

INSTRUCTIONS FOR:

Indiana State University
Federal Credit Union
Addition

444 North 3rd Street
Terre Haute, Indiana
47807



24 South 5th Street
Terre Haute, Indiana
47807
phone: 812.235.1300
www.holderdesign.net

SET NUMBER_____

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*24 South 5th Street
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INSTRUCTIONS TO BIDDERS

August 25, 2021

PROJECT: ISU Credit Union - Expansion
444 North 3rd Street
Terre Haute, Indiana 47807

OWNER: Mr. Trent Kerr, President/CEO
ISU Credit Union - Expansion
444 North 3rd Street
Terre Haute, Indiana 47807

CONTACT: Holder Design, Inc, 812.235.1300

BIDS: Due by: 4:00 pm, Wednesday, September 15, 2021
At Offices: Sealed bids are to be turned in at the office of Holder Design,
24 South 5th Street, Terre Haute, Indiana 47807

Bid on attached General Contractors to use Bid Form of their choosing, please
attach Additional Bid Form for listing of sub-contractors and
Non-Collusion Affidavit

Performance Bond "Add Alternate"
Payment Bond "Add Alternate"

Mark Envelope "ISU Credit Union Expansion"

Start Date Upon Owner award of Contract.

Bids to be good for 60 days from date which bids are due.

Finish Date State weeks to complete work on bid form.

Contract Contract to be prepared by the Owner.

DOCUMENTS:

Architect/Engineer Drawings
Instructions to Bidders with attached scopes of work
Drawings and specifications shall be available as directed by the Owner.

CONTRACTORS RESPONSIBILITY:

- A. Direct questions to the Architect.
- B. Contractor shall visit the site and familiarize himself with the work. We will conduct a non-mandatory walkthrough at the site at:
10:00 am on Friday, August 27, 2021
- C. The Contractor shall leave the site in as clean condition as before the construction.
- D. Contractor shall obtain Local permits and include cost in the bid.
- E. State approvals will be obtained by Architect, where required.
- F. The Contractor shall coordinate with the Owner when work is to begin.
- G. The Owner **IS** subject to Indiana Sales Tax and such tax should be included in the bids.
- H. If the Contractors discover any discrepancy on the drawings or in the specifications, they shall report the same to the Architect before proceeding with any work affected by the discrepancy, and shall be held responsible for the results should he fail to make such report.
- I. Each Contractor shall submit proof of insurance with their bid.

GENERAL CONDITIONS:

- A. The drawings are for reference only. The Contractors shall verify all existing site conditions.
- B. The Owner is to have access to the site at all times.
- C. The Contractors shall provide all barricades and traffic control devices.
- D. The Contractors shall provide directional signs for pedestrians and place as directed by the Owner.
- E. The Contractors shall clean surroundings on a daily basis.
- F. The staging of materials shall be approved by the Owner.
- G. Any sidewalks damaged during construction shall be replaced by the Contractor at no charge to the Owner.

MAINTENANCE:

- A. The Contractors shall maintain the grounds and adjacent spaces within the project.
- B. The Contractors shall protect all existing walls, glass, and existing buildings. Damaged areas are to be brought back to original condition.

DEMOLITION:

- A. The Contractors are to remove and dispose of all debris in a legal manner.
- B. The Contractors shall maintain dust control at all times.
- C. Remove all existing construction shown on the drawings.
- D. Remove all materials associated with the demolition work from the site.

SCOPE OF WORK: (ADDITIONAL ITEMS MAY APPLY)

- A. Install all safety barricades, if and as required.
- B. Remove existing construction as necessary and as stated on the drawings in order to install new work under this contract.

ADDITIONAL BID FORM INFORMATION

For: ISU Credit Union Building Expansion
444 North 3rd Street
Terre Huate, Indiana 47807

Owner: Mr. Trent Kerr
ISU Credit Union Building Expansion
444 North 3rd Street
Terre Huate, Indiana 47807

Architect: Matthew L. Holder, AIA
Holder Design, Inc.
24 South 5th Street
Terre Haute, Indiana 47807

Acknowledgement of Addenda:

Weeks to Complete Project: _____

List of Sub-Contractors:

Demolition Contractor: _____

Excavating Contractor: _____

Concrete Contractor: _____

Masonry Contractor: _____

Interior Framing Contractor: _____

Gypsum Board Contractor: _____

Painting Contractor: _____

Plumbing Contractor: _____

HVAC Contractor: _____

Electrical Contractor: _____

(add additional as required)

CONTRACTOR'S NON – COLLUSION AFFIDAVIT

The undersigned bidder or agent, being duly sworn on oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to include anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporation has, have or will receive directly or indirectly, any rebate, fee, gift, commission or thing of value on account of such sale.

OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES FOR PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT.

Dated at _____ this _____ day of _____, _____

(Name of Organization)

By _____

(Title of Person Signing)

ACKNOWLEDGEMENT

STATE OF _____)
) ss
COUNTY OF _____)

Before me, a Notary Public, personally appeared the above-named _____ and
swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to before me this _____ day of _____, _____.

Notary Public

My Commission Expires: _____

County of Residence: _____

DRAFT AIA® Document A201® - 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Indiana State University Federal Credit Union - Expansion
444 North 3rd Street
Terre Haute, Indiana 47807

THE OWNER:

(Name, legal status and address)

Mr. Trent Kerr, President/CEO
ISU Credit Union
444 North 3rd Street
Terre Haute, Indiana 47807

THE ARCHITECT:

(Name, legal status and address)

Holder Design, Inc
24 South 5th Street
Terre Haute, Indiana 47807

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ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding 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 protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 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 protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document

G202™–2013, Project Building Information Modeling Protocol Form, 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 a 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.

SUPPLEMENTAL GENERAL CONDITIONS

1. COPIES OF DOCUMENTS

Copies of the Contract Documents shall be obtained as directed by the Owner.

2. BONDS AND INSURANCE

- A. The Contractor shall not commence work under this contract until he has obtained all insurance required by these specifications and until such insurance has been approved by the Owner, nor shall the Contractor allow any Subcontractor to commence work on his subcontract until all similar insurance required of the Subcontractor has been obtained and approved. Policies expiring on a fixed date before final acceptance of the project must be renewed and evidence of such renewal submitted to the Owner before such date.
- B. The Contractor shall furnish the Owner with satisfactory evidence of the insurance required.
- C. All policies and/or policy certificates shall contain the following clauses:
 - 1. Worker's Compensation Insurance: The Contractor shall maintain during the life of this contract Worker's Compensation Insurance for all his employees employed at the site of the project, and, in case any work is sublet, the Contractor must require the Subcontractor similarly to provide Worker's Compensation Insurance for all of his employees engaged in work under this contract at the site of the project. The Contractor shall provide insurance coverage equal to that provided under the Worker's Compensation Act, for the protection of his employees not otherwise protected. Employers liability coverage must be maintained in amounts not less than 100,000/500,000/100,000.
 - 2. Public Liability Property Damage: The Contractor shall maintain during the life of this contract Commercial General Liability Insurance. Such coverage shall protect him and any Subcontractor performing work covered by this contract, from claims for damages for personal injury, including accidental death, as well as from claims for property damages, which may arise from operations under this contract, whether such operations be by himself or by any Subcontractor or by anyone directly or indirectly employed by either of them and the amounts of such insurance shall be as follows:

Commercial General Liability insurance in an amount not less than \$1,000,000 per occurrence for Bodily Injury, Property Damage, Personal and Advertising Injury with a \$1,000,000 general aggregate and a \$1,000,000 Products and Completed Operations aggregate.

The Contractor shall require all of its Subcontractors, if not protected under Contractor's insurance policies, to effect and maintain, at their own expense during the entire period of performance and until completion of the subcontract, Commercial General Liability Insurance with a company or companies to the satisfaction of the Owner, as follows:

- a. Commercial General Liability Insurance in an amount not less than \$1,000,000 per occurrence for Bodily Injury, Property Damage, or accidental death with a \$2,000,000 general aggregate and a \$1,000,000 Products and Completed Operations aggregate.
 - b. Special hazards not covered under the Commercial General Liability Insurance must be covered on a policy within the amounts as required above.
3. Business Auto Insurance: The Contractor and all Subcontractors shall at all times during the life of this contract, and any other subcontracts, maintain at their own expense, respectively, business auto insurance covering all liability and claims arising from the use and operation, anywhere in the United States, in connection with the performance of the Contract of Subcontracts of automobiles, whether such are owner, hired, or non-owned by the Contractor or Subcontractors. Such auto insurance shall be written with a limit of not less than \$1,000,000 per occurrence as a combined single limit for Bodily Injury and Property Damage coverage.
4. Umbrella Liability: The Contractor and all Subcontractors shall maintain during the life of this contract, Umbrella Liability Insurance providing excess coverage over the above specified primary insurance in an amount not less than:
 - a. \$1,000,000 for contracts UNDER \$100,000.00.
 - b. \$2,000,000 for contracts OVER \$100,000.00.
5. Additional Insurance Requirements: The Contractor and all Subcontractors in connection with the above mentioned Worker's Compensation Insurance shall furnish to the Owner a duly executed certificate of compliance, as prescribed by the Indiana Worker's Compensation Board showing that such insurance is in full force and effect.

With regard to the above mentioned General Liability Insurance, if in the event of any major change or cancellation of such policy, the Contractor and all Subcontractors shall give 30-day advance notice to the Owner.

Also, the Contractor and all Sub-contractors shall make the Owner, as stated in the "Instructions to Bidders", additional insured on their Business Auto and General Liability policies with regard to this Contract.

The Contractor and all Subcontractors shall be required to furnish to the Owner duly executed certificates of insurance showing that all insurance policies required under this contract have been issued and are in full force and effect at all times during the life of this contract and have named the Owner, as stated in the "Instructions to bidders", additional Insured. These certificates are to include General Liability, including contractual coverage, Business Auto and Umbrella Liability.

The “Contractor” will name the “Owner”, and any other parties specified, as an “Additional Insured” under the Commercial General Liability Policy. This “Additional Insured” coverage shall be on Form CG2010, or its equivalent, including “completed operations” coverage. The “Additional Insured” coverage provided to the Owner shall be primary coverage, and non-contributory as respects the Owners Liability policy.

6. Loss or Damage: The Owner will obtain all Builders Risk Insurance Policies for this Project.
7. Indemnification: To the fullest extent permitted by law, the Subcontractor expressly agrees to defend (at Subcontractor’s expense and with counsel acceptable to the Contractor), indemnify, and hold harmless Owner, Contractor, Architect, Architect’s Consultants, Engineer, Construction Manager, Lender, and any other parties which Contractor has agreed to indemnify as named or referenced in the project contract documents as attached to and made a part of this Subcontract, and their respective Officers, Directors, Shareholders, Employees, Agents, Successors, Affiliates, and Assigns from and against any and all claims, suits, losses, causes of action, damages, liabilities, fines, penalties and expenses of an kind whatsoever, including without limitation arbitration or court costs and attorney’s fees, arising on account of or in connection with injuries to or the death of any person, or any and all damages to property including loss of use, from or in any manner connected with the work performed by or for the Subcontractor under this Subcontract, caused in whole or in part by the presence of the person or property or the negligent acts or omissions of the Subcontractor or any of its Employees, Agents, Representatives, Sub-Subcontractors, or suppliers or anyone for whose acts they may be liable, including without limitation such claims, damage, loss of expense caused in part by the negligent acts or omissions of a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Paragraph.

The defense and Indemnification obligations under this Subcontract agreement shall not be restricted in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Subcontractor under workers’ compensation acts, disability benefits acts, or other employee benefits acts, and shall extend to and include any actions brought by or in the name of any employee of the Subcontractor or any third party to whom Subcontractor may subcontract a part or all of the work.

SUBCONTRACTORS:

- A. Prior to the awarding of the Contract, the contractor shall submit to the Owner, in writing, the names of the proposed Subcontractors and major material vendors. The Contractor shall furnish the Owner with full information concerning the proposed Subcontractor's ability and qualifications at the time such Subcontractor is submitted for approval.
- B. The Contractor shall be responsible for the acts and omissions of his Subcontractors and of persons either directly or indirectly employed by them as he is for the acts and omissions of persons directly employed by him.
- C. Nothing contained in the Contract shall create any contractual relationship between any Subcontractor and the Owner, and no Subcontractor will be recognized as a party to the Contract.

3. TAXES

The Contractor shall pay all unemployment, social security, and other such taxes imposed by local, state, or federal government.

The Owner is subject to Indiana Retail Sales Tax and Federal Excise Tax, these taxes should be included in the Contractor's bid.

4. SAFETY AND PROTECTION

OCCUPATIONAL SAFETY AND HEALTH ACTS:

These construction documents, and the joint and several phases of construction hereby contemplated are to be governed at all times by the applicable provisions of the state and federal laws included, but not limited to, the latest amendments of the following:

- 1. Indiana Occupational Safety and Health Act.
- 2. Williams-Steiger Occupational Safety and Health Act of 1970 Public Law 81-596; Part 1910-Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations; Part 1518-Safety and Health Regulations for Construction, Chapter XIII of Title 29, Code of Federal Regulations.
- 3. The REMOVAL of all asbestos associated with this project shall be in conformance with all Governing Codes for removal.

The Contractor shall assume full responsibility for health and safety at the construction site, including, but not limited to, the above mentioned laws and regulations.

5. PAYMENTS TO CONTRACTOR AND COMPLETION

Progress payments will be made monthly based on an approved Application for Payment, and will include work completed, as well as payment on material and equipment delivered and suitably stored at the site, less retainer of 10% of the amount of each, less the aggregate of previous payments in each case. Contractor must include with application, proof of purchase and delivery of materials and equipment stored.

6. SHOP DRAWINGS AND SAMPLES

See Section 01300 Submittals and Section 01340 Shop Drawings, Product Data, & Samples for information on these items.

No material shall be delivered to the project until final approved shop drawings are in the hands of the Owner and Engineer and no shop drawings shall be used on the project that do not bear the Engineer's stamp of approval.

7. EQUAL EMPLOYMENT OPPORTUNITY:

Attention of Bidders is particularly called to the requirement for ensuring that employees and applicants for employment are not discriminated against because of their race, creed, color, sex or national origin.

Attention of Bidders is also particularly called to the requirements for ensuring that, to the greatest extent feasible, in connection with work covered by this contract, opportunities for training and employment be made available to lower income residents of the project area and that contract work shall be awarded to business concerns which are located in or owned substantially by residents of the Project Area.

7. PERFORMANCE OF WORK:

General Contractor will need to provide a list of subs and supplies with estimates for the amount of work (in dollars) to be performed by everyone, including the General Contractor

Contractor agrees and acknowledges that it will perform at least 15% of the total contract price with its own labor, services and materials. Contractor, upon request, shall provide Owner with documentation to demonstrate that it has satisfied this requirement.

Pursuant to the requirements of I.C. 4-13.6-4-2.5 the contractor awarded the contract (as well as any subcontractors performing over \$300,000 of work) must be qualified by the Indiana Department of Administration's Certification Board. Bidders are also advised that this Project shall be subject to the requirements of I.C. 5-16-13, including the requirements that the prime contractor must perform at least 15% of the total contract price with its own labor, services or materials. In addition, bidders are advised that time is of the essence in completing the Project and the contractor will be subject to liquidated damages if the work is not completed within the Project deadlines.

SECTION 01000 - GOVERNING CODES

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

The work on this project is to comply with all of the governing codes stated herein.

1.2 GOVERNING CODES

1. All work shall be performed in accordance with the 2012 International Building Code as adopted by the State of Indiana.
2. This Code also adopts the 2008 National Electrical Code, the 2012 International Mechanical Code, and the 2006 International Plumbing Code.
3. All work shall also be performed according to any city and county regulations or codes.
4. All trenching and excavations shall be properly designed by the Excavator in accordance with OSHA and IOSHA excavation regulations.
5. Job safety shall be adhered to by all Contractors on the project in accordance with OSHA and all governing bodies.

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 01005 - SUMMARY, ALLOWANCES, AND ALTERNATES

PART 1-GENERAL

1.1 RELATED DOCUMENTS

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

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project consists of the ISU Credit Union - Addition
- B.
 - 1. Project Location: 444 North 3rd Street
Terre Haute, Indiana 47807
 - 2. Owner: Mr. Trent Kerr
ISU Credit Union
444 North 3rd Street
Terre Haute, Indiana 47807
- B. Contract documents dated August 24, 2021 were prepared by:
 - 1. Holder Design, Inc.
24 South 5th Street
Terre Haute, IN 47807
- C. The Work includes all labor, material, equipment, tools, and services required for the construction of ISU Credit Union. A listing of the major products and systems included in the Work is indicated by the Table of Contents in the Project Manual.
- D. The Work will be completed under a single prime contract.

1.3 COORDINATION

- A. General: The Contract includes coordination of entire work of project including preparation of general coordination drawings/diagrams/schedules, and control of site utilization; from the beginning of activity, through the project close-out and warranty periods.
- B. The Owner will be occupying other portions of the building during construction. The contractor shall coordinate his activities during the term of the contract so as not to inconvenience the Owner and his operations any more than is necessary.

1.4 ALTERNATES

- A. Definitions: Alternates are defined as alternate products, materials, equipment or systems for the work, which may, at Owner's option and under terms established by Instructions to Bidders, be selected and recorded in (Owner-Contractor Agreement) to either supplement or displace corresponding basic requirements of contract documents. Alternates may or may not substantially change scope and general character of the work; and must not be confused with "allowances", "unit prices", "change orders", "substitutions", and other similar provisions.

- B. General Provisions: A "Schedule of Alternates" is included at end of this section. Each alternate is defined by abbreviated language, recognizing that drawings and specification sections document the requirements. Coordination of related work is required to ensure that work effected by each selected alternate is complete and properly interfaced with work of alternates.

1.5 ALLOWANCES

- A. General: A "Schedule of Allowances", showing amounts included in each prime Contract Sum, is included at the end of this section. Coordinate allowance work with related work, to ensure that each selection is completely integrated and interfaced with related work. Requirements for work of allowance are shown and specified to extent established by date of contract documents; additional requirements are established by change order. At earliest possible date, advise Architect/Engineer of date each final allowance selection must be completed. Submit proposals for allowance work as directed, and in a manner specified for change orders. Indicate quantities, unit costs, total purchase amounts, taxes, delivery charges and trade discounts. Where requested, furnish detailed breakdown of quantity survey. Contractor mark-up on overrun of allowance purchases will be permitted where purchase amount exceeds established allowance by more than 15%; otherwise, and except as otherwise indicated, amount of change order on each allowance will be difference between purchase amount and allowance. Deliver excess materials of allowance work to Owner's storage space or dispose of by other means as directed.
- B. Unit-Cost Allowances: Change Order amount will be difference between unit purchase amount and unit-cost allowance, multiplied by final measure or count of work-in-place, including reasonable margins for applicable cutting losses, tolerances, mixing wastes, product imperfections and similar margins. Owner reserves right to establish final measure or count of work-in-place by independent quantity surveyor.

1.6 CUTTING AND PATCHING

- A. Definition: Includes cutting and patching of both previously existing work and nominally completed portions of Contract work. Excludes shop fabrication of work, and normal installation procedures including the drilling of holes to install fasteners. Excludes special categories, grading, planting, cleaning, removal/replacement of noncomplying work and similar activities; although some of these activities may require cutting and patching.
- B. General: Specific requirements and limitations for cutting and patching are shown and specified for certain types of work, and specified in other sections of Division I as required quality control procedures for general application to performance of the work.

1.7 PERFORMANCE REQUIREMENTS FOR COMPLETED WORK

- A. General: The contract documents indicate intended occupancy and utilization of building or site and its individual systems and facilities. Compliance with governing regulations is intended and required, for the work and for Owner's occupancy and utilization.

1.8 DISPOSAL OF WASTE MATERIAL

- A. All waste material and debris resulting from Work of this Contract shall be removed from the site by Contractor and disposed of in a legal manner.

1.9 SCHEDULING/LIQUIDATED DAMAGES

- A. Construction shall commence within 10 calendar days of Notice to Proceed, and be completed within the time frame agreed upon by the Owner.
- B. No liquidated damages on this project.

1.10 SCHEDULE OF ALTERNATES

- A. Alternate #1: Inclusion of 100% Performance Bond and 100% Payment Bond

1.11 SCHEDULE OF ALLOWANCES

- A. Allowance #1: Feature Wall - \$10,000

END OF SECTION

SECTION 01010 - SUMMARY OF WORK

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 WORK AND DEFINITION OF PARTIES

- A. The work described herein and illustrated on the accompanying drawings is to comprise all materials and labor for the General Construction and Demolition work as shown on the drawings and specified herein for this project.
- B. Wherever the word "Owner" is used herein, it refers to ISU Credit Union.
- C. Wherever the word "Architect" is used herein, it refers to Holder Design, Inc., 24 South 5th Street, Terre Haute, Indiana 47807.
- D. Wherever the word "Contractor" is used herein, it refers to the Contractor or Contractors for any part or parts of the work covered by these specifications and the accompanying drawings.

1.2 SCOPE OF GENERAL CONDITIONS AND ALL CONTRACT DOCUMENTS

- A. The General Conditions and all contract Documents shall govern in any subcontract made for any part or parts of the General Construction and Demolition work in this project.

1.3 COORDINATION

- A. General: The Contract includes coordination of entire work of project including preparation of general coordination drawings/diagrams/schedules, and control of site utilization; from the beginning of activity, through the project close-out and warranty periods.

1.4 DUPLICATING

- A. It is understood that work not indicated on a part of the drawings but reasonably implied to be similar to that shown at corresponding places on other drawings, is to be repeated.

1.5 CUTTING, PATCHING AND DIGGING

- A. Each Prime Contractor shall do all cutting, fittings, or patching of his work that may be required to make its several parts come together properly and fit to work with other Contractors, as shown or reasonably implied by the drawings and specifications, or as the Architect and Owner may direct.
- B. Any cost of defective or ill-time work shall be borne by the party responsible therefore.
- C. Contractor shall not endanger any work cutting, digging, or otherwise and shall not cut or alter the work of any Contractor except with the consent of the Architect and Owner.

1.6 DIVISION OF WORK

- A. All mechanical, ventilating, electrical "rough-in", and final connection for equipment, shall be done by the respective Contractor for that work from drawings furnished, unless otherwise specifically noted.

1.7 VERIFYING MEASUREMENTS

- A. The Contractor shall verify all measurements and be responsible for mistakes he may make and their result. If the Contractor discovers any discrepancy, in figures on the drawings, he shall report same to the Architect before proceeding with any work affected by the discrepancy, and shall be held responsible for results should he fail to make such report.

1.8 PERFORMANCE REQUIREMENTS FOR COMPLETED WORK

- A. General: The contract documents indicate intended occupancy and utilization of building or site and its individual systems and facilities. Compliance with governing regulations is intended and required, for the work and for Owner's occupancy and utilization.

1.9 DISPOSAL OF WASTE MATERIAL

- A. All waste material and debris resulting from Work of this Contract shall be removed from the site by Contractor and disposed of in a legal manner.

1.10 SCHEDULING/LIQUIDATED DAMAGES

- A. Construction shall commence within the time frame presented by the Owner.

1.11 WORK IN THIS CONTRACT

- A. It is the intent of this Section to outline the main work items included in this Contract, not all work items, so the Contractor can have an overview of the scope of the project.
- B. ISU Credit Union - Expansion
 - i. Prepare site for new construction of new structure
 - ii. New building will be a single story structure of approximately 4000 square feet.
 - iii. The structure will be a wood frame building.
 - iv. The site has been improved and has all utilities accessible.

1.8 DEMOLITION

- A. All demolition work shall be done in a workman like manner in order cause no more disturbance to operations than absolutely necessary. Coordinate demolition with the Contact.
- B. All debris to be removed from site by contractor except for those items stated on the drawings which are to be removed and taken to a designated area for storage and remain the property of the owner.
- C. Refer to "Instructions to Bidders" for additional information.

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 01068 - REFERENCE STANDARDS AND DEFINITIONS

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 RELATED DOCUMENTS

- A. General: Basic Contract definitions are included in the General and Supplementary Conditions and other Division I Specification sections; apply to work of this section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the General Conditions.
- B. Indicated: The term "indicated" refers to graphic representatives, notes, or schedules on the Drawings, other Paragraphs of Schedules in the Specifications, and similar requirements in the Contract Documents. Where terms such as "shown", "noted", "scheduled" are used, it is to help the reader locate the reference; no limitation on location is intended.
- C. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted", mean "directed by the Architect", "requested by the Architect", and similar phrases.
- D. Approved: The term "approved", where used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is limited to the Architect's duties and responsibilities as stated in the Conditions of the Contract.
- E. Or an Approved Equal: The phrase "or an approved equal" means a product or material for which a request for approval was made and for which the Architect's approval was granted prior to receipt of bids.
- F. Regulations: The term "Regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- G. Furnish: The term "furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."
- H. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations."
- I. Provide: The term "provide" means "to furnish and install, complete and ready for intended use."
- J. Installer: An "Installer" is the Contractor or an entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.

1. The term "experienced" when used with the term "Installer" means having a minimum of five previous project similar in size and scope to this project, being familiar with the special requirements indicated, and having complied with requirements of the authority having jurisdiction.
 2. Trades: Use of titles such as "carpentry" is not intended to 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 tradespersons of the corresponding generic name.
 3. Assignment of Specialist: Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.
 - a. This requirement shall not be interpreted to conflict with enforcement of building codes and similar regulations governing the work. It is also not intended to interfere with local trade union jurisdiction settlements and similar conventions.
- K. Project Site is the space available to the Contractor for performance of construction activities, either exclusively or in conjunction with others performing other work as part of the project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land upon which the project is to be built.
- L. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, whether at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

1.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 16-Division Format and MASTERFORMAT numbering system.
1. Abbreviated Language: Language used in Specifications and other Contract Documents is the abbreviated type. Words that are implied, but not stated shall be interpolated as the sense required. Singular words interpreted as singular where applicable and the content of the Contract Documents so indicates.
 2. Imperative and streamlined language is used generally in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.
 - a. The words "shall be" shall be included by inference wherever a colon (:) is used within a sentence or phrase.

1.4 INDUSTRY STANDARDS

- A. Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with the standard in effect as of the date of the Contract Documents.
- C. Conflicting Requirements: Where compliance with two or more standards is specified, and the standards may establish different or conflicting requirements for minimum quantities or quality levels, refer requirements that are different, but apparently equal, and uncertainties to the Architect for a decision before proceeding.
 - 1. 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. In complying with these requirements, indicated numeric values are minimum or maximum, as appropriate for the content of the requirements. Refer uncertainties to the Architect for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on the project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source.
- E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where such acronyms or abbreviations are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards generating organization, authority having jurisdiction, or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co., available in most libraries.

1.5 GOVERNING REGULATIONS/AUTHORITIES

- A. The Architect has contacted authorities having jurisdiction where necessary to obtain information necessary for preparation of Contract Documents. Contact authorities having jurisdiction directly for information and decisions having a bearing on the work.

1.6 SUBMITTALS

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

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 01300 - SUBMITTALS

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF REQUIREMENTS

- A. The types of submittal requirements specified in this section include shop drawings, product data, samples and miscellaneous work-related submittals. Individual submittal requirements are specified in applicable sections for each unit of work. Refer to other Division I sections and other contract documents for requirements of administrative submittals.
- B. Definitions: Work-related submittals of this section are categorized for convenience as follows:
 - 1.Shop drawings include specially-prepared technical data for this project, including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form for general application to a range of similar projects.
 - 2.Product data include standard printed information on materials, products and systems; not specially-prepared for this project, other than the designation of selections from among available choices printed herein.
 - 3.Samples include both fabricated and unfabricated physical examples of materials, products and units of work; both as complete units and as smaller portions of units of work; either for limited visual inspection or (where indicated) for more detailed testing and analysis.
 - 4.Mock-ups are a special form of samples, which are too large or otherwise inconvenient for handling in specified manner for transmittal of sample submittals.
 - 5.Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock, and similar information, devices and materials applicable to the work and not processed as shop drawings, product data or samples.

1.3 GENERAL SUBMITTAL REQUIREMENTS

- A. Timing of Submittals: All required submittals shall be made in a timely manner so that as not to delay the progress of the project, but in no case shall they be made more than 30 days after award of the contract.

- B. Preparation of Submittals: Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, submittal name and similar information to distinguish it from other submittals. Show Contractor's executed review and approval marking and provide space for Architect's/Engineer's "Action" marking. Package each submittal appropriately for transmittal and handling. Submittals which are received from sources other than through Contractor's office will be returned by A/E "without action".

Transmittal Form: Contractor's standard transmittal form.

Provide Contractor's certification on form, ready for execution, stating that information submitted complies with requirements of contract documents.

1.4 SPECIFIC-CATEGORY SUBMITTAL REQUIREMENTS

- A. General: Except as otherwise indicated in individual work sections, comply with requirements specified herein for each indicated category of submittal. Provide and process intermediate submittals, where required between initial and final, similar to initial submittals.
- B. Shop Drawings: Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated), with name of preparer indicated (firm name). Show dimensions and note which are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards, and special coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings by Architect to be used in connection with the work.
1. Submittals: Submit 5 copies, 3 copies will be returned for contractor's use. Keep one copy at jobs site.
- C. Product Data: Collect required data into one submittal for each unit of work or system; and mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, and special coordination requirements. Maintain one set of product data (for each submittal) at project site, available for reference by Architect/Engineer and others.
1. Submittals: Do not submit product data, or allow its use on the project, until compliance with requirements of contract documents has been confirmed by Contractor. Submittal is for information and record, unless otherwise indicated. Initial submittal is final submittal unless returned promptly by Architect/Engineer, marked with an "Action" which indicates an observed non compliance. Submit 5 copies, 3 copies will be returned for contractor's use and where required for maintenance manuals.
- D. Samples: Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where Architect's/Engineers selection is required. Prepare samples to match Architect's/Engineer's sample where so indicated. Include information with each sample to show generic description, source or product

name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture and "kind" by Architect/Engineer. Architect/Engineer will not "test" samples (except as otherwise indicated) for compliance with other requirements, which are therefore the exclusive responsibility of Contractor.

1. Submittal: Provide submittal of 3 sets of samples for Architect's/Engineer's review and "Action". Two sets will be returned. Maintain one set of samples at the job site.
- E. Mock-Ups: Mock-ups and similar submittal of 3 sets of samples for Architect's/Engineer's review and "Action". Two sets will be returned. Maintain one set of samples at the job site.
- F. Inspection and Test Reports: Classify each as either "shop drawing" or "product data", depending upon whether report is uniquely prepared for project or a standard publication of workmanship control testing at point of production; process accordingly.
- G. Warranties: Refer to "Products" section for specific general requirements on warranties, product/workmanship bonds, and maintenance agreements. In addition to copies desired for Contractor's use, furnish 2 executed copies, except furnish 2 additional (conformed) copies where required for maintenance manuals. Refer to Mechanical and Electrical Sections.
- H. Closeout Submittals: Refer to individual work sections and to "closeout" sections for specific requirements on submittal of closeout information, materials, tools and similar items.

Record Document Copies: Furnish one set.

Maintenance/Operating Manuals: Furnish 2 bound copies.

1. Materials and Tools: Refer to individual work sections for required quantities of spare parts, extra and overrun stock, maintenance tools and devices, keys, and similar physical units to be submitted.
- I. General Distribution: Provide additional distribution of submittals (not included in foregoing copy submittal requirements) to subcontractors, suppliers, fabricators, installers, governing authorities and others as necessary for proper performance of the work. Include such additional copies in transmittal to Architect/Engineer where required to receive "Action" marking before final distribution. Record distributions on transmittal forms.

1.5 ACTION ON SUBMITTALS

- A. Except for submittals for the record or for information, where action and return of submittals is required, the Architect or Engineer will review each submittal, mark to indicate the action taken, and return.
1. Do not permit submittals marked "Revise and resubmit" or "Rejected" to be used in the Work.

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 01310 - COORDINATION AND EXPEDITING

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 MEETINGS

It shall be an obligation of the Contractors to attend a meeting with the Owner and Architect as directed by Architect, during the entire life of the project for the purpose of expediting the work and considering other matters pertaining thereto. Notice of said meetings to originate at the Architects Office or Contractors Office as agreed upon, unless otherwise noted. Contractor to require his principal Subcontractors to attend.

1.2 PROGRESS SCHEDULE

After award of contract, prime contractors cooperatively shall submit for approval a progress schedule. This schedule shall be worked out and agreed upon by the prime contractors and is intended to act as a means of obtaining closer cooperation and coordination between all contractors involved. The schedule shall be based on work days. It should be remembered that time must be allotted for shop drawings and decisions involving Architect and Owner.

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA, & SAMPLES

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submittal of Shop Drawings Product Data and Samples.

1.3 SUBMITTAL PROCEDURES

- A. Contractor Reviews: The Contractor shall review and approve all submittals before transmitting them to the Architect/Engineer. Each submittal shall bear the approval stamp of the Contractor or they will be returned by the Architect/Engineer unchecked.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal to the Architect/Engineer sufficiently in advance of scheduled performance of related construction activities to avoid delay. The Architect/Engineer will then review the submittals or send them on to the appropriate consulting Engineer for review.
 - 1. Processing: To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for re-submittals
 - 2. Submit only the shop drawings, product data, and samples called for in the technical Sections. Any other shop drawings, product data, or samples submitted will be returned unchecked.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal to the Architect/Engineer and to other destinations by use of a transmittal form. The Architect/Engineer will return submittals received from sources other than the Contractor.
 - 1. Record relevant information and requests for data on the transmittal form. On the form, or an attached separate sheet, record deviations from requirements of the Contract Documents, including minor variations and limitations.
 - 2. Include the Contractor's certification stating that information submitted complies with requirements of the Contract Documents.

1.4 SHOP DRAWINGS

- A. Submit newly prepared information, drawn accurately to scale. Do not reproduce Contract Documents or copy standard printed information as the basis of Shop Drawings.
 - 1. Include the following information on Shop Drawings:
 - a. Dimensions.
 - b. Identification of products and materials included.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements
 - e. Notation of dimensions established by field measurement.
 - 2. Submit Coordination Drawings where required for integration of different construction elements. Show construction sequences and relationships of separate components where necessary to avoid conflicts in utilization of the space available.
 - 3. Highlight, encircle, or otherwise indicate deviations from the Contract Documents on the Shop Drawings.
 - 4. Do not allow Shop Drawing copies that do not contain an appropriate final stamp or other marking indicating the action taken by the Architect or Engineer to be used in construction.
 - 5. Submittal: Submit 1 reproducible copy and 2 additional blue line or black line prints of each shop drawing. The 2 prints marked with the action taken by the Architect or Engineer will be retained and the reproducible copy will be returned to the Contractor. The Contractor should then make copies from the reproducible that bears the action stamp as suits his needs, including a copy required for Project Record Documents.

1.5 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Mark each copy to show which choices and options are applicable to the Project.
 - 1. Include the following information in Product Data:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with recognized trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
- B. Submittals: Submit 5 copies of each required Product Data submittal. Two copies marked with the action taken by the Architect or Engineer will be retained, and the balance will be returned to the Contractor.

1.6 SAMPLES

- A. Submit 12" x 12", fully fabricated Samples, cured and finished in the manner specified, and physically identical with the material or product proposed for use.
 - 1. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
 - a. Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented by a Sample, submit at least 3 multiple units that show approximate limits of the variations.
- B. Submittals: Except for Samples intended to illustrate assembly details, workmanship, fabrication techniques, connections, operation, and other characteristics, submit 3 sets of Samples. One set will be returned marked with the action taken.

1.7 ARCHITECT'S/ENGINEER'S ACTION

- A. Except for submittals for the record or for information, where action and return of submittals is required. The Architect or Engineer will review each submittal, mark to indicate the action taken, and return.
 - 1. Do not permit submittals marked "Revise and resubmit" or "Rejected" to be used in the Work.

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 01500 - TEMPORARY FACILITIES AND PROTECTION

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF REQUIREMENTS

- A. Definitions: Specific administrative and procedural minimum actions are specified in this section, as extension of provisions in General Conditions and other documents. These requirements have been included for special purposes as indicated. Nothing in this section is intended to limit types and amounts of temporary work required, and no omission from this section will be recognized as an indication by Architect or Engineer that such temporary activity is not required for successful completion of the work and compliance with requirements of contract documents. Provisions of this section are applicable to, but not by way of limitation, utility services, construction facilities, security/protection provisions, and support facilities.

1.3 QUALITY ASSURANCE

- A. General: In addition to compliance with governing regulations and rules/recommendations of franchised utility companies, comply with specific requirements indicated and with applicable local industry standards for construction work (published recommendations by local consensus "building councils").
- B. OSHA: Contractors shall comply with Williams-Steiger, Occupational Safety & Health Act of 1970, Part 1926 (Formerly 1518), Safety & Health Regulations for Construction, Subpart H 1926.250 and as amended thereafter.

Comply with Subpart E, 1926.100 through 1926.107 (1518.100 through 1518.107) Subpart H, 1926.251 (1518.251), Subpart I 1926.300 through 1926.305 (1518.300 through 1518.305) Subpart L 1926.450 through 1926.452 (1518.450 through 1518.452) Subpart N 1926.550 through 1926.555 (1518.550 through 1518.555) Subpart O 1926.600 through 1926.606 (1518.600 through 1518.606) of Safety & Health Regulations.

1.4 JOB CONDITIONS

- A. Conditions of Use: Install, operate, maintain and protect temporary facilities in a manner and at locations which will be safe, non-hazardous, sanitary and protective of persons and property, and free of deleterious effects.
- B. Each Contractor shall supply all tools, machinery, centers, hoists, derricks, etc. as required for the complete and satisfactory execution of his work. Each contractor shall provide all guys and anchorage for such apparatus and structures and shall be responsible for any unsafe work in connection with the same.

1.5 TEMPORARY UTILITY SERVICES

- A. The types of services required include, but not by way of limitation, water, electrical power and telephone. Contact local utilities for required services during construction.
- B. Potable Water: Coordinate with Owner on usage of existing water service at building. Water usage as billed by Indiana American Water Company during construction shall be paid for by the Owner.
- C. Temporary Power: Coordinate with Owner on usage of existing electrical service for temporary power. Provide temporary power and lighting as required by all contractors. The Owner shall pay for the cost of the electricity during construction. The cost of light bulbs used during the construction shall be paid for by the Electrical Contractor. Each contractor and/or subcontractor shall furnish any necessary wiring and extension cords to reach from the nearest outlet to his point of operation.

If any contractor requires additional power for use of tools, it will be their responsibility to make these arrangements with the Electrical Contractor.

All elements of the temporary service shall conform to the regulations of the National Electric Code, the National Electric Safety Code and the Safety Code for the Construction Industry, and Part 1926 Safety & Health Regulations for Construction and as amended thereafter.

No permanent power from permanent sources shall be used without the Owner's written permission indicating the conditions whereby it may be used. Consideration will not be given for the use of lights, wiring devices, or other electric equipment until the building is in the finishing stages, or unless it is in the Owner's interests.

1.6 TEMPORARY CONSTRUCTION FACILITIES

- A. The types of temporary construction facilities required include, but not by way of limitation, water distribution, heat, ventilation, and electrical power distribution. Provide facilities reasonable required to perform construction operations properly and adequately.
- B. Lighting: Provide sufficient temporary lighting to ensure proper workmanship everywhere by combined use of daylight and portable plug-in task lighting. Provide general lighting with local switching which will enable energy conservation during periods varying activity (work-in-progress, traffic only, security check, lock-up, etc.).

1.7 SECURITY/PROTECTION PROVISIONS

- A. The types of temporary security and protection provisions required include, but not by way of limitation, fire protection, barricades, warning signs/lights, building enclosure/lockup, personnel security program (theft prevention), environmental protection, and similar provisions intended to minimize property losses, personal injuries and claims for damages at project site.

- B. Fire Extinguishers: Provide types, sizes, numbers and locations as would be reasonably effective in extinguishing fires during early stages, by personnel at project site. Provide Type A Extinguishers at locations of low-potential for either electrical or grease-oil-flammable liquids fires; provide Type ABC dry chemical extinguishers at other locations; comply with recommendations of NFPA No. 10. Post warning and quick instructions at each extinguisher location, and instruct personnel at project site, at time of their first arrival, on proper use of extinguishers and other available facilities at project site. IF REQUIRED.
- C. Non-Working Hours: All temporary facilities or equipment which would permit unauthorized persons access to the construction area, or building, or roof shall be removed from the site or shall be secured to be unusable during periods when work is not in progress.
- D. The work of any Contractor damaged because of failure of the General Contractor to provide the protection above required shall be removed and replaced with new work at the General Contractor's expense.

Each Prime Contractor shall protect his excavations, trenches and structures from damage from rain water, ground water, backing-up of drains and sewers, and from all other water. Provide pumps, equipment and enclosures to provide protection for his own work.

1.8 TEMPORARY SUPPORT FACILITIES

- A. The types of temporary support facilities required include, but not by way of limitation, storage sheds, fabrication sheds first aid facilities, signs, clean-up facilities waste disposal service, rodent/pest control and similar miscellaneous general services, all as may be reasonably required for proficient performance of the work and accommodation of persons, at the site including Owner's and Architect's/Engineer's personnel. Discontinue and remove temporary support facilities, and make incidental similar use of permanent work of the project, only when and in manner authorized by Architect/Engineer; and, if not otherwise indicated, immediately before time of substantial completion. Locate temporary support facilities for convenience of users, and for minimum interference with construction activities.
- B. Contractor's Field Office: Contractor's temporary field office is not required. If one is provided, locate as directed by Owner.
 - 1. Contractor shall provide telephones for emergency calls by either providing an office equipped with a telephone or providing a mobile telephone.

- C. Temporary Sheds: Contractor shall provide any temporary sheds he needs for storage, fabrication and similar purposes. Locate as directed by Owner.
- D. Sanitary Facilities: Contractor shall provide toilets he needs for sanitation. (Single occupant self-contained chemical toilet units, properly vented and fully enclosed with fiber reinforced polyester shell or similar non-absorbent material.) Provide separate toilet facilities for male and female construction personnel when both sexes are employed on site.
- E. Cleaning and Trash Removal: Contractor shall provide waste containers sufficient for the deposit of non-hazardous/non-toxic waste materials. Remove such waste materials from the project site at least twice weekly during mild and warm weather (daily high temperatures above 50 degrees F). Remove not less than weekly during periods when daily high temperatures are at or below 50 degrees F.
- F. Temporary Walks, Stairs, Ladders, Ramps, and Runways: General Contractor shall furnish and maintain all equipment such as temporary stairs, ramps, chutes, etc. as required for proper execution of the work by all trades, except where specifically mentioned that above is to be furnished and maintained under divisions or sections of contract as hereinafter specified. All above shall comply with Subpart L, 1926.450 through 1926.452 (1518.450 through 1518.452) & Subpart M, 1926.500 through 1926.502 (1518.500 through 1518.502) of Safety & Health Regulations for Construction.

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 01605 - PRODUCTS AND SUBSTITUTIONS

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF REQUIREMENTS

- A. Definitions: "Products" is defined to include purchased items for incorporation into the work, regardless of whether specifically purchased for project or taken from Contractor's stock of previously purchased products. "Materials", is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined or otherwise fabricated, processed, installed or applied to form units of work. "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, etc.). Definitions in this paragraph are not intended to negate the meaning of other terms used in contract documents, including "specialties", "systems", "structure", "finishes", "accessories", "furnishings", "special construction", and similar terms, which are self-explanatory and have recognized meanings in the construction industry.
- B. Substitutions: The requirements for substitutions do not apply to specified Contractor options on products and construction methods. Revisions to contract documents, where requested by Owner, Architect or Engineer, are "changes" not "substitutions". Requested substitutions during bidding period, which have been accepted prior to Contract Date, are included in contract document and are not subject to requirements for substitutions as specified herein. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities do not constitute "substitutions"; and do not constitute a basis for change orders, except as provided for in contract documents. Otherwise, Contractor's requests for changes in products, materials and methods of construction required by contract documents are considered requests for "substitutions", and are subject to requirements hereof.
- C. Standards: Refer to Division I section "Definitions and Standards" for applicability of industry standards to products of project, and for acronyms used in text of specification sections.

1.3 QUALITY ASSURANCE

- A. Source Limitations: To the greatest extent possible for each unit of work, provide products, materials or equipment of a singular generic kind from a single source.
- B. Finish Materials: Finish materials installed within a single room or area or within contiguous areas, or on the exterior, shall be from a single production run to assure color/pattern/finish consistency. Color, pattern, or finish variations, not represented by the approved samples and judged by the Architect/Engineer to be objectionable will result in rejection of the material, without regard for whether the variations are caused by inter-mixing of materials from more than one production run, or by Installer not

following manufacturer's instructions for blending of material from a single production rim. This paragraph relates to both exterior and interior finish materials.

- C. Compatibility of Options: Where more than one choice is available as options for Contractor's selection of a product or material, select an option which is compatible with other products and materials already selected (which may have been from among options for those other products and materials). Compatibility is a basic general requirement of product/material selections.
- D. Approved or Acceptable Manufacturers: The specification sections may identify acceptable or approved manufacturers with a paragraph which states the following, or words of the same effect:

Subject to compliance with requirements, provide products of one of the following:

The manufacturers listed are those that are believed to provide products of acceptable and comparable quality and which satisfy the requirements of the specifications. Since manufacturers, from time to time, change the quality of their products, some manufacturer's products may not conform to the requirements of the specifications. Those manufacturers are hereby advised that specification requirements will not be waived to accept their products simply because they were named as an acceptable or approved manufacturer.

1.4 SUBMITTALS

- A. Requests for Substitutions: Submit 3 copies, fully described for product or method being replaced by substitution, including related specification section and drawings number(s), and fully documented to show compliance with requirements for substitutions. Include product data/drawings, description of methods, samples where applicable, Contractor's detailed comparison of significant qualities between specified item and proposed substitution, statement of effect of construction time and coordination with other affected work, cost information or proposal, and Contractor's statement to the effect that proposed substitution will result in overall work equal-to-or-better-than work originally indicated.

1.5 PRODUCT DELIVERY-STORAGE-HANDLING

- A. General: Deliver, handle and store products in accordance with manufacturer's recommendations and by methods and means which will prevent damage, deterioration, and loss including theft. Control delivery schedules to minimize long term storage of products at site and overcrowding of construction spaces. In particular, provide deliver/installation coordination to ensure minimum holding or storage times for products recognized to be flammable, hazardous, easily damage, or sensitive to deterioration, theft and other sources of loss.

1.6 WARRANTIES (GUARANTEES)

- A. Categories of Specific Warranties: Warranties on the work are in several categories, including those of General Conditions, and including (but not necessarily limited to) the following specific categories related to individual units of work specified in sections of Divisions 2 through 16 of these specifications:

1. Special Project Warranty (Guarantee): A warranty specifically written and signed by Contractor for a defined portion of the work; and, where required, countersigned by subcontractor, installer, manufacturer or other entity engaged by Contractor.
 2. Specified Product Warranty: A warranty which is required by contract documents, to be provided for a manufactured product incorporated into the work; regardless of whether manufacturer has published a similar warranty without regard for specific incorporation of product into the work, or has written and executed a special project warranty as a direct result of contract documents requirements.
 3. Coincidental Product Warranty: A warranty which is not specifically required by contract documents (other than as specified in this Section); but which is available on a product incorporated into the work, by virtue of the fact that manufacturer of product has published warranty in connection with purchases and uses of product without regard for specific applications except as otherwise limited by terms of warranty.
- B. Refer to individual sections of Divisions 2 through 16 for the determination of units of work which are required to be specifically or individually warranted, and for the specific requirements and terms of those warranties (or guarantees).
- C. General Limitations: It is recognized that specific warranties are intended primarily to protect Owner against failure of the work to perform as required, and against deficient, defective and faulty materials and workmanship, regardless of sources. Except as otherwise indicated, specific warranties do not cover failures in the work which result from: 1) Unusual and abnormal phenomena of the elements, 2) The Owner's misuse, maltreatment or improper maintenance of the work, 3) Vandalism after time of substantial completion, or 4) Insurrection or acts of aggression including war.
- D. Related Damages and Losses: In connection with Contractor's correction of warranted work which has failed, remove and replace other work on project which has been damaged as a result of such failure, or must be removed and replaced to provide access for correction of warranted work.
1. Consequential Damages: Except as otherwise indicated or required by governing regulations, special project warranties and product warranties are not extended to cover damage to building contents (other than work of Contract) which occurs as a result of failure of warranted work.
- E. Reinstatement of Warranty Period: Except as otherwise indicated, when work covered by a special project warranty or product warranty has failed and has been corrected by replacement or restoration, reinstate warranty by written endorsement for the following time period, stating on date of acceptance of replaced or restored work.
1. A period of time equal to original warranty period of time.

- F. Replacement Cost, Obligations: Except as otherwise indicated, costs of replacing or restoring failing warranted units or products is Contractor's obligation, without regard for whether Owner has already benefited from use through a portion of anticipated useful services lives.
- G. Contractor's Procurement Obligations: Do not purchase, subcontract for, or allow others to purchase or subcontract for material or units of work for project where a special project warranty, specified product warranty, certification or similar commitment is required, until it has been determined that entities required to countersign such commitments are willing to do so.
- H. Specific Warranty Forms: Where a special project warranty (guarantee) or specified product warranty is required, prepare a written document to contain terms and appropriate identification, ready for execution (through Architect/Engineer) for approval prior to final executions.

PART 2: PRODUCTS

2.1 GENERAL PRODUCT COMPLIANCES

- A. General: The compliance requirements, for individual products as indicated in contract documents, are multiple in nature and may include generic, descriptive, proprietary, performance, prescriptive, compliance with standards, compliance with codes, conformance with graphic details and other similar forms and methods of indicating requirements, all of which must be complied with. Also "allowances" and similar provisions of contract documents will have a bearing on selection process.
- B. Procedures for Selecting Products: Contractor's options for selecting products are limited by contract document requirements, and governing regulations, and are not controlled by industry traditions or procedures experienced by Contractor on previous construction projects. Required procedures include, but are not necessarily limited to, the following for various indicated methods of specifying:
 - 1. Single Product/Manufacturer Name: Provide product indicated, except advise Architect/Engineer before proceeding, where known that named product is not a feasible or acceptable selection.
 - 2. Two or More Product/Manufacturer Names: Provide one of the named products, at Contractor's option; but excluding products which do not comply with requirements. Do not provide or offer to provide an unnamed product, except where none of named products comply with requirements or are a feasible selection; advise Architect/Engineer before proceeding.
 - 3. "Or Equal": Where named products in specifications text are accompanied by the term "or equal", or other language of similar effect, comply with those contract document provisions concerning "substitutions" for obtaining Architect's/Engineer's approval (by change order) to provide an unnamed product.

4. Standards, Codes and Regulations: Where only compliance with an imposed standard, Code or regulation is required, selection from among products which comply with requirements including those standards, codes and regulations, is Contractor's option.
5. Performance Requirements: Provide products which comply with specific performances indicated, and which are recommended by manufacturer (in published product literature or by individual certification) for application indicated. Overall performance of a product is implied where product is specified with only certain specific performance requirements.
6. Prescriptive Requirements: Provide products which have been produced in accordance with prescriptive requirements, using specified ingredients and components, and complying with specified requirements for mixing, fabricating, curing, finishing, testing, and similar operations in manufacturing process.
7. Visual Matching: Where matching with an established sample is required, final judgment of whether a product proposed by Contractor matches sample satisfactorily is Architects/Engineers judgment. Where no product within specified cost category is available, which matches sample satisfactorily and complies with requirements, comply with contract documents provisions concerning, "substitutions" and "change orders" for selection of a matching product outside established cost category or, of a product not complying with requirements.
8. Visual Selection: Except as otherwise indicated, where specified product requirements include "...as selected from manufacturer's standard colors, patterns, textures..." or words of similar effect, the selection of manufacturer and basic product (complying with requirements) is Contractor's option, and subsequent selection of color, pattern and texture is Architects/Engineers selection.

2.2 *SUBSTITUTIONS*

- A. Conditions: Contractor's request for substitution will be received and considered when extensive revisions to contract documents are not required and changes are in keeping with general intent of contract documents; when timely, fully documented and properly submitted; and when one or more of the following conditions is satisfied, all as judged by Architect/Engineer. Otherwise, requests will be returned without action except to record non-compliance with these requirements.
 1. Where required product, material or method cannot be provided within Contract Time, but not as a result of Contractor's failure to pursue the work promptly or to coordinate various activities properly.
 2. Where required product, material or method cannot be provided in a manner which is compatible with other materials of the work, or cannot be properly coordinated therewith, or cannot be warranted as required, or cannot be used without adversely affecting Owner's insurance coverage on completed work, or will encounter other substantial non-compliances which are not possible to otherwise overcome except by making requested substitution, which

Contractor thereby certifies to overcome such non-compatibility, non coordination, non-warranty, non-insurability or other non-compliance as claimed.

3. Where required product, material or method cannot receive required approval by a governing authority, and requested substitution can be so approved.
 - a. Submit within 10 days of Notice To Proceed, any proposed substitutions with reason for the substitution as outlined above.
- B. Work-Related Submittals: Contractor's submittal of, and Architect's/Engineer's approval of, shop drawings, product data or samples which relate to work not complying with requirements of contract documents, does not constitute an acceptable or valid request for a substitution, nor approval thereof.

2.3 *GENERAL PRODUCT REQUIREMENTS*

- A. General: Provide products which comply with requirements, and which are undamaged and unused at time of installation, and which are complete with accessories, trim, finish, safety guards, and other devices and details needed for complete installation and for intended use and effect.
- B. Nameplates: Except as otherwise indicated for required approval labels, and operating data, do not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view either in occupied spaces or on exterior of the work.
 1. Labels: Locate required labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface which, in occupied spaces, is not conspicuous.
 2. Equipment Nameplates: Provide permanent nameplate on each item of service-connected or power operated equipment. Indicate manufacturer, product name, model number, serial number, capacity, speed, ratings and similar essential number, capacity, speed, ratings and similar essential operating data. Locate nameplates on an easily accessed surface which, in occupied spaces, is not conspicuous.

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 01700 - PROJECT CLOSEOUT

PART 1-GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF REQUIREMENTS

- A. Definitions: Closeout is hereby defined to include general requirements near end of Contract Time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Division 2 through 16. Time of closeout is directly related to "Substantial Completion", and therefore may be either a single time period for entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. That time variation (if any) shall be applicable to other provisions of this section.

1.3 PREREQUISITES TO SUBSTANTIAL COMPLETION

- A. General: Prior to requesting Architect's/Engineer's inspection for certification of substantial completion (for either entire work or portions thereof), complete the following and list known exceptions in request:
 - 1. In progress payment request, coincident with or first following date claimed, show either 100% completion for portion of work claimed as "substantially complete", or list incomplete items, value of incompleteness, and reasons for being incomplete.
 - 2. Include supporting documentation for completion as indicated in these contract documents.
 - 3. Submit statement showing accounting of changes to Contract Sum.
 - 4. Advise Owner of pending insurance change-over requirements.
 - 5. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.
 - 6. Obtain and submit releases enabling Owner's full and unrestricted use of the work and access to services and utilities, including (where required) occupancy permits, operating certificates, and similar releases.
 - 7. Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner.

8. Complete start-up testing of systems, and instructions of Owner's operating/maintenance personnel. Discontinue (or change over) and remove from project site temporary facilities and services, along with construction tools and facilities, mock-ups, and similar elements.
 9. Complete final cleaning up requirements, including touch-up painting of marred surfaces.
- B. Inspection Procedures: Upon receipt of Contractor's request, Architect/Engineer will either proceed with inspection or advise Contractor of prerequisites not fulfilled. Following initial inspection, Architect/Engineer will either prepare certificate of substantial completion, or advise Contractor of work which must be performed prior to issuance of certificate; and repeat inspection when requested and assured that work has been substantially completed. Results of completed inspection will form initial "punchlist" for final acceptance.

1.4 PREREQUISITES TO FINAL ACCEPTANCE

- A. General: Prior to requesting Architect's/Engineer's final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list known exceptions (if any) in request:
1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 2. Submit updated final statement, accounting for additional (final) changes to Contract Sum.
 3. Submit certified copy of Architect's/Engineer's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Architect/Engineer.
 4. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of time of substantial completion or when Owner took possession of and responsibility for corresponding elements of the work.
 5. Submit consent of surety and waiver of liens.
 6. Submit final liquidated damages settlement statement, acceptable to Owner.
 7. Revise and submit evidence of final, continuing insurance coverage complying with requirements.
- B. Re-inspection Procedure: Upon receipt of Contractor's notice that the work has been completed, including punch list items resulting from earlier inspections, and excepting incomplete items delayed because of acceptable circumstances, Architect/Engineer will re-inspect the work. Upon completion of re-inspection, Architect/Engineer will either prepare certificate of final acceptance or advise Contractor of work not completed or obligations not fulfilled as required for final acceptance. If necessary, procedure will be repeated.

1.5 RECORD DOCUMENT SUBMITTALS

- A. General: Specific requirements for record documents are indicated in individual sections of these specifications. Other requirements are indicated in General Conditions. General submittal requirements are indicated in "submittals" section. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for Architect's/Engineer's reference during normal working hours.
- B. Record Drawings: Maintain a white-print set (blue-line or black-line) of contract drawings and shop drawings in clean, undamaged condition, with mark-up of actual installations which vary substantially from the work as originally shown. Mark whichever drawing is most capable of showing "field" condition fully and accurately; however, where shop drawings are used for mark-up, record a cross reference at corresponding location on working drawings. Mark with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work. Mark-up new information which is recognized to be of importance to Owner, but was for some reason not shown on either contract drawings or shop drawings. Give particular attention to concealed work, which would be difficult to measure and record at later date. Note: relate change order numbers where applicable. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on cover of each set.
- C. Record Specifications: Maintain one copy of specifications, including addenda, change orders and similar modifications issued in printed form during construction, and mark-up variations (of substance) in actual work in comparison with text of specifications and modifications as issued. Give particular attention to substitutions, selection of options, and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record drawing information and product data, where applicable. Upon completion of mark-up, submit to Architect/Engineer for Owner's records.
- D. Maintenance Manual: Organize maintenance-and-operating manual information into suitable sets of manageable size, and bind into individual binders properly identified and indexed (thumb-tabbed). Include emergency instructions, spare parts listing, copies of warranties, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawing, product data, and similar applicable information. Bind each manual of each set in a heavy-duty 2", 3-ring vinyl covered binder, and include pocket folders for folded sheet information. Mark identification on both front and spine of each binder.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. General Operating/Maintenance Instructions: Arrange for each installer of work requiring continuing maintenance or operation, to meet with Owner's personnel, at project site, to provide basic instructions needed for proper operation and maintenance of entire work. Include instructions by manufacturer's representatives where installers are not expert in the required procedures. Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning and similar procedures and facilities. For operational equipment, demonstrate startup, shutdown, emergency operations, noise and vibration adjustments, safety, economy/efficiency adjustments, energy effectiveness, and similar operations. Review maintenance and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments.

3.2 FINAL CLEANING

- A. General: Special cleaning for specific units of work is specified in sections of Divisions 2 through 16. General cleaning during progress of work is specified in General Conditions and as temporary services in "Temporary Facilities" section of this Division. Provide final cleaning of the work, at time indicated, consisting of cleaning each surface or unit of work to normal "clean" condition expected for a first-class building cleaning and maintenance program. Comply with manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required:
 - 1. Remove labels which are not required as permanent labels.
 - 2. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substrates which are noticeable as vision obscuring materials. Replace broken glass and damaged transparent materials.
 - 3. Clean exposed exterior and interior hard-surfaced finishes, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substrate. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition.
 - 4. Remove debris and surface dust from limited access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics and similar spaces.
 - 5. Vacuum clean carpeted surfaces and similar soft surfaces.
 - 6. Clean project site (yard and grounds), including landscape development areas, of litter and foreign substances. Sweep paved areas to a broom clean condition; remove stains, petro-chemical spills and other foreign deposits. Rake grounds which are neither planted nor paved, to a smooth, even-textured surface.

7. Lubricant properly and completely all machinery in this contract.
 8. The windows furnished for this project are a finished product and shall be treated as such by all trades. The General Contractor shall see that these windows are not mistreated or abused. The masonry and plaster Contractor shall be sure that mortar or plaster spots are not allowed to stay on aluminum surfaces for more than 12 hours. Windows shall not be used as supports for scaffolding or any other purpose that will damage them. The General Contractor shall provide the necessary protection of all windows from misuse or damage during the course of erection and shall clean all plaster, mortar or other foreign materials from the windows after installation and glazing. All glass in windows, exterior and interior, shall be cleaned with glass cleaner.
- B. Restoration of Site: At completion of Project and before leaving job site, Contractor shall be responsible for restoring the site to the original state in which he found it at the start of the Project. This will include repair of grass areas used for storage of materials or stockpiling of debris, and repair of any other areas on property which the Contractor has damaged in the course of his work.
- C. Removal of Protection: Except as otherwise indicated or requested by Architect/Engineer, remove temporary protection devices and facilities which were installed during course of the work to protect previously completed work during remainder of construction period.
- D. Compliances: Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at site, or bury debris or excess materials on Owner's property, or discharge volatile or other harmful or dangerous materials into drainage systems; remove waste materials from site and dispose of in a lawful manner.

END OF SECTION

SECTION 01710 - CLEANING

PART 1: GENERAL. The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 GENERAL CONTRACTORS WORK

Remove from glass, all stains, labels, and paint and then wash. Do not remove labels until Architect notifies Contractor that he has checked same for grading. Before final acceptance, General Contractor shall wash and clean all windows, interior and exterior.

Lubricant properly and completely all machinery in this contract.

Remove all foreign materials from lawn and site area.

All pavement and sidewalk areas shall be left broom clean.

1.2 MECHANICAL AND ELECTRICAL CONTRACTOR

The Mechanical Contractor and Electrical Contractor shall lubricate properly and completely, all machinery. (See Mechanical and Electrical Sections for required items of cleaning.)

1.3 ALL CONTRACTORS

During construction all contractors shall be responsible for removing debris left by his work at frequent intervals in order that no large accumulation of debris be left for any length of time. Each contractor shall remove all tools, scaffolding, waste materials caused by operations under his charge and at completion of job leave his work in cleaned condition satisfactory to the Owner and Architect.

END SECTION

SECTION 01740 - WARRANTIES

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturers standard warranties on products and special warranties.
 - 1. Refer to the General Conditions for terms of the Contractor's period for correction of the Work.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division I Section "Contract Closeout" specifies contract closeout procedures.
 - 2. Divisions 2 through 16 Sections for specific requirements for warranties on products and' installations specified to be warranted.
 - 3. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.3 DEFINITIONS

- A. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.

- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
 - 1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- E. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

1.5 SUBMITTALS

- A. Submit written warranties to the Architect/Engineer prior to the date certified for Substantial Completion. If the Architect's/Engineer's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect/Engineer.
 - 1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect/Engineer within 15 days of completion of that designated portion of the Work.
- B. When the Contract Documents require the Contractor, or the Contractor and a subcontractor, supplier or manufacturer to execute a special warranty, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner, through the Architect/Engineer, for approval prior to final execution.
- C. Form of Submittal: At Final Completion compile 2 copies of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.

- D. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8 ½" X 11" paper.
1. Provide tabbed divider for each separate warranty. Mark the 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 the Installer.
 2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES", Project title or name, and name of the Contractor.
 3. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION

3.1 LIST OF WARRANTIES

- A. Provide warranties on products and installations as specified in Division 2 through 16 Sections.

END OF SECTION

SECTION 02050 - DEMOLITION

PART 1: GENERAL. The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 REMOVAL

This Section requires the removal and subsequent off-site disposal of the following:

- A. Removal of existing vegetation shown on the Site Plan as to be removed.
- B. Removal of concrete and asphalt paving, existing culverts, etc... as shown on the Site Plan.

1.2 CONDITION OF STRUCTURES

- A. The Owner assumes no responsibility for the actual condition of items that are to be removed, replaced, and or repaired. Field verify condition of existing structure prior to start of any work.

1.3 PROTECTIONS

- A. Provide temporary barricades and other forms of protection as required to protect the Owner's personnel and general public from injury due to demolition work.
- B. Provide protective measures as required to provide free and safe passage of Owner's personnel and general public to and from the site.
- C. Protect existing site utilities, which are to remain in use.

1.4 DAMAGES

- A. Promptly repair all damages caused to adjacent facilities by demolition work at no cost to the Owner.

1.5 TRAFFIC

- A. Conduct demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, lawns, and other adjacent occupied or used facilities.

1.6 UTILITY SERVICES

- A. Maintain existing utilities indicated to remain. Keep in service and protect against damage during demolition operations.

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 02100 - CLEARING OF SITE

PART 1. GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 GENERAL CONTRACTORS WORK

- A. The Contractor shall take over the site in the condition existing at the time of the award of the contract and shall perform demolition as specified or required and shall remove trees, etc. which may interfere with the construction or his operations.
- B. Contractor shall demolish and remove all obstacles and take care that all new footings and foundations are carried to undisturbed earth below any fill. Any debris shall be removed from the premises and not used for backfill.
- C. Prospective bidders are required to visit the site and familiarize themselves with existing conditions before submitting their proposals and failure to do so shall not operate to relieve the successful bidder from performing such work as necessary to properly prepare the site to receive the work in accordance with the intent of the drawings and these specifications.
- D. All debris will be removed from the property immediately. Burning on the site will not be permitted. Care shall be taken to keep the nuisance of trash, noise, and dust at a minimum.
- E. Damage inflicted to areas, which are not to receive work, shall be repaired or replaced by the Contractor as required.
- F. The Contractors shall exercise special care to prevent damage to trees which are to remain on or near the site, during the progress of his operations. Trees which might be injured shall be protected in a manner satisfactory to the Architect.
- G. When trees are shown to be removed, it shall mean grub out stumps and remove from property.
- H. All excavated and excess soil, cinders, gravel and debris shall be removed from the property.
- I. The mentioned items of work herein and on the drawings are in general to be used as a check list and are not intended to particularly mention all items of work to be performed. All work and materials required to bring the project area to an approved state of completeness shall be performed by the Contractor at no additional cost to the Owner.

1.2 SCOPE

- A. General Contractor shall furnish all materials and perform all services required for clearing of the site prior to excavation operations and shall include all items as indicated on the drawings and specified herein.

1.3 CLEARING AND STRIPPING

- A. Strip the entire project site of trees, cinders, fill debris, existing sidewalks, paving, etc., as required or indicated on the Drawings, including those shown on Mechanical and Electrical Drawings, if indicated, as being by the General Contractor.
- B. Clearing shall consist of the removal and disposal of all encumbrances to a depth shown below finished grades, floor slabs, or pavement subgrades, whichever is used in the area under construction.

1.4 GRUBBING

- A. Grubbing shall consist of the removal of sod, trees, weeds and other vegetation, stones and rocks within the contract limits. Sod and topsoil shall be removed to a depth of at least twelve inches (12") below the existing grades and material stock piled for use in finish grading operation.
- B. Rubbish deposits, if encountered, shall be removed to their full depth under areas which are to be paved or have structures on them. Replace deposit with bank run gravel, compacted.

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 02200 - SOIL CONDITIONS

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 GENERAL SCOPE OF WORK

- A. Complete filling, backfilling, rough grading, finish grading, earth fill, all as required, indicated and specified herein.
- B. Excavate under the entire area of the building to the depth required for footings and slabs and such other excavations necessary for the installation of the work shown on the drawings and stated in this specifications for over excavation.
- B. All topsoil shall be removed under the building proper.
- D. Immediately under the floor slab shall be a 8 inch layer of compacted granular fill.
- E. All exterior concrete walk slabs shall have a 6 inch minimum layer of granular material immediately under the slab to aid soil drainage and avoid frost heaving.
- F. The bottom of all excavated trenches for footings shall be subjected to a minimum of two passes by a vibratory compactor. Densification of loose granular deposits shall be done in accordance with Section 1.6.

1.2 EXCAVATING

Excavate under the entire area of the building to the depth required for footings and slabs, and such other excavations necessary for the installation of work as shown on the drawings. Soil taken from excavations shall be used for backfill only. Any excess earth shall be removed from the site, or deposited in other locations on the site.

Excavations for walls shall be wide enough to permit the removal of forms, pointing up, etc. and at no point less than 24 inches from the face of the wall. Trenches for footings may be trimmed to exact size of the footings where earth is solid enough to hold it's shape during the placing of the footing.

Excavate to a depth at least 8" below bottom of concrete slabs on fill. All exterior slabs-on-grade shall have at least 8" of compacted granular fill for soil drainage purposes.

If made ground or pockets of soft loam are encountered in bottoms of any footing trenches, the Contractor shall immediately notify the Architect in order that provisions may be made for carrying footings deeper at such points.

Excavations shall be properly shored and braced where necessary to prevent caving in and the Contractor shall do all necessary bailing or pumping required to keep the excavations free from water.

Any sewers, pipes, or conduits in active use, encountered during excavation are to be properly diverted, so as not to interfere with the construction, and are to be left in a working condition. Sewers, pipes, or conduits that have been abandoned, shall be cut off outside building line and securely plugged at ends. If such are encountered in course of excavation, it shall be the contractors duty to ascertain from the proper authorities whether they are in active use or have been abandoned, before proceeding as above specified.

Any piping, conduits, etc. encountered in excavating, unless required to be removed, shall be temporarily supported and maintained until permanent support has been restored. (See Mechanical - Division 15)

1.3 TESTING

The General Contractor shall include in his bid the cost associated to have a soil testing company provide soil testing on this project. Field density testing to be performed in accordance with ASTM D6938, nuclear gauge method, or ASTM 1566, sand cone method. The frequency of the testing should produce a minimum of one (1) field density test result per 2,500 square feet, per material lift, and as necessary to adequately represent the area and compaction effort.

1.4 FILLING AND BACKFILLING

After forms are removed and water proofing applied where necessary and allowed to dry, fill between exterior walls, and earth banks with earth removed from excavation of course pit run gravel to a point 24" below finish grade line.

Filling shall be placed in layers of about 8" carefully tamped and flooded. Under no circumstances shall rubbish or debris from the building be used for backfilling or grading. Compaction as stated in Section 1.6 for each layer.

If fill is to be provided on both sides of walls, fill on both sides at same time. When filling around piers, fill in equal layers around perimeter.

1.5 GRADINGS

Finish grades indicated on the drawings are finished topsoil elevations. Rough grading shall be done to within one foot of these elevations and shall consist of evenly grading the site to one foot below the finish grade contours, with clean earth fill removed from excavation or brought to site from other source, ready for topsoiling operations. Rough grading to slope away from walls to provide water shed. Take care during grading operations to protect all constructed items and repair if they are damaged.

1.6 SITE SOIL PREPARATION

In order to insure that the footing foundation system is founded on well compacted soil and the floor system is founded on well compacted soil, densification of loose granular deposits is to be undertaken by mechanical compaction in accordance with the following procedure:

- A. The bottom surface of the excavation is to be subjected to systematic compaction by means of a vibratory compactor. The compaction operations are to be continued until the material immediately below the bottom of the excavation has been compacted to a minimum of 100% of maximum density as determined in accordance with American Society for Testing and Materials D-698, Method "A" or Method "C" which ever is applicable.
No fewer than 6 passes are to be made in any event.
- B. Subsequent to, the bottom of the excavation compaction, systematic backfill operations are to be carried out on a lift-by-lift basis, employing clean granular material. Compaction of individual lifts is to be carried out by the previously referenced vibratory compaction device and material density within the backfill structure is to be verified at a minimum of 100% of maximum density. Backfill operations are to be carried to underside of floor slab.

For general area improvements such as pavements, drives, etc., the materials existing from subgrade elevation to minus 12 inches, must be compacted to exhibit an in-place density of not less than 95 percent of maximum density as determined in accordance with the requirements of American Society for Testing and Materials D-698, Method "A" or Method "C" whichever is applicable. Normal stripping operations of sod and vegetation shall supersede fill and compaction.

The General Contractor shall keep a log showing how many passes the compactor has made each day and the location in which this compaction took place. The log shall further show the location of all density tests and proctor tests. At the end of each working day, the log shall be filled out and a copy sent to the Structural Engineer.

1.7 FINISH GRADING

Finish grading, minimum depth 12" shall be done with top soil material stripped from site during preliminary work and stockpiled for this use or shall be clean top soil obtained from other source and hauled to site. Top soil shall be spread and rolled to the contours indicated and to satisfaction of the Architect ready for seeding as specified.

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 02280 - TERMITE PROTECTION

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Complete Termite Protection under the new building as indicated and specified herein.

1.2 QUALITY ASSURANCE

The applicator shall be registered or licensed where require by federal, state, county, or city jurisdiction.

1.3 GUARANTEE

Upon Completion of the soil treatment, as a condition of final acceptance, furnish the Owner with a written guarantee. The guarantee shall state that the application was made at the concentration, rates and methods, which comply with these specifications.

The effectiveness of the treatment shall be guaranteed for not less than five years, without additional cost to the Owner.

Re-treatment, upon evidence of subterranean termite activity, shall be at no change to the Owner, and in accordance with accepted trade practices.

Damage to the building caused by termites, shall be corrected without cost to the Owner.

The guarantee is non-cancellable by all parties to the contract except the Owner.

PART 2: PRODUCTS

2.1 MATERIALS

Provide termite protection with materials as approved by Governmental Agencies.

PART 3: EXECUTION

3.1 APPLICATION

- A. Treat the lower surfaces of all footing trenches prior to the pouring of concrete.
Do not interfere with pouring of concrete.
- B. Treat all foundation walls.
- C. Treat under all concrete slabs and in crawl space.
- D. Flood all hollow concrete block walls. Such application to be made in such a manner to wet the void surfaces thoroughly.

END OF SECTION

SECTION 03100 - CONCRETE FORM WORK

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Include all form work of any and all types and kinds, both temporary and permanent, as noted or indicated on drawings, specified herein or required to contain concrete during its curing period even though such forms may or may not be specifically called out or noted.

Forms for all reinforced concrete work shall be wood or metal.

1.2 DESIGN OF FORMS

Design and construction of safe and adequate forms, shores, diagonal bracing and foundation form work shall be the responsibility of the Contractor. In addition, the design of all form work shall be in accordance with recommendations of "ACI" Standard Recommended Practice for Concrete Form Work ACI-347. These recommendations shall serve as a minimum standard of design for all form work.

Forms shall be constructed to the shape, lines, grades and dimensions indicated or noted on drawings and shall be so maintained during the placing operation that when forms are removed the concrete work will be perfectly cast as intended by the Drawings with a maximum tolerance in either the vertical or Horizontal plane of 1/4" in 10 feet.

Forms shall be so designed and constructed that they may be removed without injury to the concrete.

PART 2: PRODUCTS

2.1 MATERIAL

For concrete exposed to view in the finished structure, forms shall be 5/8" or 3/4" 5-ply Douglas fir structural plywood of concrete form grade meeting the Bureau of Standards Commercial Standard CS-45 if the forms are unlined. 1/4" Douglas fir plywood of concrete form grade and 3/16" Masonite Presdwood shall be used for lined forms. Presdwood shall be thoroughly wet with water on the screen side at least 12 hours before use.

For exposed concrete form material may be selected at the Contractor's option provided it meets the requirements set out under "Form Construction".

2.2 FORM COATING

For exposed concrete shall be A.J.C. Horn Company "Form Film", "Chem-Masters Corporation, Creteban 30", Toch Brothers, Inc., "Form Coating", Sonneborn Building Products "Formsaver" or "as approved equal".

2.3 FORM TIES, INSERTS, ETC

Metal form ties shall be used for all wall forms and shall be Richmond Screw Anchor Co., Inc., "Snap-Tys" Type SBR or of a type approved by the Engineer. They shall be adjustable and act as a spreader and tie also. When ties are removed or broken off, no metal shall be left closer than one (1) inch from the surface of the wall. Form ties shall not be placed in exterior walls above finished grade. Wood separators and wire ties will not be acceptable.

Provide and install metal key slots in the face of any concrete work where brick facing or partitions occur and provide necessary number of keys for anchoring masonry thereto. Slots shall be 18" o.c. for masonry facing.

No pipes or sleeves of any size shall be placed through beams, columns or slabs; other than those located on drawings, without prior approval from the Structural Engineer.

If built-in items, not detailed or noted on drawings are required, this Contractor shall see that they are provided by the trades involved and built-in.

Mechanical and Electrical Contractors shall furnish and set inserts incidental to their work. Concrete subcontractor shall keep them informed as to the progress of the work in order that the setting of their inserts, sleeves, piping, etc., may be timed to cause the least delay to the work.

Install inserts, weld plates, bolts, and other accessories as indicated, noted or detailed on drawings, specified, or noted on shop drawings.

PART 3: EXECUTION

3.1 CONSTRUCTION OF FORMS

Wood forms for floor slabs shall be straight and true. Bottom edges of all joints, beams, girders, and exposed edges of all columns shall be chamfered. Saw marks shall be removed from face of chamfer strips. Forms for beam and girder sides and slabs of suspended floor construction shall be of new plywood or used plywood approved by the Architect and may be re-used only after they have been cleaned and approved.

Edges of vertical columns abutting concrete walls, and exposed interior wall, columns and beam surfaces shall be lined with nonabsorbent smooth-faced board, or constructed of plywood, applied in maximum sized sheets with all joints neatly fitted.

Forms shall be built mortar-tight and shall be maintained so as to prevent warping and the opening of joints due to shrinkage of the lumber.

Where shoring supporting forms rest on the ground, some means shall be provided for detecting and deflection of the forms while concrete is being placed. The Structural Engineer may require the Contractor to employ screw jacks which the Contractor shall have on hand or hardwood wedges to take up any settlement in the false-work either before or during the placing of concrete.

All forms shall be set and maintained true to the line designated until the concrete is sufficiently hardened. The forms shall be securely tied together by approved means and braced in a substantial and unyielding manner and so designed and built that the finished concrete will conform to the proper dimensions and contours, with a maximum tolerance in either the vertical or horizontal plane of 1/4" in 10 feet.

All dust, sawdust, shavings, and other debris, shall be removed from within the forms before concreting begins. For narrow walls where the bottom of the forms is inaccessible, the lower form boards shall be left loose on the back side so that they may be removed for cleaning out extraneous material, immediately before placing the concrete.

The interior of the forms shall be treated with coatings specified herein before, placing the concrete to insure non-adhesion of the mortar. Angles of the forms shall be slightly sprayed in order that they may be readily removed without injury to the concrete.

The foregoing specifications for "Forms" as regards design, mortar tightness, fillet corners, leveled projections, bracing alignment, removal, reuse and coating, shall apply with equal force to metal forms. If metal forms are used, they shall be new. The metal used for forms shall be of such thickness that the forms will remain true to shape. All bolts and rivet heads shall be countersunk. Clamps, pins or other connecting devices, shall be designed to hold the forms rigidly together and to allow removal without injury to the concrete. Metal forms which do not present a smooth surface or line up properly shall not be used. Special care shall be exercised to keep metal forms free from rust, grease, or other foreign matter which will discolor the concrete.

All shores supporting any concrete bridging, joints and beams, shall remain in place at least 15 days after placing of concrete.

3.2 *WORK IN FORMS*

After forms have been placed and approved, the Contractor shall see that all mechanics have been properly notified and are given sufficient time to complete the installation of their work. Placing of reinforcing steel shall proceed progressively with the work of the other mechanics and each shall arrange his working schedules so as to avoid disturbing or moving already installed by one trade to admit the work of another. Each trade shall be entirely responsible for the proper installation and securing of the work and each shall keep his work under observation during placing of the concrete.

3.3 *FORMS REMOVAL*

Forms shall remain in place for periods which will be determined as hereinafter specified or as directed by the Structural Engineer.

All shores supporting any concrete bridging, joists, and beams, shall remain in place at least 15 days after placing of concrete.

No shores shall be removed without the express permission of the Structural Engineer. The Structural Engineer may require shores to be left in place for longer periods depending upon the temperature to which the concrete is subjected during the period of curing and upon the construction loads to be applied to the concrete after this 15 day period. Joist forms shall be so constructed that the forms can be removed without disturbing the shores under the bridging joist. Beam bottoms shall remain in place until shoring is removed. Joists shall be reshored between the beams and bridging joists immediately after the removal of the joist forms. Additional shores shall be placed under any points of concentrated loading. In warm weather, forms may be removed from walls in not less than 36 hours, and from any joists, sides of beams and columns in not less than 3 days. Removal of forms and shoring shall in any case be at the risk of the Contractor, but the Structural Engineer may at any time refuse to permit their removal if in his judgment there might be resulting damage to the structure.

END OF SECTION

SECTION 03200 - CONCRETE REINFORCEMENT

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Furnish all concrete reinforcing steel, welded wire mesh and necessary related items indicated, noted or detailed on drawings and specified herein.

1.2 SHOP DRAWINGS

Provide complete reinforcing steel shop drawings to the Architect for this approval in accordance with paragraph "SHOP DRAWINGS" on the General Conditions and Supplemental General Conditions.

Shop drawings shall be prepared in strict accordance with the requirements of the current edition of the Manual of Standard Practice for Detailing Reinforced Concrete Structure as published by the American Concrete Institute, ACI-315.

PART 2: PRODUCTS

2.1 STEEL

In general, reinforcing rods for concrete work shall have the size, position and number shown on the structural drawings.

All reinforcing steel shall conform to ASTM A-615-68. Steel for stirrups and column ties shall be Grade 40. All steel for main reinforcing shall be Grade 60.

2.2 WIRE MESH

Where wire mesh is indicated for reinforcing, it shall be of size and gauge as shown on the drawings, and shall be made of best quality drawn steel wire, woven mechanically or electrically welded to form the mesh. ASTM A-185-70. All sidewalks and stoops shall have 6x6 10/10 unless noted otherwise.

2.3 FABRICATION

All fabrication, including bending shall be done at the mill or in the shop. No field bending will be permitted. All pieces shall be labeled and like pieces shall be bundled together.

All stirrups groups shall be wired in units convenient for handling and stable in forms.

PART 3: EXECUTION

3.1 PLACEMENT

All steel shall be free from flaky rust, grease, dirt, scale, or paint. All reinforcement shall be held in position by suitable metal devices which shall insure accurate spacing both horizontally and vertically.

Where not otherwise indicated, bars in foundations and retaining walls shall be placed so that extreme face of steel is not less than 3" from exterior face of concrete.

Concrete cover for reinforcing bars not shown in standard details or on other details throughout the drawings shall conform to the minimum requirements of the ACI Code, latest edition.

The Architect shall be notified by the Contractor when steel placement for a concrete pour is nearing completion so that the work may be inspected. Sufficient time shall be allowed for the steel setter to make any necessary corrections so that all reinforcement, correct in quantity, size and position, will be wired in place when concreting is started.

Bars shall be in long lengths and splicing shall be made in an approved manner, lapped not less than 30 diameters, unless otherwise indicated, but no splice shall be located at point of maximum stress. Bars of 18S size in foundations may be spliced using a mechanical tension butt splicing unit such as Cadweld "T" Series, meeting ACI Code Requirements 318-63 Section 805(b) and 805(d). Steel must contain proper weld ability properties.

Reinforcing steel in slabs on earth shall be supported on metal rods or by concrete blocks not readily overturned.

All reinforcing steel shall be accurately located in the forms and firmly held in place before and during the placing of the concrete by means of supports adequate to prevent displacement during construction and to keep the steel at proper distance from the form.

Reinforcement shall have 3/4" of concrete covering in slabs and not less than 1-1/2" in beams unless otherwise specifically indicated on the drawings.

All rods shall be securely wired at intersection with No. 16 gauge annealed lacing wire. Reinforcing rods shall be bent or hooked as required, or as indicated by the drawings and shall be spliced only where necessary. All splices of rods shall be securely wired in a satisfactory manner.

Mesh reinforcement shall be well lapped at least 6" at ends and edges wired together at joints and supported on chairs as required for rods wherever conditions will admit of so doing.

END OF SECTION

SECTION 03300 - CAST-IN-PLACE CONCRETE

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Provide all concrete and necessary related work indicated, noted or detailed on the drawings and specified herein.

1.2 STANDARD SPECIFICATIONS

The ACI publication, "Standards and Code Requirements for Concrete and Reinforced Concrete", latest edition, shall govern all concrete work for this project except where otherwise specified herein.

PART 2: PRODUCTS

2.1 MATERIALS AND STORAGE

All materials, unless otherwise indicated, noted or specified, shall conform to the latest edition of the standard specification of the American Society for Testing Materials covering the materials being used.

2.2 CEMENT

Cement shall be an approved blend of Portland Cement of a standard brand and subject to tests hereinafter specified. All cement shall be protected from the weather and from dampness. No cement shall be used which has absorbed sufficient moisture to become lumpy when dry. The cement used shall meet the requirements of standard specifications for Portland Cement adopted by ASTM, seal designation C-150-71, and each shipment shall be accompanied by a certificate of test which shall be kept on file by the Contractor.

2.3 AGGREGATE

All aggregate shall be washed gravel, clean and free from loose soft stone, vegetable matter, or other ingredients which would affect the strength of the concrete. ASTM C-33.

2.4 SAND

Sand shall be thoroughly washed and shall be free from loam, soft stone, or other ingredients which would affect the strength of concrete. Sand shall be well graded from coarse to fine with coarse particles predominating, but containing no grains which will not pass through a 1/4" mesh. ASTM C-33.

2.5 GRAVEL

Gravel for non-reinforced concrete shall be 1/4 to 1-1/2" in size and gravel for reinforced concrete shall be uniformly graded from 1/4" to 1" in size unless otherwise specified. ASTM C-33.

2.6 WATER

Water used shall be fresh, clean and fit to drink, free from oil, acid, alkali, salts or organic matter.

2.7 *METHODS*

The methods used in piling and handling aggregates shall be such that the fine and coarse aggregates shall be kept separate prior to their placing into the mixer. They shall be kept clean and free from foreign substances. No aggregates shall be used in the work which has not been stored on the project site for at least twenty-four hours.

Aggregates shall be stored so as to insure the preservation of their quality and fitness for the work. When considered necessary by the Architect, they shall be placed on wooden platforms or other hard, clean surfaces and not on the ground, and shall be located so as to facilitate proper inspection.

No bank run gravel will be permitted on the work except for certain fill.

Air entraining agent shall be a neutralized vinsol resin type furnished in a water formulated solution meeting the requirements of ASTM C-260.

The use of hydrated lime or other admixtures to increase the fluidity, density, or to hasten the seasoning of the concrete will not be permitted unless approved by the Architect.

Floor slab to receive curing/sealing/hardener compound. The product to be used shall be "Burke 1101 Acrylic Cure/Seal/Hardener", or equal on all floors and exterior concrete slabs-on-grade. Provide submittals for approval on the curing/sealing/hardener compound.

2.7 *DESIGN OF MIX*

The concrete mix shall be proportioned and designed to develop a minimum ultimate compressive strength of 3000 psi and 4000 psi at 28 days and shall be such as to produce concrete that will work readily into the corners and angles of the form and around the reinforcement without excessive spading and without permitting the materials to segregate or free water to collect on the surface.

A minimum of 5 sacks of cement per yard shall be used for 3000 psi concrete, 6 for 4000 psi concrete. All footing concrete shall be $F_c' = 3,000$ psi. All concrete above the footings, slabs on grade, and floor slabs shall be $F_c' = 4,000$ psi.

No more than 6-1/2 gallons of water per sack (94# cement) shall be used per batch. The water content of the concrete shall be the least that will produce uniformly dense concrete free from aggregate pockets or honeycombs.

Corrections shall be made for the amount of moisture contained in the aggregates and allowances shall be made for absorption of moisture by the aggregates during the period of mixing and handling.

The water-cement ratio, including free water in aggregate, shall not exceed that approved by the Architect. Variations and corrections in slump shall be made by correcting the proportions and amount of aggregates used.

Cement mortar for topping and grouting shall be mixed in the proportions of one part cement to not more than two parts, clean, fine sand, unless otherwise noted.

The proportions herein specified for mixing of concrete shall not be varied except as may be found necessary to meet the test requirements herein specified and then only on the instructions of the Architect.

All concrete exposed to weather, except slabs and flat work which are to receive trowel finish, shall be air-entrained with air content controlled at 5% +/- 1%, by volume.

Steel stair treads and platforms and certain areas, where indicated on the drawings, shall receive a fill of thickness indicated, composed of 1 part Portland Cement, 2-1/4 parts sand and not more than 3-1/2 parts pea gravel, struck off and steel trowelled to a smooth dense surface, using only such amount of dry mixture of 2 parts cement to 3 parts sand as necessary to prove workable.

Materials for concrete shall be measured separately by weight; proper provision shall be made, as approved by the Architect for measuring of materials and water used in each batch.

2.9 *MIXING*

- A. **PLANT MIX CONCRETE.** If plant mix or mixed-in-transit concrete is used, each shipment shall be accompanied by duplicate certificates, showing analysis of the mix. It shall be produced in conformance with the standard specifications for "Ready Mixed Concrete" Serial Designation C94 of the American Society for Testing Materials within the limitations of materials composition, consistency, quality, inspecting and testing as provided therein.
- B. **JOB MIX CONCRETE.** If concrete is prepared at the site, it shall be mixed in a standard type of mechanical batch mixer that mixes one complete batch at a time, which is entirely discharged before another is introduced.

The concrete shall be mixed to the desired consistency and until the mass is uniform in color and homogeneous.

The mixing shall continue for at least one (1) minute after all ingredients are in the mixer.

During the period of mixing, the drum shall operate at the speed for which it was designed, except that peripheral speed of the drum shall not be less than 175 nor more than 225 foot per minute.

If this procedure does not effect a thorough mixing of the concrete, an additional number of turns at the same rate of speed shall be given until a thorough mixing of each batch of concrete is secured. The entire contents of the mixer shall be removed from the drum before material for the succeeding batch is placed therein and the mixer shall preferably be equipped with mechanical means for preventing the addition of aggregate or water after mixing has commenced.

The mixer shall be equipped with adequate water storage and a calibrated measuring device for accurately measuring the amount of water used in each batch. The mixer shall be equipped with a batch meter for accurately recording the time of mixing of each batch and also an attachment for automatically locking the discharge chute so as to prevent the emptying of the mixer until the materials have been mixed with the specified minimum time. No mixer shall be operated above its rate capacity, or be used which has a rated capacity of less than one (1) sack batch, and batches requiring a fractional sack of cement shall not be mixed unless the cement is batched by weight.

The first batch of concrete materials placed in the mixer shall contain an additional quantity of cement, sand and water, sufficient to coat the inside surface of the drum without diminishing the mortar cement of the mix. Upon the cessation of mixing for any considerable length of time, the mixer shall be thoroughly cleaned.

Care shall be taken to secure the exact proportions at all times. The mixed concrete shall be, as stated hereinbefore, of plastic consistency that will flow into the form of trenches and about reinforcement where used for any reinforced work, but shall not be so wet as to cause separation of materials.

Concrete shall be mixed only as required for immediate use and shall be conveyed directly from the mixer and deposited in place. Concrete in which the initial set has occurred shall not be used.

A competent foreman shall be in attendance at the mixer to give account of each batch, which leaves the mixer.

PART 3: EXECUTION

3.1 PLACEMENT OF CONCRETE

Proper provisions shall be made before the concrete is placed to embed all inserts, including inserts to be provided by others.

It will be each subcontractor's responsibility to provide the Contractor with information regarding openings or chases he will require in the concrete work and to provide all his items which will be cast into, embedded in or will otherwise be monolithic with the concrete pour. The Contractor, prior to placing any concrete, shall give written notice to the Architect and all subcontractors of his intention to place concrete and his schedule of placing.

Provide concrete curbs, sills, bases, etc. as detailed on drawings.

No concrete shall be placed until after the bearing soil has been inspected and approved by the Engineer. Concrete shall not be placed upon frozen ground. Dry soil shall be thoroughly dampened except in freezing weather or as otherwise directed. Forms shall be thoroughly cleaned out, wetted, oiled, or lacquered before concrete is placed.

No concrete shall be placed until the Architect has inspected and approved the forms and placing of reinforcement. After inspection and approval of forms and reinforcements, Contractor shall proceed with the placing of concrete. All slabs shall be filled to the top surface in one continuous operation. If possible, the placing of concrete shall be carried on as a continuous operation until the completion of the section. If for any reason, placing of concrete has to be stopped before the completion of the part being poured, greatest care must be exercised to stop at a point where the joint will not weaken the construction. Such joint shall be at the point of minimum shear stress in the concrete.

The maximum pour for slabs shall be as noted in General Notes on the drawings.

Concrete shall be placed so as to avoid segregation of the materials and the displacement of the reinforcement. The use of long troughs and chutes for conveying concrete from the mixer to the forms shall be permitted only on authorization of the Architect.

All chutes, troughs, etc. shall be kept clean and free from coatings of hardened concrete by flushing with water after each run; water used for flushing shall be discharged clear of the concrete already in place.

Concrete shall not be permitted to drop freely more than five (5) feet and it will not be permissible to allow concrete to run or be taken to fill each part of the form by depositing the concrete as near final position as possible. The coarse aggregates shall be worked back from the forms and the concrete forced around the reinforcement without displacing bars. Concrete shall not be permitted to flow under runways or other obstructions that makes spading impossible.

Concrete shall be spaded and puddled with proper tools into compact, homogeneous mass.

The concrete shall be placed as rapidly, continuously and in as large areas as possible, or until the unit of operation as previously approved has been compacted. In any given operation the batches shall be placed that each shall be installed and compacted before the preceding one has taken it's initial set, so that perfect joining will be effected without marked indication on the finished faces of the concrete.

The Contractor shall keep a capable mechanic on the job during the placement of concrete to keep reinforcement in proper alignment and spacing.

Insert asphalt strips of sufficient width against all masonry where cement work is installed, to protect masonry while concrete is being placed.

3.2 MECHANICAL VIBRATION

The concrete shall be compacted by means of mechanical vibrator operated within the mass of concrete.

Vibration shall be supplemented by hand spading. The concrete shall be spaded by hand in all corners and angles of the forms and along all form faces as elsewhere herein specified. The concrete shall be vibrated with a frequency of not less than 7000 impulses per minute, the vibration shall be of sufficient intensity and duration to cause flow or settlement into place and complete compaction. Care must be exercised that concrete is not over-vibrated, particularly if it is of a relatively wet consistency exceeding 4" in slump and that vibrators are not used to transport concrete in the forms. Vibrators should be inserted and withdrawn at many points from 18" to 30" apart for short periods, usually from 5 to 15 seconds is sufficient, in preference to insertion for longer periods at wider intervals. Systematic spacing of insertions of the vibrator should be established to insure that no concrete is missed. Vibration shall be applied to the mass at the point of deposit and in the body of freshly deposited concrete.

The mechanical vibrator shall be of a type and design approved by the Architect. It shall be adequately powered and capable of transmitting vibrations of the required frequency to the concrete.

The vibrator shall be applied to the concrete immediately after deposit and so manipulated that the concrete is reduced to a uniform plastic mass thoroughly compacted. It shall be thoroughly compacted around the reinforcement and worked into the corners and angles of the forms. The vibrators shall not be attached to the forms or the reinforcement nor shall it be placed on reinforcing steel.

Concrete shall be placed in layers of uniform thickness and the apparatus so operated that the vibrating element does not penetrate through the layers of fresh concrete and disturb partially hardened concrete in lower layers. Vibrators shall not be pushed into the mass of concrete too rapidly and should be withdrawn slowly.

3.3 TESTS

During the progress of the work, the general contractor shall make test cylinders from the run of the concrete mixer. These test cylinders shall be made in strict compliance with ASTM C-31 latest revision. All testing shall be included in the General Contractors bid for this project.

Four cylinders shall constitute a set of test cylinders. Separate tests will be required from each concrete pour for footings, walls, columns, and two sets from pours for concrete floor slabs in each story including roof.

These tests shall be made on 6" x 12" concrete cylinders loaded in compression at 7, 14, and 28 days. Fourth cylinder is to be kept as a spare. The Contractor shall cooperate in every way that in the end concrete of the desired quality be obtained.

All concrete shall contain the minimum properties of strength.

Air content of fresh concrete shall be determined according to ASTM designation C-231, latest edition. Test for air content shall be made at the point of delivery.

Slump tests made in accordance with ASTM C-143, latest revision, shall be made by the Contractor from the run of the mixer. The average slump of these samples shall constitute a test. The maximum average slump for footings and floors placed on ground shall not exceed 3 inches, and for reinforced work shall not exceed 5 inches. Should any set of samples show greater slump than hereinbefore specified, the proportions of the mix shall be varied until the proper slump is obtained, but under no conditions shall the amount of water specified per sack of cement be increased. Contractor shall provide hollow metal cones for making slump tests.

If for any reason, in the opinion of the Engineer, the testing of any section of the completed reinforced concrete structure is necessary, a superimposed load shall be applied by the Contractor and the test conducted in accordance with the current Building Rules and Regulations of the State of Indiana. In cases where failure is declared, the Engineer shall have the authority to order the defective construction removed. All expense of removing such defective construction and substituting new construction, including expense of removing and replacing the work of others, or protecting and repairing the work of others shall be borne by the Contractor.

3.4 JOINTS

Provide and install 1/2" expansion strips at edges of concrete slabs and floors around all columns and elsewhere where noted or specified.

Expansion joint material for these locations shall be preformed, non-extruding.

Provide and install expansion joints in exterior slabs where noted. These joints shall be between poured in place concrete top slabs and walls and wherever shown, shall be as detailed. This detail shall also apply at all waterproof slabs.

Control joints as detailed shall be provided where noted on drawings.

3.5 CONCRETE FINISHES

GENERAL The surfaces of all concrete shall be thoroughly worked during the operation of placing by spading as hereinbefore specified. The working shall be such as to force all coarse aggregate from the surface and thoroughly work the mortar against the forms to produce a smooth finish free from water and air pockets or honeycomb. All concrete surfaces shall be true and even, free from honeycombing, stone pockets and excessive depressions, projections or air pockets.

FINISHING WALLS All interior exposed concrete shall have all fins and projections removed and the rough surface produced by this operation shall be rubbed smooth. All depressions shall be filled with mortar of the same proportions as the mortar used in the body of the concrete and this mortar shall be smoothed with a wooden float. This work shall be done closely following removal of the forms. All exposed surfaces in finished and unfinished rooms shall be left clean and smooth and shall present a neat and finished appearance.

Concrete which has a total area of honeycombed surfaces in excess of one (1) percent of the total surface area of the forms used for any member of the pour in which the honeycombing is present will not be accepted and must be entirely removed and new concrete substituted by the Contractor at his own expense. Work of other Contractors adjacent to or incorporated in the concrete to be removed shall be removed, and replaced, protected, and repaired to the satisfaction of the Engineer at the General Contractor's expense.

Honeycomb surfaces, for the purpose of enforcing this specification, are hereby defined as the concrete surfaces, next to forms, in which there are voids between the particles of coarse aggregate.

The small amount of honeycomb permitted to remain shall be filled with mortar of the same consistency as the mortar used in the body of the concrete and smoothed with a wooden float, closely following removal of forms. The Engineer shall stop the removal of forms unless the requirements of this section are carried out. Tops of walls shall be floated smooth. The Contractor shall also perform any other operations in addition to those specified herein that may be required to produce the results specified.

All exterior exposed walls shall be given the following treatment: Prepare a grout of about the proportions of one part cement to one part fine sand. Grout shall be of the consistency that will permit its application to vertical surfaces with a stiff bristle brush.

The grout shall be brushed and floated on the previously dampened surfaces to fill completely all air bubbles and indentations in the concrete. Allow grout to remain on wall until the cement has partially set, then remove excess grout with a steel trowel. After drying for an hour or longer, depending on weather conditions, rub the wall vigorously with burlap to completely clean the grout from the surface leaving pits filled, but there shall not be a visible film of grout on the surface. To lighten up the surface, replace part of the grey cement with approximately 30% of white cement. Rubbing up a lather with a carborundum stone shall not be permitted.

FINISHING FLOORS Immediately following the pour, the concrete shall be screeded off to bring the top surface to proper contour and elevations. Floors, unless otherwise noted, shall be held perfectly level. Where drains occur or slope is indicated, they shall be pitched toward drains or in direction indicated on drawings.

Soon after screeding and while the concrete is still plastic, the surface shall be floated with wood or metal floats and brought to a true grade.

Floor shall be steel trowelled to a smooth and perfect surface after the concrete has hardened enough so that water and fine material are not worked to the surface.

Do not trowel while concrete is too soft or plastic, as this will result in a less wear-resistant surface.

No walking or wheeling shall be permitted on the concrete floors until concrete is thoroughly set.

Floors shall be protected until final completion of the job. Any rough places which develop shall be machine ground before any covering is applied.

Excess water shall be screeded off and the surfaces left clean and level.

In placing depressed slabs, forms shall be provided for forming the edges of depressed sections. These shall be accurately placed with breaks located as directed.

FINISHING EXTERIOR WORK Drive and walks shall have a broom finish which shall be done after the concrete is hard enough so that it will retain the scoring.

Concrete steps, concrete platforms, etc. shall be finished in the following manner.

As soon as water has risen to the surface of treads, it shall be brushed off and the surface sprinkled with dry cement approximately 1/16" thick, over which apply 1/2" of cement mortar topping trowelled to a smooth and perfect surface. As soon as concrete has set sufficiently to be firm, remove the forms from the riser and steps, and remove all fins, ridges, etc. from the surface.

Treads of all concrete steps which do not receive a covering shall have 1/4 lbs. sq. ft. non-ferrous abrasive material, as hereinbefore specified, trowelled into top coat to prevent surface from becoming slippery. In final trowelling do not buy the grit.

3.7 FLOOR HARDNER

Where schedule of interior finish indicates hardened concrete floors, material to be used shall be non-metallic hardner as specified hereinbefore, applied in strict accordance with manufacturers instructions.

3.8 CURING CONCRETE

Concrete surfaces exposed to conditions causing premature drying shall be protected within twenty-four (24) hours of placing. Horizontal surfaces shall be protected by covering with canvas, burlap, sand or other satisfactory material and shall be kept moist. Curing shall continue for a period of not less than five (5) days after placing the concrete, unless otherwise directed by the Engineer. Other precautions to insure the development of strength shall be as specified hereinbefore applied in strict accordance with manufacturers instructions.

3.9 CONCRETE PROTECTION IN COLD AND HOT WEATHER

Recommended Practice for hot weather concreting (ACI 305) Recommended Practice for winter concreting (ACI 306) Where temperature is below 40 degrees F. all water and aggregate used in concrete, shall be heated to a sufficient temperature to make the concrete not less than 60 degrees F. when deposited in place.

Ice and hoar frost shall be removed from the forms with steam jet immediately before concrete is placed. Gauging water shall be heated by a steam jet discharging directly into the water. Aggregate shall be heated by steam pipes properly placed under the aggregate in such manner as to distribute heat throughout the mass. Other methods of heating and aggregate shall not be used unless approved by the Engineer.

The use of salt or other chemicals to accelerate the hardening of concrete will not be permitted under any circumstances.

When, in the opinion of the Engineer, it is necessary, the foundation material on which the footing is to rest shall be protected from freezing.

Immediately after a pour is completed, the freshly poured concrete shall be housed in with tarpaulins or by lumber housing and the air within the enclosure shall be kept at a temperature above 70 degrees F. for a period of seventy-two (72) hours. If for any reason this temperature is not maintained the aging period shall be extended.

The Contractor shall supply such heating apparatus as stoves, salamanders or steam equipment and the necessary fuel. When dry heat is used, means of maintaining atmospheric moisture shall be provided. The aggregates may be heated by either steam or dry heat. The Contractor will be required to keep a watchman on the job at all times during the heating period to insure the maintenances of the proper temperature around the concrete and to see that the concrete is not damaged by fire.

Any concrete placed when the air temperature is at or below 35 degrees F., will be at the Contractor's risk and if such concrete becomes frozen or is inferior in any respect, it shall be removed and replaced at the Contractor's expense.

END OF SECTION

SECTION 05100 - STRUCTURAL METALS

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Provide and install all structural steel and iron, lintels, beams, columns, angles, and miscellaneous structural work of sizes indicated, and assembled as shown or required with all necessary bolts, bearings plates, splice plates, connection angles, etc. Except where specified otherwise, work of this Section shall conform to "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings", of the American Institute of Steel Construction and the 9th Edition of AISC "Manual of Steel Construction."

1.2 SHOP DRAWINGS

Shop drawings shall be furnished to the Architect for all structural steel work and no steel work is to be assembled until shop drawings have been approved and returned.

Complete sets of structural steel drawings, in quantity as noted hereinbefore, with all final corrections and changes shown shall be furnished the Architect for future reference.

PART 2: MATERIALS

2.1 STRUCTURAL STEEL

All steel mentioned above is to meet the requirements of the specifications for steel structures as adopted by the ASTM designation A-992-50, except where noted otherwise on drawings.

All steel is to be assembled at the shops so far as possible.

All steel beams, supported on walls or other masonry, shall be provided with standards steel bearing plates. All bearing surfaces shall be milled.

Provide steel lintels over all masonry openings not using lintel blocks, steel shelf angle, steel channel door frames, base plates, etc. as required or as indicated.

2.2 BOLTS, ANCHORS AND HANGERS

The contractor shall furnish any anchors, bolts, hanger rods, erection bracing, etc. for the work in all of it's parts, even though same may not be herein especially described or mentioned. Bolts shall meet ASTM A-325. Anchor bolts shall be ASTM A-307.

2.3 WELDING

All welding shall be E70XX in compliance with the AWS Code. Welders shall be AWS qualified and hold a current valid certificate.

All welding shall conform to the American Welding Society Code and AISC specifications. Stress in fillet, plug, and shot welds, tension stress transverse to the axis of partial penetration groove welds and shear in such welds when made with A233 Class E70 Series electrodes or by submerged arc Welding Grade SAW-2 on A36, A242 and A441 steels shall be 15800 PSI. Welding shall be by the electric

arc welding process and welders shall be certified by the inspection and testing service as a part of their work. This shall apply to shop and field welding where necessary.

After erection touch up all mars and welding burns in shop coat with specified shop coat materials.

2.4 FABRICATION

Fabricate in accordance with the AISC "Specification for Design, Fabrication and Erection of Structural Steel for Buildings".

Provide holes and connections required for other work. Obtain necessary drawings and templates showing exact location and details required.

Install anchor studs and shear connector studs using manufacturer approved equipment and in accordance with the manufacturer's instructions.

Furnish anchor plates for steel joists.

Furnish all angles required for framing openings in the decks.
Coordinate the quantities, sizes and locations with the Sections involved.

2.5 SHOP PAINT

All steel and iron shall be thoroughly freed of all loose mill scale rust, dirt, grease, or other extraneous substances, and where there is not more than a fine surface or rust, such rusty parts shall first be subjected to the flame of a torch until the oxide has been entirely removed.

After cleaning, the work shall immediately be given a shop prime coat of No. 99 Red Metal Primer by TNE MEC CO., Inc., North Kansas City, or equal, or Fed. Spec. TT-P-636, (Red Oxide).
Paint at a spreading rate specified the manufacturer.

All abutting surfaces of compression members and tops of all milled or turned surfaces are to be immediately protected after such milling or turning, with a coat of white lead or tallow.

All paint must be applied smoothly and evenly and care taken to see that all joints and crevices are properly coated. In built-up work all surfaces to be jointed also drill holes, permanent bolts, etc., shall first be primed and such prime coat shall be allowed to become dry before the several parts are joined. All abrasion of the prime coat use to loading, handling, and erection shall be carefully re-coated as specified.

PART 3: EXECUTION

3.1 ERECTION

Erect all structural steel shown on the drawings or herein specified. The work shall conform to all applicable requirements of the latest standard "Specification for Design, Fabrication and Erection of Structural Steel for Buildings" of the American Institute of Steel Construction.

Provide all tools, scaffolding, hoisting apparatus, bracing, etc., required for the erection of this work, and all bolts for temporary connections. The Contractor shall be held responsible for the safety of all his scaffolding and hoisting apparatus. Conform to OSHA and IOSHA standards.

As a part of the work, base and bearing plates shall be set and leveled to exact elevation for grouting. Base plates shall have necessary hardware for leveling work. Grouting will be by the Mason.

END OF SECTION

SECTION 5400 - LIGHT GAGE METAL FRAMING

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Work includes installation of all light gage metal framing as shown on the drawings.

1.2 SUBMITTALS

- A. Submit manufacturer's product literature and installation instructions for type of stud or channel specified on the drawings.
- B. Submit data showing physical properties of fasteners to be incorporated with this work.

1.3 QUALITY ASSURANCE

- A. Installer: To be a regularly engaged in the installation of light gage metal framing work specified and shall have proper experience to install the work specified.
- B. Manufacturer: The manufacturer shall be a company regularly engaged in the manufacturer of the light gage metal framing specified.

PART 2: PRODUCTS

2.1 METAL STUDS

- A. Size and spacing are called for on the drawings along with the type/model as mfg. by Clark Western Building Systems, Inc. Other mfg. will be allowed upon approval.
Use 16 gage metal studs on either side of all door openings and for all lintels for openings.
Stud gage by delegated design

2.2 METAL TRACKS

- A. Tracks shall be of the same gage as the metal studs unless otherwise noted on the drawings.

2.3 CONNECTIONS

- A. Connections shall be as standard by the mfg. installation instructions for the type of work shown.

PART 3: EXECUTION

3.1 INSTALLATION

All products to be installed in strict accordance with the manufacturer's installation specifications.

END OF SECTION

SECTION 05500 - MISCELLANEOUS METAL

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Furnish, fabricate and erect as required, all miscellaneous metal items indicated, noted or detailed on drawings and specified.

1.2 SHOP DRAWINGS

Provide complete shop drawings and setting drawings of all items for approval prior to fabrication.

Miscellaneous metal fabricators shall obtain all necessary field measurements at the job site and will be held responsible for their accuracy and for the accurate fitting of this work with the work of others.

PART 2: MATERIAL

All material shall be new and shall conform to ASTM designation for the metals used. All aluminum shall be 6063T5 or T6 alloy.

All Structural Steel to be ASTM A-36.

2.1 ANGLES, PLATES & LINTELS

Provide opening angles, lintels, and plates on roof and in walls, and miscellaneous supports shown, requiring fabricating in accordance with notes and details.

Provide all relieving angles, lintels and other steel supports for all masonry, and veneer, including bolts, inserts, etc., as required and not provided in other trade sections. Provide clip angles, channels, plates, etc., as per notes and details, including bolts, anchors, screws, shop and field connections, and miscellaneous fastenings required to make installation complete.

2.2 DISSIMILAR MATERIALS

Wherever dissimilar metals come in contact, lead or neoprene washers, spacers, gaskets, or other approved material shall be inserted between them to provide insulation against electrolytic action.

2.3 WORKMANSHIP

All work performed as per Standard Practice ACIS and National Association of Architectural Metal Manufacturers.

The fabricator shall verify all dimensions of work adjoining the work hereunder. Such other work shall be inspected before fabrication and/or installation of items specified herein. Measurements of adjoining work shall be obtained so that work shall fit closely to spaces provided.

Workmanship required in the execution of the work shall be of the best quality and subject to the approval of the Architect.

The fabricator shall furnish all necessary templates and patterns required by other trades. He shall also furnish all items except as otherwise specified, pertaining to work hereunder that are to be built into structural work under other Sections. The erector shall supervise and be responsible for the proper location and installation of such built-in items.

Metal work shall be well formed to shape and size, with sharp lines and angles. Shearing and punching shall leave clean, true lines and surfaces. Permanent connections shall be welded or bolted where practicable.

Exposed surfaces of casting shall have a smooth finish and sharp lines and arises that are well defined. Joints shall be milled to a close fit.

Rivet and bolt heads shall be countersunk flush with surface.

Fastenings shall be concealed where possible. Thickness of metals and details of assembling and support shall give ample strength and stiffness. Joints exposed to the weather shall be formed to exclude water.

Holes in structural steel framing for attaching miscellaneous metal items will be provided by the steel fabricator if information is given in ample time by the miscellaneous metal fabricator.

Welding shall be in accordance with current "Code for Arc and Gas Welding in Building Construction" of the American Welding Society. Exposed welded joints shall be ground smooth.

Miscellaneous metal work to be built-in shall be let into masonry, concrete and/or stone work as detailed or required, and in such cases, the holes shall be carefully drilled by this fabricator unless provided under other sections, and the work properly secured, poured with Por-Rok, molten lead or sulphur, sealed and neatly filled and finished.

2.4 SHOP PAINTING

All ferrous metals shall be given one (1) shop coat of zinc chromate rust inhibitive primer paint adaptable for light colored field painting. Wet mil thickness not less than four (4) mils; dry, not less than two (2) mils. Field touch-up shall be done by the erector using paint furnished by the fabricator. Finish painting will be done by the painting subcontractor.

2.5 METAL STAIRS

Provide and install where indicated best quality steel stair with steel pan treads and steel risers, and/or steel sub-risers and sub-treads.

Pans shall be filled with poured-in-place concrete reinforced with wire mesh, trowelled smooth to receive covering, as noted on drawings, or be fitted with pre-cast treads as detailed.

All stair work shall be designed for a safe working load of 100 lbs. sq. ft., put together in a neat and workmanlike manner as detailed. Exposed bolt and screws shall be countersunk flush where possible.

Furnish and set all structural steel angles, channels, rails, hangers, etc. shown on the drawings or required for the execution of the work, except such as included in the work shown on the structural sheets.

Treads, platforms and risers shall be of not less the #12 gauge plate steel bent to the forms and properly connected. Steel for filled treads shall turn up to form beveled nosings at the front and sanitary cove at back of each tread. Treads and risers shall be carried on 1 1/4" X 1 1/4" x 3/16" steel angles securely bolted or riveted to the stringers and treads.

Provide tubular steel newell posts with caps if required.

Stringers shall be structural channels.

Platforms to be supported by angle framings.

Stairs shall be of approved manufacture.

Shop drawings shall be submitted for approval.

2.6 *STEEL LADDERS*

Fabricate ladders to comply with the requirements of ANSI A14.3.

Provide 3/8" x 2 1/2" continuous structural steel flat bar side rails with eased edges spaced at 18 inches apart.

Provide 3/4" diameter solid structural steel bar rungs spaced at 12 inches apart.

Fit rungs in centerline of side rails, plug weld and grind smooth on outer rail faces.

Provide non-slip surface on the top of each rung, either by coating the rung with aluminum oxide granules set in epoxy resin adhesives, or by using a type of manufactured run which is filled with aluminum oxide grout.

Provide welded steel brackets to support ladder where detailed.

2.7 *MISCELLANEOUS SUPPORTS*

Provide and install steel supports as detailed for ceiling hung toilet partitions, brackets for counters, desk supports, supports for door tracks, and all others detailed or required.

2.8 *PIPE RAILS (STEEL)*

Provide and install steel pipe railings for stairs and steps where indicated.

Pipe railings shall consist of 1 1/4" inside diameter black steel pipe or square steel tubing, with necessary flanges and fittings, cast to the exact angle required, and secured to other work with lag screws in expansion shields or bolted to steel members where required. Where pipe rails occur in concrete work, they shall be bolted to flanged insert embedded in concrete.

Wall rails, where indicated, shall be returned at ends with flush fitting and shall be supported on brackets spaced not over 5 ft. apart. Brackets shall be secured with expansion bolts or toggle bolt as the case may require and finish hexagon nut.

PART 3: EXECUTION

Furnish anchorages, setting drawings, diagrams, templates, instructions and directions for installation of anchorages, such as concrete inserts, sleeves, anchor bolts, and other items having integral anchors which are to be embedded in concrete or masonry construction.

END OF SECTION

SECTION 06100 - ROUGH CARPENTRY

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Furnish all labor, materials, equipment, special tools, supervision and all services required to complete all rough carpentry work indicated, noted or detailed, or the drawings and specified herein.

Furnish all rough lumber, etc. and all labor necessary to install same. Any item or part required to complete the installation to that intended by the drawings shall be furnished and installed as though it were indicated, noted or specified.

Wood Grounds as required.

Wood nailing blocks as required.

Scaffolding.

All rough hardware of every description.

Boxing and guards necessary to protect pre-cast work, masonry, plumbing, fixtures, etc.

Wood vent curbs on roofs.

Miscellaneous shelving.

This also includes the temporary enclosing of the building and erection of barricade when required and the prompt performance upon request and without extra charge of all necessary cutting, framing, jobbing, etc. for other craftsmen on the building excepting only such as has been heretofore specified to be provided by them.

Read all other specifications for work by other trades and include all carpenter work and work in wood as part of the work under this Section.

Note that Specifications for wood from work required in connection with concrete is hereinbefore described in Division 3.

PART 2: MATERIALS

2.1 MATERIAL

Lumber:

1. Framing: Douglas Fir or Southern Pine, #1 Grade.
2. Studs: Standard or Stud Grade.
3. Grounds, blocking and nailers: standard or Utility Grade of above species.
4. All lumber shall be grade marked and trade marked.
5. Moisture Content: Kiln dried to maximum 15%.

Plywood:

1. Exterior Plywood: Medium density, trade marked EXT-DFPA, constructed of waterproof glue and grade marked A-C where one side is exposed, A-A where both sides are exposed and B-C where concealed.

2. Interior Plywood: Trade marked INT-DFPA or EXT-DFPA, constructed with moisture resistant glue, grade marked A-B where one side is exposed, A-A where both sides are exposed and B-D where concealed.

Treated Wood:

1. Conform to FS TT-W-571, Table 3.
2. All lumber in contact with masonry, concrete, or roof shall be redwood, cypress or preservative treated with water borne salt preservative, AWPI LP-2.
3. Brush all field cuts with preservative used in pressure treatment.
4. Lumber redried to maximum moisture content of 19%, marked DRY.
5. Fire Retardant Plywood: AWPAC 27.

Rough Hardware:

1. Bolts: FS-B-575.
2. Lag Screws and Bolts: FS FF-B-561.
3. Toggle Bolts, Expansion Shields: FS FF-B-588.
4. Wood Screws: FS FF-S-111.
5. Nails: FS FF-N-105.

2.2 *STORAGE*

All lumber shall be stored off the ground and kept covered and protected from the weather until used in the project.

PART 3: EXECUTION

3.1 *PRELIMINARY AND ENCLOSING*

Install studs at all entrance door openings and provide and hang temporary pattern doors fitted with hinges, lock and key. Provide temporary enclosures for all openings on the Ground Floor, or at ground level. Keep in proper repair until final doors and sash are installed.

3.2 *LABOR*

All labor employed shall be skilled and under the supervision of a competent foreman.

Furnish, set and maintain runways of ladders, leading from lowest level of the building to the roof, with proper landings at each floor for the general use of all workmen. Provide temporary 2 X 8 plank treads in metal pan stairs.

Build approved covers over sills, etc. exposed to falling materials or debris.

Protect all open well holes, shafts, etc. or other places in the building which are dangerous to life and limb with strong barricades.

3.3 *FOUNDATIONS*

Furnish and set any foundations required. Foundations must be well secured in place, run true and plumb, and nailed to masonry by means of wall plugs.

3.4 NAILING PIECES

Carpenter shall provide wood furring, spot grounds of wood brick for insertion into walls where necessary and shall see that same are inserted into proper place during the construction of masonry.

3.5 HARDWARE INSTALLATION

Set all finishing hardware and protect same until building is accepted. Knobs and handles to be covered with flannel or similar material. All other hardware, such as nails, bolts, screws, and other rough hardware, shall be furnished by this contractor.

When finishing hardware is received at the building, the contractor shall check same, together with a representative of the hardware company, and he shall immediately report to the Architect, any shortage or variation from the list furnished him. See specifications for finishing hardware.

3.6 SETTING DOOR FRAMES

Set all door frames and securely brace as approved.

3.7 UTILITY SHELVING

Furnish and install miscellaneous shelving in rooms wherever noted, scheduled or detailed. All shelving shall be 3/4" thick particle board "Novoply" or equal, and shall be supported on wood framing as detailed or wall cleats as detailed.

3.8 WOOD CURBS FOR ROOF VENTS

Vent curbs shall be as detailed and shall be constructed of pressure treated #1 yellow pine or Douglas Fir.

3.9 INSULATION EDGING

At edge of roofs install 6" wide X thickness indicated, wood nailers prior to installation of roof insulation specified in Division 7. Wood nailers at edges of gravel stops and fascias shall be untreated material. Nailers at edges of insulation that abut rising surfaces shall be pressure treated material.

3.10 BLOCKING FOR GRAVEL STOPS

Provide and install wood blocking cut to size and shape shown, bolted into walls or roof decks with staggered bolting as shown.

SECTION 7200 - INSULATION

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Work includes installation of all insulation shown on the drawings.

1.2 SUBMITTALS

- A. Submit manufacturer's product literature and installation instructions for type of insulation required.
- B. Submit data showing physical properties of fasteners to be incorporated with this work, including test data from an independent testing laboratory showing pull-out resistance.

1.3 QUALITY ASSURANCE

- A. Installer: To be a regularly engaged in the installation of insulation work specified and shall have have proper experience to install the work specified.
- B. Manufacturer: The manufacturer shall be a company regularly engaged in the manufacturer of the insulation specified.

PART 2: MATERIAL

2.1 ROOF INSULATION (Not on this Project)

- A. The roof insulation shall be Polyisocyanurate of the thickness stated on the drawings.
- B. Thermal resistance: $R=7.1$ per inch thickness, conditioned

2.2 WALL INSULATION

- A. The wall insulation shall be Polyisocyanurate of the thickness stated on the drawings
- B. Where called for, the insulation shall have an integral vapor barrier.

2.3 FOUNDATION PERIMETER INSULATION

- A. Foundation perimeter insulation shall be Owens Corning Foamular 250 Insulation, or equal, of the thickness stated on the drawings.
- B. Thermal Resistance: $R=5.0$ per inch thickness, conditioned.

2.4 *MASONRY FILL INSULATION (Not on this Project)*

- A. The exterior concrete masonry wall insulation shall be Cor-Fill 500 as manufactured by Tailored Chemical Products, Inc., or equal.
- B. Product to be installed by injection into all open cores or through drilled holes in mortar joints. All holes to be repaired to appear as before drilling.
- C. Thermal Resistance: R=20 for 12 inch block/60 lbs density.
R=14.2 for 8 inch block/60 lbs density.

PART 3: EXECUTION

3.1 *INSTALLATION*

All products to be installed in strict accordance with the manufacturer's installation specifications.

3.2 *TRAINING*

Where special training is required, the installer shall be trained in accordance with the manufacturer's training program and shall be experienced in the installation of such work.

END OF SECTION

SECTION 07900 - JOINT SEALANTS

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

This section shall include all materials, equipment, and labor necessary for the installation of joint sealants on the project.

- A. Qualified Applicator: Franchised by sealant manufacturer; at least three years experience in similar work with satisfactory results, subject to the Architect's approval. Install materials using experienced workmen, skilled in this type application, with equipment approved by the manufacturer.

1.2 SUBMITTALS

- A. Submit manufacturer's specifications for the compounds; include methods of application and proposed color for each type of installation.
- B. Submit color samples.

1.3 ENVIRONMENTAL REQUIREMENTS

- A. Acceptable temperature range for sealant Application: 65 deg. to 90 deg.
- B. Stop exterior sealant work during inclement weather and do not restart until surfaces adjacent to the joint to be sealed are perfectly dry.

PART 2: PRODUCTS

2.1 MATERIALS

- A. Multi-Component Urethane Sealant, for non-sag applications:
 - 1. Non-modified, air-curing, elastomeric sealant complying with ASTM C 920-86 Type M, Grade NS, Class 25. Select from one of the following manufacturers and products, or equal:
 - a. Tremco, Dymeric.
 - b. Pecora, Dynatrol II.
 - c. Sonneborn Building Products, Sonolastic NP 2.
- B. Multi-Component Urethane Sealant, for self-leveling applications:
 - 1. Complying with Federal Specification TT-S-00227E, Class A, Type 1:
 - a. Tremco, THC-900.
 - b. Pecora, Urexpan NR-200.
 - c. Sonneborn Building Products, Sonolastic SL1.
- C. Acrylic Latex Sealant:
 - 1. Complying with ASTM C-834-86.
 - a. Tremco, Acrylic Latex 834.
 - b. Pecora, AC-20.
 - c. Sonneborn Building Products, Sonolac.
- D. Sanitary Silicone Rubber., one part, moisture cure.
 - 1. Complying with ASTM C-920, Type S, NX, Class 25.
 - a. Dow Corning, 786 Mildew Resistant Silicone Sealant.
 - b. General Electric Company, Sanitary 1700 Sealant.
 - c. Rhone-Poulenc Inc., Rhodorsil 6B.

- E. Primer: As recommended by manufacturer for the use intended.
- F. Primer (Silicone): As recommended by sealant manufacturer.
- G. Backer Rod: Expanded, closed cell polyethylene; as recommended by sealant manufacturer.
- H. Bond-Breaker: Polyethylene tape; as recommended by sealant manufacturer.

PART 3: EXECUTION

3.1 *CONDITION OF SURFACES*

- A. Examine all surfaces which are to receive this work for any conditions detrimental to the proper or timely completion of this work. Do not proceed with this work until such conditions have been corrected and are acceptable.

3.2 *JOINT DESIGN*

- A. Sealant joints shall conform to the following criteria.
 - 1. No joint less than 1/4 inch in width or depth.
 - 2. Joints up to 1/2 inch in width shall have equal depth.
 - 3. Joints over 1/2 inch in width shall have depth equal to 1/2 the width.
 - 4. Control joints in concrete slabs, 1/8 inch width.
- B. Provide backer rod as specified to limit depth of joints. In shallow joints where use of backer rod is restricted, provide bond-breaker tape.

3.3 *APPLICATION*

- A. Joints and spaces to be sealed shall be clean, dry and free from dust, loose mortar and other foreign materials.
- B. Clean ferrous metals of all rust, mill scale and coatings by wire brush, grinding or sandblasting. Remove oils and grease with solvent-based materials such as Zylol, toluol or methyl ketone. Do not use soap, detergent or water soluble cleaners.
- C. Mask adjacent surfaces with masking tape prior to priming and sealing. Remove tape after joint has been tooled.
- D. After joints have been completely filled, they shall be neatly tooled to a slightly concave surface.
- E. Immediately clean adjacent materials which have been soiled; leave work in a neat, clean condition.
- F. Repair and correct defects in work due to faulty materials, methods of workmanship. Make good any adjacent work damaged by such defects.

3.4 *DEFLECTIVE WORK.*

- A. The following types of failure will be adjudged defective work: breakage, cracking, crumbling, melting, shrinking, running, hardening or staining adjacent surfaces, adhesive failure and cohesive failure. Correct defective work.

3.5 *COLOR.*

- A. Sealant, Generally: Color of the adjacent material which lies in the same plane as the sealant. Sanitary silicone sealant shall be white.

3.6 *APPLICATION.*

- A. Use urethane type sealants as exterior where sealant is indicated or if not indicated, as required to provide a weather-tight joint between dissimilar materials.
- B. Use acrylic latex type sealant at interior locations where indicated or required to provide a seal between dissimilar materials.
- C. Use sanitary silicone sealant at interior locations between plumbing fixtures and building construction and between casework and wall construction.
- D. Use one-part nonsag urethane sealant or multi-part nonsag urethane sealant (NT) for expansion and control joints in masonry, other than stone.

END OF SECTION

081416
WOOD DOORS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Work Included: Furnish and install solid core flush wood doors and pre-hung hollow core flush wood doors for this work where indicated and scheduled on the drawings.
- B. Related Work Specified Elsewhere:
 - 1. Section 087100 Finish Hardware
 - 2. Section 088100 Glazing
 - 3. Section 099123 Painting and Finishing

1.02 INDUSTRY STANDARDS

- A. Flush wood doors shall comply with NWWDA Industry Standards I.S.1-87 Series and Architectural Woodwork Institute for Type PC.

1.03 QUALITY ASSURANCE

- A. Regulatory Agencies: Fabricate those flush wood doors indicated on the drawings to be fire-rated in accordance with applicable Underwriter's Laboratories, Inc. (UL) Specifications. Each required door shall bear the authorized UL label showing the rating index and its conformance to the applicable specification. Where provisions of this section conflict with an applicable UL specification, notify the Architect immediately and do not fabricate the doors in conflict until instructed to do so by the Architect.

1.04 SUBMITTALS

- A. Shop Drawings: Submit to the Architect for approval showing fabrication techniques, details, elevations, dimensions and schedule of flush wood door sizes, locations and types.
- B. Submit manufacturer's written lifetime guarantees.

1.05 PRODUCT HANDLING

- A. Protection: Use all means necessary to protect flush wood doors before, during, and after installation and to protect the installed work and materials of all other trades.
- B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect, and at no additional cost to the Owner.
- C. Storage: Store doors as recommended by the manufacturer, off the floors and in manners that will prevent undue deflections and in locations that will minimize chances of damage caused by construction operations. Never store doors outside the building or in damp interior spaces. Keep stockpiles covered, but do not restrict air circulation around the stockpiles.

PART 2 – PRODUCTS

2.01 SOLID CORE WOOD DOORS

- A. Solid core door materials shall conform to NWWDA Industry Standard I.S. 1.2-87 and as follows:
 - 1. Doors shall be solid glued block core or mat-formed wood particle board core type with edge bands glued to core.
 - 2. Doors shall be faced with good plain sliced, natural red oak veneers unless noted otherwise.
 - 3. All door glazing to be stopped with wood beading. Fire-rated doors to utilize labeled beaded lite (20 minute rating) on Fire-Rated Veneered Lite Beading (45, 60, and 90 minute rating).
- B. Standards:

081416
WOOD DOORS

1. Algoma Hardwoods
2. Eggers
3. VT Industries

PART 3 – EXECUTION

2.01 INSTALLATION

A. Surface conditions:

1. Prior to installation of flush wood doors, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where the installation may properly commence.
2. Verify that flush wood doors may be installed in accordance with the original design, the referenced standards, and all pertinent codes and regulations.
3. In the event of discrepancy, immediately notify the Architect.
4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

B. Installation:

1. Hang flush wood doors squarely in the appropriate frames, maintaining clearances of 1/8 inch at tops and jambs and 3/8 inch from finished floors at bottoms, except where undercuts are indicated on the drawings, in which cases maintain such undercuts from finished floors.
2. Door shall operate freely and smoothly without binding or rubbing frames or floors, or both.
3. When adjustments are necessary, perform such adjustments only as approved by the Architect.
4. Anchor doors firmly into position for long life under hard use.
5. Mount door louvers in center of door 1'-0" from bottom of louver to finish floor.

END OF SECTION 081416

SECTION 08600 - EXTERIOR WINDOWS

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Work includes providing and installation of all exterior windows and hardware on the project.

1.2 SUBMITTALS

- A. Submit manufacturer's product literature and installation instructions for type of exterior windows required.
- B. Submit data showing physical properties of the exterior windows along with the hardware and installation instructions.

1.3 QUALITY ASSURANCE

- A. Installer: To be a regularly engaged in the installation of window units specified and shall have proper experience to install the work specified.
- B. Manufacturer: The manufacturer shall be a company regularly engaged in the manufacturer of window units specified.

PART 2: MATERIAL

2.1 MATERIALS

- A. Window units shall be as stated on the drawings.

PART 3: EXECUTION

3.1 INSTALLATION

All products to be installed in strict accordance with the manufacturer's installation specifications. Where brick or concrete block is laid against an exterior window, back-up rods of thickness required by the manufacturer of the windows shall be used to obtain clearances around window unit. In load bearing wood construction, clearances shall be 1/8" on sides, 1/4 at head, and 3/8" at sill.

3.2 TRAINING

Where special training is required, the installer shall be trained in accordance with the manufacturer's training program and shall be experienced in the installation of such work.

END OF SECTION

SECTION 08900 – ALUMINUM FRAMED STOREFRONTS & WINDOWS

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.01 Summary

A. Section Includes: Kawneer Architectural Aluminum Storefront Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of storefront units.

1. Types of Kawneer Aluminum Storefront Systems include:

- a. Trifab® VG 451T Storefront System – 2" x 4-1/2" (50.8 x 114.3) nominal dimension; Thermal; Front, Center, Back, Multi-Plane, Structural Silicone or Weatherseal Glazed (Type B); Screw Spline, Shear Block, Stick or Punched Opening Fabrication.

1.02 System Description

Provide and install new window units as shown on the drawings.

A. Storefront System Performance Requirements:

1. Wind loads: Provide storefront system; include anchorage, capable of withstanding wind load design pressures according to the 2012 International Building Code as adopted by the State of Indiana
2. Air Infiltration: The test specimen shall be tested in accordance with ASTM E 283. Air Infiltration rate shall not exceed 0.06 cfm/ft² (0.3 l/s • m²) at a static air pressure differential of 6.24 psf (300 Pa).
3. Water Resistance: The test specimen shall be tested in accordance with ASTM E 331. There shall be no leakage at a minimum static air pressure differential of 8 psf (383 Pa) as defined in AAMA 501.
4. Uniform Load: A static air design load of 20 psf (958 Pa) shall be applied in the positive and negative direction in accordance with ASTM E 330. There shall be no deflection in excess of L/175 of the span of any framing member. At a structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.2% of their clear spans shall occur.
5. Thermal Transmittance (U-factor): When tested to AAMA Specification 1503, the thermal transmittance (U-factor) shall not be more than:
 - a. Glass to Exterior – 0.47 (low-e) or 0.61 (clear)
 - b. Glass to Center – 0.44 (low-e) or 0.61 (clear)
 - c. Glass to Interior – 0.41 (low-e) or 0.56 (clear)
6. Condensation Resistance (CRF): When tested to AAMA Specification 1503, the condensation resistance factor shall not be less than:
 - a. Glass to Exterior – 70_{frame} and 69_{glass} (low-e) or 69_{frame} and 58_{glass} (clear).
 - b. Glass to Center – 62_{frame} and 68_{glass} (low-e) or 63_{frame} and 56_{glass} (clear).
 - c. Glass to Interior – 56_{frame} and 67_{glass} (low-e) or 54_{frame} and 58_{glass} (clear).
7. Sound Transmission Class (STC) and Outdoor-Indoor Transmission Class (OITC): When tested to AAMA Specification 1801 and in accordance with ASTM E1425 and ASTM E90, the STC and OITC Rating shall not be less than:
 - a. Glass to Exterior – 38 (STC) and 31 (OITC)
 - b. Glass to Center – 37 (STC) and 30 (OITC)
 - c. Glass to Interior – 38 (STC) and 30 (OITC)

1.03 Submittals

A. General: Prepare, review, approve, and submit specified submittals in accordance with "Conditions of the Contract" and Submittals Sections. Product data, shop drawings, samples, and similar submittals are defined in "Conditions of the Contract."

- B. Quality Assurance/Control Submittals:
 - 1. Test Reports: Submit certified test reports showing compliance with specified performance characteristics.

1.04 Warranty

- A. Project Warranty: Refer to "Conditions of the Contract" for project warranty provisions.
- B. Manufacturer's Product Warranty: Submit, for Owner's acceptance, manufacturer's warranty for storefront system as follows:
 - 1. Warranty Period: Two (2) years from Date of Substantial Completion of the project provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by supplier.

1.05 Quality Assurance

- A. Qualifications:
 - 1. Installer Qualifications: Installer experienced (as determined by contractor) to perform work of this section who has specialized in the installation of work similar to that required for this project and who is acceptable to product manufacturer.
 - 2. Manufacturer Qualifications: Manufacturer capable of providing structural calculations, applicable independent product test reports, installation instructions, a review of the application method, customer approval and periodic field service representation during construction.
- B. Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements.

1.06 Delivery, Storage, and Handling

- A. Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- B. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

PART 2 - PRODUCTS

2.01 Manufacturers

- A. Acceptable Manufacturers:
 - 1. Kawneer Company, Inc.
555 Guthridge Court,
Technology Park/Atlanta,
Norcross, GA 30092
Telephone: 770 449 5555
Fax: 770 734 1560
- C. Substitutions:
 - 1. General: Refer to Substitutions Section for procedures and submission requirements.
 - a. Pre-Contract (Bidding Period) Substitutions: Submit written requests seven (7) days prior to bid date.

2. Substitution Documentation
 - a. Product Literature and Drawings: Submit product literature and drawings modified to suit specific project requirements and job conditions.
 - b. Certificates: Submit certificate(s) certifying substitute manufacturer (1) attesting to adherence to specification requirements for storefront system performance criteria, and (2) has been engaged in the design, manufacturer and fabrication of aluminum storefront for a period of not less than ten (10) years.
3. Substitution Acceptance: Acceptance will be in written form as an addendum prior to the bid opening.

2.02 Materials

- A. Aluminum (Framing and Components):
 1. Material Standard: ASTM B 221; 6063-T6 alloy and temper
 2. Member Wall Thickness: Each framing member shall provide structural strength to meet specified performance requirements.
 3. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of storefront members are nominal and in compliance with AA Aluminum Standards and Data.

2.03 Accessories

- A. Fasteners: Where exposed, shall be Stainless Steel.
- B. Gaskets: Glazing gaskets shall be extruded EPDM rubber.
- C. Perimeter Anchors: Aluminum. When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.
- D. Thermal Barrier (Trifab® VG 451T):
 1. Kawneer IsoLock® Thermal Break with a 1/4" (6.4) separation consisting of a two-part chemically curing, high-density polyurethane, which is mechanically and adhesively joined to aluminum storefront sections.
 - a. Thermal Break shall be designed in accordance with AAMA TIR-A8 and tested in accordance with AAMA 505.

2.04 Related Materials

- A. Sealants: Refer to Joint Treatment (Sealants) Section.

2.05 Fabrication

- A. General:
 1. Fabricate components per manufacturer's installation instructions and with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
 2. Accurately fit and secure joints and corners. Make joints flush, hairline and weatherproof.
 3. Prepare components to receive anchor devices. Fabricate anchors.
 4. Arrange fasteners and attachments to conceal from view.

2.06 Finishes

- A. Factory Finishing:
 1. Kawneer Permanodic® AA-M12C22A44, AAMA 611, Architectural Class I Color Anodic Coating. Color selected by Owner.

2.07 Source Quality Control

- A. Source Quality: Provide aluminum storefront specified herein from a single source.
 - 1. Building Enclosure System: When aluminum storefront is part of a building enclosure system, including entrances, entrance hardware, windows, curtain wall system and related products, provide building enclosure system products from a single source manufacturer.
- B. Fabrication Tolerances: Fabricate aluminum storefront in accordance with framing manufacturer's prescribed tolerances.

PART 3 – EXECUTION

3.01 Examination

- A. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions. Verify openings are sized to receive storefront system and sill plate is level in accordance with manufacturer's acceptable tolerances.
 - 1. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.

3.02 Installation

- A. General: Install framing system in accordance with manufacturer's instructions and AAMA storefront and entrance guide specifications manual.
 - 1. Dissimilar Materials: Provide separation of aluminum materials from sources of corrosion or electrolytic action contact points.
 - 2. Weathertight Construction: Install sill members and other members in a bed of sealant or with joint filler or gaskets, to provide weathertight construction. Coordinate installation with wall flashings and other components of construction.
 - 3. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
 - 4. Provide alignment attachments and shims to permanently fasten system to building structure.
 - 5. Align assembly plumb and level, free of warp and twist. Maintain assembly dimensional tolerances aligning with adjacent work.
- B. Related Products Installation Requirements:
 - 1. Sealants (Perimeter): Refer to Joint Treatment (Sealants) Section.
 - 2. Glass: Refer to Glass and Glazing Section.
 - a. Reference: ANSI Z97.1, CPSC 16 CFR 1201 and GANA Glazing Manual.

3.03 Field Quality Control

- A. Field Tests: Architect shall select storefront units to be tested as soon as a representative portion of the project has been installed, glazed, perimeter caulked and cured. Conduct tests for air infiltration and water penetration with manufacturer's representative present. Tests not meeting specified performance requirements and units having deficiencies shall be corrected as part of the contract amount.
 - 1. Testing: Testing shall be performed by a qualified independent testing agency. Refer to Testing Section for payment of testing and testing requirements. Testing Standard per AAMA 503, including reference to ASTM E 783 for Air Infiltration Test and ASTM E 1105 Water Infiltration Test.

- a. Air Infiltration Tests: Conduct tests in accordance with ASTM E 783. Allowable air infiltration shall not exceed 1.5 times the amount indicated in the performance requirements or 0.09 cfm/ft², whichever is greater.
 - b. Water Infiltration Tests: Conduct tests in accordance with ASTM E 1105. No uncontrolled water leakage is permitted when tested at a static test pressure of two-thirds the specified water penetration pressure but not less than 6.24 psf (300 Pa).
- B. Manufacturer's Field Services: Upon Owner's written request, provide periodic site visit by manufacturer's field service representative.

3.04 Protection and Cleaning

- A. Protection: Protect installed product's finish surfaces from damage during construction. Protect aluminum storefront system from damage from grinding and polishing compounds, plaster, lime, acid, cement, or other harmful contaminants.
- B. Cleaning: Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

END OF SECTION

SECTION 9250 - GYPSUM WALLBOARD SYSTEMS

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Furnish labor, materials, equipment special tools, supervision and services to complete Gypsum Wallboard Systems indicated, noted, and detailed on drawings and specified herein, including wallboard and accessories.

1.2 RELATED WORK SPECIFIED ELSEWHERE

Section 8110 Hollow Metal Frames
Section 9900 Painting

1.3 INDUSTRY STANDARDS

A. Publications of the following institutes, associations, societies, and agencies are referred to in this Section.

1. American Society for Testing and Materials, ASTM.
2. Underwriters' Laboratories, Inc., UL.
3. Federal Specifications, FS.

1.4 PRODUCT HANDLING

A. Gypsum Wallboard materials shall be delivered and stored to prevent damage.
1. Storage area shall be dry, weather-tight, and well ventilated.

1.5 PRODUCT HANDLING

Uniform temperature in the range of 55 degrees to 70 degrees shall be maintained during the installation and finishing of Gypsum Wallboard Systems.

1.6 QUALITY ASSURANCE

A. Acceptable Manufacturer's and Products.
1. United States Gypsum Company.
2. National Gypsum Company.
3. Georgia-Pacific Gypsum Company.

PART 2: PRODUCTS

2.1 MATERIALS

A. Materials shall conform to the following requirements of the 2006 International Building Code as adopted by the State of Indiana.

- B. Gypsum Wallboard, unless otherwise specified shall be the following types, shall be:
 - 1. Regular Board, taper edge, furnished 5/8" thick.
 - 2. Fire Rated Board, taper edge, furnished 5/8" thick.
 - 3. Moisture Resistant Board, taper edge furnished 5/8" thick.
 - 4. Wallboard shall be thickness indicated furnished in stock widths and stock lengths.
- C. Accessories, including corner beads, casing beads and trim, shall be furnished by the wallboard manufacturer as standard for the installed systems. Corner beads shall be screwed to wall, no crimp type.
- D. Fasteners shall be Type S, Bulge Head wallboard screws at lengths required by mfg. Nails shall not be used.

2.2 EXAMINATION

- A. Examine areas that are to receive drywall application.
 - 1. Check alignment of supports, spacing, size and report any unsatisfactory conditions to the Architect. Do not proceed with drywall application until conditions have been corrected.
- B. Wallboard system shall be fastened to steel framing using power driven screws.
 - 1. Screws shall be spaced not less than 3/8" from edges and ends of wallboard, and shall be spaced 8" o.c. at joints and field.
 - 2. Joints in wallboard shall occur only at stud locations

PART 3: EXECUTION

3.1 INSTALLATION

- A. Drywall systems shall be complete, including supports, wallboard, and taping and spackling joints.
- B. Floor and ceiling tracks shall be channel shape cold formed of galvanized sheet steel of sufficient width to receive studs.
- C. Studs shall be spaced as shown on the drawings.
- D. Wallboard shall be taper edge boards installed with long dimension vertical. Install ceiling first.
 - 1. Fire Rated Boards shall be used for all walls indicated on the drawings as smoke or fire walls or as otherwise noted on the drawings.
 - 2. Moisture Resistant Wallboard shall be used in damp or wet areas.
 - 3. Moisture Resistant wallboard shall be used for all walls to receive ceramic tile.
 - 4. Moisture Resistant wall board shall be used on the walls of all restrooms.
- E. Provide corner at all outside corners, heads of unframed openings and other unprotected outside comers. Crimp type of metal corners shall not be used unless screwed also.

3.2 JOINT TREATMENT

A. All joints and internal corners shall be finished with joint tape and spackle as recommended by the wallboard manufacturer.

1. Apply joint compound sufficiently thick to hide board surface at angles and joints. Cover nail heads and depressions with compound.
2. Apply tape to angles and joints, squeeze out excess compound, and cover tape with compound.

When first coat has thoroughly dried, apply second coat and taper beyond edges of first coat. Apply thin-finish coat of compound tapered beyond edges of second coat and sand to smooth surface, true to a plane.

3.3 CLEANING

Remove soil, stain, caused by installing of drywall materials. Clean and properly prepare drywall surfaces to receive finish, as specified.

END OF SECTION

SECTION 09500 - ACOUSTICAL CEILING PANELS

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

The work of this section comprises the furnishing of all labor, materials, equipment, and services necessary for the installation of all acoustical ceilings, complete with suspension systems and related accessories as shown or scheduled on the drawings as specified herein.

1.2 EXPOSED GRID SYSTEM

System consists of suspension system to form an exposed metal grid pattern and lay-in acoustic control panels. All component parts shall be Underwriter's Laboratories, Inc., approved and rated materials for at least a one (1) hour rating where required.

Provide framing required for ceiling access for mechanical equipment. Provide additional hangers required to support ceiling mounted equipment, light fixtures, etc. Provide tie downs to prevent uplift of lay-in units.

1.3 WORK NOT INCLUDED

The following work is specified under other sections of the specifications as noted.

- A. Furnishing and installation of all lighting fixtures and wiring to same are specified in Division 16.
- B. Furnishing and installation of all ducts, ceiling grilles, return registers in connection with Heating & Air Conditioning are specified in Division 15.

PART 2: MATERIALS

2.1 EXPOSED SUSPENSION SYSTEM

- A. Reference drawings for type and location

2.2 ACOUSTIC PANELS

- A. Reference drawings for type and location

2.3 *SAMPLES*

Submit to the Architect for approval samples of each type, style and size of acoustical units and suspension systems.

2.4 *SHOP DRAWINGS*

Provided shop drawings in the form of schedules showings type, style, size and method of suspension to be used in each area receiving acoustical treatment.

PART 3: EXECUTION

3.1 *INSTALLATION*

The suspension system shall support the ceiling assembly with a maximum deflection of 1/360 of the span. Seismic bracing as required by enforceable building codes. See Section 01000 Governing Codes for list of Codes to be used on this project.

Suspend main beams not more than 48" center to center with hanger wire tied securely and accurately leveled. Extra hangers shall be provided at light fixtures that are supported by grid system and at wall.

Main beams (tees) shall be spaced 4'-0" on center, with cross tees at 2'-0" on center to form a 4'-0" x 2'-0" grid module. Cross tees shall intersect and be positively locked into the main tees. Main tees shall be locked end to end. Tile board hold down clips shall be used as required. Wall moldings shall be securely fastened to walls, with main tees and cross tees resting on wall moldings.

END OF SECTION

SECTION 9900 - PAINT

PART 1: GENERAL The General Conditions and other Contract Documents are hereby made a part of this Section to the same extent as if written out in full.

1.1 SCOPE

Furnish all labor and materials required to complete all painting, enameling or finishing, indicated, noted, detailed or scheduled on the drawings and specified herein. It is the intent of this Section to require the painting subcontractor to finish all materials, equipment and items installed by all trades including Mechanical & Electrical. Painting Subcontractor shall also be responsible for the finishing of areas damaged or disturbed during construction time. Factory finished items will not require additional finishing.

PART 2: PRODUCTS

2.1 MATERIALS

This specification will make no attempt to define the composition or physical properties of the paints to be applied.

All paints shall be the maker's top professional brand, delivered to the site in the original unopened sealed containers.

Materials are specified under type of surface to be finished. Equal products by MAB or Porter may be used.

Vehicles shall be as recommended by the manufacturer of the particular product used. Thinning shall be done only in accordance with the manufacturer's recommendations using only thinning or reducing materials meeting manufacturer's approval.

No claim by the Contractor concerning the unsuitability of any material specified or his inability to produce first-class work with same will be entertained unless such claim is made in writing to the Architect before the Contract is signed. Deliver materials in original sealed containers.

Painting contractor will submit name of material manufacturer and supply Architect, through Prime Contractor, with color selection charts, chips, etc., if same are not available in Architect's office, for all color selection.

No painting to be done until final samples are approved.

2.2 EXTERIOR PAINT SCHEDULE

2.3 INTERIOR PAINT SCHEDULE

A. Painted Gypsum Drywall:

1. Application by brush and roller.
2. First Coat: Latex Primer
 - a. Sherwin Williams PrepRite 200 Latex Primer
3. Second and Third Coats: Interior Vinyl Acrylic
 - a. Sherwin Williams ProMar 200 Interior Latex Egg-Shel

PART 3: EXECUTION

3.1 FINISH THICKNESS

All painting and finishing work done in this project shall have a minimum total dry film thickness (DFT) of not less than that noted hereinafter, with spreading rate noted.

3.2 WORKMANSHIP

The painting subcontractor shall be responsible for inspecting the work of others prior to the application of any paint or finishing material. If any surface to be finished can - not be put in proper condition for finishing by customary cleaning, sanding and putty operations, the painting subcontractor shall immediately notify the General Contractor in writing; or assume responsibility for and rectify any unsatisfactory finish resulting.

Backpriming will be required for all interior and exterior wood items.

Each coat of paint shall be slightly darker than preceding coat unless otherwise directed by Architect or Owner. Undercoats shall be tinted similar to finish coats.

Prime coats will not be required on items delivered with prime or shop coats already applied. Touch-up primer or shop coats.

Field painting will not be required on items specified to be completely finished at factory or on aluminum copper, brass, bronze and other non-ferrous metal unless specifically designated.
Interior caulking will be painted.

3.3 STORAGE

All materials used on the job shall be stored in a single place designated by the General Contractor and approved by the Architect and Owner. The storage area must be kept clean and neat. Floors shall be adequately protected from spillage with proper covers. Any oil rags, waste, etc., must be removed each night after being placed in a covered receptacle during the day.
All precautions against fire must be taken.

3.4 PREPARATION

All surfaces to be painted or finished shall be prepared carefully and inspected before starting the work. No paint or other finish shall be applied until the surfaces are absolutely clean, dry and in proper condition to receive the work.

END OF SECTION

SECTION 09900-2

123216
PLASTIC LAMINATE CASEWORK AND COUNTERTOPS

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Cabinets and counter tops.
- B. Casework hardware.

1.02 REFERENCES

- A. Countertop Standard: ANSI A161.2
- B. Catalog Standards: Manufacturer's catalog numbers may be shown on drawings or in equipment schedule for convenience in identifying certain cabinet work. Unless modified by notation on drawings or otherwise specified, catalog description for indicated number constitutes requirements for each such cabinet.

1.03 SUBMITTALS

- A. Submit under provisions of Section 013200.
- B. Shop Drawings: Indicate casework locations, large scale plans, elevations, rough-in and anchor placement dimensions and tolerances, clearances required.
- C. Product Data: Provide component dimensions, configurations, construction details and joint details.
- D. Samples: Submit two samples, minimum size 3 x 6 inches (75 x 150 mm) of each color of finish.

1.04 QUALITY ASSURANCE

- A. Perform Work in accordance with ANSI 161.1.

1.05 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

1.06 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on shop drawings.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

- A. Stevens Cabinet Company, Inc. Product Architectural Designer Series.
- B. L.S.I. Corp. of America, Inc.
- C. Trimline Product.
- D. Custom fabricated per enclosed specifications.
- E. Or approved equal

2.02 BASIC MATERIALS

- A. Particleboard: ANSI A208.1 mat. formed particleboard, Grade 1-M- with minimum density of 40 lbs. per cu. ft., internal bond of 60 psi; and minimum screw holding capacity of 225 lbs. on faces and 200 lbs. on edges.
- B. Plastic Laminate: NEMA LD-3, of thickness, type and grade designation indicated; in colors or patterns and finishes indicated or, if not indicated, as selected by Architect from manufacturer's standard range.
- C. Exposed Surfacing Material of Doors, Drawer Fronts, Fixed Panels, Toeboards and Ends: High pressure decorative laminate, 0.028" thick, General Purpose Type (GP-28).

PLASTIC LAMINATE CASEWORK AND COUNTERTOPS

- D. Semi-Exposed Surfacing Material and Doors: High pressure plastic laminate, 0.020" thick, Cabinet Liner Type (CL-20), in color or pattern and finish matching interior of cabinets, unless otherwise indicated.
- E. Remaining Semi-Exposed Materials: Decorative boards, General Purpose type, conforming to NEMA LQ-1 with decorative faces in patterns or colors and finish indicated or, if not indicated, as selected by Architect from manufacturer's standard range.
- F. Concealed Materials: Any sound dry solid lumber, plywood or particleboard or combination thereof; without defects affecting strength, utility or stability. On concealed surfaces of portions constructed of decorative boards, provide decorative or cabinet liner laminate backing (Light-Duty Type).
- G. Core Material for Plastic Laminates: Industrial Grade Particleboard conforming to ANSI A20B.1, Grade 1-M-2.
- H. Treatment of Exposed and Semi-Exposed Edges: Edges of doors and drawer fronts shall have GP-28 plastic laminate to match fronts.
- I. Cabinet Construction
 - 1. Sides, dividers, tops, bottoms, shelves and stretchers: Not less than 1/2" thick. Provide stretchers at top of base cabinet.
 - 2. Backs: Not less than 3/8" thick for unexposed backs. Exposed backs are to be 3/4" thick panels of balanced construction tenoned into cabinet ends.
 - 3. Drawers
 - a. Sides, subfronts and backs: not less than 1/2" thick.
 - b. bottoms: not less than 1/4" thick particleboard or provide solid wood sides and back.
 - c. Provide box type construction with front, bottom and back rabbeted in sides.
 - d. All joints secured with glue and mechanical fasteners.
 - e. All drawers must be suspended on extension drawer slides.
 - 4. Joinery
 - a. Rabbet backs flush into end panels and secure with concealed mechanical fasteners.
 - b. Connect wall cabinet tops and bottoms and base cabinet bottoms and stretchers to ends and dividers by means of mechanical fasteners.
 - c. Rabbet tops, bottom and backs into end panels or cabinetry corner joints to incorporate fluted dowel pin construction.
 - 5. Subbase: Not less than 3/4" thick, of height and relationship to cabinet fronts and exposed ends as indicated. Rubber base furnished and applied continuously per Section 09650.
 - 6. Toe Board: Not less than 3/4" thick, attached to subbase with concealed fasteners.

2.03 COUNTERTOPS

- A. Exposed Surfacing Material: High pressure plastic laminate, 0.050" thick, General Purpose Type (GP-50); except 0.042" thick, Postforming Type (PF-42), where postformed countertop configuration is indicated.
- B. Substrate (Core) for Exposed Surfacing Material: Particleboard.
- C. Countertop Configuration: Provide self-edge countertops with continuous 4" backsplash.
- D. Countertop Thickness: As indicated or, if not indicated, not less than 1-1/4" thick, and unless otherwise indicated, with substrate (core) not less than 3/4" thick.

PLASTIC LAMINATE CASEWORK AND COUNTERTOPS**2.04 CABINET AND CASEWORK HARDWARE AND ACCESSORIES**

- A. General: Provide manufacturer's standard hardware and accessory units of type, size and finish indicated, complying with ANSI A156.9 or, if not indicated, as selected by Architect from manufacturer's standard range.
- B. Hinge: Institutional type, 5 knuckle with 270 degree swing. Provide one pair for doors less than 4 ft. high and 1-1/2 pair for doors over 4 ft.
- C. Pulls: Selected from manufacturer's standard. Provide 2 pulls for drawers over 24" wide.
- D. Door Catches: Nylon roller spring catch or dual self-aligning permanent magnet type. Provide 2 catches on doors over 4 ft. high.
- E. Drawer Slides: Steel slides with ballbearing nylon rollers. 100# rating. File drawers shall have full extension drawer slides for full access to drawer.
- F. Drawer and Cupboard Locks: Half-mortise type, 5-disc tumbler and dead bolt, round cylinder only exposed, die cast with plated finish.
 - 1. Key each cabinet in room alike.
 - 2. Key each room differently.
 - 3. Provide one master key.
 - 4. Provide two keys each.
- G. Sliding Door Hardware Sets: Manufacturer's standard to suit type and size of sliding door units.
- H. Shelf Support Clips: One-piece molded nylon.
- I. Sinks and Faucets: As specified in Division 22.
- J. Finish: Unless otherwise indicated, provide hardware units with manufacturer's standard, satin finish.

2.05 FABRICATION

- A. Shop assemble casework for delivery to site in unit easily handled and to permit passage through building openings.
- B. Fabricate corners and joints without gaps or inaccessible spaces or areas where dirt or moisture could accumulate.
- C. Fabricate each unit rigid, not dependent on building structure adjacent units for rigidity.
- D. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
- E. Form edges smooth. Form material for counter tops, facing, shelves, and linings from continuous sheets.
- F. Provide cutouts for plumbing fixtures, appliances, fixtures and fittings. Prime paint contact surfaces of cut edges.
- G. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

2.06 FINISHES

- A. Exposed To View Surfaces: Plastic Laminate of color and pattern as selected.
- B. Interior Surfaces: Plastic Laminate of color and pattern as selected.

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PLASTIC LAMINATE CASEWORK AND COUNTERTOPS

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions.
- B. Verify adequacy of support framing.

3.02 INSTALLATION

- A. Install casework, components and accessories in accordance with manufacturer's instruction.
- B. Use anchoring devices to suit conditions and substrate materials encountered.
- C. Set casework items plumb and square, securely anchored to building structure.
- D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch (1 mm). Use filler strips not additional overlay trim for this purpose.
- E. Close ends of units, back splashes, shelves and bases.
- F. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.

3.03 ADJUSTING

- A. Adjust work under provisions of Section 017700.
- B. Adjust doors, drawers, hardware, fixtures, and other moving or operating parts to function smoothly.

3.04 CLEANING

- A. Clean work under provisions of 017700.
- B. Clean casework, counters, shelves and hardware.

3.05 PROTECTION OF FINISHED WORK

- A. Protect finished Work under provisions of Section 017700.
- B. Do not permit finished casework to be exposed to continued construction activity.

3.06 SCHEDULES

- A. See Plans and Details.

END OF SECTION 123216

SECTION 15000 - PROVISIONS COMMON TO DIVISIONS 15200, 15300, & 16000

PART 1: GENERAL The provisions of DIVISION 1 and DIVISION 2 preceding these specifications are part of these specifications and this Contractor is to consult them for instructions pertaining to the work under this heading. Note particularly the section on "Proposals ,and Alternates" preceding these specifications.

Where work covered by this specification connects to equipment furnished by others, this Contractor shall check the equipment in the field and will be held responsible for the proper connections to such equipment.

Wherever the phrase "this Contractor" is used in the Article, it refers to the specific contractor involved.

1.1 CONTRACTOR'S NOTE

Immediately upon awarding of the contract, the Contractor must confer with the General Contractor on the building and arrange for proper provisions to be made for the carrying on of all work provided in this specification.

The Contractor shall order all equipment immediately upon signing of contract or receipt of notice to proceed and upon approval of shop drawings. He shall notify the General Contractor of delivery dates and changes therein in writing with copy of written notice to the Architect. He shall check accesses for equipment to insure doorways, hatches, etc., are sufficient to pass any equipment required. It will be the Contractor's responsibility to prevent any undue delay by reason of delayed or postponed shipment dates.

1.2 OPEN COMPETITION

Where manufacturer's names or trade names are mentioned throughout these Plumbing, Heating, Ventilating & Electrical Specifications, it is done for the express purpose of establishing quality or type of design and not for limiting competition. Other manufacturers' products may be used if, in the opinion of the Architect, they are equal in all respects and meet the specifications as hereinafter described or shown on the drawings.

1.3 GUARANTEE

Each Contractor shall keep his entire portion of the work in repair, so far as defects in workmanship, apparatus, or material or construction are concerned, for one (1) year from date of final certificate, without further charge; but this clause shall not be interpreted as holding him responsible for making good any deterioration due to it's use or abuse.

Any equipment installed by this Contractor which fails to meet performance ratings specified and shown on drawings shall be removed and replaced by equipment which meets all specified requirements without additional cost to the Owner.

1.4 DRAWINGS

This Contractor shall have a set of General, Structural, Mechanical and Electrical drawings on the site, and before installing any of his work he shall see that it does not interfere with clearance required for foundations, finished columns, pilasters, partitions, wall, electrical outlets, etc., and structural members as shown on the General drawings and details. If work is so installed and it develops that interferences occur which have not been called to the Architect's attention before it's installation, this Contractor, at his own expense, shall make such changes in his work as directed by the Architect.

1.5 AS CONSTRUCTED DRAWINGS

In order that the Architect may make corrections to contract drawings, this Contractor shall, during the progress of the work, furnish the Architect with sketches or prints of drawings marked in colored pencil showing the exact, as installed, location of any concealed work which deviates in any way from the contract drawings.

1.6 SHOP DRAWINGS

Shop drawings shall be submitted as set forth by the GENERAL CONDITIONS.

1.7 OPERATING INSTRUCTIONS

At the termination of this Contractor's work, at the time the building is officially turned over to the Owner, this Contractor shall furnish to the Owner a complete portfolio containing shop drawings, operating instructions, etc., on all equipment furnished by him under this contract. Also, he shall furnish a competent instructor to advise the maintenance personnel as to the proper operation and servicing of any special equipment installed by him.

1.8 LEAK DAMAGE

This Contractor shall be responsible for damage to the work of other Contractors or to the building and its contents caused by leaks in any of the equipment installed by him or by disconnected pipes, fittings, overflows, freeze-ups, etc.

1.9 CLEANING OF PREMISES

This Contractor shall keep the premises clean of all debris caused by his work at all times, and shall keep his materials stored in such a manner so as not to interfere with the progress of the work of other contractors.

Remove all labels and clean all equipment before final inspection.

1.10 PAINTING

All painting of new work will be done by the General Contractor under his portion of the specification, but the Mechanical and Electrical Contractors shall clean all equipment, pipe, insulation, valves, conduit, boxes, etc., to be painted. All labels except those required by law shall be removed. All loose scale, dust and dirt shall be removed.

1.11 ADJUSTMENTS TO BUILDING CONDITIONS

The location and arrangement of the various parts of the installation are indicated on the drawings. Under no circumstances shall any sizes be decreased or radical changes in any part of the installation be made without the written consent of the Architect.

When necessary to fit and center with tile, plaster and/or other paneling of wall space, this Contractor must, at his own expense, shift the fixture, grille, or other outlet as directed by the Architect or his representative. Note that prior to installation of suspended tile ceilings the Mechanical and Electrical Contractors shall coordinate tile pattern with the General Contractor.

1.12 COORDINATION OF CONTRACTORS

All sub-contracts shall be made strictly subject to the approval of the Architect.

Each bidder shall file with his proposal a list of sub-contractors proposed for the principal parts of the work he proposes to sub-let and receive Architect's approval before any work is sub-let.

The Owner reserves the right to let other contracts in connection with this work. This Contractor shall extend to other contractors reasonable opportunity for the introduction and the storage of their materials and the execution of their work. This Contractor shall cooperate to the best of his ability with other contractors on the work and shall properly connect and coordinate his work with theirs.

In the interest of a properly coordinated and integrated Electrical System, the Electrical Contractor shall furnish and install all motor circuit wiring and control circuit wiring, together with connection to all electrical Drawings, or described in the Electrical Specifications. This will include standard starters, circuit breakers, cut-outs, separable attachment devices, control stations, etc., as indicated by symbol or description.

Other contractors whose equipment includes electrical components which require electrical accessories and wiring shall furnish the motor starters, controls, etc., which are ordinarily built into their equipment. The other contractors shall also furnish all externally mounted auxiliaries and electrical devices which are special accessories to their equipment. These include pressure, float, temperature, time liquid flow, and limit switches. Also, "T-stat", damper controls, relays, special devices and non-standard attachments.

Electrical services and connections to the other contractors' equipment, insofar as can reasonably be determined beforehand, are shown on the Electrical Drawings and shall be completed by the Electrical Contractor. Deviations, modifications and additions to the Electrical part of the other contractors work as described, however, shall be the responsibility of the other contractors.

Other contractors shall cooperate with the Electrical Contractor on the location of the outlet boxes, switches, controls, etc. They shall also be responsible for the correct locations of all the above items pertaining to their equipment and shall provide for all labor required to mount in place the various items of equipment except for the electrical hook-up.

All electrically operated or electrically controlled equipment which is furnished by other contractors shall have voltage, phase and frequency characteristics to match the system as described in the Electrical Specifications.

1.13 ERECTING

Each contractor shall do all erecting and installing work promptly, and as the work of other contractors progresses in such manner as not to cause delay to other contractors.

All wall sleeves in brick, concrete block, or concrete walls or slabs to receive piping shall be placed by this contractor as the structure is placed in order to avoid necessity for cutting through finished work. No cutting of finished work will be permitted except as approved by the Architect. Should any cutting of finished work be necessary, all patching shall be done by this Contractor to match adjoining work and original paint finish shall be completed from wall to wall. No patch painting will be accepted.

1.14 WALL CHASES

Each contractor must superintend the building of chases for pipes in walls. He shall furnish the necessary information in this regard to the General and Masonry Contractors at the proper time, and he will be held responsible for the correct size and location of chases, as these may not be shown on the other contractors' drawings.

1.15 CUTTING AND PATCHING

Each contractor shall do all cutting, fitting, and patching necessary to properly install his work unless specifically noted otherwise in these specifications or on the drawings.

1.16 EXCAVATION

Each contractor shall do any and all excavation necessary in the construction of his particular part of the work as included in these specifications, and all sheathing and bracing with proper material which may, in the opinion of the Architect, be necessary for the protection of foundations and walls of the building, and shall keep all excavations free from water by pumping or bailing during the progress of the work.

All surplus earth shall be removed from the premises or disposed of on the premises as directed by the Architect and Owner.

Compaction of soil shall be as stated in the Section 2200 Soil Conditions for all trenching.

A line shall be used to mark out trenches for sewers, pipe, etc., and there shall be no variation from the drawings except by order of the Architect.

1.17 STANDARDIZATION

Insofar as possible, materials shall be standardized, i.e., all steel pipe of one brand, all specialties of one make, all valves of one make, all panels of one make, all switches of one make, all starters of one make, etc.

1.18 MARKING OF VALVES AND EQUIPMENT

Each and every valve which controls supplies to fixtures or appliances which are not directly adjacent and fixable, including all valves in basement, shall be tagged by the contractor whose equipment is served, with a brass tag wired on with No. 10 copper wire

1.19 CODE BANDING

All pipes shall be code-banded or stenciled near each valve and branch take-off from main and at intervals of not less than every 50 feet on long exposed runs. This shall be done after final coat of paint is applied. The owner shall be consulted before applying code banding or stenciling and his code used when applicable.

1.20 ELECTRICAL MOTORS AND WIRING

All electric wiring for heating and ventilating and plumbing equipment will be done under the Electrical Specifications except as otherwise specified. The Electrical Contractor shall furnish combination line starters and push-button stations, unless they are specifically called for in the Mechanical Specifications. The Mechanical Contractor shall be responsible for the procurement of manufacturer's wiring diagrams which will correlate the equipment to be furnished by the Electrical Contractor with the respective manufacturer's specialties.

The required voltage for each motor is given with each class of equipment. All motors shall conform to applicable NEMA Standards for quiet operation, standard frame size, permissible temperatures rise and suitable enclosure for the service intended.

1.21 CONCRETE

See Sections 3100 Concrete Form Work, Section 3200 Concrete Reinforcement, and Section 3300 Cast-In-Place Concrete for more information on concrete requirements.

1.22 FOUNDATIONS

All motor-driven equipment on basement floor and their accessories shall be installed on concrete foundations 4" high, unless otherwise specified or noted on the drawings. Note that certain foundations will be provided by the General Contractor; however, this Contractor shall furnish him the exact dimensions of the foundation required.

1.23 CLEANING OF PIPING AND DUCTWORK SYSTEMS

Each piping system shall be thoroughly cleaned by flushing out with water prior to turning over to the Owner.

Domestic water systems of plumbing shall be thoroughly flushed out and flushing water wasted to sewer for a period not less than 15 minutes. Mains shall be flushed first by flushing out the furthest branch lines and progressing backwards toward source, flushing each branch line. Valve discs shall be removed before flushing except branch shut-off valve.

Ductwork shall be kept clean as it is erected by vacuuming out or by wiping out dirt, grease and oil. Ductwork systems shall not be used for temporary ventilation unless the Contractor furnishes and maintains filters in all locations as seemed necessary to keep system clean. Filters shall be changed regularly every two weeks in order to keep system clean of construction dirt. Covers shall be placed over inlets and outlets not in temporary use during construction.