalog cuts.
e. Wiring diagrams showing factory-installed wiring.
f. Printed performance curves.
g. Operational range diagrams.
h. Compliance with specified referenced standards.
i. Testing by recognized testing agency.

4. Number of Copies: Submit three copies of Product Data, unless otherwise indicated. Architect will return two copies. Mark up and retain one returned copy as a Project Record Document.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

a. Dimensions.
b. Identification of products.
c. Fabrication and installation drawings.
d. Roughing-in and setting diagrams.
e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
f. Shopwork manufacturing instructions.
g. Templates and patterns.
h. Schedules.
i. Notation of coordination requirements.
j. Notation of dimensions established by field measurement.
k. Relationship to adjoining construction clearly indicated.
l. Seal and signature of professional engineer if specified.
m. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches
3. Number of Copies: Submit two opaque (bond) copies of each submittal. Architect will return one copy.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

a. Generic description of Sample.

b. Product name and name of manufacturer.
c. Sample source.
d. Number and title of appropriate Specification Section.

3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned.

E. Product Schedule or List: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location.

1. Number of Copies: Submit three copies of product schedule or list, unless otherwise indicated. Architect will return two copies.

F. Submittals Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."

H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."

I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design.

1. Number of Copies: Submit three copies of subcontractor list, unless otherwise indicated. Architect will return two copies.

J. LEED Submittals: Comply with requirements specified in Division 01 Section "Sustainable Design Requirements."

1. Number of Copies: Submit three copies of LEED submittals, unless otherwise indicated.

2.2 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.

1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies.
2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

3. Test and Inspection Reports: Comply with requirements specified in Division 01 Section "Quality Requirements."

B. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

C. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

H. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

I. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

J. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

L. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.

M. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

N. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

O. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

P. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

Q. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

R. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.

S. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:

1. Statement on condition of substrates and their acceptability for installation of product.
2. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.

T. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

U. Material Safety Data Sheets (MSDSs): Submit information directly to Owner; do not submit to Architect.

1. Architect will not review submittals that include MSDSs and will return them for resubmittal.

2.3 DELEGATED DESIGN

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit three copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it.

C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for quality assurance and quality control.

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

1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

C. See Divisions 02 through 49 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.

C. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples.

D. Laboratory Mockups: Full-size, physical assemblies that are constructed at testing facility to verify performance characteristics.

E. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

F. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.

G. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

H. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

I. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

J. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

K. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of **five** previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 SUBMITTALS

A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

B. Reports: Prepare and submit certified written reports that include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.5 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirement for specialists shall not supersede building codes and regulations governing the Work.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
6. Demolish and remove mockups when directed, unless otherwise indicated.

J. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Sections in Divisions 02 through 49.

1.6 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor**, and the Contract Sum will be adjusted by Change Order**.

B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

    a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

2. Notify testing agencies at least **24** hours in advance of time when Work that requires testing or inspecting will be performed.
3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures."

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.7 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified **testing agency** to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:

B. Special Tests and Inspections: Conducted by a qualified **testing agency** as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
2. Comply with the Contract Document requirements for Division 01 Section "Cutting and Patching."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 01 45 00 – QUALITY CONTROL/LABORATORY TESTING

PART 1 – GENERAL

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A This section describes lab/testing work being contracted by the Owner under a separate agreement. This section also includes the requirements for Contractor cooperation and coordination, to facilitate execution of its required services. The Contractor's cooperation and coordination is part of his Contract requirements. Employment of a testing laboratory by the Owner shall in no way relieve the Contractor of his obligations to perform the Work of his Contract.

B Where a local building official requires special testing under Chapter 17 of IBC-2021 an approved agency will be employed by the Owner. Coordination by the Contractor is required.

1.2 RELATED DOCUMENTS:

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

B Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities: Sections 00 72 00 and 01 40 00.

1.3 QUALITY ASSURANCE:

A Qualifications of Laboratory: Testing Laboratory Services are to be provided by a laboratory qualified in accordance with ASTM E-329 "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction," meet "Recommended Requirements for Independent Laboratory Qualification," published by American Council of Independent Laboratories, for asbestos related testing, NVLAP approved and participation in the Pat Program, American Industrial Hygiene Associations and approved by the Architect.

B Qualifications of Personnel: For actual inspecting and testing, use only personnel who are thoroughly trained and experienced in necessary skills, completely familiar with requirements specified, pertinent portions of Contract Documents, and selected standard for inspecting and testing.

C Testing Equipment: Calibrated at reasonable intervals by devices of accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

D Location: Authorized to operate in state in which Project is located.

E All manufacturer items, articles, materials, and equipment shall be applied, installed, connected, erected, made operative, cleaned, and conditioned as directed by the manufacturers. In case of conflict with the architect's directions, notify the architect in writing with a request for clarification.

F STANDARDS:

i References to various standards (such as ASTM, CRSI, etc.) shall mean the latest edition of the standard prior to the date of these specifications. The standard, by reference to it in these specifications, is made a part of these specifications as though it were written in full in the specifications.

ii If no reference is made to establish quality of the work, then the recommendation and standards of the established trade association will apply. In all case the Architect's judgment will be the final authority.

G COMPATIBLE MATERIALS: The Contractor shall report in writing to the Architect if any specified item or details are not compatible or if they do not interface correctly with adjacent materials. Failure to do so shall imply that the materials are compatible and meet with the approval of the manufacturer, supplier, applicator, installer, and contractor. Any defects or failures shall be corrected at no additional expense to the Owner or the Architect.

H ACCEPTANCE OF SURFACES: Starting work on a surface shall be the Contractor's acceptance of the surface as being suitable to receive the work. Any defect or failure due to unsuitable surfaces shall be corrected at no extra cost to the Owner or the Architect. Should any surface not be acceptable to receive work, the person responsible for applying work to the surface shall report it in writing to the Contractor who shall notify the Architect in writing, prior to starting work in said surface.

1.4 TESTING LABORATORY DUTIES:

A General: Cooperate with Owner, Architect and Contractor; provide qualified personnel and equipment after due notice.

B Tests: Perform specified inspections, sampling and testing of materials as follows:

i Comply with specified standards.
ii Ascertain compliance of materials with requirements of Contract Documents.

C Notification: Promptly notify Owner, Architect and Contractor in writing of observed irregularities or deficiencies of work or products.

D Additional Tests: Provide additional tests as required by Architect or Owner.

E Notice: Limitations of Authority of Testing Laboratory: Testing Laboratory is not authorized to release, revoke, alter or enlarge on requirements of Contract Documents; approve or accept any portion of Work; or perform any duties of Contractor.

F SUBMITTALS: General: Testing laboratory shall promptly submit two (2) copies of written reports of all tests and inspections to both Architect and Contractor. Each report shall include:

i Date issued.
ii Project title and number.
iii Testing laboratory name, address and telephone number.
iv Name and signature of laboratory inspector.
v Date and time of sampling or inspection.
vi Record of temperature and weather conditions.
vii Date of test.
viii Identification of product and specification section.
ix Location of sample or test in the Project.
x Type of test or inspection.
xi Results of tests and compliance with Contract Documents.
xii Interpretation of test results, when so requested by Architect.

1.5 CONTRACTOR'S RESPONSIBILITIES:

A General: Cooperate with Testing Laboratory personnel, provide access to work.

B Samples: Secure and deliver to Testing Laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.

C Mix Designs: Contractor shall be responsible for all mix designs. Selection of and payment of services of a testing laboratory for mix designs shall be responsibility of Contractor. Contractor is required to submit to Architect following verified mix designs:

i Concrete Design Mix: In advance of concrete and reinforced masonry work, Contractor shall submit a concrete design mix for each strength and type of concrete indicated and/or specified.

D Product Tests: Furnish to Architect three (3) copies of any product test reports as specified in other sections.

E Labor and Facilities: Contractor shall furnish all incidental labor and facilities:

i To provide access to Work to be tested.
ii To obtain and handle samples at Project site or at source of products to be tested.
iii To facilitate inspections and tests.
iv For storage and curing of test samples.

F Material Sources: Advise Testing Laboratory of identity of material sources and instruct material suppliers to allow tests or inspections by Laboratory.

G Notification: Notify Testing Laboratory sufficiently in advance of operations to allow for Testing Laboratory assignment of personnel and scheduling of tests or inspections.

H Note: Contractor shall reimburse OWNER for all tests conducted by Testing Laboratory hired by Owner that fail to meet requirements of Contract Documents. Contractor shall also reimburse OWNER for all schedule tests that are cancelled when a Testing Laboratory field crew is on site at time that particular test is cancelled.

1.6 REJECTION OF MATERIALS OR INSTALLATION:

A General: Testing Laboratory shall notify in writing Owner, Architect and Contractor or Contractor's authorized representative of any material or installation which are not in full compliance with the Contract Documents.

1.7 TESTS AND INSPECTIONS REQUIRED:

A General: Laboratory shall conduct tests and inspections as directed by Owner or Architect or Engineer.

B Tests: Following tests and inspections that may be conducted by Testing Laboratory are listed below for Contractors general information only; however, in no way is it suggested that tests or inspections by Testing Laboratory are limited to those listed herein.

C SOILS TESTS:

i Required Tests: Provide soils tests and inspections as follows for earthwork specified in Section 312320 Earthwork for Structures as indicated:
  a Classification, compaction, and complete field supervision of fill operations. (Full time inspection)
  b Minimum number soils tests to be made:
    b.1) One (1) Proctor Curve for natural ground and each change in natural ground material.
    b.2) One (1) Proctor Curve for each change in fill material.
    b.3) One (1) compaction test for each 20 square yards of natural ground and for each 20 square yards of each lift of fill material.
  c Note: Refer to soil compaction requirements as noted in Section 312320.

D CONCRETE TESTS:
  i Required Tests: Provide concrete tests and inspections as follows for concrete work specified in Section 03 30 00- "Cast-In-Place Concrete" and as indicated:
  ii Inspection: Prior to concrete placement, inspect forms, rebar count and location, inserts and other embedded items for general conformance with requirements of Drawings and Specifications.
    a Samples: Sample concrete for slump, temperature and strength as follows:
      a.1) Samples per ASTM C-172.
      a.2) Cylinders per ASTM C-31 and ASTM C-39.
      a.3) Slump per ASTM C-143.
    b Number of Strength Tests:
      b.1) One each days concrete placement greater than five (5) cubic yards;
      b.2) One per 25 to 50 cubic yards; one minimum representative of each concrete element such as footings, slabs, beams, walls, columns, etc. and special major placements such as vaults.
    c Number of Cylinder per Tests: Three (3) cylinders per test.
    d Test Procedure: Job cure cylinders for 7 days, transfer to Testing Laboratory and break one cylinder for 7 day strength; Laboratory cure remaining cylinders to be broken for 28 day strength.
    e Test Reports: Test reports shall indicate date of placement and date of breaks, location of placement, mix and strength, air and concrete temperature, slump, results of compression test, amount of water added at Project site.

1.8 SPECIAL INSPECTIONS

A STRUCTURAL STEEL TESTS: Provide tests and inspections as follows for structural steel, steel joist and girders, and metal deck work specified in Sections 05 12 23, 05 21 19, and 05 31 00 and as indicated:

Verification and Inspection	Frequency	Reference Standard
1. Material verification of high strength bolts, nuts and washers:		
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Periodic	AISC 360, Section A3.3 and applicable ASTM Standards
b. Manufacturer's certificate of compliance required.	Periodic	
2. Inspection of high strength bolting:		
a. Snug-tight joints	Periodic	AISC 360, Section M2.5 and IBC 1704.3.3
b. Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist-off bolt or direct tension indicator methods of installation.	Periodic.	
c. Pretensioned and slip-critical joints using turn-of-nut without matchmarking or calibrated wrench methods of installation.	Continuous.	
3. Material verification of structural steel and cold-formed steel deck:		

a. For structural steel, identification markings to conform to AISC 360.	Periodic.	AISC 360, Section M5.5
b. For other steel, identification markings to conform to ASTM standards specified in the approved construction documents.	Periodic.	Applicable ASTM material standards
c. Manufacturer's certified test reports.	Periodic.	
4. Material verification of weld filler materials:		
a. Identification markings to conform to AWS specification in the approved construction document.	Periodic.	AISC 360, Section A3.5 and applicable AWS A5 documents.
b. Manufacturer's certificate of compliance required.	Periodic.	
5. Inspection of welding:		
a. Structural steel and cold-formed steel deck:		
1) Complete and partial penetration groove welds.	Continuous.	AWS D1.1 and IBC 1704.3.1
2) Multipass fillet welds.	Continuous.	
3) Single-pass fillet welds >5/16”.	Continuous.	
4) Plug and slot welds.	Continuous.	
5) Single-pass fillet welds<=5/16”.	Periodic.	
6) Floor and roof deck welds.	Periodic.	AWS D1.3
b. Reinforcing Steel.		
1) Verification of weldability of reinforcing steel other than ASTM A706.	Periodic.	AWS D1.4 and ACI 318: Section 3.5.2.
2) Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement.	Continuous.	
3) Shear reinforcement.	Continuous.	
4) Other reinforcing steel.	Periodic.	
6. Inspection of steel frame joint details for compliance:		
a. Details such as bracing and stiffening.	Periodic.	IBC 1704.3.2
b. Member locations.	Periodic.	
c. Application of joint details at each connection.	Periodic.	

Inspection of fabricated items shall be required unless the fabricator is is approved by the Building Official to perform work without special inspections.

B CONCRETE TESTING: Provide tests and inspections as follows for concrete work as specified in Sections 03 33 00 and as indicated:

Verification and Inspection	Frequency	Reference Standard
1 Inspection of reinforcing steel, size and placement.	Periodic	ACI 318: 3.5, 7.1-7.7; IBC 1913.4
2 Inspection of drilled piers:	Continuous During Task	IBC 1704.9
a. Observe drilling operations and maintain complete and accurate records for each element.		
b. `Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths,		

embedment into bedrock (if applicable) and adequate end bearing strata capacity. Record concrete or grout volumes.		
3 Inspection of reinforcing steel welding:		
a. Verification of weldability of reinforcing Steel other than ASTM A706.	Periodic	AWS D1.4, ACI 318: 3.5.2
b. Shear reinforcement	Continuous	
c. Other reinforcing steel.	Periodic	
4. Inspection of bolts to be installed in concrete prior to and during placement.	Continuous	ACI 318: 8.1.3, 21.2.8; IBC 1911.5, 1912.1.
5. Inspection of anchors installed in hardened concrete.	Periodic	ACI 318: 3.8.6, 8.1.3, 21.2.8; IBC 1912.1
6. Verify use of required design mix	Periodic	ACI 318: CH 4, 5.2-5.4; IBC 1904.3, 1913.2, 1913.3
7. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Continuous	ASTM: C 172, C 31; ACI 318: 5.6, 5.8; IBC 1913.10
8. Inspection of concrete placement for proper application techniques.	Continuous	ACI 318: 5.9, 5.10; IBC 1913.6, 1913.7, 1913.8
9. Inspection for maintenance of specified curing temperature and techniques.	Periodic	ACI 318: 5.11-5.13; IBC 1913.9
10. Erection of precast concrete members	Periodic	ACI 318: Ch 16
11. Inspect formwork for shape, location and dimensions of the concrete member being formed.	Periodic	ACI 318: 6.1.1

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION – 01 45 00

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary Utilities:
1. Temporary electricity.
2. Temporary lighting for construction purposes.
3. Temporary heating.
4. Temporary cooling.
5. Temporary ventilation.
6. Telephone service.
7. Facsimile service.
8. Temporary water service.
9. Temporary sanitary facilities.

B. Construction Facilities:
1. Field offices and sheds.
2. Vehicular access.
3. Parking.
4. Progress cleaning and waste removal.
5. Project identification.
6. Traffic regulation.
7. Fire prevention facilities.

C. Temporary Controls:
1. Barriers.
2. Enclosures and fencing.
3. Security.
4. Water control.
5. Dust control.
6. Erosion and sediment control.
7. Noise control.
8. Pest control.
9. Pollution control.
10. Rodent control.

D. Removal of utilities, facilities, and controls.

E. On-site personnel.

F. Water Infiltration.

1.2 TEMPORARY ELECTRICITY

A. Provide and pay for power service required from utility source as needed for construction operation.

B. Provide power outlets, with branch wiring and distribution boxes located as required for construction operations. Provide flexible power cords as required for portable construction tools and equipment.

C. Provide main service disconnect and over-current protection meter.

D. Permanent convenience receptacles may not be utilized during construction.

E. Provide distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.

1. Provide 20 ampere duplex outlets, single phase circuits for power tools as required.
2. Provide 20 ampere, single phase branch circuits for lighting.

1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain lighting as required for construction operations.

B. Provide and maintain lighting to exterior staging and storage areas entire site after dark for security purposes.

C. Provide and maintain HID lighting to interior work areas after dark for security purposes.

D. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps for specified lighting levels.

E. Maintain lighting and provide routine repairs.

F. Permanent building lighting may not be utilized during construction.

1.4 TEMPORARY HEATING

A. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations.

B. Prior to operation of permanent equipment for temporary heating purposes, verify installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

C. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in product sections.

1.5 TEMPORARY COOLING

A. Provide and pay for cooling devices and cooling as needed to maintain specified conditions for construction operations. Provide separate metering and reimburse Owner for cost of energy used.

B. Prior to operation of permanent equipment for temporary cooling purposes, verify installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

C. Maintain maximum ambient temperature of 80 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.

D. Contract Documents require the Contractor to tie into the existing 4 pipe HVAC system. Once complete, the Contractor will be invoiced for his pro rata share for the usage of this existing system. The pro rata share will be based on the percent increase of usage for the same month of the previous year.

1.6 TEMPORARY VENTILATION

A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.7 TELEPHONE SERVICE

A. Provide, maintain, and pay for telephone service to field office at time of project mobilization.

1.8 FACSIMILE SERVICE

A. Provide, maintain and pay for facsimile service and dedicated telephone line to field office at time of project mobilization.

1.9 TEMPORARY WATER SERVICE

A. Provide and pay for suitable quality water service as needed to maintain specified conditions for construction operations. Connect to existing water source. Provide separate metering and reimburse Owner for cost of water used.

B. Extend branch piping with outlets located so water is available by hoses with threaded connections.

1.10 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of project mobilization.

1.11 FIELD OFFICES AND SHEDS

A. Office: Weather tight, with lighting, electrical outlets, heating, cooling and ventilating
B. equipment, and equipped with sturdy furniture drawing rack, and drawing display table.
C. Provide space for Project meetings, with table and chairs to accommodate 12 persons.

D. Locate offices and sheds minimum distance of 30 feet from new structures.
E. Do not use permanent facilities for field offices or for storage.

F. Construction: Portable or mobile buildings, or buildings constructed with floors raised
G. above ground, securely fixed to foundations with steps and landings at entrance doors.
    1. Construction; Structurally sound, secure, weather tight enclosures for office and storage spaces. Maintain during progress of Work; remove at completion of Work.
    2. Temperature Transmission Resistance of Floors, Walls, and Ceilings: Compatible with occupancy and storage requirements.
    3. Exterior Materials: Weather resistant, finished in one color acceptable to Architect.
    4. Interior Materials in Offices: Sheet type materials for walls and ceilings, pre-finished or painted; resilient floors and bases.
    5. Lighting for Offices: 50 ft C at desk top height, exterior lighting at entrance doors.
    6. Interior Materials in Storage Sheds: As required to provide specified conditions for storage of products.
H. Environmental Control:
    1. Heating, Cooling, and Ventilating for Offices: Automatic equipment to maintain comfort conditions 68 degrees F heating and 76 degrees F cooling.
    2. Storage Spaces: Heating and ventilation as needed to maintain products in accordance with Contract Documents; lighting for maintenance and inspection of products.
    3. Telephone; As specified in Section 01 50 00 - Temporary Facilities and Controls.
    4. Sanitary Facilities: private lavatory toilet facilities.
    5. Storage Areas And Sheds: Size to storage requirements for products of individual Sections, allowing for access and orderly provision for maintenance and for inspection of products to requirements of Section 01 60 00 - Product Requirements.
I. Preparation: Fill and grade sites for temporary structures sloped for drainage away from buildings.

    Installation:
    1. Install office spaces ready for occupancy 15 days after date fixed in Owner Contractor Agreement.
    2. Employee Residential Occupancy: Not allowed on Owner's property.
    3.
J. Maintenance And Cleaning: Weekly janitorial services for offices; periodic cleaning and maintenance for office and storage areas.
    1. Maintain approach walks free of mud, water, and snow.

K. Removal: At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.

1.12 VEHICULAR ACCESS

A. Provide unimpeded access for emergency vehicles. Maintain 20 feet wide driveways with turning

space between and around combustible materials.

B. Provide and maintain access to fire hydrants and control valves free of obstructions.

C. Provide means of removing mud from vehicle wheels before entering streets.

D. Use designated existing on-site roads for construction traffic. Repair/replace as required to condition prior to start of construction.

1.13 PARKING

A. Use of designated existing on-site streets and driveways used for construction traffic is permitted. Tracked vehicles not allowed on paved areas. This is to be coordinated with The Port of Lake Charles.
B. Use of designated areas of existing parking facilities used by construction personnel is permitted. This is to be coordinated with The Port of Lake Charles.
C. Do not allow heavy vehicles or construction equipment in parking areas.

D. Maintenance:
1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, and mud.
2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

E. Removal, Repair:
1. Remove underground work and compacted materials to depth of 2 feet; fill and grade site as specified.
2. Repair existing facilities damaged by use, to original condition.

F. Mud From Site Vehicles: Provide means of removing mud from vehicle wheels before entering streets.

1.14PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and rderly condition.
B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.15 PROJECT IDENTIFICATION

A. Project Identification Sign:
1. One 8' x 16' painted sign.
2. Content:
a. Project number, title, logo and name of Owner as indicated on Contract Documents.
b. Names and titles of authorities.
c. Names and title of Architect,
d. Name of Prime Contractor.
e. Color Rendering (supplied by Architect).
3. Graphic Design, Colors, Style of Lettering: Designated by Architect.

B. Project Informational Signs:

1. Painted informational signs of same colors and lettering as Project Identification sign, or standard products; size lettering for legibility at 100 feet distance.
2. Provide sign at each field office, storage shed, and directional signs to direct traffic into and within site. Relocate as Work progress requires.
3. No other signs are allowed without Owner permission except those required by law,

C. Finishes, Painting: Adequate to withstand weathering, fading, and chipping for duration of construction.

D. Sign Materials:
1. Structure and Framing: New 4 x 4 wood, structurally adequate.
2. Sign Surfaces: Exterior grade plywood with medium density overlay, minimum 3/4 inches thick, standard large sizes to minimize joints.
3. Rough Hardware: Galvanized.
4. Paint and Primers: Exterior quality, two coats; sign background of color as selected.
5. Lettering: Exterior quality paint, contrasting colors as selected.

E. Installation:
1. Install project identification sign within 30 days after date fixed by Owner-Contractor Agreement.
2. Erect at designated location

3. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.
4. Install sign surface plumb and level, with butt joints. Anchor securely.
5. Paint exposed surfaces of sign, supports, and framing.

F. Maintenance: Maintain signs and supports clean, repair deterioration and damage.

G. Removal: Remove signs, framing, supports, and foundations at completion of Project and restore area.

1.16 TRAFFIC REGULATION

A. Signs, Signals, And Devices:
1. Post Mounted and Wall Mounted Traffic Control and Informational Signs: As approved by authority having jurisdiction.
2. Traffic Cones and Drums, Flares and Lights: As approved by authority having jurisdiction.
3. Flagperson Equipment: As required by authority having jurisdiction.

B. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.

C. Flares And Lights: Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

D. Haul Routes:
1. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.
2. Confine construction traffic to designated haul routes.
3. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

E. Traffic Signs And Signals:
1. Provide signs at approaches to site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
2. Relocate as Work progresses, to maintain effective traffic control.

F. Removal:
1. Remove equipment and devices when no longer required.
2. Repair damage caused by installation.
3. Remove post settings to depth of 2 feet.

1.17 FIRE PREVENTION FACILITIES

A. This is a smoke free campus. Smoking is not permitted on site.

B. Establish fire watch for cutting and welding and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.

C. Portable Fire Extinguishers: NFPA IO; 10 pound capacity, 4A-60B: C UL rating.

1. Provide one fire extinguisher at each stair on each floor of buildings under construction.
2. Provide minimum one tire extinguisher in every construction trailer and storage shed.
3. Provide minimum one fire extinguisher on roof during roofing operations using heat producing equipment.

1.18 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas to protect existing facilities and adjacent properties from damage from construction operations.

B. Provide protection for plants designated to remain. Replace damaged plants.

C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage. 1.19 ENCLOSURES AND 'FENCING

A. Construction: Commercial grade chain link fence.

B. Provide 6 feet high fence around construction site; equip with vehicular and pedestrian gates with locks.

C. Exterior Enclosures:

1. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.20 SECURITY

A. Security Program:

1. Protect Work from theft, vandalism, and unauthorized entry.
2. Initiate program at project mobilization.
3. Maintain program throughout construction period until Owner occupancy.

B. Entry Control:

1. Restrict entrance of persons and vehicles into Project site and existing facilities,
2. Allow entrance only to authorized persons with proper identification.
3. Maintain log of workers and visitors, make available to Owner on request.
4. Coordinate access of Owner's personnel to site in coordination with Owner's security forces.

1.21 WATER CONTROL

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
B. Protect site from puddling or running water. Provide water bathers as required to protect site from soil erosion.

1.22 DUST CONTROL

A. Execute Work by methods to minimize raising dust from construction operations.

B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

1.23 EROSION AND SEDIMENT CONTROL

A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

B. Minimize surface area of bare soil exposed at one time.

C. Provide temporary measures including berms, dikes, and drains, and other devices to prevent water flow.

D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.

E. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.24 NOISE CONTROL

A. Provide methods, means, and facilities to minimize noise produced by construction operations.

B. Radios are not allowed on site.

1.25 PEST CONTROL

A. Provide methods, means, and facilities to prevent pests and insects from damaging the Work and entering facility.

1.26 POLLUTION CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

B. Comply with pollution and environmental control requirements of authorities having jurisdiction.

1.27 RODENT CONTROL

A. Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

1.28 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.

B. Remove underground installations to minimum depth of 2 feet. Grade site as indicated on Drawings.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.29 ON-SITE PERSONNEL

A. Contractor shall provide a full-time on-site Project Superintendent to perform the duties of a project superintendent for the duration of the project. Project Superintendent shall have experience in constructing projects of similar scope and nature.

1.30 WATER INFILTRATION

A. Contractor shall maintain a strict policy for the control of water infiltration and moisture build-up during the course of the project and shall comply with the following protocol for dealing with

mold and mildew. The Contractor shall require each Subcontractor to expressly acknowledge and agree that the following guidelines and protocol are incorporated as material terms and conditions of each Subcontract. The Contractor and all Subcontractors hereby are obligated as follows:

1. Water Infiltration: Any person who observes water infiltration (unintended) into a completed building or an ongoing construction site must immediately report the condition to the Contractor who shall be principally responsible for immediate mitigation.
   The Contractor shall immediately take steps to investigate the source of the water infiltration, identify the responsible party (person who performed work that resulted in water infiltration) and, on an emergency basis, take all temporary steps to stop the water infiltration into the building.
   Within 24 hours of initial observation, the Contractor shall report the condition to the Owner/Architect and initiate permanent repairs.

2. Handling of Water-Damaged Building Materials and Construction: Closely inspect all building materials delivered to the site for pre-existing water damage as well as existing mold growth prior to installation. No building materials with pre-existing water damage or mold growth may be installed. If in-place construction becomes wet, the Contractor shall notify the Owner/Architect and the Contractor shall determine whether or not the work must be removed and replaced, or if the material can be permitted to dry.

   The Contractor shall immediately provide written notice to the responsible Subcontractor or Vender, together with a demand that their insurance carrier be notified of a potential claim. Similar notice must be immediately given to any other subcontractor responsible for the work which permitted the moisture to infiltrate the project and damage the material. Under no circumstances may new or additional construction be placed over, or otherwise enclose, wet building materials.

B. Visible Mold/Mildew: Any person who observes any substance that appears to be mold or other fungal growth and/or an unidentified substance within a completed building or an ongoing construction site shall immediately suspend construction operations in the area and report the condition to the Contractor who shall immediately report the condition to the Owner/Architect. No person shall be allowed back into the affected area without the permission of the Contractor.

C. The Contractor shall remediate all materials, equipment, etc., that has evidence of mold and mildew in accordance with New York City Guidelines on Assessment and Remediation of Fungi in Indoor Environments (Re: www.ci.nyc.us)

END OF SECTION

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. General installation of products.
4. Progress cleaning.
5. Starting and adjusting.
6. Protection of installed construction.
7. Correction of the Work.

B. See Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.2 SUBMITTALS

A. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

B. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

C. Certified Surveys: Submit two copies signed by land surveyor.

D. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.

1.3 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and points of connection of utility services.

B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
4. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
3. Inform installers of lines and levels to which they must comply.
4. Check the location, level and plumb, of every major element as the Work progresses.
5. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

C. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

D. Final Property Survey: Prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

1. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

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

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 01 Section "Quality Requirements."

3.8 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.9 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 01 Section "Cutting and Patching."

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Inspection procedures.
2. Warranties.
3. Final cleaning.

B. See Division 01 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.

C. See Division 01 Section "Photographic Documentation" for submitting Final Completion construction photographs and negatives.

D. See Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

E. See Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.

F. See Division 01 Section "Demonstration and Training" for requirements for instructing Owner's personnel.

G. See Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.2 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems.
9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.

14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.3 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.

1.5 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.

3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
d. Remove tools, construction equipment, machinery, and surplus material from Project site.
e. Remove snow and ice to provide safe access to building.
f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
h. Sweep concrete floors broom clean in unoccupied spaces.
i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
k. Remove labels that are not permanent.
l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

m. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
n. Replace parts subject to unusual operating conditions.
o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
r. Leave Project clean and ready for occupancy.

C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.

D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Emergency manuals.
2. Operation manuals for systems, subsystems, and equipment.
3. Maintenance manuals for the care and maintenance of products, materials and finishes, systems and equipment.

B. See Divisions 02 through 49 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.2 SUBMITTALS

A. Manual: Submit one copy of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 15 days after final inspection.

1. Correct or modify each manual to comply with Architect's comments. Submit 3 copies of each corrected manual within 15 days of receipt of Architect's comments.

PART 2 - PRODUCTS

2.1 MANUALS, GENERAL

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain a title page, table of contents, and manual contents.

B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name, address, and telephone number of Contractor.
6. Name and address of Architect.
7. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

a. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.2 EMERGENCY MANUALS

A. Content: Organize manual into a separate section for type of emergency, emergency instructions, and emergency procedures.

B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component for [fire] [flood] [gas leak] [water leak] [power failure] [water outage] [equipment failure] [and] [chemical release or spill].

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include instructions on stopping, shutdown instructions for each type of emergency, operating instructions for conditions outside normal operating limits, and required sequences for electric or electronic systems.

2.3 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and equipment descriptions, operating standards, operating procedures, operating logs, wiring and control diagrams, and license requirements.

B. Descriptions: Include the following:

1. Product name and model number.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include start-up, break-in, and control procedures; stopping and normal shutdown instructions; routine, normal, seasonal, and weekend operating instructions; and required sequences for electric or electronic systems.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.4 PRODUCT MAINTENANCE MANUAL

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and inspection procedures, types of cleaning agents, methods of cleaning, schedule for cleaning and maintenance, and repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

2.5 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including maintenance instructions, drawings and diagrams for maintenance, nomenclature of parts and components, and recommended spare parts for each component part or piece of equipment:

D. Maintenance Procedures: Include test and inspection instructions, troubleshooting guide, disassembly instructions, and adjusting instructions, that detail essential maintenance procedures:

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.

1. Do not use original Project Record Documents as part of operation and maintenance manuals.

F. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.

B. See Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.

C. See Divisions 02 through 49 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.2 SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set(s) of marked-up Record Prints.
2. Number of Copies: Submit copies of Record Drawings as follows:

a. Initial Submittal: Submit one set(s) of marked-up Record Prints,
b. Final Submittal: Submit one set(s) of marked-up Record Prints,

B. Record Product Data: Submit one copy of each Product Data submittal.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.

1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
3. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.
4. Identification: As follows:

a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect.
e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. Note related Change Orders[, Record Product Data,] and Record Drawings where applicable.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 017839

SECTION 02300-EARTHWORK

PART 1 - GENERAL

RELATED DOCUMENTS

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

SUMMARY

This section is intended for earthwork that has to be accomplished after Demolition has been accomplished.

This Section includes the following:

Preparing and grading subgrades for slabs-on-grade, walks, pavements, and landscaping.

Drainage and moisture-control fill course for slabs-on-grade.

Subbase course for walks and pavements.

Subsurface drainage backfill for walls and trenches.

Excavating and backfilling for underground mechanical and electrical utilities and appurtenances.

Concrete encasings, cradles, and appurtenances for utility systems.

DEFINITIONS

Excavation Consists of the removal of material encountered to subgrade elevations and the reuse or disposal of materials removed.

Subgrade: The uppermost surface of an excavation or the top surface of a fill or backfill.

Borrow: Soil material obtained off-site when sufficient approved soil material is not available from excavations.

Subbase Course: The layer placed between the subgrade and base course in a paving system or the layer placed between the subgrade and surface of a pavement or walk.

Base Course: The layer placed between the subbase and surface pavement, or the layer placed between the subgrade and surface pavement in a paving system.

Drainage Fill: Course of washed granular material supporting slab-on-grade placed to cut off upward capillary flow of pore water.

Unauthorized excavation consists of removing materials beyond indicated subgrade elevations or dimensions without direction by the Architect. Unauthorized excavation, as well as remedial work directed by the Architect, shall be at the Contractor's expense.

Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below ground surface.

Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within building lines.

SUBMITTALS

General: Submit the following according to the Conditions of the Contract and Division 1 Specification Sections.

Test Reports: In addition to test reports required under field quality control, submit the following:

Laboratory analysis of each soil material proposed for fill and backfill from on-site and borrow sources.

One optimum moisture-maximum density curve for each soil material.

QUALITY ASSURANCE

Codes and Standards: Perform earthwork complying with requirements of authorities having jurisdiction.

Testing and Inspection Service: The General Contractor shall employ Southwest Construction Material Testing or a pre-approved qualified independent geotechnical engineering testing agency to classify proposed on-site and borrow soils to verify that soils comply with specified requirements and to perform required field and laboratory testing.

PROJECT CONDITIONS

Existing Utilities: Do not interrupt existing utilities servicing facilities occupied by the Owner or others except when permitted in writing by the Architect and then only after acceptable temporary utility services have been provided. Coordinate all earthwork with mechanical and electrical work

PART 2 -PRODUCTS

SOIL MATERIALS

General: Provide approved borrow soil materials from off-site.

Satisfactory Soil Materials: Structural clay fill to be used to bring areas up to design grade for pavement sections shall consist of low-plasticity clay soils. The structural clay fill should have a liquid limit of less than 40 (preferably less than 35) and a plasticity index between 10 and 20. Structural clay fill should be free of organics and deleterious materials and have an effective clod diameter of 3 inches or less.

Backfill and Fill Materials: Satisfactory soil materials.

Engineered Fill: Subbase or base materials.

Bedding Material: Subbase or base materials with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, ASTM D 448, coarse aggregate grading size 57, with 100 percent passing a 1-1/2-inch sieve and not more than 5 percent passing a No. 8 sieve.

Filtering Material: Evenly graded mixture of natural or crushed gravel or crushed stone and natural sand, with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 50 sieve.

ACCESSORIES

Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick minimum, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 2'-6" deep.

Tape colors: Provide tape colors to utilities as follows:

Red: Electric.

Yellow: Gas, oil, steam, and dangerous materials.

Orange: Telephone and other communications.

Blue: Water systems.

Green: Sewer systems.

PART 3 - EXECUTION

PREPARATION

Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operators.

Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

DEWATERING

Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

EXCAVATION

Unclassified Excavation: Excavation is unclassified and includes excavation to required subgrade elevations regardless of the character of materials and obstructions encountered.

STABILITY OF EXCAVATIONS

Comply with local codes, ordinances, and requirements of authorities having jurisdiction to maintain stable excavations.

EXCAVATION FOR WALKS AND PAVEMENTS

Excavate surfaces under walks and pavements to indicated cross sections, elevations, and grades.

EXCAVATION FOR UTILITY TRENCHES

Excavate trenches to indicated slopes, lines, depths, and invert elevations.

Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.

Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.

Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduit. Remove stones and sharp objects to avoid point loading.

APPROVAL OF SUBGRADE

Notify Architect when excavations have reached required subgrade.

When Architect determines that unforeseen unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

Unforeseen additional excavation and replacement material will be paid according to the Contract provisions for changes in Work.

Proof roll subgrade with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do no proof roll wet or saturated subgrades.

Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as

directed by the Engineer.

STORAGE OF SOIL MATERIALS

Storage of soil materials on site will be per the Architect.

BACKFILL

Backfill excavations promptly, but not before completing the following:

Acceptance of construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.

Surveying locations of underground utilities for record documents.

Testing, inspecting, and approval of underground utilities.

Concrete formwork removal.

Removal of trash and debris from excavation.

Removal of temporary shoring and bracing, and sheeting.

Installing permanent or temporary horizontal bracing on horizontally supported walls.

UTILITY TRENCH BACKFILL

Place and compact bedding course on rock and other unyielding bearing surfaces and to fill unauthorized excavations. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

Concrete backfill trenches that carry below or pass under footings and that are excavated within 18 inches of footings. Place concrete to level of bottom of footings.

Provide 4-inch-thick concrete base slab support for piping or conduit less than 2'-6" below surface of roadways. After installation and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase.

Place and compact initial backfill of satisfactory soil material or subbase material, free of particles larger than 1 inch, to a height of 12 inches over the utility pipe or conduit.

Carefully compact material under pipe haunches and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system.

Coordinate backfilling with utilities testing.

Fill voids with approved backfill materials as shoring and bracing, and sheeting is removed.

Place and compact final backfill of satisfactory soil material to final subgrade.

Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

FILL

Once the final cut grade is obtained, the exposed subgrade shall be proof-rolled with a fully loaded dump truck or an equivalent heavy, wheeled vehicle to identify soft or weak zones. At least two complete passes shall be made over the area. The second pass is to be made perpendicular to the first pass. Weak or soft materials observed during proof-rolling shall be removed and replaced with properly compacted structural clay fill.

When subgrade or existing ground surface to receive fill has a density of less than that required for fill, break up ground surface to depth required, pulverize, moisture-condition or aerate soil and recompact to required density.

Place fill material in layers to required elevations for each location listed below.

Under grass, use satisfactory excavated or borrow soil material.

Under walks and pavements, use subbase or base material, or satisfactory excavated or borrow soil material.

Under steps and ramps, use subbase material.

MOISTURE CONTROL

Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 1 percent dry and 3 percent wet of optimum moisture content.

Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

Remove and replace, or scarify and air-dry satisfactory soil material that is too wet to compact to specified density.

Stockpile or spread and dry removed wet satisfactory soil material.

COMPACTION

Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

Place backfill and fill materials evenly on all sides of structures to required elevations. Place backfill and fill uniformly along the full length of each structure.

Percentage of Maximum Dry Density Requirements: Compact soil to not less than 95 percentage of maximum dry density according to ASTM D 698 (Standard Proctor):

GRADING

General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

Provide a smooth transition between existing adjacent grades and new grades.

Cut out soft spots, fill low spots, and trim high spots to conform to required surface tolerances.

Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

Lawn or Unpaved Areas: Plus or minus 0.10 foot.

Walks: Plus or minus 0.10 foot.

Pavements: Plus or minus 1/2 inch.

SUBBASE AND BASE COURSES

Under pavements and walks, place subbase course material on prepared subgrades. Place base course material over installed geotextile fabric and subbases to pavements where indicated in the contract documents.

Compact subbase and base courses at optimum moisture content to required grades, lines, cross sections and thickness to not less than 95 percent of ASTM D 4254 relative density.

Shape subbase and base to required crown elevations and cross-slope grades.
When thickness of compacted subbase or base course is 6 inches or less, place materials in a single layer.

When thickness of compacted subbase or base course exceeds 6 inches, place materials in equal layers, with no layer more than 6 inches thick or less than 3 inches thick when compacted.

FIELD QUALITY CONTROL

Testing Agency Services: Allow testing agency to inspect and test each subgrade and each fill or backfill layer. Do not proceed until test results for previously completed work verify compliance with requirements.

Perform field in-place density tests to confirm the in-place density as recommended by the Geotechnical Consultant approved by the Architect.

Paved Areas: At each compacted fill and backfill layer, perform at least one density test for every 10,000 sq. ft. or less of paved area, but in no case fewer than three tests.

Trench Backfill: In each compacted initial and final backfill layer, perform at least one field in-place density test for each 500 feet or less of trench, when outside of areas to be paved.

Where trenches cross areas to be paved, a test shall be performed at each pavement crossing. Where trenches are under paved areas, one test for every 150 linear feet of trench shall be performed.

When testing agency reports that subgrades, fills, or backfills are below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, recompact and retest until required density is obtained.

PROTECTION

Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or lose compaction due to subsequent construction operations or weather conditions.

Scarify or remove and replace material to depth directed by the Architect; reshape and recompact at optimum moisture content to the required density.

Settling: Where settling occurs during the Project correction period, removed finished surfacing, backfill with additional approved material, compact, and reconstruct surfacing.

Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

DISPOSAL OF SURPLUS AND WASTE MATERIAL

Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off the Owner's property.

END OF SECTION 02300

SECTION 023610 – TERMITE TREATMENT

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes:
   1. Subterranean termite prevention treatment of soil areas scheduled to receive new construction, including:
      A. Soil beneath slabs on grade.
      B. Soil adjacent to shallow footing.
      C. Soil adjacent to foundations for columns, pillars, and other structures.
      D.

1.2 SUBMITTALS

A. Product Data: Submit product label or accompanying labeling in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act.
   1. Ingredient statement
   2. Indications for use
   3. Limitations of use and contraindications
   4. Estimated duration of efficacy or recommended frequency of application
   5. Environmental Protection Agency number

B. QUALITY CONTROL SUBMITTALS
   1. Certificates: evidence of the installer's authorization to apply products under state and local law
   2. Manufacturers instructions for application

C. CONTRACT CLOSEOUT SUBMITTALS
   1. Project Record Documents
      A. Submit a certificate signed by installer and contractor stating that termite treatment has been applied in accordance with applicable governing regulations and in accordance with this specification.
   2. Maintenance agreement
   3. Warranty

1.3 QUALITY ASSURANCE

A. Installer Qualifications
   1. Licensed to install specific products in the state in which the project is located and in the local jurisdiction.
   2. A company installing products of this section and whose installations have performed in a satisfactory manner under comparable conditions for a period of 5 years.

B. Regulatory requirements
   1. Comply with applicable pesticide regulations of the state in which the project is located.
   2. Comply with all local pesticide regulations.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Dispense product from manufacturer's original containers, with labels intact and bearing EPA registration number. Do not store in improperly labeled containers.

1.5 WARRANTY AND MAINTENANCE AGREEMENT

A. Special Warranty:
   1. Submit installer's warranty against infestation of treated areas.
   2. Warranty shall not reduce or otherwise limit any other rights to correction which the Owner may have under the contract documents.
   3. Warranty period: 2 years

PART 2 - PRODUCTS

2.1 TERMITICIDE

A. Registered with the United States EPA for use a termiticide under conditions of use prevailing at the project site.

B. Registered with applicable authorities in the state in which the project is located and with local governing authorities, as applicable for use a termiticide under conditions of use prevailing at the project site.

PART 3 - EXECUTION

3.1 APPLICATION

A. Apply termiticide in accordance with manufacturer's instructions.

B. Apply termiticide at recommended application rates for the respective areas to be treated and methods of treatment used.

C. Treat the entire structure. Do not leave any portions untreated.

D. Schedule treatment of new construction to occur when treatment may be applied directly to the soils and surface to be treated, and prior to the their concealment with subsequent construction.

3.2 FIELD QUALITY CONTROL

A. Sampling of termiticide:
   1. Take a sample from the original container
   2. Take not less than one sample per day of diluted product from the application equipment tank.

B. Sampling of treated soil:
   1. Core size: 1-1/2 inches in diameter by 2 inches deep.
   2. Take cores not more than 4 inches from foundation walls or slab edges. Remove top 4 inches of soil and using an appropriate sampling tool, extract cores from the exposed subgrade.
   3. Coring frequencies
      a. From treated areas of less than 300 linear feet, take one sample of treated soil per 10 linear feet of treated area or a fraction thereof.
      b. From treated areas of 300 or more linear feet, take 30 samples of treated soil, spacing samples throughout treated area.

C. Testing
   1. Using approved methods, measure quantity of termiticide residue in composiste soil samples.
   2. If requested, perform analyses of original undiluted samples of product.

D. Should termiticide residue in any composite sample be less than the concentration required by the product label, retreat the entire structure, unless re-treatment is not permitted by applicable regulations.

3.3 CLEANING

A. Do not allow contamination of surfaces not intended to be treated. Follow manufacturer's instructions to completely remove chemical from surfaces should contamination occur.

B. Remove from beneath the structure any cellulosic material, wood that is not pressure treated, and debris. Do not allow non-preservative treated wood to contact or remain proximate to the soil.

END OF SECTION 023610

SECTION 024116 - STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Demolition and removal of buildings.
2. Removing below-grade construction.
3. Disconnecting, capping or sealing, and removing site utilities associated with structure to be demolished.

1.2 DEFINITIONS

A. Demolish: Completely remove and legally dispose of off-site.

B. Recycle: Recovery of demolition waste for subsequent processing in preparation for reuse.

C. Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner. Include fasteners or brackets needed for reattachment elsewhere.

1.3 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 SUBMITTALS

A. Proposed Protection Measures: Submit informational report, including drawings, that indicates the measures proposed for protecting individuals and property for environmental protection. Indicate proposed locations and construction of barriers.

1. Adjacent Buildings: Detail special measures proposed to protect adjacent buildings to remain.

B. Schedule of Building Demolition Activities: Indicate the following:

1. Detailed sequence of demolition work, with starting and ending dates for each activity.
2. Temporary interruption of utility services.
3. Shutoff and capping or re-routing of utility services.

C. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.

D. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI A10.6 and NFPA 241.

C. Predemolition Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.6 PROJECT CONDITIONS

A. Buildings to be demolished will be vacated and their use discontinued before start of the Work.

B. Buildings immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.

1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.
2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.

a. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.

C. Owner assumes no responsibility for buildings and structures to be demolished.

1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

E. On-site storage or sale of removed items or materials is not permitted.

1.7 COORDINATION

A. Arrange demolition schedule so as not to interfere with Owner's on-site operations.

1.8 SOIL MATERIALS

A. Satisfactory Soils: Comply with requirements in Division 31 Section "Earth Moving."

PART 2 - EXECUTION

2.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting demolition operations.

B. Review Project Record Documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Inventory and record the condition of items to be removed and salvaged.

D. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.

E. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

2.2 PREPARATION

A. Existing Utilities: Locate, identify, disconnect, and seal or cap off indicated utilities serving buildings and structures to be demolished.

1. Owner will arrange to shut off indicated utilities when requested by Contractor.
2. Arrange to shut off indicated utilities with utility companies.
3. If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.
4. Cut off pipe or conduit a minimum of 24 inches below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.

B. Existing Utilities: Refer to Division 22 and 26 Sections for shutting off, disconnecting, removing, and sealing or capping utilities. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.

C. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of demolition.

D. Salvaged Items: Comply with the following:

1. Clean salvaged items of dirt and demolition debris.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to storage area designated by Owner.
5. Protect items from damage during transport and storage.

2.3 PROTECTION

A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.

B. Existing Utilities: Maintain utility services to remain and protect from damage during demolition operations.

1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.
2. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and authorities having jurisdiction.

a. Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.

C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction, and as indicated. Comply with requirements in Division 01 Section "Temporary Facilities and Controls."

1. Protect adjacent buildings and facilities from damage due to demolition activities.

2. Protect existing site improvements, appurtenances, and landscaping to remain.
3. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
4. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
5. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.

D. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

2.4 DEMOLITION, GENERAL

A. General: Demolish indicated existing buildings and site improvements completely. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
2. Maintain fire watch during and for at least 1 hour after flame cutting operations.
3. Maintain adequate ventilation when using cutting torches
4. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

C. Explosives: Use of explosives is not permitted.

2.5 DEMOLITION BY MECHANICAL MEANS

A. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.

B. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

1. Remove structural framing members and lower to ground by method suitable to minimize ground impact and dust generation.

C. Below-Grade Construction: Abandon foundation walls and other below-grade construction. Cut below-grade construction flush with grade.

D. Below-Grade Construction: Demolish foundation walls and other below-grade construction that are within footprint of new construction and extending 5 feet outside footprint indicated for new construction. Abandon below-grade construction outside this area.

1. Remove below-grade construction, including basements, foundation walls, and footings, completely.

E. Below-Grade Construction: Demolish foundation walls and other below-grade construction.

1. Remove below-grade construction, including basements, foundation walls, and footings, completely.

F. Existing Utilities: Abandon existing utilities and below-grade utility structures. Cut utilities flush with grade.

G. Existing Utilities: Demolish existing utilities and below-grade utility structures that are within 5 feet outside footprint indicated for new construction. Abandon utilities outside this area.

1. Fill abandoned utility structures with satisfactory soil materials according to backfill requirements in Division 31 Section "Earth Moving."

H. Existing Utilities: Demolish and remove existing utilities and below-grade utility structures.

2.6 SITE RESTORATION

A. Below-Grade Areas: Rough grade below-grade areas ready for further excavation or new construction.

B. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations with satisfactory soil materials according to backfill requirements in Division 31 Section "Earth Moving."

C. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

2.7 REPAIRS

A. Promptly repair damage to adjacent buildings caused by demolition operations.

2.8 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site. See Division 01 Section "Construction Waste Management and Disposal" for recycling and disposal of demolition waste.

B. Remove demolition waste materials from Project site and legally dispose of them in an EPA-approved landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

C. Do not burn demolished materials.

2.9 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

END OF SECTION 024116

Ward 3 Recreation Power Center Facility
Various Projects

Kudla Architecture
SECTION 03 10 00 - CONCRETE FORMWORK

1. PART 1 GENERAL

1.1. SECTION INCLUDES

A. Formwork for cast-in place concrete, with shoring, bracing and anchorage.
B. Openings for other work.
C. Form accessories.
D. Form stripping.

1.2. PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

A. Section 03 30 00 - Cast-In-Place Concrete: Supply of concrete accessories for placement by this section.

1.3. RELATED SECTIONS

A. Section 03 20 00 - Concrete Reinforcement.
B. Section 03 30 00 - Cast-in-Place Concrete.

1.4. UNIT PRICE - MEASUREMENT AND PAYMENT

A. Concrete formwork will not be paid for directly but will be included in the cost bid for other items.

1.5. REFERENCES

Codes and Standards: Comply with provisions of following codes, specifications, and standards, except where more stringent requirements are shown or specified:

A. 2021 edition of the International Building Code (IBC), including applicable local ordinances and amendments.
B. ACI 117 "Standard Specifications for Tolerances for Concrete Construction and Materials."
C. ACI 301 "Specifications for Structural Concrete for Buildings".
D. ACI 302 "Guide for Concrete Floor and Slab Construction."
E. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete."
F. ACI 305 "Hot Weather Concreting."
G. ACI 306 "Cold Weather Concreting."
H. ACI 309 Specification for Liquid Membrane Forming Compounds for Curing Concrete."
I. ACI 315 "Manual of Standard Practice for Detailing Concrete Structures.
J. ACI 318 "Building Code Requirements for Reinforced Concrete."
K. ASTM A 123 "Specifications for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel."
L. ASTM "Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement."
M. ASTM A 615 "Specification for Deformed and Plain Billet-Steel Bars for Concrete
N. Reinforcement."ASTM A 706 "Specification for Low-Alloy Steel Deformed Bars for Concrete Reinforcement."
O. ASTM C 31 "Method of Making and Curing Concrete Test Specimens in the Field."."
P. ASTM C 33 "Specification for Concrete Aggregates."
Q. ASTM C 39 "Test Method for Compressive Strength of Cylindrical Concrete Specimens."
R. ASTM C94 "Specification for Ready Mix Concrete."
S. ASTM C 143 "Test Method for Slump of Portland Cement Concrete."
T. ASTM C 150 "Specification for Portland Cement."
U. Concrete Reinforcing Steel Institute, (CRSI) "Manual of Standard Practice," latest edition.
V. Concrete Reinforcing Steel Institute, (CRSI) "Manual of Standard Practice and Specifications for Placing Reinforcement," latest edition.

1.6. DESIGN REQUIREMENTS

A. Design, engineer and construct formwork, shoring and bracing to conform to code requirements; resultant concrete to conform to required shape, line and dimension.

1.7. SUBMITTALS

A. Submit under provisions of Section 01300.
B. Shop Drawings: Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties.
C. Product Data: Provide data on void form materials and installation requirements.

1.8. QUALITY ASSURANCE

A. Perform Work in accordance with ACI 318.

1.9. QUALIFICATIONS
- A. Design formwork under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the state where the Project is located.

1.10. REGULATORY REQUIREMENTS
- A. Conform to applicable code for design, fabrication, erection and removal of formwork.

1.11. FIELD SAMPLES
- A. Provide under provisions of Section 01400. Coordinate with requirements stated in Section 03100 and 03300.

1.12. DELIVERY, STORAGE, AND HANDLING
- A. Deliver, store, protect and handle products to site under provisions of Section 01600.
- B. Deliver void forms and installation instructions in manufacturer's packaging.
- C. Store off ground in ventilated and protected manner to prevent deterioration from moisture.

1.13. COORDINATION
- A. Coordinate work under provisions of Section 01039.
- B. Coordinate this Section with other Sections of work which require attachment of components to formwork.
- C. If formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement before proceeding, request instructions from Architect/Engineer.

2. PART 2 PRODUCTS

2.1. WOOD FORM MATERIALS
- A. Forms for Exposed Finish Concrete: Plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings.
- B. Use overlaid plywood complying with U.S. Product Standard PS-1 "A-C or B-B High Density Overlaid Concrete Form", Class I.
- C. Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.
- D. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

2.2. FORMWORK ACCESSORIES
- A. Form Ties: Snap-off type, metal, adjustable length, 1 inch back break dimension, free of defects that could leave holes larger than 1 inch in concrete surface.
- B. Form Release Agent: Colorless mineral oil which will not stain concrete, or absorb moisture or impair natural bonding or color characteristics of coating intended for use on concrete.
- C. Corners: Chamfer, wood strip1x 1 inch size; maximum possible lengths
- D. Flashing Reglets: Galvanized steel, 22 gage thick, longest possible lengths, with alignment splines for joints, release tape sealed slots, anchors for securing to concrete formwork.
- E. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.
- F. Waterstops: Polyvinyl chloride, minimum 1,750 psi tensile strength, minimum 50 degrees F to plus 175 degrees F working temperature range, maximum possible lengths, ribbed profile, preformed corner sections, heat welded jointing; manufactured by Greenstreak.

3. PART 3 EXECUTION

3.1. EXAMINATION
- A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

3.2. EARTH FORMS
- A. All grade beams shall be formed. Earth Forms are not acceptable.

3.3. ERECTION - FORMWORK

A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 301.
B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to over stressing by construction loads.
C. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
D. Align joints and make watertight. Keep form joints to a minimum.
E. Obtain approval before framing openings in structural members which are not indicated on Drawings.
F. Install void forms in accordance with manufacturer's recommendations. Protect forms from moisture or crushing.

3.4. APPLICATION - FORM RELEASE AGENT

A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
C. Do not apply form release agent where concrete surfaces will receive special finishes or applied coverings which are effected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.

3.5. INSERTS, EMBEDDED PARTS, AND OPENINGS

A. Provide formed openings where required for items to be embedded in passing through concrete work.
B. Locate and set in place items which will be cast directly into concrete.
C. Coordinate with work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other Work.
D. Position recessed reglets for brick veneer masonry anchors to spacing and intervals specified in Section 04300.
E. Install accessories in accordance with manufacturer's instructions, straight, level, and plumb. Ensure items are not disturbed during concrete placement.
F. Install waterstops continuous without displacing reinforcement.
G. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
H. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.

3.6. FORM CLEANING

A. Clean forms as erection proceeds, to remove foreign matter within forms.
B. Clean formed cavities of debris prior to placing concrete.
C. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
D. During cold weather, remove ice and snow from within forms. Do not use de-icing salts. Do not use water to clean out forms, unless formwork and concrete construction proceed within heated enclosure. Use compressed air or other means to remove foreign matter.

3.7. FORMWORK TOLERANCES

A. Construct formwork to maintain tolerances required by ACI 301.

3.8. FIELD QUALITY CONTROL

A. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and that supports, fastenings, wedges, ties, and items are secure.
B. Do not reuse wood formwork more than 1 times for concrete surfaces to be exposed to view. Do not patch formwork.

3.9. FORM REMOVAL

A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.
B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
C. Store removed forms in manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.

END OF SECTION 03 10 00

SECTION 03 20 00 - CONCRETE REINFORCEMENT

1. PART 1 GENERAL

1.1. SECTION INCLUDES
- A. Reinforcing steel bars, wire fabric and accessories for cast-in-place concrete.

1.2. RELATED SECTIONS
- A. Section 03 10 00 - Concrete Formwork.
- B. Section 03 30 00 - Cast-in-Place Concrete.

1.3. UNIT PRICE - MEASUREMENT AND PAYMENT
- A. Concrete reinforcement shall not be paid for directly but shall be included in the prices bid for other items.

1.4. REFERENCES
- A. ACI 301 - Structural Concrete for Buildings.
- B. ACI 318 - Building Code Requirements For Reinforced Concrete.ACI SP-66 - American Concrete Institute - Detailing Manual.
- C. ANSI/ASTM A82 - Cold Drawn Steel Wire for Concrete Reinforcement.
- D. ANSI/ASTM A184 - Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
- E. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- F. ANSI/ASTM A496 - Deformed Steel Wire Fabric for Concrete Reinforcement.
- G. ANSI/ASTM A497 - Welded Deformed Steel Wire Fabric for Concrete Reinforcement.
- H. ANSI/AWS D1.4 - Structural Welding Code for Reinforcing Steel.
- I. ASTM A615 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- J. ASTM A616 - Rail Steel Deformed and Plain Bars for Concrete Reinforcement.
- K. ASTM A617 - Axle Steel Deformed and Plain Bars for Concrete Reinforcement.
- L. ASTM A704 - Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement.
- M. ASTM A706 - Low-Alloy Steel Deformed Bars for Concrete Reinforcement.
- N. ASTM A767 - Zinc-Coated (Galvanized) Bars for Concrete Reinforcement.
- O. ASTM A775 - Epoxy-Coated Reinforcing Steel Bars.
- P. ASTM D3963 - Epoxy-Coated Reinforcing Steel.
- Q. AWS D12.1 - Welding Reinforcement Steel, Metal Inserts and Connections in Reinforced Concrete Construction.
- R. CRSI - Concrete Reinforcing Steel Institute - Manual of Practice.
- S. CRSI 63 - Placing Reinforcing Bars.
- T. ASTM A884 - Epoxy-Coated Steel Wire and Welded Wire Fabric for Reinforcement.

1.5. SUBMITTALS
- A. Submit under provisions of Section 01 30 00.
- B. Shop Drawings: Indicate bar sizes, spacings, locations, and quantities of reinforcing steel and wire fabric, bending and cutting schedules, and supporting and spacing devices and.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.6. QUALITY ASSURANCE
- A. Perform Work in accordance with CRSI - Manual of Standard Practice, ACI 301, and ACI 318.
- B. Submit certified copies of mill test report of reinforcement materials analysis.
- C. Provide Architect/Engineer with access to fabrication plant to facilitate inspection of reinforcement. Provide notification of commencement and duration of shop fabrication in sufficient time to allow inspection.

1.7. QUALIFICATIONS
- A. Design reinforcement under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State where the Project is located.
- B. Welders' Certificates: Submit under provisions of Section 01400 Manufacturer's Certificates, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.8. COORDINATION
- A. Coordinate work under provisions of Section 01039.

B. Coordinate with placement of formwork, formed openings and other Work.

2. PART 2 PRODUCTS

2.1. REINFORCEMENT
A. Reinforcing Steel: ASTM A615, 60 ksi yield grade; deformed billet steel bars, unfinished
B. Welded Reinforcing Steel: ASTM A706, 60 ksi yield grade; deformed low-alloy steel bars, unfinished.
C. Welded Steel Wire Fabric: ASTM A185 in flat sheets unfinished

2.2. ACCESSORY MATERIALS
A. Tie Wire: Minimum 16 gage annealed type
B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor barrier puncture.
C. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic coated steel type; size and shape as required.

2.3. FABRICATION
A. Fabricate concrete reinforcing in accordance with CRSI Manual of Practice.
B. Weld reinforcement in accordance with AWS D1.4.
C. Locate reinforcing splices not indicated on drawings, at point of minimum stress. Review location of splices with Architect/Engineer.

3. PART 3 EXECUTION

3.1. PLACEMENT
A. Place, support and secure reinforcement against displacement. Do not deviate from required position.
B. Do not displace or damage vapor barrier.
C. Accommodate placement of formed openings.
D. Maintain concrete cover around reinforcing as follows:
E. Conform to ACI 318-02 code for concrete cover over reinforcement.
F. Bond and ground all reinforcement to requirements of Section 16170.

3.2. FIELD QUALITY CONTROL
A. Field inspection will be performed under provisions of Section 01 45 00.

END OF SECTION 03 20 00

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

1. PART 1 GENERAL

1.1 SECTION INCLUDES

A Cast-in-place concrete.
B Floors and slabs on grade.
C Control, expansion and contraction joint devices associated with concrete work, including joint sealants.

1.2 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

A Section 03100 - Concrete Formwork.

1.3 RELATED SECTIONS

A Section 03 10 00 - Concrete Formwork: Formwork and accessories.
B Section 03 20 00 - Concrete Reinforcement.

1.4 REFERENCES

A ACI 301 - Structural Concrete for Buildings.
B ACI 302 - Guide for Concrete Floor and Slab Construction.
C ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
D ACI 305R - Hot Weather Concreting.
E ACI 306R - Cold Weather Concreting.
F ACI 308 - Standard Practice for Curing Concrete.
G ACI 318 - Building Code Requirements for Reinforced Concrete.
H ANSI/ASTM D994 - Preformed Expansion Joint Filler for Concrete (Bituminous Type).
I ANSI/ASTM D1190 - Concrete Joint Sealer, Hot-Poured Elastic Type.
J ANSI/ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
K ANSI/ASTM D1752 - Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
L ASTM B221 - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
M ASTM C33 - Concrete Aggregates.
N ASTM C94 - Ready-Mixed Concrete.
O ASTM C150 - Portland Cement.
P ASTM C260 - Air Entraining Admixtures for Concrete.
Q ASTM C330 - Light Weight Aggregates For Structural Concrete.
R ASTM C494 - Chemicals Admixtures for Concrete.
S ASTM C618 - Fly Ash and Raw or Calcinated Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.

1.5 SUBMITTALS

A Submit under provisions of Section 01 30 00.
B Product Data: Provide data on joint devices, attachment accessories, admixtures.
C Samples: Submit two, 12 inch long samples of expansion/contraction joint and control joint.
D Manufacturer's Installation Instructions: Indicate installation procedures and interface required with adjacent Work.

1.6 PROJECT RECORD DOCUMENTS

A Submit under provisions of Section 01 70 00.
B Accurately record actual locations of embedded utilities and components which are concealed from view.

1.7 QUALITY ASSURANCE

A Perform Work in accordance with ACI 301.
B Acquire cement and aggregate from same source for all work.
C Conform to ACI 305R when concreting during hot weather.
D Conform to ACI 306R when concreting during cold weather.

1.8 FIELD SAMPLES

A Provide under provisions of Section 01 40 00. Coordinate with Section 03 10 00.
B Construct and erect a field sample for architectural concrete surfaces receiving special treatment or finish as result of formwork.

C Sample Panel: Sufficient size to indicate special treatment or finish required.
D If requested by Architect/Engineer, cast concrete against sample panel. Obtain acceptance of resultant surface finish prior to erecting formwork.
E Locate as directed in field by Architect or Owner's construction manager.
F Accepted sample panel is considered basis of quality for the finished work. Keep sample panel exposed to view for duration of concrete work.
G Accepted sample may not remain as part of the Work.

1.9 COORDINATION
A Coordinate work under provisions of Section 01 03 90.
B Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.

2. PART 2 PRODUCTS
2.1 CONCRETE MATERIALS
A Cement: ASTM C150, Type I. Obtained from a single source.
B Fine and Coarse Aggregates: ASTM C33.
C Water: Clean and not detrimental to concrete.

2.2 ADMIXTURES
A Air Entrainment: ASTM C260;.
B Chemical: ASTM C494 Type A - Water Reducing; Type B – Retarding; Type C – Accelerating; Type D - Water Reducing and Retarding; Type E - Water Reducing and Accelerating;.
C Calcinated Pozzolan: NOT ALLOWED.

2.3 ACCESSORIES
A Bonding Agent: Polyvinyl Acetate.
B Vapor Barrier: 15 mil thick Stego Wrap clear polyethylene film type recommended for below grade application.
C Non-Shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 2,400 psi in 48 hours and 7,500 psi in 28 days.

2.4 JOINT DEVICES AND FILLER MATERIALS
A Joint Filler Type A; Asphalt impregnated fiberboard or felt, ½ inch thick; tongue and groove profile.
B Construction Joint Devices: Integral galvanized steel; as detailed, formed to tongue and groove profile, with removable top strip exposing sealant trough, knockout holes spaced at 6 inches, ribbed steel spikes with tongue to fit top screed edge.
C Sealant and Primer: as specified in Section 07 90 00.

2.5 CONCRETE MIX
A Mix concrete in accordance with ACI 304. Deliver concrete in accordance with ASTM C94.
B Select proportions for normal weight concrete in accordance with ACI 301 Method 1..
C Provide concrete to the following criteria:
- Pier Caps, 3500-psi, 28-day compressive strength; water-cement ratio, 0.48 maximum (air-entrained), 4" maximum slump.

D Use accelerating admixtures in cold weather only when approved by Architect/Engineer. Use of admixtures will not relax cold weather placement requirements.
E Calcium chloride shall NOT be used.
F Use set retarding admixtures during hot weather only when approved by Architect/Engineer.
G Add air entraining agent to normal weight concrete mix for work exposed to exterior.
H Use set retarding admixtures during hot weather only when approved by Architect/Engineer.

3. PART 3 EXECUTION

3.1 EXAMINATION
A Verify site conditions under provisions of Section 01 03 90.
B Verify requirements for concrete cover over reinforcement.
C Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

3.2 PREPARATION
A Prepare previously placed concrete by cleaning with steel brush and applying bonding agent in

accordance with manufacturer's instructions.

B In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

3.3 PLACING CONCRETE

A Place concrete in accordance with ACI 318.
B Notify Architect/Engineer minimum 96 hours prior to commencement of operations.
C Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints, and are not disturbed during concrete placement.
D Install vapor barrier under interior slabs on grade. Lap joints minimum 6 inches and seal watertight by taping edges and ends.
E Repair vapor barrier damaged during placement of concrete reinforcing. Repair with vapor barrier material; lap over damaged areas minimum 6 inches and seal watertight.
F Separate slabs on grade from vertical surfaces with ½" inch thick joint filler.
G Place joint filler in floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
H Extend joint filler from bottom of slab to within 1/8 inch of finished slab surface. Conform to Section 07 90 00 for finish joint sealer requirements.
I Install joint devices in accordance with manufacturer's instructions.
J Install construction joint devices in coordination with floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
K Install joint device anchors. Maintain correct position to allow joint cover to be flush with floor finish.
L Install joint covers in longest practical length, when adjacent construction activity is complete.
M Apply sealants in joint devices in accordance with Section 07 90 00.
N Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
O Place concrete continuously between predetermined expansion, control, and construction joints.
P Do not interrupt successive placement; do not permit cold joints to occur.
Q Place floor slabs and saw cut pattern indicated.
R Saw cut joints within 2 hours of placing. Use 3/16 inch thick blade, cut into ¼ depth of slab thickness. All joints to be cut using the SoffCut system.
S Screed floors and slabs on grade level, maintaining surface flatness of maximum 3/16 inch in 10 ft.

3.4 CONCRETE FINISHING

A Tolerances. In accordance with ACI 117 Section 4.5.7 as scheduled on the drawings.
B Concrete Surfaces Exposed to View. Vertical and horizontal surfaces shall receive a rubbed finished.
C Concrete Surfaces Not Exposed to View. Unless specified elsewhere, surfaces shall receive a broom finish or shall be floated in such a manner to provide a granular matte appearance.

3.5 CURING AND PROTECTION

A General. Protect freshly placed concrete from premature drying and excessive cold or hot temperature, and maintain without drying at a relatively constant temperature for the period of time necessary for hydration of the cement and proper hardening of the concrete. Start initial curing as soon as free moisture has disappeared from the concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 72 hours. Begin final curing procedures immediately following initial curing and before the concrete has dried. Continue final curing for at least 7 days and in accordance with ACI 301 procedures. Avoid rapid drying at the end of the final curing period.
B Curing Methods. Perform final curing of concrete by one of following methods at Contractor's option.
   i Moisture Curing. Keeping the surface of the concrete continuously wet by covering with water.
   ii Moisture - Cover. Moisture retaining cover shall be placed on surfaces for curing period.
   iii Liquid Membrane applied to damp concrete surfaces as water film has disappeared in accordance with manufacturer's directions. The entire exposed surface of the concrete shall be sprayed uniformly with white pigmented curing compound immediately after completion of surface finishing as soon as surface water evaporates. If the pavement is cured initially with burlap mats and mats are removed prior to expiration of 72 hours, curing compound shall be applied immediately. Curing compound shall not be applied during rainfall.
      a Curing compound shall be applied under pressure by mechanical sprayers at the rate

recommended by the manufacturer but in no case less than 1 gallon per 100 square feet of surface area. Spraying equipment shall be of the fully atomizing type equipped with a tank agitator. At time of use, the compound shall be thoroughly mixed. During application, the compound shall be stirred continuously by mechanical methods. Hand spraying of odd widths or shapes and on surfaces exposed by form removal will be permitted provided curing compound has been thoroughly agitated prior to placing in the sprayer. Curing compound shall not be applied to inside faces of joints to be sealed. In split slab construction, curing compound shall be applied in such manner as to prevent spraying exposed reinforcing steel.

b Should the film become damaged within the curing period, the damaged portions shall be repaired immediately with additional compound.

C Upon removal of side forms, exposed sides of slabs shall be protected immediately with a curing treatment equal to that provided for the surface.

D Exposed reinforcing steel and joints shall be covered or shielded to prevent contact with curing compound.

E Temperature of Concrete During Curing. When the atmospheric temperature is 40 deg. F. and below, maintain the concrete temperature between 50 and 70 deg. F. continuously throughout the curing period. When necessary, make arrangements before concrete placing for continuous heating, covering, insulation, or housing as required for the concrete curing period. Provide cold weather predictions complying with the requirements of ACI 306.

3.6 FIELD QUALITY CONTROL

A Field inspection and testing will be performed in accordance with ACI 301 and under provisions of Section 01 40 00.

B Provide free access to Work and cooperate with appointed firm.

C Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.

D Tests of cement and aggregates may be performed to ensure conformance with specified requirements.

E Three concrete test cylinders will be taken for every 50 or less cu yds of each class of concrete placed.

F One additional test cylinder will be taken during cold weather concreting, cured on job site under same conditions as concrete it represents.

G One slump test will be taken for each set of test cylinders taken.

3.7 PATCHING

A Allow Architect/Engineer to inspect concrete surfaces immediately upon removal of forms.

B Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Architect/Engineer upon discovery.

C Patch imperfections as directed.

3.8 DEFECTIVE CONCRETE

A Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.

B Repair or replacement of defective concrete will be determined by the Architect/Engineer.

C Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect/Engineer for each individual area.

END OF SECTION 03 30 00

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SECTION 05 12 00 - STRUCTURAL STEEL

1. PART 1 GENERAL

1.1. DESCRIPTION

A. Perform all work required to complete the Structural Steel work indicated by the Contract Documents and furnish all supplementary items necessary for its proper installation.

1.2. RELATED WORK SPECIFIED ELSEWHERE

A. Test and Laboratory Control - Section 01 45 00.
B. Steel Joist and Girders – Section 05 21 00.
C. Metal Decking - Section 05 31 00.

1.3. REFERENCES

A. ASTM A36 - Structural Steel.
B. ASTM A53 - Hot-Dipped, Zinc-coated Welded and Seamless Steel Pipe.
C. ASTM A123 - Zinc (Hot-Galvanized) Coatings on Products Fabricated from Rolled, Pressed and Forged Steel Shapes, Plates, Bars, and Strip.
D. ASTM A153-Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
E. ASTM A283 - Carbon Steel Plates, Shapes, and Bars.
F. ASTM A307-Carbon Steel Externally Threaded Standard Fasteners.
G. ASTM A325-High Strength Bolts for Structural Steel Joints.
H. ASTM A386-Zinc-Coating (Hot-Dip) on Assembled Steel Products.
I. ASTM A500-Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.
J. ASTM A501-Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
K. ASTM B177-Chromium Electroplating on Steel for Engineering Use.
L. AWS A2.0-Standard Welding Symbols.
M. AWS D1.1-Structural Welding Code.
N. SSPC - Steel Structures Painting Council..

1.4. QUALITY ASSURANCE

A. The testing laboratory approved by the Architect and Engineer shall inspect high-strength bolted connections and welds and perform all tests in the shop and in the field and submit test reports to the Architect as hereinafter specified. The testing laboratory shall be responsible for conducting and interpreting the test, shall state in each report whether or not test specimens conform to all requirements of the Contract Documents, and shall specifically note any deviations therefrom. Corrective measures, including additional testing, which result from these tests shall be the Contractor's responsibility.

B. The testing agency shall furnish to the Architect five (5) certified copies of all test reports.

1.5. REQUIREMENTS OF REGULATORY AGENCIES

A. Building Code shall mean 2021 International Building Code.
B. AISC Specifications for Structural Steel shall mean ANSI/AISC 360-10 Specification for Structural Steel Buildings, 2016.
C. Specification for Structural Joints shall mean Specification for Structural Joints using High-Strength Bolts approved by the Research Council on Structural Connections of the Engineering Foundation, 2016.
D. AWS Building Code shall mean AWS "Code for Welding in Building Construction," latest edition.
E. ASTM shall mean the appropriate specification of the American Society of Testing and Materials.

1.6. QUALIFICATIONS

A. Steel Fabricator: Fabricator shall have not less than 10 years experience in the fabrication of structural steel.
B. Steel Erector: Erector shall have not less than 10 years experience in the erection of Structural steel.
C. Welding procedures, welders, welding operations and tackers shall be qualified in accordance with the AWS Building Code. Certification of welders by the testing laboratory shall not be more than six months old at the time of welding in the erection period.

1.7. SUBMITTALS

A. Submit under provisions of Section 01 30 00.

B. Meet requirements of applicable portions of "Structural Shop Drafting" by AISC.

C. Shop Drawings:
1. Submit shop drawings, indicating all shop and erection details, including cuts, copes, connections, holes, threaded fasteners, rivets, and welds.
2. All welds, both shop and field, shall be indicated by AWS Welding Symbols. Indicate net weld lengths.
3. Shop drawings shall not be made by using reproductions of contract drawings.
4. Any fabrication of material before approval of drawings will be at the risk of the Contractor.
5. Note and mark sufficiently to indicate compliance with requirements of these specifications.

D. Erection Procedure: Submit descriptive data to illustrate the structural steel erection procedure, including sequence of erection and temporary staying and bracing.

E. Welding Procedure: Submit qualification of flux-cored arc welding procedures in accordance with Article 502, AWS D1-1.

F. Welders Certificates: Submit under provisions of Section 01300, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

G. Proof of Compliance for Materials:
1. Report of ladle analysis of all steel.
2. Report of tensile properties for:
a. Steel shapes
b. Steel bars
c. Steel plates
3. Mill Certifications.

1.8. PROPOSED SUBSTITUTIONS
A. Substitutions of sections or modification of details, if proposed by the Contractor, shall be submitted for approval in sketch form prior to submission of shop drawings, and such substitutions shall be made only when approved by the Architect and Engineer.

1.9. PRODUCT HANDLING
A. Delivery of materials to be installed under other sections.
1. Anchor bolts and other anchorage devices which are embedded in cast-in-place concrete or masonry construction shall be delivered to the project site in time to be installed before the start of cast-in-place concrete operations or masonry work.
2. Provide setting drawings, templates, and directions for the installation of the anchor bolts and other devices.
3. The General Contractor shall check the correct positioning of anchor bolts before concrete is placed. Subsequent displacement of the anchor bolts will be the responsibility of the General Contractor.

B. Storage of materials.
1. Structural steel members which are stored at the project site shall be above ground on platforms, skids, or other supports.
2. Steel shall be protected from corrosion.
3. Other materials shall be stored in a weather-tight and dry place, until ready for use in the work.
4. Packaged material shall be stored in their original unbroken package or container.

2. PART 2 PRODUCTS
2.1. MATERIALS
A. Steel Wide Flange Shapes: ASTM A992-50
B. Steel, Shapes, Bars and Plates other than wide flanges ASM A36 or ASTM A992
C. Headed Stud Type Shear Connectors:
1. Cold finished carbon steel, ASTM A108.
2. Dimensions of shear connectors shall conform to Figure M-1 of AWS Building Code.
D. Anchor Rods: ASTM F1554 grade 36.
E. High-Strength Threaded Fasteners: ASTM A325 or ASTM A490.
F. Filler Metal for Welding.
1. Shielded metal - arc welding - AWS A5.1 or A5.5.

2. Submerged - arc welding - AWS A5.17.
3. Flux-cored arc welding - AWS A5.20.

G. Grout: Non-shrink grout "Embeco Pre-mixed Grout" by Master Buildings or approved equal. The material shall be ready-to-use metallic aggregate product requiring only the addition of water at the job site, and shall produce a flowable grouting material having no drying shrinkage at any age. Compressive strength of grout (2" x 2" cubes) shall be not less than 4000 psi at 7 days and 7500 psi at 28 days.

H. Paint: Fabricators standard conforming to SSPC Specifications.

2.2. FABRICATION

A. Fabricate Structural Steel in accordance with the AISC Specification for Structural Steel.
   1. All work shall be shop-assembled in so far as possible and delivered to the site ready for erection. Material shall be properly marked and match-marked where field assembly is required. The sequence of shipments shall be such as to expedite erection and minimize field handling of material.
   2. Members to be milled shall be completely assembled before milling.
   3. Beams, girders, and trusses shall be cambered as indicated on the drawings. Specified camber shall be within a tolerance of minus zero to plus 1/8 inch per 10 feet of beam length. Members without specified camber shall be fabricated so that after erection any minor camber due to rolling or fabrication shall be upward.
   4. Shop connections shall be high-strength bolted or welded, as indicated on the structural drawings or as required.

B. Field connections shall be high-strength bolted or welded, as indicated on the structural drawings or as required.

C. High-strength Bolted Construction Assembly: Tightening shall be done by the calibrated wrench method or the turn-of-the-nut method in accordance with Section 8 (d) of the Specifications for Structural Joints for all friction connections. For all bearing type bolted connections, bolts shall be installed to a snug tight fit with all plies in a joint in firm contact.

D. Welded Construction
   1. All welding done in accordance with AWS D1.1.
   2. Welding process shall be limited to one or more of the following:
      a. Manual shielded-arc.
      b. Submerged-arc.
      c. Flux-cored arc.
   3. Preheat and interpass temperature shall conform Table 4.2, AWS D1.1.
   4. Welds not specified shall be continuous fillet welds, using minimum fillet as specified by AWS D1.1.

E. No combination of bolts and welds shall be used for stress transmission in the same faying face of any connections.

F. Bearing Plates:
   1. Bearing plates shall be provided under beams, girders, and trusses resting on footings, piers, and walls.
   2. Bearing plates shall be either attached or loose.

2.3. SOURCE QUALITY CONTROL - The Steel fabricator shall provide certification of the following to the Testing Agency for their review.

A. Check steel plates and shapes for conformation to specifications.

B. Check high-strength threaded fasteners for conformance to the specifications.

C. Check filler metal for conformance to the specifications.

D. Determine chemical composition of all steel.

E. Determine mechanical properties, in accordance with ASTM A370, of the following materials:
   1. Steel shapes.
   2. Bars and plates.
   3. Headed stud type shear connectors.
   4. Anchor bolts.
   5. High-strength threaded fasteners.
   6. Filler metal for welding.

F. Qualification of shop bolting, welding, and stud welding and personnel.

G. Inspection of shop welds shall be in accordance with Section 6 of AWS Building Code and as follows:
   1. Visual inspection of all shop welds in accordance with Article 605.
   2. Ultrasonic testing in accordance with ASTM E164 of all penetration welds.

3. PART 3 EXECUTION

3.1. EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.
B. Beginning of installation means erector accepts existing conditions.

3.2. PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.
B. Supply items required to be cast into concrete or embedded in masonry with setting templates, to appropriate sections.

3.3. ERECTION

A. Erect structural steel in accordance with the AISC Specifications for Structural Steel, and the Code of Standard Practice for Steel Buildings and Bridges.
B. Column Bases and Bearing Plates:
    1. Attached column bases and bearing plates for beams and similar structural members shall be aligned with wedges and shims.
    2. Loose column bases which are too heavy to be placed without a derrick or crane shall be set and wedged or shimmed or as noted on the structural drawings.

C. Erection Tolerances:
    1. Individual pieces shall be erected so that deviation from plumb, level and alignment shall not exceed that specified in the AISC Code of Standard Practice, nor the following:
        a. The displacement of the center-line of columns adjacent to elevator shaft, from the established column line, shall be not more than 1 inch at any point.
        b. The displacement of the center-line of exterior columns, from the established column line, shall be not more than 1 inch toward, nor 2 inches away from the building line at any point.

D. Field Assembly:
    1. Structural steel frames shall be accurately assembled to the lines and elevations indicated, within the specified erection tolerances.
    2. The various members forming parts of a complete frame or structure after being assembled shall be aligned and adjusted accurately before being fastened.
    3. Fastening of splices of compression members shall be done after the abutting surfaces have been brought completely into contact.
    4. Bearing surfaces and surfaces which will be in permanent contact shall be cleaned before the members are assembled.
    5. Splices shall be permitted only where indicated.
    6. Drift pins shall not be used to enlarge unfair holes in main material. Holes that must be enlarged to admit bolts shall be reamed. Burning and drifting may be used to align unfair holes in secondary members only upon approval of the Architect.
    7. Erection bolts used in welded construction may be either tightened securely and left in place or removed and the holes filled with plug welds.

E. Gas Cutting: Field correcting of fabrication by gas cutting shall not be permitted on any major member in the structural framing without prior approval of the Architect and Engineer.

F. Grouting of Base Plates and Bearing Plates: Plates shall be set and anchored to the proper line and elevation. Metal wedges, shims, and/or setting nuts shall be used for leveling and plumbing the structural members, including plumbing of columns. Concrete surfaces shall be rough, surfaces shall be clean and free of oil, grease, and rust. The addition of water and mixing shall be in conformance with the material manufacturer's instructions. Grout shall be mixed by using a mortar mixer. Batches shall be of size to allow continuous placement of freshly mixed grout. Placing shall be quick and continuous. Exposed surfaces shall have smooth, dense finish.

G. Shop Painting:
    1. Apply shop coat of gray paint on steel surfaces except:
        a. Surfaces of members to be field welded, in immediate area of welds.
        b. Surfaces of members to receive sprayed-on fireproofing.
    2. Prepare surfaces by solvent cleaning (SPI-63) and hand or power tool spatters and other foreign matter.

H. Field Touch-Up Painting: After erection of structural steel, prime welds, abrasions and surfaces not

shop primed, touch-up field welds and abrasions in shop paint coating with same paint used for shop painting.

3.4. FIELD QUALITY CONTROL: Testing agency shall perform the following:

A. Check bracing.

B. Check location and set of anchor bolts and other inserts.

C. Prior to attaching steel, check adjustments to fit accuracies.

D. Qualification of field bolting, welding, and stud welding procedures and personnel.

E. Inspection of the erected structural framework for conformance with the requirements specified, including alignment, plumbness, camber, etc.

F. Inspection of Field Welds shall be in accordance with Section 6 of the AWS Building Code as follows:
   1. Visual inspection of all welds in accordance with Article 605.
   2. In addition to visual inspection, field-welded connections will be inspected and tested according to AWS D1.1 and the inspection procedures listed below, at testing agency'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 will not be accepted.
      c. Radiographic Inspection: ASTM E 94 and ASTM E 142; minimum quality level "2-2T."
      d. Ultrasonic Inspection: ASTM E 164.
   3. All column-to-base plate field welds shall be inspected by ultrasonic testing in accordance with ASTM E164.
   4. All welds that fail shall be rewelded and retested until they pass the test. The cost of the initial test and all further testing on welds that fail shall be borne by the Contractor. All initial weld tests that pass will be paid by the Owner.

G. Inspection of high-strength bolted construction shall be in accordance with Section 9, AISC Specifications for Structural Joints, and as follows:
   1. Friction Connections
      a. All high-strength bolted connections shall be visually inspected.
      b. At least two bolts of every third connection between floor beams and girders shall be checked with a calibrated torque wrench for proper torque.
      c. At least two bolts of every connection between girders and columns shall be checked as above.
      d. All bolted connections that fail shall be corrected and all bolts in that connection tests that fail shall be paid by the Owner. The cost of retests on connections that fail shall be borne by the contractor.
      e. Direct-tension indicator gaps will be verified to comply with ASTM F 959, Table 2.
   2. Bearing Connections
      a. All high-strength bolted connections shall be visually inspected to ensure that all plies of the connected elements have been brought into snug contact.

H. Field testing of welded stud shear connectors shall be in accordance with sections 4.29 and 4.30 of the AWS Structural Welding Code, and as follows:
   1. Visual inspection shall be made for all studs for proper number and quality of welds. Any studs that do not have a full 360 degree filled weld shall be tested.
   2. In addition to defective studs visually observed, a prescribed pattern of selecting studs for testing shall be followed.
      a. Any member having more than 20 studs shall have at least two studs tested.
      b. Members having less than 20 studs shall be tested as a group. Select two studs randomly from each sample of 100 studs to be tested.
   3. Testing shall consist of bending the stud to an angle of 30 degrees from its original axis by striking the stud with a hammer.
   4. If failure occurs during testing, inspector shall test adjacent studs as required to determine extent of poor welding.
   5. Stud replacement or repair shall be in accordance with AWS Structural Welding Code

sections 4.29 and 4.30.

END OF SECTION 05 12 00

SECTION 05 40 00 - COLD-FORMED METAL STUDS

1. PART 1 GENERAL

1.1. RELATED DOCUMENTS
- A. Dawings 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 the following:
  1. Interior and exterior bearing and non-bearing steel-stud walls.

1.3. PERFORMANCE REQUIREMENTS
- A. AISI "Specifications": Calculate structural characteristics of cold-formed metal framing according to AISI's "Specification for the Design of Cold-Formed Steel Structural Members" and the following:
  1. Center for Cold-Formed Steel Structures (CCFSS) Technical Bulletin, Vol. 2, No. 1, February 1993 "AISI Specification Provisions for Screw Connections."
- B. Structural Performance: Engineer, fabricate and erect cold-formed metal framing with the following minimum physical and structural properties:
  1. Physical and Structural Properties: As indicated.
- C. Structural Performance: Engineer, fabricate, and erect cold-formed metal framing to withstand design loads within limits and under conditions required.
  1. Design framing systems to withstand design loads without deflections greater than the following:
     a. Interior Load-Bearing Walls: Lateral deflection of 1/360 of the wall height.
     b. Roof Joists: Vertical deflection of 1/360 of the span.
- D. Design framing systems to provide for movement of framing members without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change (range) of 120 deg F.
- E. Design framing system to accommodate deflection of primary building structure and construction tolerances, and to maintain clearances at openings.

1.4. SUBMITTALS
- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product data for each type of cold-formed metal framing, accessory, and product specified.

1.5. QUALITY ASSURANCE
- A. Installer Qualifications: Engage an experienced Installer who has completed cold-formed metal framing similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

1.6. DELIVERY, STORAGE, AND HANDLING
- A. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Store cold-formed metal framing, protect with a waterproof covering, and ventilate to avoid condensation.

2. PART 2 – PRODUCTS

2.1. MANUFACTURERS
- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering cold-formed metal framing that may be incorporated in the Work include, but are not limited to, the following:
  1. Alabama Metal Industries Corp.
  2. American Studco, Inc.
  3. Angeles Metal Systems.
  4. California Metal Systems, Inc.
  5. Clark, Inc.
  6. Consolidated Fabricators Corp.
  7. Consolidated Systems, Inc.

8. Dale//Incor Industries.
9. Dale Industries, Inc.
10. Design Shapes in Steel.
11. Dietrich Industries, Inc.
12. Incor Plant Dale Industries.
13. MarinoWare; Div. of Ware Industries, Inc.
14. Super Stud Building Products, Inc.
15. Unimast, Inc.
16. United Construction Supply.
17. United States Steel.
18. Western Metal Lath Co.

2.2. MATERIALS

A. Galvanized-Steel Sheet: ASTM A 446, zinc coated according to ASTM A 525, and as follows:
   1. Coating Designation: G 60 (Z 180).
   2. Grade: As required by structural performance.
B. Prime-Painted Steel Sheet: ASTM A 570 or ASTM A 611, cleaned, pretreated, and primed with manufacturer's baked-on, lead- and chromate-free, rust-inhibitive primer conforming to the performance requirements of FS TT-P-664.
C. Grade: As required by structural performance.

2.3. WALL FRAMING

A. Steel Studs: Manufacturer's standard C-shaped steel studs of web depths indicated, with lipped flanges, and complying with the following:
   1. Gauge: 16 ga. or as per plan.
   2. Flange Width: Minimum 1-5/8 inches.
   3. Web: Punched.
B. Steel Track: Manufacturer's standard U-shaped steel track, unpunched, of web depths indicated, with straight flanges, and complying with the following:
   1. Design Uncoated-Steel Thickness: 1 gauge heavier than steel studs.

2.4. JOIST FRAMING

A. Steel Joists: Manufacturer's standard C-shaped steel joists, unpunched, of web depths indicated, with lipped flanges, and complying with the following:
   1. Gauge: 16 ga. or as per plans.
   2. Flange Width: 1-5/8 inches minimum.
B. Steel Joist Track: Manufacturer's standard U-shaped steel joist track, unpunched, of web depths indicated, with straight flanges, and complying with the following:
   1. Design Uncoated-Steel Thickness: 1 gauge heavier than steel joists.

2.5. FRAMING ACCESSORIES

A. Fabricate steel-framing accessories of the same material and finish used for framing members, with a minimum yield strength of 33,000 psi.
B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:
   1. Supplementary framing.
   2. Bracing, bridging, and solid blocking.
   3. Web stiffeners.
   4. Gusset plates.
   5. Deflection track and vertical slide clips.
   6. Stud kickers and girts.
   7. Joist hangers and end closures.
   8. Reinforcement plates.

2.6. ANCHORS, CLIPS, AND FASTENERS

A. Steel Shapes and Clips: ASTM A 36, zinc coated by the hot-dip process according to ASTM A 123.
B. Cast-in-Place Anchor Bolts and Studs: ASTM A 307, Grade A; carbon-steel hex-head bolts and studs; carbon-steel nuts; and flat, unhardened-steel washers. Zinc coated by the hot-dip process according to ASTM A 153.

C. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 5 times the design load, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.
D. Powder-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times the design load, as determined by testing per ASTM E 1190 conducted by a qualified independent testing agency.
E. Mechanical Fasteners: Corrosion-resistant coated, self-drilling, self-threading steel drill screws.
   1. Head Type: Low-profile head beneath sheathing, manufacturer's standard elsewhere.
F. Welding Electrodes: Comply with AWS standards.

2.7. MISCELLANEOUS MATERIALS

A. Galvanizing Repair Paint: SSPC-Paint 20 or DOD-P-21035, with dry film containing a minimum of 94 percent zinc dust by weight.
B. Cement Grout: Portland cement, ASTM C 150, Type I; and clean, natural sand, ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.
C. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, with fluid consistency and a 30-minute working time.

2.8. FABRICATION

A. Fabricate cold-formed metal framing and accessories plumb, square, true to line, and with connections securely fastened, according to manufacturer's recommendations and the requirements of this Section.
   1. Cut framing members by sawing or shearing; do not torch cut.
   2. Fasten cold-formed metal framing members by welding or screw fastening, as standard with fabricator. Wire tying of framing members is not permitted.
      a. Comply with AWS requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
      b. Locate mechanical fasteners and install according to cold-framed metal framing manufacturer's instructions with screw penetrating joined members by not less than 3 exposed screw threads.
   3. Fasten other materials to cold-formed metal framing by welding, bolting, or screw fastening, according to manufacturer's recommendations.
B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies to prevent damage or distortion.
C. Fabrication Tolerances: Fabricate assemblies to a maximum allowable tolerance variation from plumb, level, and true to line of 1/8 inch in 10 feet and as follows:
   1. Spacing: Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
   2. Squareness: Fabricate each cold-formed metal framing assembly to a maximum out-of-square tolerance of 1/8 inch.

3. PART 3 – EXECUTION

3.1. EXAMINATION

A. Examine supporting substrates and abutting structural framing for compliance with requirements, including installation tolerances and other conditions affecting performance of cold-formed metal framing. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2. PREPARATION

A. Grout bearing surfaces uniform and level to ensure full contact of bearing flanges or track webs on supporting concrete or masonry construction.

3.3. INSTALLATION, GENERAL

A. Cold-formed metal framing may be shop or field fabricated for installation, or it may be field assembled.

B. Install cold-formed metal framing and accessories plumb, square, true to line, and with connections securely fastened, according to manufacturer's recommendations and the requirements of this Section.
   1. Cut framing members by sawing or shearing; do not torch cut.
   2. Fasten cold-formed metal framing members by welding or screw fastening, as standard with fabricator. Wire tying of framing members is not permitted.
      a. Comply with AWS requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
      b. Locate mechanical fasteners and install according to cold-framed metal framing manufacturer's instructions with screw penetrating joined members by not less than 3 exposed screw threads.

C. Install framing members in one-piece lengths, unless splice connections are indicated for track or tension members.

D. Provide temporary bracing and leave in place until framing is permanently stabilized.

E. Do not bridge building expansion and control joints with cold-formed metal framing. Independently frame both sides of joints.

F. Install insulation in built-up exterior framing members, such as headers, sills, boxed joists, and double studs, inaccessible upon completion of framing work.

G. Fasten reinforcement plate over web penetrations that exceed size of manufacturer's standard punched openings.

H. Erection Tolerances: Install cold-formed metal framing to a maximum allowable tolerance variation from plumb, level, and true to line of 1/8 inch in 10 feet and as follows:
   1. Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

3.4. LOAD-BEARING WALL INSTALLATION

A. Install continuous top and bottom tracks sized to match studs. Align tracks accurately and securely anchor at corners and ends, and at spacings recommended by the manufacturer, but not greater than the following:
   1. Spacing: 24 inches for nail or power-driven anchors.
   2. Spacing: 32 inches for cast-in-place or expansion anchors.

B. Squarely seat studs against webs of top and bottom tracks. Fasten both flanges of studs to top and bottom track. Space studs as follows:
   1. Stud Spacing: 16 inches.

C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.

D. Align studs vertically where wall-framing continuity is interrupted by floor framing. Where studs cannot be aligned, continuously reinforce track to transfer loads.

E. Align joists over studs. Where joists cannot be aligned, continuously reinforce track to transfer loads.

F. Anchor studs abutting structural columns or walls, including masonry walls, to supporting structure as indicated.

G. Install headers over wall openings wider than the stud spacing. Locate headers above openings as indicated. Fabricate headers of compound shapes indicated or required to transfer load to supporting studs, complete with clip-angle connectors, web stiffeners, or gusset plates.
   1. Frame wall openings with not less than a double stud at each jamb of frame as indicated or required by manufacturer.
   2. Install runner tracks and jack studs above and below wall openings. Anchor tracks to jamb studs with clip angles or by welding, and space jack studs same as full-height wall studs.

H. Install supplementary framing, blocking, and bracing in stud framing indicated to support fixtures, equipment, services, casework, heavy trim, furnishings, and similar work requiring attachment to framing.
   1. Where type of supplementary support is not indicated, comply with stud manufacturer's recommendations and industry standards in each case, considering weight or load resulting from item supported.

I. Install miscellaneous framing and connections, including supplementary framing, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a complete and stable wall-framing system.

3.5. JOIST INSTALLATION

A. Install perimeter joist track sized to match joists. Align and securely anchor or fasten track to supporting structure at corners, ends, and spacings indicated or as recommended by the manufacturer.
B. Install joists bearing on supporting framing, level, straight, and plumb, adjust to final position, brace, and reinforce. Fasten joists to both flanges of joist track.
   1. Install joists over supporting framing with a minimum end bearing of 1-1/2 inches.
   2. Reinforce ends of joists with web stiffeners, end clips, joist hangers, steel clip angles, steel-stud sections, or as otherwise recommended by manufacturer.
C. Space joists not more than 2 inches from abutting walls, and as follows:
   1. Joist Spacing: 16 inches.
D. Frame openings with built-up joist headers consisting of joist and joist track, nesting joists, or another combination of connected joists where indicated.
E. Install joist reinforcement at interior supports with single, short length of joist section located directly over interior support, with lapped joists of equal length to joist reinforcement, or by other method recommended by joist manufacturer.
   1. Install web stiffeners to transfer axial loads of walls above.
F. Install bridging at each end of joists and at intervals indicated. Fasten bridging at each joist intersection as follows:
   1. Bridging: Cold-rolled steel channel, fastened to bottom flange of joists.
G. Secure joists to load-bearing interior walls to prevent lateral movement of bottom flange.
H. Install miscellaneous joist framing and connections, including web stiffeners, closure pieces, clip angles, continuous angles, hold-down angles, anchors, and fasteners, to provide a complete and stable joist-framing assembly.

3.6.
REPAIRS AND PROTECTION

A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed metal framing with galvanizing repair paint according to ASTM A 780 and the manufacturer's instructions.
B. Touchup Painting: Wire brush, clean, and paint scarred areas, welds, and rust spots on fabricated and installed prime-painted, cold-formed metal framing.
   1. Touchup painted surfaces with same type of shop paint used on adjacent surfaces.
C. Protect gypsum sheathing that will be exposed to weather for more than one month as follows:
   1. Protect cutouts, corners, and joints in the sheathing by filling with a flexible sealant or by applying tape recommended by sheathing manufacturer at the time sheathing is applied.
D. Provide final protection and maintain conditions in a manner acceptable to manufacturer and Installer to ensure that cold-formed metal framing is without damage or deterioration at the time of Substantial Completion.

END OF SECTION 05 40 00

SECTION 05 50 00 - METAL FABRICATIONS

1 PART 1 GENERAL

1.1 SECTION INCLUDES

A Shop fabricated ferrous metal items, galvanized and prime painted.

1.2 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

A Section 03 30 00 - Cast-In-Place Concrete: Placement of metal fabrications in concrete.

1.3 RELATED SECTIONS

1.4 REFERENCES

A ASTM A36 - Structural Steel.
B ASTM A53 - Hot-Dipped, Zinc-coated Welded and Seamless Steel Pipe.
C ASTM A123 - Zinc (Hot-Galvanized) Coatings on Products Fabricated From Rolled, Pressed and Forged Steel Shapes, Plates, Bars, and Strip.
D ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
E ASTM A283 - Carbon Steel Plates, Shapes, and Bars.
F ASTM A307 - Carbon Steel Externally Threaded Standard Fasteners.
G ASTM A325 - High Strength Bolts for Structural Steel Joints.
H ASTM A386 - Zinc-Coating (Hot-Dip) on Assembled Steel Products.
I ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.
J ASTM A501 - Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
K ASTM B177 - Chromium Electroplating on Steel for Engineering Use.
L AWS A2.0 - Standard Welding Symbols.
M AWS D1.1 - Structural Welding Code.
N SSPC - Steel Structures Painting Council.
O OSHA/ANSI A14.3 Standards for fixed wall ladders.

1.5 DESIGN REQUIREMENTS

A Meet requirements and recommendations of applicable portions of the Standards listed.

i	Architectural Aluminum Manufacturers Association	AAMA
ii	American Hot Dip Galvanizers Association	AHDGA
iii	American Institute of Steel Construction	AISC
iv	American Society for Testing and Materials	ASTM
v	American National Standards Institute	ANSI
vi	American Welding Society	AWS
vii	National Association of Architectural Metal Manufacturers	NAAMM

1.6 SUBMITTALS

A Submit under provisions of Section 01 30 00.
B Meet requirements of applicable portions of "Structural Shop Drafting" by AISC.
C Shop Drawings: Indicate materials, shapes, profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Show Locations and Markings. Include erection drawings, elevations, and details where applicable. Note and mark sufficiently to indicate compliance with requirements of these specifications.
D Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.

1.7 QUALIFICATIONS

A Prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the state where the Project is located.
B Welders Certificates: Submit under provisions of Section 01300, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.8 FIELD MEASUREMENTS

A Verify that field measurements are as indicated on Drawings.

2 PART 2 PRODUCTS

2.1 MATERIALS

A Steel Sections: ASTM A36 and ASTM A440 having a minimum yield strength not less than 36,000

psi.

B Steel Tubing: ASTM A500, Grade B, and ASTM A501.
C Plates: ASTM A283
D Pipe: ASTM A53, Grade B Schedule 40.
E Cast Steel - ASTM A27, Grade 65 - 35; and ASTM A140, Grade 80-50.
F Steel Forginigs - ASTM A235 and ASTM A237.
G Cast Iron - ASTM A48, Class 30, min. 30,000 PSI tensile.
H Malleable Iron - ASTM A47 and ASTM A197.
I Bolts, Nuts, and Washers: ASTM A307, ASTM A325 and ASTM A195 [galvanized to ASTM A153 for galvanized components].
J Fasteners:
  i Fasteners shall be of the type required for the purpose intended and particular application and shall be of a recognized industry standard for the type of components. Fasteners shall include:
    a Masonry Sleeve Anchors - Molly "Parasleeve", Ramset "Dyna Bolt", or approved equal.
    b Concrete Expansion Bolts - Hilti "Kwik Bolt" or approved equal.
    c Hollow Wall Fasteners - Hilti "Kwik Tog" or approved equal.
    d Plaster and Drywall Fasteners - Plastic insert wedges.
    e Adhesive anchors - Hilti "HVA Adhesive Anchor" or approved equal.
K Pipe Connection Fittings
  i Clamp-on Tee Fittings:
    a Kee Industrial Products; Product: No. 16 Clamp-on Tee - 16-7 (1-1/4 to 1-1/4 inch pipe size).
    b R&B Wagner, Inc.; Product: No. 16 Clamp-on Tee - 16-7 (1-1/4 to 1-1/4 inch pip size).
L Welding Materials: AWS D1.1; type required for materials being welded.
M Welding Electrodes: Electrodes shall be of the type required for the purpose intended. Use E70 series for manual arc welding.
N Filler Metal - ASTM A233, E60 or R70 series.
O Paint - F.S. TT-P636 Red Oxide.
P Shop and Touch-Up Primer: SSPC 15, Type 1, red oxide.
Q Galvanizing: Galvanized metals shall conform to ASTM A-123 and ASTM A-386.
R Touch-Up Primer for Galvanized Surfaces: SSPC 20 Type I Inorganic zinc rich.

2.2 FABRICATION

A Meet requirements specified under Structural Steel for fabricating items of a structural nature or use.
B Fit and shop assemble in largest practical sections, for delivery to site.
C Fabricate items with joints tightly fitted and secured.
D Weld permanent shop connections.
E Continuously seal joined members by [intermittent welds and plastic filler.] or [continuous welds.]
F Grind exposed joints and welds flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
G Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
H Supply components required to complete the work and for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.
I Furnish all bolts, nuts, clip angles, etc. as shown on Drawings and as required to complete the work.
J Punch or drill for temporary field connections and for attachment of work by other trades.
K Form materials to shapes indicated with straight lines, sharp angles and smooth curves. Drill or punch holes and smooth edges.
L Form bends smooth without wrinkles, kinks or flat spots.
M Galvanize all exterior assemblies after fabrication, including all masonry shelf angles and lintels.

2.3 PIPE HANDRAILS FOR CAST - IN- PLACE CONCRETE STAIRS

A Fabricate handrails of standard weight black steel pipe of sizes indicated.
B Form bends smooth without wrinkles, kinks, or flat spots.
C Weld all joints and grind smooth.
D Fabricate handrails of one continuous piece in each run with no joints within a stair run.
E Support handrails with wall supported brackets anchored into brick as detailed on Drawings. Brackets placed at 5' - 0" o.c. maximum.
F Secure handrails as detailed. Exterior handrails shall be galvanized after fabrication.

2.4 FABRICATED PRODUCTS

A Exterior Roof Ladder

i System Includes

a Caged exterior ladder with intermediate rest platform, walk-through roof over extensions and security doors.

ii Manufacturers

a Alaco Ladder Co.; Product: Series 560 Fixed Wall Ladders.

b Precision Stairs Corp.; Product: Model FL.

c Royalite Manufacturing, Inc.; Product: CL Cage Ladders.

iii Fabrication

a Material: Aluminum 6061-T6 or 6063T-5 alloy with mill finishes.

b Treads: Extruded aluminum either 2-1/4 inch wide channel or 1-1/8 inch round x 20 inches long with serrated surface. Connect treads to side rails with solid rivets rated 934 pounds shear strength each minimum. Space treads at 12 inch o.c. Treads shall be rated to withstand 1,000 pound load.

c Siderails: 0.125 inch thick x 2 1/2 inch wide secured to wall with 1/8 inch thick brackets at 6 foot on center.

d Safety Cage: 1/4 x 2 inch bars at 4 foot on center maximum. Vertical bars; 3/16 x 1 1/2 inch. Cage connections shall be riveted or gas shielded metal arc welded. Cage shall be bolted to siderails.

e Rest Platform: Grip strut floor with .063 inch thick x 4 inch wide toe boards and 42 inch high transfer guard rail.

f Walk-through Roofover Extensions: Extend 42 inches above landing with grab rails extending perpendicular to plane of roof ladder over the roof.

g Security Doors: Minimum .063 inch thick secured to side rails with aluminum piano hinges and hasps.

h Provide roof ladder as a complete assembly with all required components, fasteners and accessories.

2.5 FINISHES

A Prepare surfaces to be primed in accordance with SSPC SP 2. Clean ferrous metal of scale, rust, oil, moisture and dirt before [applying paint.]

B Apply two shop prime coats to all work after fabrication except galvanized metal, stainless steel, aluminum, copper, brass, bronze and metals to receive special coatings unless noted otherwise. Do not prime surfaces in direct contact with concrete or where field welding is required. Use asphalt paint on metals anchored into masonry, and concrete.

C Apply three shop prime coats to ferrous metals that will be inaccessible after erection.

D Painting specified here does not count as a coat for finish painting.

E Galvanize in accordance with ASTM A123, structural steel members. Provide minimum 1.25 oz/sq ft galvanized coating] as scheduled.

F Chrome Plating: ASTM B177, weight, nickel-chromium alloy, [satin] [polished] finish.

3 PART 3 EXECUTION

3.1 EXAMINATION

A Verify that field conditions are acceptable and are ready to receive work.

B Beginning of installation means erector accepts existing conditions.

3.2 PREPARATION

A Clean and strip primed steel items to bare metal where site welding is required.

B Supply items required to be cast into concrete or embedded in masonry with setting templates, to appropriate sections.

3.3 INSTALLATION

A Install items plumb and level, accurately fitted, free from distortion or defects and true to line. Shim bearing plates with metal and grout solid.

B Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

C Field weld components indicated on shop drawings and grind smooth where practicable, conceal fastenings where practicable.

D Perform field welding in accordance with AWS D1.1.

E Obtain Architect/Engineer approval prior to site cutting or making adjustments not scheduled.

F After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

G Secure metal to wood with lag screws, of adequate size, with appropriate washers.

H Secure metal to masonry with embedded anchors, setting compound, lead caulking and sleeves, or cement-sand grouting.
I Expansion bolts, toggle bolts, and screws are permitted for light duty service only.
J Meet requirements specified for structural steel for erecting items of structural nature and use.
K Metal work, in place, shall be reviewed before being covered.

3.4 PAINTING

A Retouch, in field, all scrapped, abraded and unpainted surfaces. Painting as specified for shop coats.

3.5 CLEANING

A Refer to Section 01700 – Cleaning.
B Clean items prior to final inspection in accordance with the recommendations of the fabricator.

3.6 ERECTION TOLERANCES

A Maximum Variation From Plumb: ¼ inch per story, non-cumulative.
B Maximum Offset From True Alignment: ¼ inch.

END OF SECTION 05 50 00

SECTION 064000 – ARCHITECTURAL MILLWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:
   1. Cabinets
   2. Utility Shelving.

1.2 SUBMITTALS

A. Shop Drawings.
B. Lumber: Samples of each species and cut; 1-1/2 by 8-inch pieces.
C. Veneered Products: Samples conveying range of appearance to be expected; 6- by 12-inch pieces.
D. Plastic Laminate:
   1. Samples for verification: 8- by 10-inch piece of each type, pattern, and color.

E. Cabinet Hardware:
   1. Product data.

F. Stone Tops:
   1. 6 x 6 inch piece of stone top material.

1.3 QUALITY ASSURANCE

A. Quality of Materials and Workmanship: Provide woodwork that complies with requirements of "Architectural Woodwork Quality Standards," published by Architectural Woodwork Institute (AWI) (hereinafter referred to as "woodworking standard").

B. Quality of Factory Finishing: Provide factory finishes that comply with Section 01500, "Architectural Woodwork Quality Standards."

C. Where contract documents indicate deviations from the woodworking standard, the contract documents shall govern.
D. Coordinate installation of woodwork with other work to avoid damage.

PART 2 - PRODUCTS

2.1 WOODWORK

A. Cabinets
   1. Quality Grade: Custom Grade.
   2. Style: As indicated on drawings.
   3. Panels: 314" panel product as allowed by AWL
   4. Finish: A high pressure plastic laminate on all exposed surfaces.
   5. Interior finish: Low pressure decorative laminate.
   6. Exposed edges: Matching high pressure plastic laminate edges.

7. Semi-exposed edges: Matching high pressure plastic laminate edges.
8. Conceal all fasteners.

D. Siletstone Tops: As selected from manufacturers complete range.

E. Shelves:
1. Quality Grade: Economy Grade (Grade 111).
2. Style: As indicated on drawings.
3. Panels: 314" birch plywood.
4. Finish: Paint finish.
5. Exposed Edges: Lumber edge

2.2 WOOD MATERIALS

A. Lumber: Species and grade as specified in woodworking standard, unless otherwise indicated.
1. Comply with applicable requirements of AWI Section 100.
2. Species(s):
a. Lumber specified for transparent finish:
Exposed Surfaces: Honduras Mahogany, Plain Sawn Semi-Exposed Surfaces: Maple, Plain Sawn.
b. Lumber species for opaque finish: Any closed-grain hardwood listed in referenced woodworking standard.
3. Moisture content at time of fabrication: Not greater than optimum moisture content as specified in woodworking standard.
4. Provide lumber dressed on all exposed faces, unless otherwise indicated.
5. Do not use twisted, warped, bowed, or otherwise defective lumber.
6. Sizes indicated are nominal, unless otherwise indicated.
7. Do not mark or color lumber, except where such marking will be concealed in finish work.

B. Plywood: Types, grades, and cores as specified in the woodworking standard, except as otherwise specified in this section.
1. Comply with applicable requirements of AWI Section 200.
2. Veneer species for transparent finish.
a. Exposed Surfaces: Honduras Mahogany, quarter sliced, book match.
b. Semi-Exposed Surfaces: Birch, plain sliced.
3. Veneer species for opaque finish:
a. Birch, rotary cut.

2.3 MISCELLANEOUS MATERIALS

A. High-Pressure Plastic Laminate: NEMA LD 3.
1. Grades and thicknesses as indicated.
2. Plastic laminate shall be general purpose type (high pressure) .050" thick for horizontal surfaces and .028" for vertical surfaces; type and manufacture as specified herein. Backer-type (high pressure) for concealed panel backing to be .020" thick. Colors and patterns shall be selected by architect from manufacturer's products, with stain finish 5-34 reflectance.

B. Transparent Finish Materials for Field Finishing: As specified in Division 9.

C. Opaque Finish Materials for Field Finishing: As specified in Division 9.

D. Wood Filler for Transparent Finish Woodwork: Match final finish color.

E. Fasteners: Style, size, material, and finish as required for the purpose.

2.4 CABINET HARDWARE

A. Cabinet Hardware: Provide hardware and accessories indicated.
1. Finishes on exposed hardware: Comply with BHMA A156.18.
a. Satin chromium plated or polished aluminum.

B. Hardware Quantities:
1. Hinges: Two per door up to 36 inches high; three per door over 36 inches high.
2. Pulls: One per door, drawer.
3. Drawer slides, side mounted: Two per drawer.

2.5 GATE HARDWARE

A. Hinges: Two per gate, Bommer 4310-3.5 x 3.5 full mortise, satin stainless steel finish.

B. Latch: One per gate, Knape & Vogt 989, satin stainless steel finish.

2.6 FABRICATION

A. Fabricate in sizes and shapes indicated and using details indicated.

B. Complete fabrication and assembly in shop.
1. Disassemble units if too large for convenient shipping or installation.
2. For applied fixtures and fittings, cut openings in shop.
3. For field-applied hardware, drill mounting holes in shop.

. C. Prepare for finishing in accordance with woodworking standard.

D. Cabinetwork:
1. Veneer matching shall be similar in color and grain pattern across doors, drawer fronts, and panels.
2. Install cabinet hardware.

E. Stone Tops:
2. oncealed hardware: Manufacturer's standard finish, complying with applicable requirements of BHMA A156.9.
3. Hinges: Totally concealed style, self-closing, opening 180 degrees.
4. Pulls: Standard wire style, 3-112-inch centers by 5116-inch diameter, no escutcheons.
5. Drawer slides: Side-mounted, 75-pound capacity, full extension, with nylon ball-bearing rollers; positive pull-out stop, self-closing, lift-out feature.
6. Cabinet-mounted shelf supports: Drilled holes, at 1 inch spacing, with shelf support clips for each shelf indicated.
1. Fabricated stone tops as one piece units.
2. Cut stone tops in shop and fit to finish casework.
3. Polish exposed edges to match finish of surface.
4. Ease all edges to 1116" radius.
5. Ship to site loose.

PART 3 - EXECUTION

3.1 PREPARATION

A. Verify that blocking and backings have been installed at appropriate locations for anchorage.

3.2 INSTALLATION - GENERAL

A. Do not begin installation of interior woodwork until potentially damaging construction operations are complete in the installation area.

B. Field Joinery: Comply with requirements of the woodworking standard for shop joinery.

C. Make joints neatly, with uniform appearance.

D. Install woodwork in correct location, plumb and level, without rack or warp.
   1. Install with no variation in flushness of adjoining surfaces.

E. Touch-up shop finishes at field cuts.

F. Secure woodwork to blocking or use anchors indicated.
   1. Where anchorage method is not indicated, conceal all fasteners where possible.
   2. Where exposed nailing is required or indicated, use finishing nails, countersink, and fill.

G. Repair damaged and defective woodwork to eliminate visual and functional defects; where repair is not possible, replace woodwork.

H. Standing and Running Trim: Use longest pieces available and as few joints as possible.
   1. Stagger joints in built-up trim members.
   2. Use diagonal (scarfed) joints in lengths of trim.
   3. Cope or miter at inside corners and miter at outside corners; fit tightly.
   4. Allowed variation in plumb and level: Not more than 118 inch in 8 feet.

I. Cabinets:
   1. install so doors operate smoothly, with edges aligned.
   2. Install so drawers operate smoothly.
   3. Install all hardware not installed in shop.
   4. Anchor tops securely.
   5. Install tops level, within 118 inch in 8 feet.

3.3 CLEANING

3.4 PROTECTION

A. Protect woodwork from damage and maintain design environmental condition.

END OF SECTION

SECTION 09 21 16

GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes interior metal stud wall framing; metal channel ceiling framing; shaft wall system; gypsum board and joint treatment; exterior sheathing; tile backer board; acoustic insulation; and textured finish.

B. Related Sections:
1. Section 05 40 00 - Cold-Formed Metal Framing.
2. Section 06 10 53 - Miscellaneous Rough Carpentry: Wood blocking for support of.
3. Section 07 21 16 - Blanket Insulation: Acoustic Thermal insulation.

1.2 REFERENCES

A. ASTM International:
1. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
2. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board.
3. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing.
4. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members.
5. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
6. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
7. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board.
8. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
9. ASTM C1002 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases.
10. ASTM C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories.
11. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel.
12. ASTM C1280 - Standard Specification for Application of Gypsum Sheathing.
13. ASTM C1288 - Standard Specification for Discrete Non-Asbestos Fiber-Cement Interior Substrate Sheets.
14. ASTM C1325 - Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cement Substrate Sheets.
15. ASTM C1396/C1396M - Standard Specification for Gypsum Board.
16. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
17. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
18. ASTM El 19 - Standard Test Methods for Fire Tests of Building Construction and Materials.
19. ASTM FI667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

B. Gypsum Association:
1. GA 214- Recommended Levels of Gypsum Board Finish.
2. GA 216 - Application and Finishing of Gypsum Board.
3. GA 600 - Fire Resistance Design Manual Sound Control.

C. Intertek Testing Services (Warnock Hersey Listed):

1. WH - Certification Listings.

D. National Fire Protection Association:

1. NFPA 265 - Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile Coverings on Full Height Panels and Walls, Method B.
2. NFPA 286 - Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Wall and Ceiling Interior Finish.

E. South Coast Air Quality Management District:

1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

F. Underwriters Laboratories Inc.:

1. UL - Fire Resistance Directory.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate special details associated with fireproofing.

C. Product Data: Submit data on metal framing, gypsum board, joint tape; and accessories.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with ASTM C840, ASTM C1280, GA-214, GA-216 and GA-600.
B. Fire Rated Wall Construction: Rating as indicated on Drawings; hour rating as shown on drawings.

1. Tested Rating: Determined in accordance with ASTM E119.
2. Fire Rated Partitions: Listed assembly by UL No. shown on drawings.
3. Fire Rated Ceiling: Listed assembly by UL No. shown on drawings.
5. Fire Rated Structural Column Framing: Listed assembly by UL No. shown on drawings.
6. Fire Rated Structural Beam Framing: Listed assembly by UL No. shown on drawings.
7. Fire Rated Shaft Wall Requirements: 1 hour in accordance with UL No. shown on drawings.

C. Surface Burning Characteristics:

1. Textile Wall Coverings: Comply with one of the following:
   a. Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.
   b. Requirements of applicable code when tested in accordance with NFPA 265 Method B test protocol.
   c. Requirements of applicable code when tested in accordance with NFPA 286.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with documented experience.

B. Installer: Company specializing in performing Work of this section with documented experience.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

A. Manufacturers:
1. G-P Gypsum Corp.
2. National Gypsum Co.
3. United States Gypsum Co.

4. Substitutions: Section 01 60 00 - Product Requirements.

2.2 COMPONENTS

A. Framing Material:

1. Studs and Tracks: ASTM C645; GA-216 and GA-600; 20 gauge to 14', 18 gauge over 14' unless otherwise noted on drawings. C shape, with knurled faces. Galvanize to 068 class coating.
2. Furring, Framing, and Accessories: ASTM C645, GA-216 and GA-600,
3. Fasteners: ASTM C1002, GA-216; length to suit application.
4. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.
5. Adhesive: ASTM C557.

B. Gypsum Board Materials: ASTM C1396/C1396M; Type X fire resistant.

1. Fire Rated Gypsum Board: ASTM C36; fire resistive type, UL or WH rated; 5/8 inch thick, maximum available length in place; ends square cut, tapered tapered and beveled square round edges.
2. Fire Rated Mold and Moisture Resistant Gypsum Board: ASTM C36; fire resistive type, UL or WH rated; 5/8 inch thick, maximum available length in place; ends square cut, tapered and beveled square round edges.
   a. USG: 5/8" Mold Tough Firecorde C
   b. Certainteed: 5/8" ProRoc Mold and Moisture Resistant Type X.
   c. National Gypsum: 5/8" XP, Fire-Shield C
3. Exterior Sheathing Board: ASTM C79/C79M; 5/8" thick.
   a. USG, Securock.
   b. Georgia Pacific DensGlas.
4. Shaftwall: ASTM C442, type SLX, 1" thick with ASTM C36, type X face boards.

C. Tile Backer Boards:

1. Glass Mat Gypsum Tile Backer Board: ASTM C1178/C1178M; 5/8 inch thick, Type X fire resistant, maximum available length in place; ends square cut, tapered edges; mold resistant.
2. Fiber Cement Tile Backer Board: ASTM C1288; 1/2 inch thick; mold resistant.
3. Tile Backer Board Joint Tape: 2 inch wide, coated glass fiber tape for joints and corners.

2.3 ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced, 6 inch thick.

B. Acoustic Sealant: Non-hardening, non-skinning, for use in conjunction with gypsum board;

C. Gypsum Board Accessories: ASTM Cl 047; metal; corner beads, edge trim, and expansion joints.
   1. Metal Accessories: Zinc.
   2. Edge Trim: Type L bead.

D. Joint Materials: GA-216; reinforcing tape, joint compound, and water.

E. Textured Finish Materials: Latex based texturing material.

F. Gypsum Board Screws: ASTM C954, ASTM C1002; length to suit application.
   1. Screws for Steel Framing: Type S.

G. Gypsum Board Nails: ASTM C514 or ASTM F1667; blued steel wire, deformed shank; length to suit application.

H. Plate Blocking: 14 gaugsteel.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify site conditions are ready to receive work and opening dimensions are as indicated on shop drawings

3.2 EXISTING WORK

A. Extend existing gypsum board installation using materials and methods as specified.

B. Repair and remodel existing gypsum board assemblies which remain or are to be altered.

3.3 INSTALLATION

A. Metal Stud Installation:

1. Install studs in accordance with ASTM C754, ASTM C1007, GA-216, and GA-600.
2. Metal Stud Spacing: 16 inches on center.
3. Refer to Drawings for indication of partitions extending stud framing through ceiling to structure above. Maintain clearance under structural building members to avoid deflection transfer to studs. Provide extended leg ceiling runners.
4. Door and Window Opening Framing: Install double studs at door and window frame jambs. Install stud tracks on each side of opening, at frame head height, and between studs and adjacent studs.
5. Blocking: Nail wood blocking to studs. Install blocking for support of plumbing fixtures, toilet partitions, wall cabinets, wood frame opening, toilet accessories, hardware, and other equipment attached to gypsum board wall.

B. Wall Furring Installation:

1. Erect wall furring for direct attachment to concrete masonry and concrete walls.
2. Erect furring channels horizontally; space maximum 16 inches cc, not more than 4 inches from floor and ceiling lines, abutting walls. Secure in place on alternate channel flanges at maximum 24 inches on center.
3. Erect metal stud framing tight to concrete walls, attached by adjustable furring brackets.

C.Furring For Fire Ratings: Install furring as required for fire resistance ratings indicated and to GA-600 requirements.

D. Shaft Wall Framing. To GA-600 requirements.

E. Ceiling Framing Installation:

1. Install in accordance with ASTM C754. GA-216.
2. Coordinate location of hangers with other work.
3. Install ceiling framing independent of walls, columns, and above ceiling work.
4. Reinforce openings in ceiling suspension system which interrupt main canying channels or furring channels, with lateral channel bracing. Extend bracing minimum 24 inches past each end of openings.
5. Laterally brace entire suspension system.

F. Acoustic Accessories Installation:

1. Install resilient channels at maximum 24 inches on center. Locate joints over framing members.

2. Place acoustic insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind partitions, and tight to items passing through partitions.
3. Install acoustic sealant within partitions.

G. Gypsum Board Installation:

1. Install gypsum board in accordance with ASTM C840, GA-216, and GA-600.
2. Erect single layer in most economical direction, with ends and edges occurring over firm bearing.
3. Erect single layer fire rated gypsum board vertically, with edges and ends occurring over firm bearing.
4. Erect exterior gypsum sheathing in accordance with ASTM Cl 280, horizontally, with edges butted and ends occurring over firm bearing. Seal with sealant and tape all joints.
5. Use screws when fastening gypsum board to metal furring or framing.
6. Double Layer Applications: Use gypsum base for first layer, placed perpendicular to framing or furring members. Use fire rated gypsum base for fire rated partitions and ceilings.
7. Place control joints minimum 30' on center. Location as directed by Architect.
8. Place corner beads at external corners. Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials.
9. Install cementitious backing board over gypsum board.
10. Apply gypsum board to curved walls in accordance with GA-216.

H. Joint Treatment:

1. Finish in accordance with GA-214 Level 4.
2. Feather coats on to adjoining surfaces so that camber is maximum 1/32 inch.
3. Fill and finish joints and corners of cementitious backing board.

I. Texture Finish: Light texture or Smooth.

J. Exterior Sheathing Installation:

1. Apply sheathing perpendicular or parallel to framing with smooth side towards exterior. Fit ends closely.
2. Install fasteners in accordance with manufacturer's recommendations.
3. Install sealant at all joints.
4. Tape all joints with 2" wide fiberglass tape.
5. Install Sono Wall FT-R over all taped joints.

3.4 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation of Finished Gypsum Board Surface from Flat Surface: 1/8 inch in 10 feet.

3.5 S

A. Material:

Location	Type
Toilet Rooms, Janitor Closets, Mechanical Rooms.	Fire Rated Mold and Moisture Resistant Gypsum Board
Exterior Sheathing	Exterior Sheathing Board
Ceilings and Furdowns	Gypsum Board
Walls	Gypsum Board (Type X fire rated where required)

B. Finishes:

1. Gypsum Board Walls: Light texture.

2. Gypsum Board Ceilings and Furr Downs: Smooth Finish.

C. Acoustic Insulation:
1. Insulate all walls and ceilings at full thickness as indicated on Drawings.

END OF SECTION

SECTION 09 65 00

RESILIENT FLOORING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes:
   1. Vinyl Composite Tile (VCT).
   2. Static Dissipative Tile (SDT).
   3. Sheet vinyl.
   4. Vinyl plank (LVT).
   5. Resilient wall base.
   6. Self cove base.

B. Related Sections:
   1. Section 03 30 00 – Cast-In-Place Concrete: Substrate.

1.2 REFERENCES

A. ASTM International:
   1. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
   2. ASTM E662 - Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
   3. ASTM F150 - Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring.
   4. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
   5. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile.
   6. ASTM F1303 - Standard Specification for Sheet Vinyl Floor Covering with Backing.
   7. ASTM F1700 - Standard Specification for Solid Vinyl Floor Tile.
   8. ASTM F1861 - Standard Specification for Resilient Wall Base.
   9. ASTM F1869 - Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
   10. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

B. California Department of Health Services:
   1. CA/DHS/EHLB/R-174 - Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.

C. Federal Specification Unit:
   1. FS L-F-475 - Floor Covering Vinyl, Surface (Tile and Roll), with Backing.
   2. FS RR-T-650 - Treads, Metallic and Nonmetallic, Skid Resistant.

D. National Fire Protection Association:
   1. NFPA 253 - Standard Method of Test for Critical Radiant Flux for Floor Covering Systems Using a Radiant Heat Energy Source.
   2. NFPA 258 - Standard Test Method for Measuring the Smoke Generated by Solid Materials.

E. Sustainability Standards:
   1. ISO 14001 - Environmental management systems. Requirements with guidance for use.
   2. NSF/ANSI 332 - Sustainability Assessment for Resilient Floor Coverings.

F. South Coast Air Quality Management District:
   1. SCAQMD Rule 1113 - January 1, 2004 - Architectural Coatings.
   2. SCAQMD Rule 1168 - January 7, 2005 - Adhesive and Sealant Applications.

G. ANSI/ESD Standards:
1. ANSI/ESD S7.1 - Floor Materials-Resistive Characterization of Materials.
2. ANSI/ESD STM 97.1 - Floor Materials and Footwear-Resistance in Combination with a Person.
3. ANSI/ESD STM 97.2 - Floor Materials and Footwear Voltage Measurement in Combination with a Person.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate seaming plan, custom patterns and inlay designs and coving details.

C. Product Data: Submit manufacturer's technical data, installation and maintenance instructions.

D. Samples:
1. Submit two samples of the manufacturer's standard size samples for each resilient flooring product specified. See Interior Designer's Finish Key for all products specified.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit maintenance procedures, recommended maintenance materials, precautions against cleaning materials and methods detrimental to finishes and performance and suggested schedule for cleaning, stripping, and re-waxing.

C. Warranty: Submit warranty documents.

1.5 QUALITY ASSURANCE

A. Surface Burning Characteristics:
1. Floor Finishes: Class I, minimum 0.45 watts/sq cm when tested in accordance with NFPA 253.
2. Base Material: Class I, minimum 0.45 watts/sq cm when tested in accordance with NFPA 253.

B. Fire Performance:
1. ASTM E 648 Critical Radiant Flux of 0.45 watts per sq. cm. or greater, Class I.
2. ASTM E 662 (Smoke Generation) Maximum Specific Optical Density of 450 or less.

C. Electrical (SDT):
Provide flooring material to meet the following electrical properties when installed according to manufacturer's instructions with the required adhesive, copper strips and SDT floor finish:
1. ANSI/ESD S7.1 Floor Materials-Resistive Characterization of Materials results between 106 and 109 ohms, point-to-point and point-to-ground.
2. ASTM F 150 Electrical Resistance of Flooring between 106 and 109 ohms, point-to-point and point-to-ground.
3. ANSI/ESD STM 97.1: Floor Materials and Footwear-Resistance in Combination with a Person results between 106 and 109 ohms.
4. ANSI/ESD STM 97.2: Floor Materials and Footwear Voltage Measurement in Combination with a Person - less than 10 volts with dissipative footwear at 20% relative humidity.
5. Static Dissipation @ 12% RH: Flooring in combination with a person wearing dissipative footwear - 1000 to 100 volts: 0.2 seconds average.

1.6 QUALIFICATIONS

A. Manufacturer: See Interior Designer's Finish Key.

B. Installer: Company specializing in performing Work of this section with documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Protect materials from damage.

C. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

D. Deliver materials in good condition to the jobsite in the manufacturer's original unopened containers that bear the name and brand of the manufacturer, project identification, and shipping and handling instructions.

E. Store materials in a clean, dry, enclosed space off the ground, protected from harmful weather conditions and at temperature and humidity conditions recommended by the manufacturer. Protect adhesives from freezing. Store flooring, adhesives and accessories in the spaces where they will be installed for timeframe recommended by manufacturer before beginning installation.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Maintain temperature in storage area as per manufacturer's recommendations.

C. Store materials for timeframe recommended by manufacturer prior to installation in area of installation at the temperature recommended by manufacturer to achieve temperature stability. Thereafter, maintain conditions at the temperature recommended by manufacturer. Protect all materials from the direct flow of heat from hot-air registers, radiators, or other heating fixtures and appliances.

1.9 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.

B. Furnish 100 sq ft of flooring, 2 lineal feet of base, of each type and color specified from the same production run as products installed. Packaged with protective covering for storage identified.

PART 2 PRODUCTS

2.1 FLOORING

A. See Interior Designer's Finish Key. No substitutions permitted.

2.2 ACCESSORIES

A. Subfloor Filler: Provide filler according to manufacturer's recommendations.

B. Primers and Adhesives: Provide primers and adhesives according to manufacturer's recommendations. Waterproof; types recommended by flooring manufacturer, zero VOC.

C. Transition and Edge Strips: See Interior Designer's Finish Key.

D. Sheet Flooring Vinyl Welding Rod: Solid vinyl bead produced by manufacturer of vinyl flooring for heat welding seams, in color matching field color. See Interior Designer's Finish Key.

E. Filler for Coved Base: Plastic.

F. Sealer and Wax: To be used as recommended by flooring manufacturer. Types as recommended by flooring manufacturer.

PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

A. Comply with manufacturer's product data, including technical bulletins, product catalog, installation instructions, and product carton instructions for installation and maintenance procedures.

3.2 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions (i.e. moisture tests, bond test, pH test, etc.).

C. Perform Calcium Chloride Test in accordance with ASTM F1869 and Relative Humidity Test (RH test) in accordance with ASTM F-2170. If tests indicate vapor mitigation is required, install vapor barrier per Section 09 96 66 Water Vapor Emission Control Systems. If vapor mitigation is not required, the Contractor shall credit the Owner $3.00/s.f. for the cost of the vapor mitigation barrier.

D. Visually inspect flooring materials, adhesives and accessories prior to installation. Flooring material with visual defects shall not be installed and shall not be considered as a legitimate claim.

E. Examine subfloors prior to installation to determine that surfaces are smooth and free from cracks, holes, ridges, and other defects that might prevent adhesive bond or impair durability or appearance of the flooring material.

F. Verify floor and lower wall surfaces are free of substances capable of impairing adhesion of new adhesive and finish materials.

G. Report conditions contrary to contract requirements that would prevent a proper installation. Do not proceed with the installation until unsatisfactory conditions have been corrected.

H. Failure to call attention to defects or imperfections will be construed as acceptance and approval of the subfloor. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.

3.3 PREPARATION

A. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.

B. Prohibit traffic until filler is cured.

C. Clean substrate.

D. Apply primer as required to prevent "bleed-thru" or interference with adhesion by substances cannot be removed.

3.4 INSTALLATION - VCT, SDT & LVT FLOORING

A. Install flooring according to manufacturer's recommendations. Failure to comply may result in voiding the manufacturer's warranty.

B. Install flooring wall to wall before the installation of floor-set cabinets, casework, furniture, equipment, etc. Extend flooring into toe spaces, door recesses, closets, and similar openings as shown on the drawings.

C. Where floor finishes are different on opposite sides of door, terminate flooring under centerline of door.

D. Install transition and edge strips at unprotected or exposed edges, where flooring terminates, and where indicated. Secure resilient strips by adhesive.

E. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

F. Install flooring with adhesives, tools, and procedures in strict accordance with the manufacturer's written instructions. Observe the recommended adhesive trowel notching, open times, and working times.

3.5 INSTALLATION - SHEET FLOORING

A. Install flooring according to manufacturer's recommendations. Failure to comply may result in voiding the manufacturer's warranty.

B. Lay flooring with joints and seams in accordance with seaming plan. Lay out seams to avoid widths less than 1/3 of roll width; match patterns carefully at seams.

C. Double cut sheet; provide heat welded seams.

D. Where floor finishes are different on opposite sides of door, terminate flooring under centerline of door.

E. Install transition and edge strips at unprotected or exposed edges, where flooring terminates, and where indicated. Secure resilient strips by adhesive.

F. Install coved base as detailed on drawings, using coved base filler as backing at floor to wall junction.

G. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.6 INSTALLATION - WALL BASE

A. Install wall base according to manufacturer's recommendations. Failure to comply may result in voiding the manufacturer's warranty.

B. Fit joints tightly and make vertical. Maintain minimum dimension of 36 inches between joints.

C. Miter internal corners. At external corners, use premolded units. At exposed ends, use premolded units.

D. Install base on solid backing. Bond tightly to wall and floor surfaces.

E. Scribe and fit to door frames and other interruptions.

3.7 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Remove excess adhesive from floor, base, and wall surfaces without damage.

C. Perform initial and on-going cleaning, finishing and maintenance according to manufacturer's recommendations.

3.8 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.

B. Protect installed flooring as recommended by the flooring manufacturer against damage from rolling loads, other trades, or the placement of fixtures and furnishings.

END OF SECTION

SECTION 09 90 00 – PAINTING & COATING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Commercial painting, including surface preparation, for projects in the United States.
   1. Interior commercial painting.
   2. Exterior commercial painting.

1.2 RELATED SECTIONS - INTERIOR

A. Division 9 - Drywall - (Walls, Ceilings, Gypsum Board and similar items).

1.3 RELATED SECTIONS - EXTERIOR

A. Division 5 - Metal - Galvanized, Miscellaneous Iron, Ornamental Iron, Structural Iron and Steel, Ferrous Metal.

1.4 REFERENCES

A. American National Standards Institute (ANSI) - Performance Standards.

B. Asthma and Allergy Foundation of America and Allergy Standards, Ltd.
   1. The Certified Asthma and Allergy Friendly Mark. A registered certification mark.

C. American Society for Testing Materials (ASTM) - Testing Methods.

D. Cradle to Cradle Products Innovation Institute.
   1. Cradle to Cradle Certification.

E. Environmental Protection Agency; Electronic Code of Federal Regulations (CFR):
   1. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

F. Green Seal Standards (GS-11):
   1. GS-11; May 20, 1993.

G. Master Paint Institute (MPI #) - Established paint categories and standards.

H. National Paint and Coatings Association (NPCA) - Gloss Standard.

I. Occupational Safety and Health Act (OSHA) - Safety Standards.

J. Ozone Transmission Commission (OTC) - Established levels of Volatile Organic Compounds.

K. Paint Decorating Contractors of America (PDCA) - Application Standard.

L. Society of Protective Coatings (SSPC):
   1. SSPC (PM1) - Steel Structures Painting Manual, Vol. 1, Good Painting Practice; 1993, Third Edition.
   2. SSPC (PM2) - Steel Structures Painting Manual, Vol. 2, Systems and Specifications; 1995, Seventh Edition.

M. South Coast Air Quality Management District (SCAQMD):
   1. SCAQMD Rule #1168; October 3, 2003.

1.5 DEFINITIONS

A. Commercial as used in this Section refers to a product well suited for a commercial application.

B. DFT as used in this Section refers to the Dry Film Thickness of the coating.

C. Enamel refers to any acrylic or alkyd (oil) base paint which dries leaving an eggshell, pearl, satin, semi-gloss or high gloss enamel finish.

D. DTM as used in this Section refers to paint that is applied Direct To Metal.

E. OTC as used in this Section refers to the Ozone Transmission Commission. OTC has established the following VOC levels for the Northeastern United States. Products shall meet the following OTC limits for VOC's.
1. Interior flat paints: 100 grams per liter or less, per gallon.
2. Interior enamels: 150 grams per liter or less, per gallon.
3. Interior stains: 250 grams per liter or less, per gallon.
4. Interior primers: 200 grams per liter or less, per gallon.
5. Rust preventive coatings: 400 grams per liter or less, per gallon.
6. Dry fog coatings: 400 grams per liter or less, per gallon.
7. Floor coatings: 250 grams per liter or less, per gallon.

F. Premium as used in this Section refers to the best quality product "top of the line".

G. VOC as used in this Section refers to Volatile Organic Compounds found in primers, paints, sealers and stains. The level of VOCs appears after each product listed in the Schedule in grams per liter (g/L).

H. Paints are available in a wide range of sheens or glosses, as measured by a gloss meter from a 60 and/or 85 degree angle from vertical, as a percentage of the amount of light that is reflected. The following terms are used to describe the gloss of our products. The list below is provided for general guidance; refer to the technical data sheet for the actual gloss/sheen level for each product.
1. Flat - Less than 5 Percent.
2. Eggshell - 5 - 20 Percent.
3. Satin - 20 - 35 Percent.
4. Semi-Gloss - 30 - 65 Percent.
5. Gloss - Over 65 Percent.

1.6 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Provide a complete list of all products to be used, with the following information for each:
1. Manufacturer's name, product name and/or catalog number, and general product category.
2. Cross-reference to specified paint system(s) that the product is to be used in; include description of each system.

C. Samples: Submit three paper samples, 5 inches by 7 inches (127mm x 178mm) in size, illustrating selected colors for each color and system selected with specified coats cascaded.

D. Manufacturer's Instructions: Indicate special surface preparation procedures.

E. Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten years experience.

B. Installer Qualifications: All products listed in this section are to be applied by a Painting Contractor with a minimum of five years demonstrated experience in surface preparation and field application of the same type and scope as specified.

C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
1. Mock-up areas designated by Architect.
2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
3. Approved mock-up areas will serve as the standard for remaining Work.
4. Refinish mock-up area as required to produce acceptable Work.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

C. Disposal:
1. Never pour leftover coating down any sink or drain. Use up material on the job or seal can and store safely for future use.
2. Do not incinerate closed containers.
3. For specific disposal or recycle guidelines, contact the local waste management agency or district. Recycle whenever possible.

1.9 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.10 WARRANTY

A. Inspection of all surfaces to be coated must be done by the manufacturer's representative to insure proper preparation prior to application. All thinners, fillers, primers and finish coatings shall be from the same manufacturer to support a product warranty. Products other than those submitted shall be accompanied by a letter stating its fitness for use and compatibility.

B. At project closeout, provide to the Owner or owner's representative an executed copy of the Manufacturer's standard form outlining the terms and conditions of and any exclusions to their Limited Warranty against Manufacturing Defect.

1.11 EXTRA MATERIALS

A. At project closeout, supply the Owner or owner's representative one gallon of each product for touch-up purposes. Cans shall be clearly marked with color name, number and type of paint.

B. At project closeout, provide the color mixture name and code to the Owner or owner's representative for accurate future color matching.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Benjamin Moore & Co. (United States), which is located at: 101 Paragon Dr; Montvale, NJ 07645; Toll Free Tel: 866-708-9181

B. Substitutions: Coronado Paint Company or Pratt and Lambert.

C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 MATERIALS - GENERAL

A. Volatile Organic Compound (VOC) Content:
1. Provide coatings that comply with the most stringent requirements specified in the following:
a. 40 CFR 59, Subpart D-National Volatile Organic Compound Emission Standards for Architectural Coatings.
b. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
1) All references to (0 g/L) are Zero VOCs according to EPA Method 24.

B. Compatibility: Provide materials that are compatible with one another and the substrates indicated under

conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

2.3 MIXING AND TINTING

A. Except where specifically noted in this section, all paint shall be ready-mixed and pre-tinted. Agitate all paint prior to and during application to ensure uniform color, gloss, and consistency.

B. Thinner addition shall not exceed manufacturer's printed recommendations. Do not use kerosene or other organic solvents to thin water-based paints.

C. Where paint is to be sprayed, thin according to manufacturer's current guidelines.

2.4 INTERIOR SYSTEMS

A. DRYWALL (Walls, Ceilings, Gypsum Board and similar items)

a. Eggshell System:
1) First Coat: Benjamin Moore Ultra Spec 500 Interior Latex Primer N534
2) Second Coat: Benjamin Moore Ultra Spec 500 Latex Eggshell N538
3) Third Coat: Benjamin Moore Ultra Spec 500 Latex Eggshell N538

B. CONCRETE FLOORS (Vehicular Traffic)

a. Gloss System:
1) First Coat: Benjamin Moore Corotech V155 Epoxy Pre-Primer
2) Second Coat: Benjamin Moore Interior Corotech V400 Polyamide Epoxy
3) Third Coat: Benjamin Moore Interior Corotech V500 Aliphatic Urethane

C. CONCRETE FLOORS (Non-Vehicular Traffic)

a. Gloss System:
1) First Coat: Benjamin Moore Corotech V155 Epoxy Pre-Primer
2) Second Coat: Benjamin Moore Interior Corotech V400 Polyamide Epoxy
3) Third Coat: Benjamin Moore Interior Corotech V400 Polyamide Epoxy

D. WOOD STAIN (Doors)

a. Semi-Gloss System:
1) First Coat: Lenmar Alkyd Wiping Stain 1AS.12XX
2) Second Coat: Lenmar Rapid Seal Dual Purpose Sealer 1Y.519
3) Third Coat: Lenmar Polyurethane Wood Finish Semi-Gloss 1Y.719
4) Fourth Coat: Lenmar Polyurethane Wood Finish Semi-Gloss 1Y.719

2.5 EXTERIOR SYSTEMS

A. METAL: Aluminum, Galvanized.

a. Semi-Gloss Finish:
1) First Coat: Benjamin Moore Ultra Spec HP Acrylic DTM Semi-Gloss Enamel HP29
2) Second Coat: Benjamin Moore Ultra Spec HP Acrylic DTM Semi-Gloss Enamel HP29.

B. METAL: Misc. Iron, Ornamental Iron, Structural Iron and Steel, Ferrous Metal.

a. Semi-Gloss Finish
1) First Coat: Benjamin Moore Ultra Spec Acrylic Metal Primer, HP04
2) Second Coat: Benjamin Moore Ultra Spec HP D.T.M. Acrylic Semi-Gloss Enamel HP29
3) Third Coat: Benjamin Moore Ultra Spec HP D.T.M. Acrylic Semi-Gloss Enamel HP29

PART 3 EXECUTION

3.1 EXAMINATION

A. The Contractor shall review the product manufacturer's special instructions for surface preparation, application, temperature, re-coat times, and product limitations.

B. The Contractor shall review product health and safety precautions listed by the manufacturer.

C. The Contractor shall be responsible for enforcing on site health and safety requirements associated with the Work.

D. Do not begin installation until substrates have been properly prepared.

E. Ensure that surfaces to receive paint are dry immediately prior to application.

F. Ensure that moisture-retaining substrates to receive paint have moisture content within tolerances allowed by coating manufacturer. Where exceeding the following values, promptly notify Architect and obtain direction before beginning work.
1. Concrete and Masonry: 3-5 percent. Allow new concrete to cure a minimum of 28 days.
2. Exterior Wood: 17 percent.
3. Interior Wood: 15 percent.
4. Interior Finish Detail Woodwork, Including Trim, and Casework: 10 percent.
5. Plaster and Gypsum: 15 percent.
6. Concrete Slab-On-Grade: Perform calcium chloride test over 24 hour period or other acceptable test to manufacturer. Verify acceptable moisture transmission and pH levels.

G. Examine surfaces to receive coatings for surface imperfections and contaminants that could impair performance or appearance of coatings, including but not limited to, loose primer, rust, scale, oil, grease, mildew, algae, or fungus, stains or marks, cracks, indentations, or abrasions.

H. Correct conditions that could impair performance or appearance of coatings in accordance with specified surface preparation procedures before proceeding with coating application.

3.2 PREPARATION - GENERAL

A. Clean surfaces thoroughly prior to coating application.

B. Do not start work until surfaces to be finished are in proper condition to produce finished surfaces of uniform, satisfactory appearance.

C. Stains and Marks: Remove completely, if possible, using materials and methods recommended by coating manufacturer; cover stains and marks which cannot be completely removed with isolating primer or sealer recommended by coating manufacturer to prevent bleed-through.

D. Remove Mildew, Algae, and Fungus using materials and methods recommended by coating manufacturer.

E. Remove dust and loose particulate matter from surfaces to receive coatings immediately prior to coating application.

F. Remove or protect adjacent hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items not indicated to receive coatings.

G. Move or protect equipment and fixtures adjacent to surfaces indicated to receive coatings to allow application of coatings.

H. Protect adjacent surfaces not indicated to receive coatings.

I. Prepare surfaces in accordance with manufacturer's instructions for specified coatings and indicated materials, using only methods and materials recommended by coating manufacturer.

3.3 SURFACE PREPARATION

A. Concrete and Concrete Masonry: Clean surfaces free of loose particles, sand, efflorescence, laitance, form oil, curing compounds, and other substances which could impair coating performance or appearance.

B. Concrete Floors: Remove contaminants which could impair coating performance or appearance. Verify moisture transmission and alkaline-acid balance recommended by coating manufacturer; mechanically abrade surface to achieve 80-100 grit medium-sandpaper texture.

C. Existing Coatings:
   1. Remove surface irregularities by scraping or sanding to produce uniform substrate for coating application; apply one coat primer of type recommended by coating manufacturer for maximum coating adhesion.
   2. If presence of lead in existing coatings is suspected, cease surface preparation and notify Architect immediately.

D. Gypsum Board: Repair cracks, holes and other surface defects with joint compound to produce surface flush with adjacent surfaces.

E. Masonry Surfaces - Restored: Remove loose particles, sand, efflorescence, laitance, cleaning compounds and other substances that could impair coating performance or appearance.

F. Metals - Aluminum, Mill-Finish: Clean and etch surfaces with a phosphoric acid-water solution or water based industrial cleaner. Flush with clean water and allow to dry, before applying primer coat.

G. Metals - Copper: Clean surfaces with pressurized steam, pressurized water, or solvent washing.

H. Metals - Ferrous, Unprimed: Remove rust or scale, if present, by wire brush cleaning, power tool cleaning, or sandblast cleaning; remove grease, oil, and other contaminants which could impair coating performance or appearance by solvent cleaning, with phosphoric-acid solution cleaning of welds, bolts and nuts; spot-prime repaired welds with specified primer.

I. Metals - Ferrous, Shop-Primed: Remove loose primer and rust, if present, by scraping and sanding, feathering edges of cleaned areas to produce uniform flat surface; solvent-clean surfaces and spot-prime bare metal with specified primer, feathering edges to produce uniform flat surface.

J. Metals - Galvanized Steel (not passivated): Clean with a water-based industrial strength cleaner, apply an adhesion promoter followed by a clean water rinse. Alternately, wipe down surfaces using clean, lint-free cloths saturated with xylene or lacquer thinner; followed by wiping the surface dry using clean, lint-free cloths.

K. Metals - Galvanized Steel, Passivated: Clean with water-based industrial strength cleaner. After the surface has been prepared, apply recommended primer to a small area. Allow primer to cure for 7 days, and test adhesion using the "cross-hatch adhesion tape test" method in accordance with ASTM D 3359. If the adhesion of the primer is positive, proceed with a recommended coating system for galvanized metal.

L. Metals - Stainless Steel: Clean surfaces with pressurized steam, pressurized water, or water-based industrial cleaner.

M. Plaster: Repair cracks, holes and other surface defects as required to maintain proper surface adhesion. Apply patching plaster or Joint compound and sand to produce surface flush with adjacent undamaged surface. Allow a full cure prior to coating application as recommended by the patching compound manufacturer's recommendations.

N. Polyvinyl Chloride (PVC) Pipe: remove contaminants and markings with denatured alcohol scuff sand and wipe with solvent for maximum adhesion. Test adhesion before starting the job.

O. Fiberglass Doors - remove contaminants with cleaning solvent (alcohol) scuff sand and wipe. Test adhesion of primer before starting job.

P. Textiles - Insulated Coverings, Canvas or Cotton: Clean using high-pressure air and solvent of type recommended for material.

Q. Wood:
   1. Seal knots, pitch streaks, and sap areas with sealer recommended by coating manufacturer; fill nail

recesses and cracks with filler recommended by coating manufacturer; sand surfaces smooth.
2. Remove mill marks and ink stamped grade marks.
3. Apply primer coat to back of wood trim and paneling.

R. Wood Doors: Seal door tops and bottoms prior to finishing.

S. Wood Doors - Field-Glazed Frames and Sash: Prime or seal glazing channels prior to glazing.

3.4 APPLICATION - GENERAL

A. Application of primers, paints, stains or coatings, by the Contractor, will serve as acceptance that surfaces were properly prepared in accordance with the manufacturer's recommendation.

B. Apply each coat to uniform coating thickness in accordance with manufacturer's instructions, not exceeding manufacturer's specified maximum spread rate for indicated surface; thins, brush marks, roller marks, orange-peel, or other application imperfections are not permitted.

C. Allow manufacturer's specified drying time, and ensure correct coating adhesion, for each coat before applying next coat.

D. Inspect each coat before applying next coat; touch-up surface imperfections with coating material, feathering, and sanding if required; touch-up areas to achieve flat, uniform surface without surface defects visible from 5 feet (1.5 m).

E. Remove dust and other foreign materials from substrate immediately prior to applying each coat.

F. Where paint application abuts other materials or other coating color, terminate coating with a clean sharp termination line without coating overlap.

G. Where color changes occur between adjoining spaces, through framed openings that are of same color as adjoining surfaces, change color at outside stop corner nearest to face of closed door.

H. Re-prepare and re-coat unsatisfactory finishes; refinish entire area to corners or other natural terminations.

3.5 CLEANING

A. Clean excess coating materials, and coating materials deposited on surfaces not indicated to receive coatings, as construction activities of this section progress; do not allow to dry.

B. Re-install hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items that have been removed to protect from contact with coatings.

C. Reconnect equipment adjacent to surfaces indicated to receive coatings.

D. Relocate to original position equipment and fixtures that have been moved to allow application of coatings.

E. Remove protective materials.

3.6 PROTECTION AND REPAIR

A. Protect completed coating applications from damage by subsequent construction activities until completion of painting project.

B. Touch-up coatings damaged by subsequent construction activities.

END OF SECTION

SECTION 10 73 00 - ALUMINUM WALKWAY COVERS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Design, fabrication, and installation of welded extruded aluminum walkway cover systems.

B. Products Furnished but not Installed Under this Section: Column sleeves (styrofoam blockouts) or anchor bolts (if required)

1.02 REFERENCES

A. The Aluminum Association (AA):
1. The Aluminum Design Manual 2000, Specifications & Guidelines for Aluminum Structures.

B. American Architectural Manufacturers Association (AAMA):
1. AAMA 611, Voluntary Specification for Anodized Architectural Aluminum.
2. AAMA 2603, Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
3. AAMA 2605, Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.

C. American Society of Civil Engineers (ASCE):
1. ASCE 7, Minimum Design Loads for Buildings and Other Structures.

D. American Society for Testing and Materials (ASTM):
1. ASTM B 209, Specification for Aluminum and Aluminum- Alloy Sheet and Plate.
2. ASTM B 221, Specification for Aluminum and Aluminum- Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
3. ASTM C 150, Specification for Portland Cement.
4. ASTM C 404, Specification for Aggregates for Masonry Grout.

E. American Welding Society (AWS):
1. ANSI/AWS D1.2, Structural Welding Code - Aluminum.

1.03 SYSTEM DESCRIPTION

A. Design Requirements:
1. Design Walkways in accordance with The Aluminum Design Manual 2000.
2. Comply with the wind requirements of ASCE 7 for 130 mph, risk category II.
3. Provide an all welded extruded aluminum system complete with internal drainage. Non-welded systems are not acceptable.
4. Provide expansion joints to accommodate temperature changes of 120 degrees F. Provide expansion joints with no metal to metal contact.

B. Performance Requirements:
1. Grout: Compressive strength of 2000 psi, minimum.

1.04 SUBMITTALS

A. Product Data: Manufacturer’s product information, specifications, and installation instructions for walkway cover components and accessories.

B. Shop Drawings: Include plan dimensions, elevations, and details.

C. Samples:
1. Selection: Manufacturer’s standard range of colors for the finishes selected.
2. Verification: 2-inch-square samples of each finish selected on the substrate specified.

D. Design Data: Design calculations bearing the seal of a Registered Professional Engineer, licensed in the state where the project is located. Design calculations shall state that the walkway cover system design complies with the wind requirements of ASCE 7, the stability criteria of applicable building code, and all other governing criteria.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: At least ten years experience in the design, fabrication, and erection of extruded aluminum walkway cover systems.

B. Installer Qualifications: Have walkway covers installed by manufacturer, third party installation is not acceptable.

PART 2 PRODUCT

2.01 MANUFACTURERS

A. The design is based on products fabricated by: Peachtree Protective Covers, Inc., 3255 South Sweetwater Rd., Lithia Springs, GA 30122, 770-439-2120, fax 770-439-2122.
   1. Comparable products by the following manufacturers also will be acceptable:
      a. Dittmer Architectural Aluminum
      b. Avadek Walkway Cover Systems
   2. Substitutions: Comparable products of other manufacturers will be considered under standard substitution procedures.

2.02 MATERIALS

A. Aluminum Members: Extruded aluminum, ASTM B 221, 6063 alloy, T6 temper.

B. Fasteners: Aluminum, 18-8 stainless steel, or 300 series stainless steel.

C. Protective Coating for Aluminum Columns Embedded in Concrete: Clear acrylic.

D. Grout:
   1. Portland Cement: ASTM C 150, Type I.
   2. Sand: ASTM C 404.
   3. Water: Potable.

E. Gaskets: Dry seal santoprene pressure type.

F. Aluminum Flashing: ASTM B 209, Type 3003 H14, 0.040 inch, minimum.

2.03 MIXES

A. Grout: 1 part portland cement to 3 parts sand, add water to produce a pouring consistency.

2.04 FABRICATION

A. General:
   1. Shop Assembly: Assemble components in shop to greatest extent possible to minimize field assembly.
   2. Welding: In accordance with ANSI/AWS D1.2.
   3. Bent Construction: Factory assemble beams to columns to form one-piece rigid bents. Where used make welds smooth and uniform using an inert gas shielded arc. Perform suitable edge preparation to assure 100% penetration. Grind welds only where interfering with adjoining structure to allow for flush connection. Field welding is not permitted. Rigid mechanical joints can be used if supported by engineering calculations and/or testing.
   4. Deck Construction: Fabricate from extruded modules that interlock in a self-flashing manner. Positively fasten interlocking joints creating a monolithic structural unit capable of developing the full strength of the sections. The fastenings must have minimum shear strength of 350 pounds each. Assemble deck with sufficient camber to offset dead load deflection.

B. Columns: Provide radius-cornered tubular extrusions with cutout and internal diverter for drainage where indicated. Circular downspout opening in column not acceptable.

C. Beams: Provide open-top tubular extrusion, top edges thickened for strength and designed to receive deck members in self-flashing manner.

D. Deck: Extruded self-flashing sections interlocking into a composite unit. Provide welded plate closures at deck ends.

E. Fascia: Manufacturer's standard shape. Provide fascia splices where continuous runs of fascia are jointed. Locate splices to be in line with bents and fasten in place on hidden or non-vertical surfaces.

F. Arches: For barrel vault protective covers, provide sharp-cornered tubular extrusions.

H. Factory Finishing: Finish designations prefixed by AA comply with system established by the AAMA for designating aluminum finishes.

1. Baked-Enamel Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: Thermosetting, modified-acrylic enamel primer/topcoat system, except with a minimum dry film thickness of 1.5 mils (0.04 mm), medium gloss), complying with AAMA 2603. Apply baked enamel complying with paint manufacturer's specifications for cleaning, conversion coating, and painting.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Verify that all concrete, masonry, and roofing work in the vicinity is complete and cleaned.

3.02 ERECTION

A. Erect protective cover true to line, level, and plumb. Protect aluminum columns embedded in concrete with clear acrylic. Fill downspout columns with grout to the discharge level to prevent standing water. Install weep holes at top of concrete in non-draining columns to remove condensation.
B. Provide hairline miters and fitted joints.

3.03 CLEANING

A. Clean all protective cover components promptly after installation.

3.04 PROTECTION
A. Protect materials during and after installation.

END OF SECTION 10 73 00

SECTION 133419-METAL BUILDING SYSTEMS

PART 1- GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes metal building systems that consist of integrated sets of mutually dependent components including structural framing, roof panels, wall panels and accessories. If items required for a complete and finished building envelope are not specifically specified under a separate section, it is to be assumed they are included under this section

B. New Building - Consists of metal building systems framing and components for roof, walls, roof sheets, exterior wall sheets, interior liner panels, metal building insulation, roof downspouts and gutters, roof flashing and trim, corner trim, exterior doors, and exterior door trim. The metal building manufacturer is to furnish framed openings for overhead doors and other wall openings, and trim for all wall openings. Door hardware for doors furnished in this specification is also furnished in this specification.

C. Related Sections include the following:
Division 03 Section "Cast-in-Place Concrete" for concrete foundations, slabs, and anchor-bolt installation.
Division 08 Section "Hollow Metal Doors and Frames."
See manufacturers specifications for overhead bi-fold doors.

1.3 DEFINITIONS

A. Bay: Dimension between main frames measured normal to frame (at centerline of frame) for interior bays, and dimension from centerline of first interior main frame measured normal to end wall (outside face of end-wall girt) for end bays.

B. Building Length: Dimension of the building measured perpendicular to main framing from end wall to end wall (outside face of girt to outside face of girt).

C. Building Width: Dimension of the building measured parallel to main framing from sidewall to sidewall (outside face of girt to outside face of girt).

D. Clear Span: Distance between supports of beams, girders, or trusses (measured from lowest level of connecting area of a column and a rafter frame or knee).

E. Eave Height: Vertical dimension from finished floor to eave (the line along the sidewall formed by intersection of the planes of the roof and wall).

F. Clear Height under Structure: Vertical dimension from finished floor to lowest point of any part of primary or secondary structure, not including crane supports, located within clear span.

G. Terminology Standard: Refer to MBMA's "Metal Building Systems Manual" for definitions of terms for metal building system construction not otherwise defined in this Section or in referenced standards.

1.4 SYSTEM DESCRIPTION

A. General: Provide a complete, integrated set of mutually dependent components and assemblies that form a metal building system capable of withstanding structural and other loads, thermally induced movement, and exposure to weather without failure or infiltration of water into building interior. Include primary and secondary framing, metal roof panels, metal wall panels, and accessories complying with requirements indicated. Provide metal building system of size and with spacings, slopes, and spans indicated.

B. New Building: Solid-member, structural-framing system without interior columns for roof framing.

C. End-Wall Framing: Manufacturer's standard, for buildings not required to be expandable, consisting of primary frame, capable of supporting one-half of a bay design load, and end-wall columns.

D. Secondary Frame Type: Manufacturer's standard purlins, joists, and girts. See drawing to determine if wall girts are bypass, flush framed, or a combination of both

E. Eave Height as indicated by height on Drawings.

F. Bay Spacing: As shown on drawings.

G. Roof Slope as shown on drawings.

H. Roof System: Manufacturer's standard vertical-rib, standing-seam metal roof.

I. Exterior Wall System: Manufacturer's standard field-assembled, insulated metal wall panels.

1.5 SYSTEM PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide metal building systems capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

Engineer metal building systems according to procedures in MBMA's "Metal Building Systems Manual.

B. Design Loads: As required by The International Building Code, 2012 Edition and ASCE 7-05, "Minimum Design Loads for Buildings and Other Structures."

Building Occupancy: As indicated on the drawings.

Floor Live Loads: Include vertical loads indicated on the Drawings.

Roof Live Loads: As required by The International Building Code, 2015 Edition and ASCE 7-05, "Minimum Design Loads for Buildings and Other Structures." 5 pounds per square foot for roof.

Roof Snow Loads: As required by The International Building Code, 2015 Edition and ASCE 7-05, "Minimum Design Loads for Buildings and Other Structures.

Wind Loads: 140 mph windzone exposure “B” As required by The International Building Code, 2015 Edition and ASCE 7-05, "Minimum Design Loads for Buildings and Other Structures."

C. Auxiliary Loads: Include dynamic live loads, such as those generated by overhead bi-fold doors, cranes, materials-handling equipment, and other items indicated on Drawings.

Load Combinations: As required by The International Building Code, 2012 Edition and ASCE 7-05, "Minimum Design Loads for Buildings and Other Structures."

D. Deflection Limits: Engineer assemblies to withstand design loads with deflections no greater than the following:

Purlins and Rafters: Vertical deflection of 1/240 of the span.
Girts: Horizontal deflection of 1/240 of the span.
Metal Roof Panels: Vertical deflection of 1/240 of the span.
Metal Wall Panels: Horizontal deflection of 1/240 of the span.

E. Design secondary framing system to accommodate deflection of primary building structure and construction tolerances, and to maintain clearances at openings.

F. Although ASTM E 1592 applies to all types of single-sheet metal roof panels, only the standing-seam metal roof panels from most manufacturers can meet the following requirement.

G. Provide metal panel assemblies capable of withstanding the effects of loads and stresses indicated, based on testing according to ASTM E 1592.

H. Seismic Performance: The International Building Code, 2012 Edition and ASCE 7-05, "Minimum Design Loads for Buildings and Other Structures."

I. Design and engineer metal building systems capable of withstanding the effects of earthquake motions determined according to Thermal Movements: Provide metal panel systems that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

J. Air Infiltration for Metal Roof Panels: Air leakage through assembly of not more than 0.06 cfm/sq. ft. of roof area when tested according to ASTM E 1680 at negative test-pressure difference of 1.57 lbf/sq. ft..

K. Air Infiltration for Metal Wall Panels: Air leakage through assembly of not more than 0.06 cfm/sq. ft. of wall area when tested according to ASTM E 283 at static-air-pressure difference of 6.24 lbf/sq. ft >.

L. Water Penetration for Metal Roof Panels: No water penetration when tested according to ASTM E 1646 at test-pressure difference of 2.86 lbf/sq. ft..

M. Water Penetration for Metal Wall Panels: No water penetration when tested according to ASTM E 331 at a minimum differential pressure of 20 percent of inward-acting, wind-load design pressure of not less than 6.24 lbf/sq. ft. and not more than 12 lbf/sq. ft..

N. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for Class 90.

NOTE: Roof purlins in high wind zones as defined by International Building Code (Figure 1609.6(2)), zones 2 and 3 are to have roof purlins at a maximum spacing of 24 inch centers. Roof purlins in all other zones are to have a maximum spacing of 48 inch centers. All purlins are to have bottom chord bridging at a maximum spacing of 7 feet centers. Bridging is to be a minimum of 1-1/2" wide x 18 gauge galvanized straps attached at each purlin with a minimum of (1) 12-14 tek screw.

1.6 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of the following metal building system components:

Structural-framing system.
Metal roof panels.
Metal wall panels and metal liner panels.
Insulation and vapor retarders.
Flashing and trim.
Doors and Door Hardware.
Windows.
Accessories.

B. Shop Drawings: For the following metal building system components. Include plans, elevations, sections, details, and attachments to other work.

1. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the professional engineer responsible for their preparation. Engineer must be licensed structural engineer in the State of Louisiana.
2. Anchor-Bolt Plans: Submit anchor-bolt plans before foundation work begins. Include location, diameter, and projection of anchor bolts required to attach metal building to foundation. Indicate column reactions at each location.
3. Structural-Framing Drawings: Show complete fabrication of primary and secondary framing; include provisions for openings. Indicate welds and bolted connections, distinguishing between shop and field applications. Include transverse cross-sections.
4. Metal Roof and Wall Panel Layout Drawings: Show layouts of metal panels including methods of support. Include details of edge conditions, joints, panel profiles, corners, anchorages, trim, flashings, closures, and special details. Distinguish between factory- and field-assembled work; show locations of exposed fasteners.
5. Show roof-mounted items including roof hatches, equipment supports, pipe supports and penetrations, lighting fixtures, snow guards, and items mounted on roof curbs.
6. Show wall-mounted items including doors, windows, louvers, and lighting fixtures.
7. Show translucent panels.
8. Accessory Drawings: Include details of the following items, at a scale of not less than 1 inches per 12 inches:
    a. Flashing and trim.
    b. Gutters.
    c. Downspouts.
    d. Roof ventilators.
    e. Louvers.
    f. Service walkways.
9. Samples for Initial Selection: For each type of building component with factory-applied color finish.
10. Samples for Verification: For each type of exposed finish required, prepared on Samples of sizes indicated below.
    a. Metal Roof and Wall Panels: Nominal 12 inches long by actual panel width. Include fasteners, closures, and other exposed panel accessories.
    b. Translucent Panels: Nominal 12 inches long by actual panel width.
    c. Flashing and Trim: Nominal 12 inches long. Include fasteners and other exposed accessories.
    d. Vapor Retarders: Nominal 6-inch- square Samples.
    e. Accessories: Nominal 12-inch- long Samples for each type of accessory.

C. Product Certificates: For each type of metal building system, signed by product manufacturer.

1. Letter of Design Certification: Signed and sealed by a qualified professional structural engineer licensed in the State of Louisiana. Include the following:
   a. Name and location of Project.
   b. Order number.
   c. Name of manufacturer.
   d. Name of Contractor.
   e. Building dimensions including width, length, height, and roof slope.
   f. Indicate compliance with AISC standards for hot-rolled steel and AISI standards for cold-rolled steel, including edition dates of each standard.
   g. Governing building code and year of edition.
   h. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).
   i. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.
   j. Building-Use Category: Indicate category of building use and its effect on load importance factors.
2. Welding certificates.
3. Erector Certificate: Signed by manufacturer certifying that erector complies with requirements.
4. Manufacturer Certificate: Signed by manufacturer certifying that products comply with requirements.
5. Material Test Reports: Signed by manufacturers certifying that the following products comply with requirements:
   a. Structural steel including chemical and physical properties.
   b. Bolts, nuts, and washers including mechanical properties and chemical analysis.
   c. Tension-control, high-strength, bolt-nut-washer assemblies.
   d. Shop primers.
   e. Nonshrink grout.
   f. Source quality-control test reports.
   g. Field quality-control test reports.

D. Maintenance Data: For metal panel finishes and door hardware to include in maintenance manuals.

E. Warranties: Special warranties specified in this Section.

1.7 QUALITY ASSURANCE

A. Erector Qualifications: An experienced erector who has specialized in erecting and installing work similar in material, design, and extent to that indicated for this Project and who is acceptable to manufacturer.

B. Manufacturer Qualifications: A qualified manufacturer and member of MBMA.

C. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a structural engineer licensed in the State of Louisiana.

D. Testing Agency Qualifications: An independent agency qualified according to ASTM E 329 for testing indicated, as documented according to ASTM E 548.

E. Product Options: Drawings indicate size, profiles, and dimensional requirements of metal building system and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements."

F. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code–Steel," and AWS D1.3, "Structural Welding Code–Sheet Steel."

G. Structural Steel: Comply with AISC's "Specification for Structural Steel Buildings–Allowable Stress Design, Plastic Design," or AISC's "Load and Resistance Factor Design Specification for Structural Steel Buildings," for design requirements and allowable stresses.

H. Cold-Formed Steel: Comply with AISI's "Specification for the Design of Cold-Formed Steel Structural Members," or AISI's "Load and Resistance Factor Design Specification for Steel Structural Members," for design requirements and allowable stresses.

I. Fire-Resistance Ratings: Where indicated, provide metal panel assemblies identical to those of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.

J. Combustion Characteristics: ASTM E 136.

K. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another testing and inspecting agency.
Metal panels shall be identified with appropriate markings of applicable testing and inspecting agency.

L. Surface-Burning Characteristics: Provide field-insulated metal panels having thermal insulation and vapor-retarder-facing materials with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
Flame-Spread Index: 25 or less, unless otherwise indicated.
Smoke-Developed Index: 450 or less, unless otherwise indicated.

M. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

N. Pre-Erection Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to metal building systems including, but not limited to, the following:
Inspect and discuss condition of foundations and other preparatory work performed by other trades.
Review structural load limitations.
Review and finalize construction schedule and verify availability of materials, Erector's personnel, equipment, and facilities needed to make progress and avoid delays.
Review required testing, inspecting, and certifying procedures.
Review weather and forecasted weather conditions and procedures for unfavorable conditions.

O. Preinstallation Roof Assembly Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to metal roof panel assemblies including, but not limited to, the following:
Examine purlin and rafter conditions for compliance with requirements, including flatness and attachment to structural members.
Review structural limitations of purlins and rafters during and after roofing.
Review flashings, special roof details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect metal roof panels.
Review temporary protection requirements for metal roof panel assembly during and after installation.
Review roof observation and repair procedures after metal roof panel installation.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, sheets, panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.

B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness and with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.

D. Protect foam-plastic insulation as follows:
1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
2. Protect against ignition at all times. Do not deliver foam-plastic insulation materials to Project site before installation time.
3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

1.9 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when weather conditions permit metal panels to be installed according to manufacturers' written instructions and warranty requirements.

B. Field Measurements:
1. Established Dimensions for Foundations: Comply with established dimensions on approved anchor-bolt plans, establishing foundation dimensions and proceeding with fabricating structural framing without field measurements. Coordinate anchor-bolt installation to ensure that actual anchorage dimensions correspond to established dimensions.
2. Established Dimensions for Metal Panels: Where field measurements cannot be made without delaying the Work, either establish framing and opening dimensions and proceed with fabricating metal panels without field measurements, or allow for field trimming metal panels. Coordinate construction to ensure that actual building dimensions, locations of structural members, and openings correspond to established dimensions.

1.10 COORDINATION

A. Coordinate size and location of concrete foundations and casting of anchor-bolt inserts into foundation walls and footings. Concrete, reinforcement, and formwork requirements are specified in Division 03 Section "Cast-in-Place Concrete."

B. Coordinate metal panel assemblies with rain drainage work, flashing, trim, and construction of supports and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

C. Coordinate all door openings including overhead bi-fold doors with door manufacturers and vendors.

D. Coordinate all aspects of the crane and PEMB designs with all providers as required to meet dimensional clearances and performance requirements delineated by the project contract documents.

1.11 WARRANTY

A. Special Warranty on Metal Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
2. Finish Warranty Period: 20 years from date of Substantial Completion.

B. Special Weathertightness Warranty for Standing-Seam Metal Roof Panels: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam, metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following: Contractor may obtain prior approval of other metal building manufacturers by submitting proof that all required qualifications of these specifications are met. Prior approval with qualifications must be submitted 10 days prior to bid date. Approval is granted only if done so by the architect, in writing prior to the bid submittal.

Alliance Steel, Inc.
American Buildings Company.
American Steel Building Company, Inc.; Division of NCI Building Systems, LLP.
Behlen Mfg. Co.
Butler Manufacturing Company.
Ceco Building Systems; Division of Robertson-Ceco Corporation.
Delta Consolidated LLC
Crown Metal Buildings, Inc.
Garco Building Systems.
Ideal Steel Metal Buildings
Kirby Building Systems
Mesco Metal Buildings; Division of NCI Building Systems, LLP.
Metallic Metal Building Company; Division of NCI Building Systems, LLP.
Package Industries, Inc.
Red Dot Metal Buildings
Spirco Manufacturing; Division of Metal Building Products, Inc.
Star Building Systems; Division of Robertson-Ceco Corporation.
Steelox Systems Inc.
United Structures of America, Inc.
VP Buildings, Inc.; a United Dominion Company.
Rockford Metal Buildings
Whirlwind Metal Buildings

2.2 STRUCTURAL-FRAMING MATERIALS

A. W-Shapes: ASTM A 992/A 992M; ASTM A 572/A 572M, Grade 50 or 55; or ASTM A 529/A 529M, Grade 50 or 55.

B. Channels, Angles, M-Shapes, and S-Shapes: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade 50 or 55; or ASTM A 529/A 529M, Grade 50 or 55.

C. Plate and Bar: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade 50 or 55; or ASTM A 529/A 529M, Grade 50 or 55.

D. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.

E. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B or C, structural tubing.

F. Structural-Steel Sheet: Hot-rolled, ASTM A 1011/A 1011M, Structural Steel (SS), Grades 30 through 55, or High-Strength Low Alloy Steel (HSLAS), Grades 45 through 70; or cold-rolled, ASTM A 1008/A 1008M, Structural Steel (SS), Grades 25 through 80, or High-Strength Low Alloy Steel (HSLAS), Grades 45 through 70.

G. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grades 33 through 80 or High-Strength Low Alloy Steel (HSLAS), Grades 50 through 80; with G60 coating designation; mill phosphatized.

H. Metallic-Coated Steel Sheet Prepainted with Coil Coating: Steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.

I. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grades 33 through 80 or High-Strength Low Alloy Steel (HSLAS), Grades 50 through 80; with G90 coating designation.

J. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, Structural Steel (SS), Grade 50 or 80; with Class AZ50 coating.

K. Joist Girders: Manufactured according to "Standard Specifications for Joist Girders," in SJI's "Standard Specifications, Load Tables, and Weight Tables for Steel Joists and Joist Girders," with steel-angle, top- and bottom-chord members; with end- and top-chord arrangements as indicated and required for primary framing.

L. Steel Joists: Manufactured according to "Standard Specifications for Open Web Steel Joists, K-Series," in SJI's "Standard Specifications, Load Tables, and Weight Tables for Steel Joists and Joist Girders," with steel-angle, top- and bottom-chord members; with end- and top-chord arrangements as indicated and required for secondary framing.

M. Non-High-Strength Bolts, Nuts, and Washers: ASTM A 307, Grade A, carbon-steel, hex-head bolts; ASTM A 563 carbon-steel hex nuts; and ASTM F 844 plain (flat) steel washers.
Finish: Mechanically deposited zinc coating, ASTM B 695, Class 50.

N. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy hex steel structural bolts; ASTM A 563 heavy hex carbon-steel nuts; and ASTM F 436 hardened carbon-steel washers.
Finish: Mechanically deposited zinc coating, ASTM B 695, Class 50.

O. Retain subparagraph and associated subparagraph below if required. Tension-control (twist-off) bolt assemblies correspond to strength of ASTM A 325 (ASTM A 325M) bolts.

P. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F 1852, Type 1, heavy-hex-head steel structural bolts with splined ends.
Finish: Mechanically deposited zinc coating, ASTM B 695, Class 50.

Q. High-Strength Bolts, Nuts, and Washers: ASTM A 490, Type 1, heavy hex steel structural bolts. ASTM A 563 heavy hex carbon-steel nuts; and ASTM F 436 hardened carbon-steel washers, plain.

R. Headed Anchor Rods: ASTM F 1554, Grade 36 straight.
Nuts: ASTM A 563 heavy hex carbon steel.
Plate Washers: ASTM A 36/A 36M carbon steel.
Washers: ASTM F 436 hardened carbon steel.
Finish: Hot-dip zinc coating, ASTM A 153/A 153M, Class C
Threaded Rods: ASTM A 572/A 572M, Grade 50, ASTM A 36/A 36M .
Nuts: ASTM A 563 heavy hex carbon steel.
Washers: ASTM A 36/A 36M carbon steel.
Finish: Hot-dip zinc coating, ASTM A 153/A 153M, Class C.

S. Finish: All Structural Members shall be Hot Dipped Galvanized.

2.3 MATERIALS FOR FIELD-ASSEMBLED METAL PANELS

A. Metallic-Coated Steel Sheet Prepainted with Coil Coating: Steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.

B. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grades 33 through 80, with G90 coating designation.
1. Surface: Smooth, flat finish.

2. Exposed Finishes:
   a. High-Performance Organic Finish (2-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coating; Organic Coating: manufacturer's standard 2-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2604 and with coating and resin manufacturers' written instructions, except as modified below:
3. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored backer finish, consisting of prime coat and wash coat with a total minimum dry film thickness of 1.0 mil.

2.4 THERMAL INSULATION FOR FIELD-ASSEMBLED METAL PANELS

A. Metal Building Insulation: ASTM C 991, Type I, or NAIMA 202 glass-fiber-blanket insulation; 0.5-lb/cu. ft. density; 2-inch- wide, continuous, vapor-tight edge tabs; and with a flame-spread index of 25 or less.

B. Vapor-Retarder Facing: ASTM C 1136, with permeance not greater than 0.02 perm when tested according to ASTM E 96, Desiccant Method.

C. Composition: White scrim film facing and fiberglass-polyester blend fabric backing.

D. Retainer Strips: 0.019-inch- thick, formed, galvanized steel or PVC retainer clips colored to match insulation facing.

E. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.

2.5 DOOR AND FRAME MATERIALS

A. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with G60 zinc (galvanized) or A60 zinc-iron-alloy (galvannealed) coating designation.

2.6 MISCELLANEOUS MATERIALS

A. Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide fasteners with heads matching color of materials being fastened by means of plastic caps or factory-applied coating.
   1. Fasteners for Metal Roof and Wall Panels: Self-drilling Type 410 stainless-steel or self-tapping Type 304 stainless-steel or zinc-alloy-steel hex washer head, with EPDM or PVC washer under heads of fasteners bearing on weather side of metal panels.
   2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws with hex washer head.
   3. Blind Fasteners: High-strength aluminum or stainless-steel rivets.

B. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

C. Backer Board: Hardboard complying with AHA A135.4, Class 1 tempered, 1/4 inch thick, unless otherwise indicated.

D. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

E. Metal Panel Sealants:

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape of manufacturer's standard size.
2. Joint Sealant: ASTM C 920; one-part elastomeric polyurethane, polysulfide, or silicone-rubber sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended by metal building system manufacturer.

2.7 FABRICATION, GENERAL

A. General: Design components and field connections required for erection to permit easy assembly.
1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.

B. Tolerances: Comply with MBMA's "Metal Building Systems Manual": Chapter IV, Section 9, "Fabrication and Erection Tolerances."

C. Metal Panels: Fabricate and finish metal panels at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.
1. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of metal panel.

2.8 STRUCTURAL FRAMING

A. General:
1. Primary Framing: Shop fabricate framing components to indicated size and section with baseplates, bearing plates, stiffeners, and other items required for erection welded into place. Cut, form, punch, drill, and weld framing for bolted field assembly.
   a. Make shop connections by welding or by using high-strength bolts.
   b. Join flanges to webs of built-up members by a continuous submerged arc-welding process.
   c. Brace compression flange of primary framing with steel angles or cold-formed structural tubing between frame web and purlin or girt web, so flange compressive strength is within allowable limits for any combination of loadings.
   d. Revise first subparagraph below if other types of attachment are permitted. Welded clips on roof rafters may not be allowed by authorities having jurisdiction.
   e. Weld clips to frames for attaching secondary framing members.
   f. Shop Priming: Prepare surfaces for shop priming according to SSPC-SP 2. Shop prime primary structural members with specified primer after fabrication.
2. Secondary Framing: Shop fabricate framing components to indicated size and section by roll-forming or break-forming, with baseplates, bearing plates, stiffeners, and other plates required for erection welded into place. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.
   a. Make shop connections by welding or by using non-high-strength bolts.
   b. Shop Priming: Prepare uncoated surfaces for shop priming according to SSPC-SP 2. Shop prime uncoated secondary structural members with specified primer after fabrication.

B. Primary Framing: Manufacturer's standard structural primary framing system, designed to withstand required loads and specified requirements. Primary framing includes transverse and lean-to frames; rafter, rake, and canopy beams; sidewall, intermediate, end-wall, and corner columns; and wind bracing.
1. General: Provide frames with attachment plates, bearing plates, and splice members. Factory drill for field-bolted assembly. Provide frame span and spacing indicated.
2. Slight variations in span and spacing may be acceptable if necessary to meet manufacturer's standard, as approved by Architect.

C. Rigid Clear-Span Frames: I-shaped frame sections fabricated from shop-welded, built-up steel plates or structural-steel shapes. Interior columns are not permitted.

D. Rigid Modular Frames: I-shaped frame sections fabricated from shop-welded, built-up steel plates or structural-steel shapes. Provide interior columns fabricated from round steel pipe or tube, or shop-welded, built-up steel plates.

E. Truss-Frame, Clear-Span Frames: Rafter frames fabricated from joist girders, and I-shaped column sections fabricated from shop-welded, built-up steel plates or structural-steel shapes.
1. Frame Configuration: As shown on drawings.
2. Exterior Column Type: Tapered.
3. Rafter Type: Tapered.

F. End-Wall Framing: Manufacturer's standard primary end-wall framing fabricated for field-bolted assembly to comply with the following:
1. End-Wall and Corner Columns: I-shaped sections fabricated from structural-steel shapes; shop-welded, built-up steel plates; or C-shaped, cold-formed, structural-steel sheet; with minimum thickness of 0.0598 inch.
2. End-Wall Rafters: C-shaped, cold-formed, structural-steel sheet; with minimum thickness of 0.0598 inch; or I-shaped sections fabricated from shop-welded, built-up steel plates or structural-steel shapes.

G. Secondary Framing: Manufacturer's standard secondary framing members, including purlins, girts, eave struts, flange bracing, base members, gable angles, clips, headers, jambs, and other miscellaneous structural members. Fabricate framing from cold-formed, structural-steel sheet or roll-formed, metallic-coated steel sheet prepainted with coil coating, unless otherwise indicated, to comply with the following:
1. Purlins: C- or Z-shaped sections; fabricated from minimum 0.0598-inch- thick steel sheet, built-up steel plates, or structural-steel shapes; minimum 2-1/2-inch- wide flanges.
2. Girts: C- or Z-shaped sections; fabricated from minimum 0.0598-inch- thick steel sheet, built-up steel plates, or structural-steel shapes. Form ends of Z-sections with stiffening lips angled 40 to 50 degrees to flange and with minimum 2-1/2-inch- wide flanges.
Depth: 8 inches.
3. Eave Struts: Unequal-flange, C-shaped sections; fabricated from 0.0598-inch- thick steel sheet, built-up steel plates, or structural-steel shapes; to provide adequate backup for metal panels.
4. Flange Bracing: Minimum 2-by-2-by-1/8-inch structural-steel angles or 1-inch diameter, cold-formed structural tubing to stiffen primary frame flanges.
5. Sag Bracing: Minimum 1-by-1-by-1/8-inch structural-steel angles.
6. Base or Sill Angles: Minimum 3-by-2-by-0.0598-inch zinc-coated (galvanized) steel sheet.
7. Purlin and Girt Clips: Minimum 0.0598-inch- thick, steel sheet. Provide galvanized clips where clips are connected to galvanized framing members.
8. Secondary End-Wall Framing: Manufacturer's standard sections fabricated from minimum 0.0598-inch- thick, zinc-coated (galvanized) steel sheet.
9. Framing for Openings: Channel shapes; fabricated from minimum 0.0598-inch- thick, cold-formed, structural-steel sheet or structural-steel shapes. Frame head and jamb of door openings, and head, jamb, and sill of other openings.
10. Miscellaneous Structural Members: Manufacturer's standard sections fabricated from cold-formed, structural-steel sheet; built-up steel plates; or zinc-coated (galvanized) steel sheet; designed to withstand required loads.

H. Canopy Framing: Manufacturer's standard structural-framing system, designed to withstand required loads, fabricated from shop-welded, built-up steel plates or structural-steel shapes. Provide frames with attachment plates and splice members, factory drilled for field-bolted assembly.
1. Type: As indicated.

I. Bracing: Provide adjustable wind bracing as follows:
a. Rods: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade 50; or ASTM A 529/A 529M, Grade 50; minimum 1/2-inch- diameter steel; threaded full length or threaded a minimum of 6 inches at each end.

b. Cable: ASTM A 475, 1/4-inch- diameter, extra-high-strength grade, Class B zinc-coated, 7-strand steel; with threaded end anchors.
c. Angles: Fabricated from structural-steel shapes to match primary framing, of size required to withstand design loads.
d. Rigid Portal Frames: Fabricate from shop-welded, built-up steel plates or structural-steel shapes to match primary framing; of size required to withstand design loads.
e. Fixed-Base Columns: Fabricate from shop-welded, built-up steel plates or structural-steel shapes to match primary framing; of size required to withstand design loads.
f. Diaphragm Action of Metal Panels: Design metal building to resist wind forces through diaphragm action of metal panels.
g. Bracing: Provide wind bracing using any method specified above, at manufacturer's option.

J. Bolts: Provide plain finish bolts for structural-framing components that are primed or finish painted. Provide zinc-plated bolts for structural-framing components that are galvanized.

K. Factory-Primed Finish: Apply specified primer immediately after cleaning and pretreating.
1. Prime primary, secondary, and end-wall structural-framing members to a minimum dry film thickness of 1.5 mil.
2. Prime secondary steel framing formed from uncoated steel sheet to a minimum dry film thickness of 1.5 mil on each side.

2.9 METAL ROOF PANELS

A. Vertical-Rib, Standing-Seam Metal Roof Panels Formed with vertical ribs at panel edges and intermediate stiffening ribs symmetrically spaced between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels and engaging opposite edge of adjacent panels.
1. Material: Aluminum-zinc alloy-coated] steel sheet, 0.0269 inch thick.
a. Exterior Finish: Fluoropolymer .
b. Color: As selected by Architect from manufacturer's full range
c. Clips: Manufacturer's standard, floating type to accommodate thermal movement; fabricated from zinc-coated (galvanized) steel sheet.
d. Retain subparagraph above or first subparagraph below.
e. Joint Type: Mechanically seamed, folded as standard with manufacturer.
f. Panel Coverage: 16 inches.
g. Panel Height: 3 inches
h. Uplift Rating: UL 90.

2.10 FIELD-ASSEMBLED METAL WALL PANELS

A. Horizontal & Vertical Rib, Concealed-Fastener Metal Wall Panels Formed with concealed major ribs; designed to be field assembled by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps.
1. Basis for Design: PBR panel to match existing panel profile at existing building.
2. Alternate Sourcing for panels will be considered for prior approval.
3. Material: Aluminum-zinc alloy-coated steel sheet, 0.0209 inch thick.
4. Exterior Finish: Fluoropolymer.
5. Color: As selected by Architect from manufacturer's full range.
6. Major-Rib Spacing: Match existing.
7. Panel Coverage: 36 inches.
8. Panel Height: Match existing.

B. Tapered-Rib-Profile, Metal Liner Panels Formed with raised, trapezoidal major ribs and intermediate stiffening ribs symmetrically spaced flat pan between major ribs; designed to be field assembled by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps.
1. Material: Aluminum-zinc alloy-coated steel sheet, 0.0209 inch thick.
2. Exterior Finish: Acrylic enamel.

3. Color: As selected by Architect from manufacturer's full range.
4. Major-Rib Spacing: 12 inches o.c.
5. Panel Coverage: 36 inches .
6. Panel Height: 1.25 inches>.

2.11 DOORS AND FRAMES

A. Fire-Rated Personnel Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.
1. Test Pressure: Test at atmospheric pressure.

B. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a testing agency acceptable to authorities having jurisdiction that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.

C. Swinging Personnel Doors and Frames: Metal building system manufacturer's standard doors and frames; prepared and reinforced at strike and hinges to receive factory- and field-applied hardware according to ANSI/DHI A115 Series.

D. Steel Doors: 1-3/4 inches thick; fabricated from 0.0329-inch- uncoated thickness, metallic-coated steel face sheets; of styles indicated; seamless at both vertical edges; with 0.0528-inch- uncoated thickness, inverted metallic-coated steel channels welded to face sheets at top and bottom of door.
1. Core: Polyurethane foam with U-factor rating of at least 0.07 Btu/sq. ft. x h x deg F.
2. Glazing Frames: Steel frames to receive field-installed glass.
3. Glazing: As specified in Division 08 Section "Glazing."
4. Steel Frames: Fabricate 2-inch- wide face frames from 0.0528-inch- uncoated thickness, metallic-coated steel sheet.
5. Type: Factory welded.
6. Fabricate concealed stiffeners, reinforcement, edge channels, and moldings from either cold- or hot-rolled steel sheet.
7. Hardware: Comply with ANSI/DHI A115 Series and as follows:
1. Provide hardware for each door leaf, as follows:
a. Hinges: Three antifriction-bearing, standard weight, full-mortise, stainless-steel, template-type hinges; 4-1/2 by 4-1/2 inches, with nonremovable pin.
b. Lockset: Mortise, with lever handle type.
c. Panic Device: Touch-bar or push-bar type.
d. Threshold: Extruded aluminum.
e. Silencers: Pneumatic rubber; three silencers on strike jambs of single door frames and two silencers on heads of double door frames.
f. Closer: Surface-applied, standard-duty hydraulic type.
g. Weather Stripping: Vinyl applied to head and jambs, with vinyl sweep at sill.
h. Provide each pair of double doors with the following hardware in addition to that specified for each leaf:
i. Astragal: Removable type.
j. Surface Bolts: Top and bottom of inactive door.
k. Anchors and Accessories: Manufacturer's standard units, galvanized according to ASTM A 123/A 123M.
l. Fabrication: Fabricate doors and frames to be rigid; neat in appearance; and free from defects, warp, or buckle. Provide continuous welds on exposed joints; grind, dress, and make welds smooth, flush, and invisible.
m. Finishes for Personnel Doors and Frames:
n. Surface Preparation: Clean surfaces with nonpetroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a conversion coating suited to the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas, and apply galvanizing repair paint specified below to comply with ASTM A 780.
o. Galvanizing Repair Paint: High-zinc-dust-content paint for regalvanizing welds in steel, complying with SSPC-Paint 20.
p. Factory Priming for Field-Painted Finish: Where field painting after installation is indicated, apply the primer specified below immediately after cleaning and pretreating.

q. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI A250.10 acceptance criteria.

E. Overhead coiling and sectional overhead service doors are not provided by metal building system manufacturers. **Again, these shall be coordinated by the Contractor and PEMB vendor to assure proper fits will be achieved between the differently sourced items.**

2.12 ACCESSORIES & OVERHEAD DOORS

A. General: Provide accessories as standard with metal building system manufacturer and as specified. Fabricate and finish accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.

B. Roof Panel Accessories: Provide components required for a complete metal roof panel assembly including copings, fasciae, corner units, ridge closures, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels, unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same material as metal roof panels.
2. Clips: Manufacturer's standard, formed from stainless-steel sheet, designed to withstand negative-load requirements.
3. Cleats: Manufacturer's standard, mechanically seamed cleats formed from stainless-steel sheet or nylon-coated aluminum sheet.
4. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
5. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- thick, flexible closure strips; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
6. Thermal Spacer Blocks: Where metal panels attach directly to purlins, provide thermal spacer blocks of thickness required to provide 1 inch standoff; fabricated from extruded polystyrene.

C. Wall Panel Accessories: Provide components required for a complete metal wall panel assembly including copings, fasciae, mullions, sills, corner units, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal wall panels, unless otherwise indicated.

1. Closures: Provide closures at eaves and rakes, fabricated of same material as metal wall panels.
2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- thick, flexible closure strips; cut or premolded to match metal wall panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

D. Flashing and Trim: Formed from minimum 0.0159-inch- thick, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match adjacent metal panels.

1. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers.
2. Opening Trim: Minimum 0.0269-inch- thick, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating. Trim head and jamb of door openings, and head, jamb, and sill of other openings.

E. Gutters: Formed from minimum 0.0159-inch- thick, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match roof fascia and rake trim. Match profile of gable trim, complete with end pieces, outlet tubes, and other special pieces as

required. Fabricate in minimum 96-inch- long sections, sized according to SMACNA's "Architectural Sheet Metal Manual."

1. Gutter Supports: Fabricated from same material and finish as gutters; spaced 36 inches o.c.
2. Strainers: Bronze, copper, or aluminum wire ball type at outlets.

F. Downspouts: Formed from 0.0159-inch- thick, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match metal wall panels. Fabricate in minimum 10-foot- long sections, complete with formed elbows and offsets.

1. Mounting Straps: Fabricated from same material and finish as gutters; spaced 10 feet o.c.

G. Roof Ventilators: Gravity type, complete with hardware, flashing, closures, and fittings.

H. Continuous or Sectional-Ridge Type: Factory-engineered and -fabricated, continuous unit; fabricated from minimum 0.0159-inch- thick, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match metal roof panels. Fabricated in minimum 10-foot- long sections. Provide throat size and total length indicated, complete with side baffles, ventilator assembly, end caps, splice plates, and reinforcing diaphragms.

1. Bird Screening: Galvanized steel, 1/2-inch- square mesh, 0.041-inch wire, or aluminum, 1/2-inch- square mesh, 0.063-inch wire.
2. Dampers: Manually operated, spring-loaded, vertically rising type; chain and worm gear operator; with chain of length required to reach within 36 inches above floor.
3. Throat Size: as standard with manufacturer, and as required to comply with ventilation requirements.

I. Roof Curbs: Fabricated from minimum 0.0428-inch- thick, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match metal roof panels; with welded top box and bottom skirt, and integral full-length cricket; capable of withstanding indicated loads and of size and height indicated.

1. Curb Subframing: Minimum 0.0528-inch- thick, angle-, C-, or Z-shaped steel sheet.
2. Insulation: 1-inch- thick, rigid type.

J. Pipe Flashing: Premolded, EPDM pipe collar with flexible aluminum ring bonded to base.

K. Overhead Door - are not provided by metal building system manufacturers. **These shall be coordinated by the Contractor and PEMB vendor to assure proper fits will be achieved between the differently sourced items.**

2.13 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.14 SOURCE QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform the following tests and inspections and to submit reports.

B. Special Inspector: Owner will engage a qualified special inspector to perform the following tests and inspections and to submit reports. Special Inspector will verify that manufacturer maintains detailed fabrication and quality-control procedures and will review the completeness and adequacy of those procedures to perform the Work.

1. Special inspections will not be required if fabrication is performed by a manufacturer registered and approved by authorities having jurisdiction to perform such Work without special inspection.

2. After fabrication, submit certificate of compliance with copy to authorities having jurisdiction certifying that Work was performed according to Contract requirements.

C. Tests and Inspections:
1. Bolted Connections: Shop-bolted connections shall be inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
2. Welded Connections: In addition to visual inspection, shop-welded connections shall be tested and inspected according to AWS D1.1 and the following inspection procedures, at inspector'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 will not be accepted.
   c. Ultrasonic Inspection: ASTM E 164.
   d. Radiographic Inspection: ASTM E 94.

D. Correct deficiencies in Work that test reports and inspections indicate do not comply with the Contract Documents.

PART 3 - PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Erector present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
1. For the record, prepare written report, endorsed by Erector, listing conditions detrimental to performance of work.

B. Before erection proceeds, survey elevations and locations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments to receive structural framing, with Erector present, for compliance with requirements and metal building system manufacturer's tolerances.

C. Proceed with erection only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition.

B. Provide temporary shores, guys, braces, and other supports during erection to keep structural framing secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural framing, connections, and bracing are in place, unless otherwise indicated.

3.3 ERECTION OF STRUCTURAL FRAMING

A. Erect metal building system according to manufacturer's written erection instructions and erection drawings.

B. Do not field cut, drill, or alter structural members without written approval from metal building system manufacturer's professional engineer.

C. Set structural framing accurately in locations and to elevations indicated and according to AISC specifications referenced in this Section. Maintain structural stability of frame during erection.

D. Base Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
1. Set plates for structural members on wedges, shims, or setting nuts as required.

2. Tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
3. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

E. Align and adjust structural framing before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with framing. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
1. Level and plumb individual members of structure.
2. Make allowances for difference between temperature at time of erection and mean temperature when structure will be completed and in service.

F. Primary Framing and End Walls: Erect framing true to line, level, plumb, rigid, and secure. Level baseplates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts. Use grout to obtain uniform bearing and to maintain a level base-line elevation. Moist cure grout for not less than seven days after placement.
1. Make field connections using high-strength bolts installed according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
2. Joint Type: Snug tightened or pretensioned.

G. Secondary Framing: Erect framing true to line, level, plumb, rigid, and secure. Fasten secondary framing to primary framing using clips with field connections using non-high-strength bolts.
1. Provide rake or gable purlins with tight-fitting closure channels and fasciae.
2. Locate and space wall girts to suit openings such as doors and windows.
3. Locate canopy framing as indicated.
4. Provide supplemental framing at entire perimeter of openings, including doors, windows, louvers, ventilators, and other penetrations of roof and walls.

H. Steel Joists: Install joists and accessories plumb, square, and true to line; securely fasten to supporting construction according to SJI's "Standard Specifications, Load Tables, and Weight Tables for Steel Joists and Joist Girders," joist manufacturer's written recommendations, and requirements in this Section.
1. Before installation, splice joists delivered to Project site in more than one piece.
2. Space, adjust, and align joists accurately in location before permanently fastening.
3. Install temporary bracing and erection bridging, connections, and anchors to ensure that joists are stabilized during construction.
4. Bolt joists to supporting steel framework using carbon-steel bolts, unless otherwise indicated.
5. Bolt joists to supporting steel framework using high-strength structural bolts, unless otherwise indicated. Comply with RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for high-strength structural bolt installation and tightening requirements.
6. Install and connect bridging concurrently with joist erection, before construction loads are applied. Anchor ends of bridging lines at top and bottom chords if terminating at walls or beams.
7. Bracing: Install bracing in roof and sidewalls where indicated on erection drawings.
8. Tighten rod and cable bracing to avoid sag.
9. Locate interior end-bay bracing only where indicated.

I. Framing for Openings: Provide shapes of proper design and size to reinforce openings and to carry loads and vibrations imposed, including equipment furnished under mechanical and electrical work. Securely attach to structural framing.

J. Erection Tolerances: Maintain erection tolerances of structural framing within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.4 METAL PANEL INSTALLATION, GENERAL

A. Examination: Examine primary and secondary framing to verify that structural panel support members and anchorages have been installed within alignment tolerances required by manufacturer.
   1. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before metal panel installation.

B. General: Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
   1. Field cut metal panels as required for doors, windows, and other openings. Cut openings as small as possible, neatly to size required, and without damage to adjacent metal panel finishes.
      a. Field cutting of metal panels by torch is not permitted unless approved in writing by manufacturer.
   2. Install metal panels perpendicular to structural supports, unless otherwise indicated.
   3. Flash and seal metal panels with weather closures at perimeter of openings and similar elements. Fasten with self-tapping screws.
   4. Locate and space fastenings in uniform vertical and horizontal alignment.
   5. Locate metal panel splices over, but not attached to, structural supports with end laps in alignment. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
   6. Lap metal flashing over metal panels to allow moisture to run over and off the material.

C. Lap-Seam Metal Panels: Install screw fasteners with power tools having controlled torque adjusted to compress neoprene washer tightly without damage to washer, screw threads, or metal panels. Install screws in predrilled holes.
   1. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Lap ribbed or fluted sheets one full rib corrugation. Apply metal panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.

D. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.

E. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal panel manufacturer.
   1. Seal metal panel end laps with double beads of tape or sealant, full width of panel. Seal side joints where recommended by metal panel manufacturer.
   2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."

3.5 METAL ROOF PANEL INSTALLATION

A. General: Provide metal roof panels of full length from eave to ridge, unless otherwise indicated or restricted by shipping limitations.
   1. Install ridge and hip caps as metal roof panel work proceeds.
   2. Flash and seal metal roof panels with weather closures at eaves and rakes. Fasten with self-tapping screws.

B. Field-Assembled, Standing-Seam Metal Roof Panels: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended by manufacturer.
   1. Install clips to supports with self-tapping fasteners.
   2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
   3. Seamed Joint: Crimp standing seams with manufacturer-approved motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.

4. Rigidly fasten eave end of metal roof panels and allow ridge end free movement due to thermal expansion and contraction. Predrill panels for fasteners.
5. Provide metal closures at peaks rake edges, rake walls and each side of ridge and hip caps.

C. Field-Assembled, Lap-Seam Metal Roof Panels: Fasten metal roof panels to supports with exposed fasteners at each lapped joint at location and spacing recommended by manufacturer.
1. Provide metal-backed washers under heads of exposed fasteners bearing on weather side of metal roof panels.
2. Provide sealant tape at lapped joints of metal roof panels and between panels and protruding equipment, vents, and accessories.
3. Apply a continuous ribbon of sealant tape to weather-side surface of fastenings on end laps and on side laps of nesting-type metal panels; on side laps of ribbed or fluted metal panels; and elsewhere as needed to make metal panels weatherproof to driving rains.
4. At metal panel splices, nest panels with minimum 6-inch end lap, sealed with butyl-rubber sealant and fastened together by interlocking clamping plates.

D. Metal Fascia Panels: Align bottom of metal panels and fasten with blind rivets, bolts, or self-tapping screws. Flash and seal metal panels with weather closures where fasciae meet soffits, along lower panel edges, and at perimeter of all openings.

E. Metal Roof Panel Installation Tolerances: Shim and align metal roof panels within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.6 METAL WALL PANEL INSTALLATION

A. General: Install metal wall panels in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to girts, extending full height of building, unless otherwise indicated. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.
1. Unless otherwise indicated, begin metal panel installation at corners with center of rib lined up with line of framing.
2. Shim or otherwise plumb substrates receiving metal wall panels.
3. When two rows of metal panels are required, lap panels 4 inches minimum.
4. When building height requires two rows of metal panels at gable ends, align lap of gable panels over metal wall panels at eave height.
5. Rigidly fasten base end of metal wall panels and allow eave end free movement due to thermal expansion and contraction. Predrill panels.
6. Flash and seal metal wall panels with weather closures at eaves, rakes, and at perimeter of all openings. Fasten with self-tapping screws.
7. Install screw fasteners in predrilled holes.
8. Install flashing and trim as metal wall panel work proceeds.
9. Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete, and elsewhere as indicated, or if not indicated, as necessary for waterproofing.
10. Align bottom of metal wall panels and fasten with blind rivets, bolts, or self-tapping screws.
11. Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.

B. Field-Assembled, Metal Wall Panels: Install metal wall panels on exterior side of girts. Attach metal wall panels to supports with fasteners as recommended by manufacturer.
1. Field-Insulated Assemblies: Install thermal insulation as specified. Install metal liner panels over insulation on interior side of girts at locations indicated. Fasten with exposed fasteners as recommended by manufacturer.

C. Factory-Assembled, Insulated Metal Wall Panels: Install insulated metal wall panels on exterior side of girts. Attach panels to supports at each panel joint with concealed clip and fasteners at maximum 42 inches o.c., but spaced not more than as recommended by manufacturer. Fully engage tongue and groove of adjacent insulated metal wall panels.
1. Install clips to supports with self-tapping fasteners.
2. Apply continuous ribbon of sealant to panel joint on concealed side of insulated metal wall panels as vapor seal; apply sealant to panel joint on exposed side of panels for weather seal.

D. Installation Tolerances: Shim and align metal wall panels within installed tolerance of 1/4 inch in 20 feet, nonaccumulative, on level, plumb, and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.7 THERMAL INSULATION INSTALLATION FOR FIELD-ASSEMBLED METAL PANELS

A. General: Install insulation concurrently with metal wall panel installation, in thickness indicated to cover entire wall, according to manufacturer's written instructions.
   1. Set vapor-retarder-faced units with vapor retarder to warm side of construction, unless otherwise indicated. Do not obstruct ventilation spaces, except for firestopping.
   2. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to surrounding construction to ensure airtight installation.
   3. Install factory-laminated, vapor-retarder-faced blankets straight and true in one-piece lengths with both sets of facing tabs sealed to provide a complete vapor retarder.
   4. Install blankets straight and true in one-piece lengths. Install vapor retarder over insulation with both sets of facing tabs sealed to provide a complete vapor retarder.

B. Blanket Roof Insulation: Comply with the following installation method:
   1. Over-Framing Installation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing members. Hold in place by metal roof panels fastened to secondary framing.
   2. Between-Purlin Installation: Extend insulation and vapor retarder between purlins. Carry vapor-retarder facing tabs up and over purlin, overlapping adjoining facing of next insulation course maintaining continuity of retarder. Hold in place with bands and crossbands below insulation.
   3. Over-Purlin-with-Spacer-Block Installation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing members. Install layer of filler insulation over first layer to fill space formed by metal roof panel standoffs. Hold in place by panels fastened to standoffs.
   4. Two-Layers-between-Purlin-with-Spacer-Block Installation: Extend insulation and vapor retarder between purlins. Carry vapor-retarder facing tabs up and over purlin, overlapping adjoining facing of next insulation course maintaining continuity of retarder. Install layer of filler insulation over first layer to fill space between purlins formed by thermal spacer blocks. Hold in place with bands and crossbands below insulation.
   5. Retainer Strips: Install retainer strips at each longitudinal insulation joint, straight and taut, nesting with secondary framing to hold insulation in place.
   6. Thermal Spacer Blocks: Where metal roof panels attach directly to purlins, install thermal spacer blocks.

C. Blanket Wall Insulation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing members. Hold in place by metal wall panels fastened to secondary framing.
   1. Retainer Strips: Install retainer strips at each longitudinal insulation joint, straight and taut, nesting with secondary framing to hold insulation in place.
   2. Sound-Absorption Insulation: Where sound-absorption requirement is indicated for metal liner panels, cover insulation with polyethylene film and provide inserts of wire mesh to form acoustical spacer grid.

D. Board Wall Insulation: Extend board insulation in field-assembled metal wall panel assembly in thickness indicated to cover entire wall. Comply with installation requirements in Division 07 Section "Thermal Insulation."
   1. Retain insulation in place by adhesive within integral pockets within metal wall panels, or metal clips and straps spaced at intervals recommended by insulation manufacturer to hold insulation securely in place. Maintain cavity width between insulation and metal liner panel of dimension indicated.

3.8 DOOR AND FRAME INSTALLATION

A. General: Install doors and frames plumb, rigid, properly aligned, and securely fastened in place according to manufacturer's written instructions. Coordinate installation with wall flashings and

other components. Seal perimeter of each door frame with elastomeric sealant used for metal wall panels.

B. Personnel Doors and Frames: Install doors and frames according to ANSI A250.8. Shim as necessary to comply with DHI A115.IG. Fit non-fire-rated doors accurately in their respective frames, with the following clearances:
   1. Between Doors and Frames at Jambs and Head: 1/8 inch.
   2. Between Edges of Pairs of Doors: 1/8 inch.
   3. At Door Sills with Threshold: 3/8 inch.
   4. At Door Sills without Threshold: 3/4 inch.
   5. At fire-rated openings, install frames according to, and doors with clearances specified in, NFPA 80.

C. Sliding Service Doors: Bolt support angles to opening head members through factory-punched holes. Bolt door tracks to support angles at maximum 24 inches o.c. Set doors and operating equipment with necessary hardware, jamb and head mold stops, continuous hood flashing, anchors, inserts, hangers, and equipment supports.

D. Field Glazing: Comply with installation requirements in Division 08 Section "Glazing."

E. Door Hardware: Mount units at heights indicated in DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
   1. Install surface-mounted items after finishes have been completed on substrates involved.
   2. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
   3. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
   4. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant complying with requirements specified in Division 07 Section "Joint Sealants."

3.9 WINDOW INSTALLATION

A. General: Install windows plumb, rigid, properly aligned, without warp or rack of frames or sash, and securely fastened in place according to manufacturer's written instructions. Coordinate installation with wall flashings and other components. Seal perimeter of each window frame with elastomeric sealant used for metal wall panels.
   1. Separate dissimilar materials from sources of corrosion or electrolytic action at points of contact with other materials by complying with requirements specified in "Dissimilar Materials" Paragraph in Appendix B in AAMA/NWWDA 101/I.S.2.

B. Set sill members in bed of sealant or with gaskets, as indicated, for weathertight construction.

C. Install windows and components to drain condensation, water penetrating joints, and moisture migrating within windows to the exterior.

D. Mount screens direct to frames with tapped screw clips.

E. Field Glazing: Comply with installation requirements in Division 08 Section "Glazing."

3.10 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
   1. Install components required for a complete metal roof panel assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
   2. Install components for a complete metal wall panel assembly including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
   3. Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying

rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by manufacturer.

B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

1. Install exposed flashing and trim that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

C. Gutters: Join sections with riveted and soldered or lapped and sealed joints. Attach gutters to eave with gutter hangers spaced not more than 4 feet o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.

D. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches o.c. in between.

1. Provide elbows at base of downspouts to direct water away from building.

E. Circular Roof Ventilators: Set ventilators complete with necessary hardware, anchors, dampers, weather guards, rain caps, and equipment supports. Mount ventilators on flat level base. Install preformed filler strips at base to seal ventilator to metal roof panels.

F. Continuous Roof Ventilators: Set ventilators complete with necessary hardware, anchors, dampers, weather guards, rain caps, and equipment supports. Join sections with splice plates and end-cap skirt assemblies where required to achieve indicated length. Install preformed filler strips at base to seal ventilator to metal roof panels.

G. Louvers: Locate and place louver units level, plumb, and at indicated alignment with adjacent work.

1. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.
2. Provide perimeter reveals and openings of uniform width for sealants and joint fillers.
3. Protect galvanized- and nonferrous-metal surfaces from corrosion or galvanic action by applying a heavy coating of bituminous paint on surfaces that will be in contact with concrete, masonry, or dissimilar metals.
4. Install concealed gaskets, flashings, joint fillers, and insulation as louver installation progresses, where weathertight louver joints are required. Comply with Division 07 Section "Joint Sealants" for sealants applied during louver installation.

H. Roof Curbs: Install curbs at locations indicated on Drawings. Install flashing around bases where they meet metal roof panels.

I. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to panel as recommended by manufacturer.

3.11 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform the following tests and inspections and to submit reports.

B. Special Inspector: Owner will engage a qualified special inspector to perform the following tests and inspections and to submit reports.

C. Tests and Inspections:
1. High-Strength, Field-Bolted Connections: Connections shall be inspected during installation according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
2. Welded Connections: In addition to visual inspection, field-welded connections shall be tested and inspected according to AWS D1.1 and the following inspection procedures, at inspector'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 will not be accepted.
c. Ultrasonic Inspection: ASTM E 164.
d. Radiographic Inspection: ASTM E 94.

D. Correct deficiencies in Work that test reports and inspections indicate do not comply with the Contract Documents.

3.12 ADJUSTING

A. Doors: After completing installation, test and adjust doors to operate easily, free of warp, twist, or distortion.

B. Door Hardware: Adjust and check each operating item of door hardware and each door to ensure proper operation and function of every unit. Replace units that cannot be adjusted to operate as intended.
1. Door Closers: Adjust door closers to compensate for final operation of heating and ventilating equipment. Adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the leading edge of the door.

C. Windows: Adjust operating sashes and ventilators, screens, hardware, and accessories for a tight fit at contact points and weather stripping for smooth operation and weathertight closure. Lubricate hardware and moving parts.

3.13 CLEANING AND PROTECTION

A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

B. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

C. Touchup Painting: After erection, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted structural framing and accessories.
1. Clean and prepare surfaces by SSPC-SP 2, "Hand Tool Cleaning," or SSPC-SP 3, "Power Tool Cleaning."
2. Apply a compatible primer of same type as shop primer used on adjacent surfaces.

D. Touchup Painting: Cleaning and touchup painting are specified in Division 09 painting Sections.

E. Metal Panels: Remove temporary protective coverings and strippable films, if any, as metal panels are installed. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
1. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

F. Doors and Frames: Immediately after installation, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.
1. Immediately before final inspection, remove protective wrappings from doors and frames.

G. Windows: Clean metal surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances. Clean factory-glazed glass immediately after installing windows.

H. Louvers: Clean exposed surfaces that are not protected by temporary covering, to remove fingerprints and soil during construction period. Do not let soil accumulate until final cleaning.

1. Restore louvers damaged during installation and construction period so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect, remove damaged units and replace with new units.
2. Touch up minor abrasions in finishes with air-dried coating that matches color and gloss of, and is compatible with, factory-applied finish coating.

3.14 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain operable accessories. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION 13 34 19

Section 321816

POURED-IN-PLACE RUBBER (EPDM)
SURFACING FOR PLAYGROUNDS with Impact Attenuation

PART 1 – GENERAL

1.01 WORK INCLUDED

This work includes furnishing and installing the No Fault Safety Surface. The surfacing Manufacturer/installer shall be responsible for all labor, materials, tools, and equipment to perform all work and services for the installation of the surface.

1.02 DESCRIPTION OF SYSTEM & GENERAL CONDITIONS

No Fault Safety Surface shall be poured-in-place and trowelled to provide for a resilient, seamless rubber surface installed over the specified rigid base. No Fault Safety Surface is comprised of an SBR rubber impact attenuation layer and an EPDM color wear layer, with both layers being mixed with a non-flammable, non-shrinking, one part moisture cured polyurethane adhesive as recommended by the Manufacturer and capable of bonding to concrete, asphalt, or compacted stone. No Fault Safety Surface shall be stable and slip resistant to comply with, meet or exceed all requirements set forth in the Americans with Disabilities Act (ADA), the American Society for Testing Materials (ASTM International) and the Consumer Product Safety Commission (CPSC) for manufactured Safety Surfaces as detailed below.

1.03 QUALITY ASSURANCE

Safety Surface shall meet or exceed the following performance requirements:

A. Applicable Standards (Test Results & Certifications):
   1. Impact Attenuation - ASTM F1292-18e1: Surface system that is within the use zone of the surrounded playground equipment shall be tested in accordance with ASTM Specification F1292-18 and shall meet or exceed the performance requirements of ASTM F1292-18, CPSC and/or CSA Z614. Thus, surface system shall exhibit a head injury criterion (HIC) not exceeding 1000 and a value of acceleration recorded during an impact (g-max) not exceeding 200 from a fall height at or greater than the critical fall height of the installed play equipment structure as determined by the playground equipment manufacturer and/or as shown on drawings.
   2. Coefficient of Friction & Permeability - ASTM D2047
   3. Surface Frictional Properties & Skid Resistance – ASTM E303
   4. Flammability of Finished Floor Cover - ASTM D2859
   5. ADA Compliance (Accessibility of Surface Systems) – ASTM F1951
   6. Tear Strength – ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic
   7. Tensile Strength – ASTM D412 Standard Test Methods for Vulcanized Rubber Elastomers and Thermoplastic Elastomers
   8. Solar Reflective Index (SRI) – ASTM E1980 and ASTM E903
   9. IPEMA Certification Required: International Play Equipment Manufacturers Association (IPEMA) provides a Third-Party Certification Service whereby a designated independent laboratory validates a surfacing manufacturer's certification of conformance to the most current ASTM F1292 Standard Specification for Impact Attenuation Under and Around Playground Equipment. A list of manufacturers and certified products can be validated at www.ipema.org.

B. Installer Qualifications
   1. All materials under this section shall be installed by the Manufacturer or its Certified Installers. The playground surfacing installation shall not be performed by anyone other than the product Manufacturer or its Certified Installers.
   2. The installation crew will include at least one member that has completed the OSHA (10+) Training course and received certification.

C. Contractor Pre-Qualifications
   1. A list of project references completed with a similar application. List shall include name and contact information for project representative at the time of the original installation.
   2. All bidders must also submit Material Safety Data sheets (MSDS) and Product Data Sheets on all materials.
   3. Insurance Requirements - All bidders must carry minimum insurance of:
      a) $1,000,000 General Liability Per Occurrence
      b) $2,000,000 General Aggregate
      c) $2,000,000 Products Completed Operations
      d) $5,000,000 Excess Liability
      e) $1,000,000 Workers Comp. & Employers Liability
      f) $1,000,000 Automobile Liability (any Auto)

1.04 SUBMITTALS

A. One (1) digital submittal package shall be supplied upon request the following:
   a. Manufacturer's descriptive data and installation instructions.
   b. Manufacturer's details showing depths of wear surface and sub-base materials, anchoring systems, and edge details.
   c. A list of all materials and components to be installed, including Manufacturer's name, storage requirements, and precautions, and shall include chemical composition and test results to which material has been subjected in compliance with these specifications.
   d. Test results to substantiate that the product meets or exceeds all ASTM & ADA requirements for each standard listed in Section 1.03 Quality Assurance. Test must be performed and certified by an independent laboratory.
   e. Copy of IPEMA Certification required for compliance to ASTM F1292.
   f. Documentation of Contractor Pre-Qualification as stated in Section 1.03 Quality Assurance.
   g. Documentation of Insurance Requirements as stated in Section 1.03 Quality Assurance.
   h. Statement signed by the Manufacturer of the synthetic safety surfacing attesting that all materials under this section shall be installed by the Manufacturer or its Certified Installers.
   i. Upon request, reference list to include a listing of installations where similar applications have been installed and have been in successful service for a minimum period of three (3) years. This list shall include name and contact information for project representative at time of original installation.
   j. Upon request, a sample specimen of safety surface proposed for this project.

1.05 DELIVERY, STORAGE and HANDLING:

Materials and equipment shall be delivered and/or stored in accordance with the Manufacturer's recommendations.

1.06 PROJECT SITE CONDITIONS:

A. Synthetic safety surfacing shall be installed on a dry subsurface, with no prospect of rain within the initial drying period, at temperatures recommended by the Manufacturer.
B. Installation in weather condition of extreme heat, temperatures less than 50 degrees (F), and/or high humidity may impact cure time, and/or the structural integrity of the final product. Immediate surroundings of the site shall be free of dust conditions and poor particulate air quality will impact the final surface look.
C. The Manufacturer's installation manager shall reserve the right to control the project schedule installation based on such factor without penalty to No Fault, LLC.
D. Safety surfacing shall be installed after the playground equipment unless otherwise noted.
E. The project manager or designated individual of playground equipment and sub-base installation shall coordinate Surface installation, with No Fault's local production manager and in accordance with No Fault's sub-base requirements.

1.07 WARRANTY:

Surfacing shall be guaranteed against defects in workmanship and material for a period of no less than five (5) years or as specified and agreed upon per contract.

PART 2 – PRODUCTS

Product shall be **No Fault Safety Surface** as manufactured and sold by No Fault, LLC. No Fault Safety Surface shall consist of synthetic poured-in-place safety surfacing meeting the requirements of this specification and comprised of SBR rubber for impact attenuation layer, EPDM granular rubber for wear layer, and polyurethane binder. It shall be manufactured and installed by No Fault, LLC (800-232-7766 or www.nofault.com) and/or its certified installation crews.

NOTE – Other products will be allowed only if prior approved as per Section 2.02 Product Substitutions & Approved Equals

2.01 MATERIALS

A. Polyurethane Binder
   1. Polyurethane Binder for safety surfacing shall be specifically designed for use with rubber granule material for outdoor installations.
   2. No toluene diphenel isocyanate (TDI) shall be used.
   3. No filler materials shall be used in urethane such as plasticizers and the catalyzing agent shall contain no heavy metals.
   4. Weight of polyurethane shall be no less than 8.5 lbs/gal (1.02 Kg/1) and no more than 9.5 lbs/gal (1.14 Kg/1)
   5. COLOR TINTED BINDER WILL NOT BE ALLOWED.
   6. Aromatic or Aliphatic Polyurethane Binder is acceptable based on the surface manufacturer's recommendation.
B. SBR (Impact Layer)
   1. Only 100% shredded styrene butadiene rubber may be used.
   2. Strands of SBR may vary from 0.5 mm – 2.0 mm in thickness by 3.0 mm – 20 mm in length.
C. EPDM (Wear Surface)

1. EPDM particles shall meet requirements of ASTM D-412 and CSA Z614-98 for tensile strength and elongation; and ASTM D 2240 (Shore A) hardness of 55-65, not less than 26 percent rubber hydrocarbons.
2. EPDM shall be peroxide cured with an EPDM content of 26% and shall include a processing aid to prevent hardness with 26% poly content to maintain dynamic testing characteristics, weatherization, and UV stability.
3. Size of rubber particles shall be not less than 1.0 mm, or greater than 3.0 mm across with a minimum EPDM content of 25% by weight and certified letter from Manufacturer stating this content. All rubber shall remain consistent in gradation and size.
4. STRAND, SHAVED, CHIPPED OR SHREDDED RUBBER IS NOT ACCEPTABLE IN THE POURED CAP.

2.02 PRODUCT SUBSTITUTIONS & APPROVED EQUALS

A. All product substitutions must be submitted for preapproval at least three (3) days prior to bid opening date. A complete submittal package, as outlined in Section 1.04 Submittals, must be provided before a substitute product will be considered for preapproval. If the product submitted for preapproval cannot meet all requirements of the submittal package, it will not be considered.
B. Once all products submitted for substitution have been reviewed, a list of the approved substitutes will be circulated and made available to bidders.

PART 3 – EXECUTION

3.01 SUB-BASE REQUIREMENTS

A. Removal of the existing surface as required for the installation of the new surface shall be performed by the contractor.

3.02 PREPARATION

A. Scheduling – No Fault Safety Surface shall be installed after other sub-contractors are complete, the area is free from pedestrian traffic, and under the conditions as outlined in Section 1.06 Project Site Conditions.
B. Cleaning - The entire subsurface shall be clean, dry, and free from any foreign and loose material.

3.03 INSTALLATION

A. SBR Cushion Layer
1. Polyurethane binder and SBR will be mixed on site in a rotating tumbler to ensure components are thoroughly mixed and are in accordance with manufactures recommendations.
2. Binder shall be not less than fourteen (14%) percent, nor more than twenty-two (22%) percent, of the total weight of rubber, and shall provide one hundred (100%) percent coating of the particles.
3. The SBR and binder mixture will then be poured-in-place by means of screeding, and hand-trowelled to maintain a seamless application.
4. Installation method shall use a measured screed rod one-sixteenth (1/16") inch thicker than the required depth.
5. Whenever practical, SBR cushion layer shall be installed in one continuous pour on the same day. When a second pour is required, fully coat the edge of the previous work with polyurethane binder to ensure 100 percent bond with new work. Apply adhesive in small quantities so that new SBR mixture can be placed before the adhesive dries.
6. Total depth of the safety surface system throughout the playground equipment use zone shall be as required to meet the applicable critical fall height requirements of the playground equipment or as specified by Owner or Architect.
7. Edges - Surface edges shall be flush with edge of adjacent area or tapered to provide safe transition. When connecting to a concrete curb or border the hardened edge shall be primed with adhesive.
8. The SBR cushion layer surface shall be porous and subsurface with positive drainage is required.

B. EPDM Wear Course Layer
1. Polyurethane binder and EPDM will be mixed on site in a rotating (gas powered) tumbler to ensure components are thoroughly mixed and are in accordance with manufactures recommendations.
2. The polyurethane binder shall be not less than 20 percent (20%) of total weight of rubber used in the wear surface and shall provide 100 percent (100%) coating of the particles.
3. The EPDM and binder mixture will then be poured-in-place by means of screeding, and hand-trowelled to maintain a seamless application.
4. Installation method shall use a measured screed rod one-sixteenth (1/16") inch thicker than the required depth.
5. The thickness of the wear layer will be no less than one-half (½") inch.
6. High graphic project will require ½" minimum depth for wear layer. If graphic designs and color transitions are used, they shall be full wear course depth and color blend.
7. The wear layer will have a minimum weight of 2.9 pounds per square foot for one-half (½") inch depth.
8. The wear layer shall be porous.
9. Edges - Surface edges shall be flush with edge of adjacent area or tapered to provide safe transition.
10. Large Areas - All areas more than 2,000 sq. ft. or that require adjacent color pours will have a cold joint or seam due to the nature of the installation process. Although seldom visible, large areas or adjacent colors require the No Fault Safety Surface material to be installed on separate days.

11. Color:
    a. Colors of new application shall match existing patterns. Contractor shall include documentation of existing patterns of colors as part of their work scope and shall be responsible for proposing a new layout that matches the existing to the architect as a component of the submittal process.
    b. Standard Color Blend includes any standard color mixed with 50% Black.
    c. Standard Colors include Terra Cotta Red, Blue, Green, or Tan.
    d. Light Colors & Accent Colors include Beige, Blue Gray, Bright Red, Eggshell, Gray, Light Blue, Light Green, Orange, Pearl, Purple, Tan, Teal, Turquoise, Yellow & Yellow Gold.
    e. Aliphatic binder is recommended for Light Colors and Accent Colors to prevent ambering.
    f. Color selection to be approved by the architect or owner during the submittal process, unless otherwise stated in project specifications and/or on the project drawings at the time of bid.

C. Critical Fall Height Requirements
    1. Surface assembly shall be applied to meet a total depth of 3.5" throughout park or as otherwise approved by architect.

3.04 PROTECTION

A. The synthetic safety surface shall be allowed to fully cure in accordance with Manufacturer's instructions. The surface shall be protected by the Owner from all pedestrian traffic during the curing period of 48 to 72 hours after surface installation is complete, or as instructed by the Manufacturer upon completion of the installation.
B. Surface installation crew shall be responsible for the protection of No Fault Safety Surface during the installation process. Owner or General Contractor shall be responsible for the protection of the surface during the crews off hours and during the curing period upon completion of the installation.

3.05 CLEAN UP

A. Manufacturer's installers shall not leave adhesive on adjacent surface or play equipment.
B. Spills of excess adhesive shall be promptly cleaned.
C. Manufacturer's installers shall properly dispose of all material and packing waste before leaving the job site.
D. Owner or contractor shall be responsible for supplying a dumpster at job site for all waste associated with installation of the safety surface.

END OF DOCUMENT