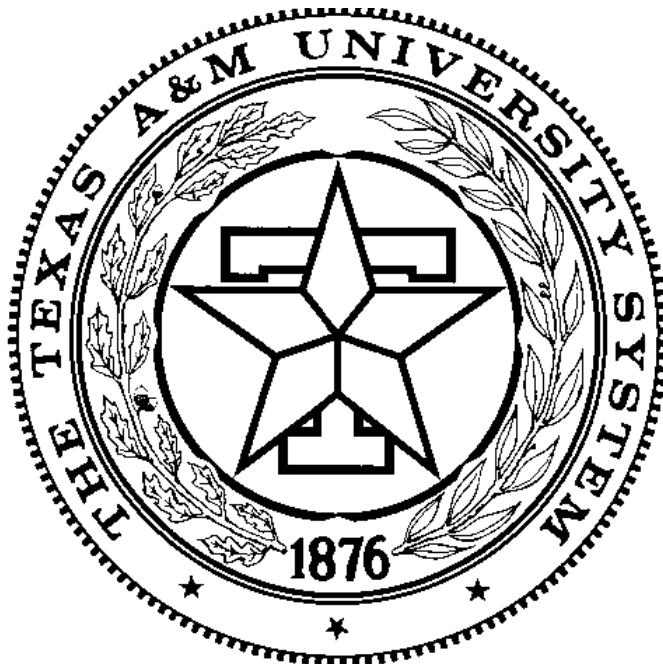


**REQUEST FOR PROPOSAL
FOR
CONSTRUCTION MANAGER-AT-RISK SERVICES**

Joint Library Facility with The University of Texas

Texas A&M University
Riverside Campus
Bryan, Texas
PROJECT NO. 02-3089



**DEADLINE FOR SUBMITTAL:
2:00 p.m. CST, 12 April 2011**

FACILITIES PLANNING AND CONSTRUCTION DEPARTMENT
THE TEXAS A&M UNIVERSITY SYSTEM
COLLEGE STATION, TEXAS

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SECTION 1 NOTICE TO RESPONDENTS

1.1 General Information

Facilities Planning and Construction (FPC) is accepting proposals for the selection process to enter into a contract with a Construction Manager at Risk (CMAR) firm to provide pre-construction services such as constructability guidance, cost estimates, and construction schedules; provide a Guaranteed Maximum Price (GMP); and perform complete construction services consistent with the CMAR construction delivery process as utilized by The Texas A&M System for the Joint Library Facility with The University of Texas on the Texas A&M University Riverside Campus in Bryan, Texas. This document provides information for interested parties to prepare and submit a response to the Request for Proposal (RFP) for consideration by FPC and the Texas A&M University.

- 1.1.1 This Request for Proposals (RFP) is the process for selecting a Construction Manager at Risk firm for the Project as provided by Texas Education Code 51.782(e). The RFP provides the information necessary to prepare and submit Proposals including fee proposals and general conditions prices. The Owner will rank the Respondents in the order that they provide the “best value” for the Owner based on the published selection criteria and on the ranking evaluations. Interviews of CMAR firms may follow at the Owners option.
- 1.1.2 It is the policy of the State of Texas and the A&M System to encourage the use of Historically Underutilized Businesses (HUBs) in our prime contracts, subcontractors, and purchasing transactions. The goal of the HUB program is to promote equal access and equal opportunity in A&M System contracting and purchasing.

Subcontracting opportunities are not anticipated for this RFP for Pre Construction Services and therefore a HUB Subcontracting Plan (HSP) is NOT required; however each respondent is required to submit a HUB Participation Plan (see Section 2.1.1.14 and 2.1.1.15). *Failure to submit a comprehensive, acceptable HUB Participation Plan will be considered a material failure to comply with the requirements of the RFP and will result in rejection of the response.*

If a subcontractor will be used to provide Pre Construction Services, the respondent WILL BE required to make a good faith effort and complete the State of Texas HSP. In the event that you determine you will be using a subcontractor for Pre Construction Services, please contact either Mr. Don Barwick from The Texas A&M University System’s HUB Office at (979) 458-6410, dbarwick@tamu.edu or Mr. Eddie Menchaca at (979) 458-7029, emenchaca@tamu.edu for assistance in determining available HUB subcontractors and proper completion of the HSP. Respondents are encouraged to submit additional questions regarding the HUB requirements found in Section 2.1.1.14 and 2.1.1.15.

RESPONDENTS ARE CAUTIONED TO SUBMIT A COMPLETE RESPONSE TO ALL REQUIREMENTS.

1.2 Scope of Work

Pre-construction and construction services in relationship to the Joint Library Facility with The University of Texas project.

The Libraries Department has entered into an agreement with The University of Texas to build the Joint Library Facility on the Riverside campus of Texas A&M University. The proposed project will provide off campus storage for the libraries of both systems thereby freeing up space to be allocated for other uses. The site is located at the open area across Warehouse Rd from warehouse 8524 on the Riverside campus in Bryan Texas.

The proposed project will consist of a facility between 25,000 sq ft and 30,000 sq ft providing enough storage for approximately 1,000,000 books. The facility shall also house the associated staff area. The design shall incorporate a plan for two more expansions of similar size to increase the volume of storage area.

(See the attached Draft Program of Requirements for more specific details.)

1.3 Project Delivery

1.3.1 The completion date for construction is anticipated to be no later than 25 May 2012. Please see attached Draft Program of Requirements for anticipated durations.

1.3.2 The Draft Program of Requirements is attached to this proposal for reference.

1.3.2 The Architect shall review the Draft Program of Requirements for this project. FPC intends to have the Program approved prior to the start of preconstruction.

1.4 Type of Contract

1.4.1 Any contract resulting from this solicitation will be in the form of the Owner's Standard Construction Management at Risk Agreement, a copy of which is attached.

1.5 Definitions

As used in this Request for Proposals (RFP), the terms have the meanings set forth below:

1.5.1 "Construction Manager-at-Risk (CMAR) Services" means a single contract with a construction firm to complete the construction of the facility.

1.5.2 Contractor (Contractor) means the individual, corporation, company, partnership, firm or other organization that has contracted to perform the Work under a CMAR Services with the Owner.

1.5.3 "Owner" shall mean The Board of Regents of The Texas A&M University System or its designated representative which is The Facilities Planning and Construction Department (FPC).

1.6 Direction and Management

The work of this project is under the direction and management of the Facilities Planning and Construction Department of The Texas A&M University System with offices in College Station, Texas.

1.7 Contacts

Any questions regarding this Request for Proposals shall be directed to:

Alex Araujo AIA, NCARB
Area Manager-Project Controls
The Texas A&M University System
Facilities Planning and Construction Department
200 Technology Way, Suite 1162
College Station, Texas 77845-3424
Phone: **979.458.7023**
Fax: **979.458.7020**
E-mail: **alex.araujo@tamu.edu**

1.8 Submittal Deadline

FPC will accept proposals at the location listed below until **2:00 p.m. CST, 12 April, 2011**.

After evaluation of the HUB Participation Plan and /or HUB Subcontracting Plan and Section 2.3 - Respondent's Compliance Certification, Section 2.2 - Respondent's Pricing and Project Delivery Proposal will be publicly opened and the names of the respondents and the monetary proposals read aloud at **3:00 p.m., 12 April, 2011** in the Texas A&M University System Building Room 1164, A&M System Building, 200 Technology Way, College Station, Texas.

It is the complete responsibility of the Respondent to ensure that submittals are received at the designated submittal location by the submittal deadline. Late received proposals will be returned to the Respondent unopened.

1.9 Submittal Location

The submission must be received in the office of The Facilities Planning and Construction Department on or before the time and date specified. All copies shall be submitted to:

Mr. Vergel L. Gay, Jr.
Chief Facilities Planning and Construction Officer
The Texas A&M University System
200 Technology Way, Suite 1162
College Station, Texas 77845-3424

1.10 Number of Copies

Submit five (5) identical bound copies of the response, one (1) copy of the response in “pdf” format on a CD ROM or thumb drive to the individual and location identified herein by the date and time specified. An original signature must appear on the Compliance Certification (ref. Section 2) of at least one (1) of the copies.

The CD ROM copy should be labeled with the name of the proposing organization and **02-3089 Joint Library Facility with The University of Texas** directly on the CD ROM and placed in a sealed envelope with the name of the proposing organization written across the front and attached or affixed inside the front cover of the original response.

1.11 Selection Criteria

The Respondent selected to be the Construction Manager at Risk (CMAR) will be the firm whose experience and qualifications, as presented in response to this RFP, establish it, in the opinion of the Owner, as well qualified and offering the greatest benefits and experience to The Texas A&M System.

The criteria for evaluation of proposals, and selection of the successful respondent, will be based on the following criteria:

1.11.1 Respondent’s Key Personnel, Respondent’s Experience and Qualifications as a contractor in performing similar projects, Respondent’s Safety Record and Program, Respondent’s References, Respondent’s Quality Control Program, Respondent’s Scheduling techniques and the Ability to Meet their Schedule.

1.11.2 Capability and experience with Construction Manager at Risk construction delivery in general and their Philosophy and Process on Construction Manager at Risk Delivery.

1.11.3 Competitive cost and fees associated with project delivery using the Construction Manager at Risk process.

1.11.4 Respondent’s ability to produce and maintain interactive and accurate progress cost estimates on a rolling basis throughout the design process. Also,

Respondent's ability to produce "hard estimates" at key design milestones that anticipate the types of costs associated with buildings of this type and complexity. Furthermore, produce a timely Guaranteed Maximum Price that is within the Amount Available for Construction Contract (AACC) prior to the commencement of Construction Documents. Respondent's ability to perform the labor, material and subcontractor buyouts within the established GMP.

1.11.5 Respondent's capability and ability to intermesh with the entire Project Team (A/E team, Campus End-users, Program Manager and FP&C). Respondent's ability to engage major subcontractors' input into the design efforts of the Prime Design Professional's sub-consultants. A key responsibility of the selected CMAR will be to keep the Project Delivery Team advised of the project construction costs and schedules at all time. The CMAR will have the responsibility to advise the Project Team that a design decision or user requirement is impacting budget or schedule beyond established parameters.

1.11.6 Respondent's ability to develop conceptual cost estimates based on Schematic Design documents that anticipate the types of costs associated with buildings of this type and complexity, and furthermore to develop a Guaranteed Maximum Price based on Design Development or 50% Construction Documents (incomplete documents) that is within the conceptual estimate. Finally, the Respondent's ability to perform the subcontractor buyout based on the GMP.

1.12 Public Information Statement

The Owner considers all information, documentation and other material submitted in response to this solicitation to be of a non-confidential and/or non-proprietary nature and therefore subject to public disclosure under the Texas Public Information Act (Texas Government Code, Chapter 552.001, et seq.) after a contract is awarded. Respondents are hereby notified that the Owner adheres to all statutes, court decisions, and opinions of the Texas Attorney General with respect to disclosure of RFP information.

1.13 Clarifications and Interpretations

1.13.1 Respondents are required to restrict all contact and questions regarding this RFP to the named individuals listed in 1.7 Contacts.

1.13.2 Any clarifications or interpretations of this RFP that materially affect or change its requirements will be issued by the Owner as an addendum. All such addenda issued by the Owner before the Proposals are due are part of the RFP, and respondents shall acknowledge receipt of and incorporate each addendum in its Proposal.

1.13.3 Respondents shall consider only those clarifications and interpretations that the Owner issues by addenda five (5) days prior to the submittal deadline. Interpretations or clarifications in any other form, including oral statements, will not be binding on the Owner and should not be relied upon in preparing the Proposal.

1.14 Respondent's Acceptance of Evaluation Methodology

Submission of qualifications indicates Respondent's acceptance of the evaluation techniques and the recognition that subjective judgments must be made by the Owner during the evaluation process.

1.15 Obligations of Parties

1.15.1 Respondent understands and acknowledges by submitting a Proposal that the Proposal presented is based on assumed requirements for the proposed project; and, that the Owner has made no written or oral representations that any such assumed requirements are endorsed or accepted should a contract arise from the presented Proposal.

1.15.2 Furthermore, Respondent understands and acknowledges by submitting a Proposal that any and all costs incurred by the Respondent as a result of the Respondent's efforts to participate in this selection process shall be at the sole risk and obligation of the Respondent.

1.15.3 The Owner will not provide compensation to Respondents for any expenses incurred for proposal preparation or for any presentations made.

1.15.4 The Owner makes no guarantee that an award will be made as a result of this RFP, and reserves the right to accept or reject any or all proposals, waive any formalities or minor technical inconsistencies, or delete any item/requirements from this RFP or resulting contract when deemed to be in the Owner's best interest. Representations made within the Proposal response will be binding on responding firms.

1.16 Completeness of Proposal

1.16.1 Respondent should carefully read the information contained herein, and the Program of Requirements document. It is the responsibility of the Respondent to submit a complete response to all requirements and questions.

1.16.2 Proposals which are qualified with conditional clauses, or alterations, or items not called for in the RFP documents, or irregularities of any kind are subject to disqualification at the option of the Owner.

1.16.3 Each Proposal should be prepared simply and economically, providing a straightforward, concise description of the firm's ability to meet the requirements of the RFP. Emphasis should be on completeness, clarity of content, responsiveness to the requirements, and an understanding of the Owner's needs.

1.16.4 Failure to comply with the requirements contained in this RFP may cause rejection of the Proposal.

1.16.5 The Owner will not acknowledge or receive Qualifications that are delivered by telephone, facsimile (fax), or electronic mail (e-mail).

1.17 Withdrawal or Modification

1.17.1 A Proposal may be withdrawn and resubmitted any time prior to the time set for receipt of Proposals. No Proposal may be changed, amended, or modified after the submittal deadline. No Proposal may be withdrawn after the submittal deadline without approval by the Owner which shall be based on Respondent's written request stating reasons for withdrawing the proposal that are acceptable, in the Owner's opinion.

1.18 Ownership of Proposals

1.18.1 Proposals and any other information submitted by Respondents shall become the property of The Texas A&M University System (the Owner); however, the Owner may return all other Proposal information once a contract award is made.

1.19 Validity Period

1.19.1 Proposals are to be valid for the Owner's acceptance for a minimum of 90 days from the submittal deadline date to allow time for evaluation and selection. A Proposal, if accepted, shall remain valid for the life of the Contracts resulting from this selection process.

1.20 General Conditions

1.21.1 By signing and submitting a Proposal, Respondent certifies that any attached or referenced conditions or documents are applicable to this procurement only to the extent that they do not conflict with the statutes or Administrative Code of the State of Texas, or the advertised contract conditions, and that they do not impose additional requirements on the Owner. Respondent further certifies that the submission of a Proposal is Respondent's good faith intent to contract with the Owner as specified herein and that such intent to contract is not contingent upon the Owner's acceptance or execution of any such attached or referenced conditions, or other documents.

1.21 Tentative Schedule of Actions

| | |
|------------------------------------|----------------|
| 1.22.1 Proposal Submittal Deadline | 12 April, 2011 |
| 1.22.2 Announce Short Listed Firms | 20 April, 2011 |
| 1.22.3 Interviews for CMAR | 2-3 May, 2011 |
| 1.22.4 Announce Selected CMAR Firm | 27 May, 2011 |

1.22 Miscellaneous Provisions

1.22.1 Personnel

1.22.1.1 Contractor shall maintain a staff of properly trained and experienced personnel to ensure satisfactory performance under

this Contract.

- 1.22.1.2 Contractor shall assign a designated representative who will be responsible for all coordination, communication with the Owner and administration of this project.

1.22.2 Project Execution

- 1.22.2.1 Independent of the Contractor's quality control responsibility, the Owner shall provide on-site observation services, and independent quality assurance testing of construction materials and other verification testing services necessary for acceptance of the facility by the Owner.

1.23 Proposal Format

1.23.1 Content

Proposals shall consist of Responses (certifications, answers to questions, and information) to requirements and questions identified in Section 2 of this RFP. It is not necessary to repeat the question in your Response; however, it is essential that you reference the question number with your corresponding response. In cases where a question does not apply or if you are unable to respond, reference the question number and indicate N/A (Not Applicable) or N/R (No Response) as appropriate.

1.23.2 Conditional Responses

Responses that are qualified with conditional clauses, alterations, items not called for in the RFP, or irregularities of any kind are subject to rejection by the Owner.

1.23.3 Additional Information

Additional attachments shall not be included in the Response. Only the Responses provided by the Respondent to the questions identified in Section 2 of this RFP will be used by the Owner for evaluation.

1.23.4 Table of Contents

Include a Table of Contents that includes page number references. The Table of Contents should be in sufficient detail to facilitate easy reference of the sections of the Proposal as well as any separate attachments which should also be listed in the Table of Contents.

1.23.5 Page Size and Binders

Proposals must be typed on letter-size (8-1/2" x 11") paper. Proposals must be submitted in a 3-ring binder. The cover must clearly show the project name and number, as well as the name and return address of the Respondent.

1.23.6 Divider Tabs

Separate and identify each criteria response to Section 2 of this RFP by use of a divider sheet with an integral tab for ready reference.

1.23.7 Pagination

All pages of the Proposal should be numbered sequentially in Arabic numerals (1, 2, 3, etc.).

1.24 Preparation and Submittal Instructions

Respondents must complete, sign and return Section 2 (2.1 through 2.3) as part of their Proposal response. Failure to sign and return these forms may cause the Proposal to be rejected.

SECTION 2

CMAR SERVICES PROPOSAL REQUIREMENTS

2.1 Respondent's Qualifications Questionnaire

Respondents are required to submit a complete response to each requested item that follows. Responses requiring additional space should be incorporated into the submittal as an attachment with reference by item number as listed below.

Contractor's Name: _____

Street Address: _____

Mailing Address: _____

City, State, Zip: _____

Telephone No.: _____ Fax No.: _____

Email: _____

State Comptroller Vendor Identification Number or F.E.I. Number: _____

2.1.1 General

2.1.1.1 Qualification information submitted shall be applicable only to the company entity or branch that will perform this Work.

2.1.1.2 Provide a statement of interest along with the respondent's unique qualifications as they pertain to the work of this project.

2.1.1.3 Describe your management philosophy for the Construction Manager at Risk construction delivery process. Describe your Construction Management and Execution plan for providing Pre-Construction Services for this Project.

2.1.1.4 Attach your Project Organization Chart for your complete team and resumes of key individuals assigned to this project for Pre-Construction Services and Construction Services for your firm. (See Special Conditions, for minimum on-site construction team). Include personal references with phone numbers for each. Confirm in graphic form the lines of authority and communication, and the estimated percent of time these individuals will be involved in this project for Pre-Construction Services.

2.1.1.5 The resumes of your key personnel shall include professional affiliations such as membership in the American Institute of Constructors and if the individual is a Level I or Level II Certified Professional Constructor. In addition, a listing of other construction personnel within your organization that are members of the American Institute Constructors shall be included and their respective level of certification. This information will be used to evaluate the

proposed team and personnel.

2.1.1.6 Provide a sample Work Progress Schedule (Bar chart acceptable) for all phases of this project including pre-construction services and milestones as they may be understood at this time. Should no overall program or schedule be included in this RFP provide a sample from a similar project your firm has recently been involved with.

2.1.1.7 Describe what you perceive are the critical Pre-Construction issues for this project. Identify any difficulties or unique challenges that you anticipate in the CMAR process for this project. How does this team intend to manage and resolve these issues? What assistance will you require from the Owner?

2.1.1.8 Describe your fiduciary responsibility as a Construction Manager at Risk using Guaranteed Maximum Price contracts for publicly funded projects.

2.1.1.9 Describe how you will develop, maintain and update the project schedule during design and construction.

2.1.1.10 Provide a detailed list of all Pre-Construction Services you will provide to the Owner and the Architect/Engineer (A/E) on this Project.

2.1.1.11 Describe your procedures, objectives, and personnel responsible for reviewing design and construction documents and for providing feedback regarding cost, schedule, and constructability to the A/E and the Owner on this project.

2.1.1.13 Describe your Bid/Proposal package strategy for completion of the Construction Documents and for procuring Cost of the Work subcontractors, vendors, suppliers, etc.

2.1.1.13 Describe your process for attracting qualified and experienced mechanical, electrical, and plumbing subcontractors to submit proposals for this project.

2.1.1.14 In addition to, and distinct from any HUB Good Faith Effort required by Texas law, the respondent is required to submit a HUB Participation Plan describing in detail how the respondent will commit to attract and use certified HUBs to meet or exceed the State of Texas Disparity Study Goals for all goods and services needed throughout the term of the contract.

2.1.1.15 Provide a statement as to what percentage of HUB participation you intend to achieve with your GMP.

2.1.1.16 List the company(s) you intend to use for Payment and Performance Bonds and Insurance.

2.1.1.17 Describe your experience utilizing building information modeling

processes and tools on other similar projects.

2.1.1.18 Describe your cost estimating methods. From any of three (3) projects listed in response to this RFP, describe how the estimates were developed, how often they were updated and the degree of accuracy achieved.

2.1.1.19 The Owner intends to accept a Guaranteed Maximum Price prior to commencement of Construction Documents. Describe 1) Your process for ensuring that the Design Documents provide the information necessary to arrive at a complete GMP, including all Owner requirements with reasonable contingencies, and 2) Your process for subsequently ensuring that the 100% Construction Documents align with the project scope in the previously accepted GMP proposal documents.

2.1.1.20 Describe your approach to assuring timely completion of this project, including methods for schedule recovery, if necessary. From any three (3) of the projects listed in response to this RFP, provide examples of how these techniques were used, including specific scheduling challenges/requirements and actual solutions.

2.1.1.21 Describe your experience with CPM scheduling. From any of three (3) of the projects listed in response to this RFP, provide a sample of the monthly schedule reports, including identified milestones and schedule recovery plans.

2.1.1.22 Provide an example of a successful constructability program used to maintain project budgets without sacrificing quality.

2.1.1.23 Describe your ability and desire to self-perform work on this Project, and the method for determining yourself as the “best value” through a competitive proposal process.

2.1.2 History

2.1.2.1 Corporation Partnership Sole Proprietorship
 Joint Venture

State of Incorporation: _____

2.1.2.2 In continuous business since: _____

Remarks (if required): _____

2.1.2.3 List other fully staffed offices or fully staffed branch offices of your organization:

| <u>Name/Location</u> | <u>Branch Manager</u> | <u>Telephone Number</u> |
|----------------------|-----------------------|-------------------------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |

2.1.2.4 Corporate Officers, Partners or Owners of Organization:

| <u>Name</u> | <u>Title</u> | <u>Construction Experience</u> |
|-------------|--------------|--------------------------------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |

2.1.2.5 Is the company currently for sale or involved in any transaction to expand or to be acquired by another business entity? If yes, please explain the impact to organization and management efforts.

Yes No

2.1.2.6 Check box(s) corresponding to the nature of your business:

- Large Business (100 or more employees)
- Small Business (fewer than 100 employees)
- HUB Business
- Other (Define)

2.1.2.7 Has your organization ever defaulted, failed to complete any work or otherwise been discharged prior to completion of the project?

Yes No

If yes, stipulate where and why: _____

2.1.2.8 Has your organization ever paid liquidated damages or a penalty for failure to complete a contract on time? Yes No

If yes, stipulate for which project, when and why: _____

2.1.3 Experience

2.1.3.1 Respondent normally performs _____% of the work with own forces.

(List Trades) _____

2.1.3.2 Total number and dollar amount of contracts currently in progress:

Number _____ \$ _____

2.1.3.4 Largest single contract amount currently in progress:

\$ _____

Project Name: _____

Projected Completion Date: _____

2.1.3.5 Volume of work completed over last 5 years: (Through 12/31)

2.1.3.6 List major construction projects of a similar type your organization has in-progress using the format below:

(Include as an attachment identified by item and sub-item.)

Name and Location of Project: _____

Contract Type: Design-Build, Negotiated,
 Competitive Lump Sum Bid, CM

Construction Cost: _____

Original Construction Contract Award Amount: _____

Current Construction Contract Amount: _____

Percent Complete: _____

Projected Completion Date: _____

Owner Reference Contact:

Name

Telephone

Address

2.1.3.7 List major construction projects of a similar type completed in the last five (5) years utilizing the Construction Manager at Risk process with completion dates and references. Other projects of particular significance may also be listed. (Include as an attachment identified by item and sub-item.)

Name and Location of Project: _____

Contract Type: Design-Build Negotiated CMAR CM Agency

Construction Cost: _____

Total Project Cost: _____

Date Completed: _____

Owner Reference Contact:

Name

Telephone

Address

A/E Reference Contract:

Name

Telephone

Address

2.1.3.8 List pending claims and/or litigation at time of submitting Proposal. (Show project name, owner and summary explanation.)

2.1.4 Safety Program

2.1.4.1 List your organization's Worker Compensation Experience Modification Rate (EMR) for the last five years as obtained from your insurance agent:

2.1.4.2 Complete matrix for the past five years, as obtained from OSHA No. 200 Log:

| | 2010 | 2009 | 2008 | 2007 | 2006 |
|--|-------|-------|-------|-------|-------|
| Number of injuries and illness | _____ | _____ | _____ | _____ | _____ |
| Number of lost time accidents | _____ | _____ | _____ | _____ | _____ |
| Number of recordable cases | _____ | _____ | _____ | _____ | _____ |
| Number of fatalities | _____ | _____ | _____ | _____ | _____ |
| Number of employee direct hire fixed hours worked. | | | | | |
| (Round to 1,000's) | _____ | _____ | _____ | _____ | _____ |

2.1.4.3 Are regular project safety meetings held for Field Supervisor(s)?
 Yes No

If yes, frequency: Weekly Bi-Monthly Monthly As Needed

2.1.4.4 Are project safety inspections conducted? Yes No

If yes, who performs inspection? _____

How often? _____

Who is required to attend? _____

2.1.4.5 Does organization have a written safety program?

Yes No

If yes, provide a copy if a copy has not been provided to TAMUS in the past year. It will become a compliance document upon award of the Construction Phase Contract.

2.1.5 Quality Control Program

2.1.5.1 Submit a complete quality control program which will become a compliance document upon award of a Construction Phase Contract.

2.1.5.2 This plan should address all aspects of quality control including responsibility for supervision of work, acceptance, rejection, documentation and resolution of deficiencies, trend analysis and corrective action and interface with Owner's inspectors.

2.2 Respondent's Pricing and Project Delivery Proposal

Proposal of: _____
(Company Name)

To: The Texas A&M University System

Ref.: Joint Library Facility with The University of Texas
Texas A&M University
Bryan, Texas
Project No. 02-3089

Having carefully examined all of the requirements of this RFP and any attachments thereto, the undersigned proposes to furnish Construction services as required at the terms stated herein.

2.2.1 Pricing Schedule and Costing Methodologies

Include all fees and costs of the Contractor associated with the Pre-Construction Phase and Construction Phase Services for this project. Identify fee and costs based upon the Amount Available for Construction Contract as stated in the Draft Program of Requirements attached to this RFP.

PART 1, PRE-CONSTRUCTION PHASE FEE

Contractor's fee for the Construction Contractor's Participation in the Pre-Construction Phase
(Includes All Design Phases)

(\$ _____)

PART 2, CONSTRUCTION PHASE FEE

A. For Construction Phase Services, based on the anticipated GMP established at the time of this Agreement, Owner shall pay Contractor a stipulated Construction Phase Fee amount of:

_____ Dollars (\$ _____);

B. If the Owner agrees to an increase or decrease in the Guaranteed Maximum Price, the Construction Phase Fee shall be equitably adjusted.

PART 3, LIMITATION ON GENERAL CONDITIONS COSTS

(Use the attached "Allowable General Condition Line Items (Itemized)" worksheet and attach it to this form.)

A. The maximum allowable amount of General Conditions Costs payable to the Contractor during the Construction Phase, based on the anticipated GMP established at the time of this Agreement, would be the total amount of:

_____ Dollars` (\$ _____);

B. If Owner agrees by express written approval to an increase or decrease in the

Guaranteed Maximum Price the maximum allowable amount of General Conditions Costs shall be equitably adjusted by an amount determined by Owner taking into consideration the affect of the increase or decrease on General Conditions Costs

2.2.2 Addenda Acknowledgment

Receipt is hereby acknowledged of the following addenda to this RFP by entering yes or no in space provided and indicating date received. Enter "0" if none received.

No. 1 _____ Date _____

No. 2 _____ Date _____

No. 3 _____ Date _____

No. 4 _____ Date _____

2.3 Respondent's Compliance Certification

THIS SECTION MUST BE COMPLETED, SIGNED, AND RETURNED WITH RESPONDENT'S PROPOSAL. FAILURE TO SIGN AND RETURN THIS SECTION WILL RESULT IN THE REJECTION OF YOUR PROPOSAL.

2.3.1 By signature hereon, Respondent offers and agrees to furnish all services to construct the project at the prices quoted and comply with all terms, conditions, and requirements set forth in the RFP documents and contained herein.

2.3.2 By signature hereon, Respondent affirms that it has not given, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor or service to a public servant in connection with the submitted Proposal. Failure to sign hereon, or signing a false statement, may void the proposal or any resulting contracts at the Owner's option, and the Respondent may be removed from all proposal lists at this Agency.

2.3.3 By signature hereon, a corporate Respondent certifies that it is not currently delinquent in the payment of any Franchise Taxes due under Chapter 171, Texas Tax Code, or that the corporation is exempt from the payment of such taxes, or that the corporation is an out-of-state corporation that is not subject to the Texas Franchise Tax, whichever is applicable. A false certification shall be deemed a material breach of contract and, at the Owner's option, may result in cancellation of any resulting contract.

2.3.4 By signature hereon, the Respondent hereby certifies that neither the Respondent nor the firm, corporation, partnership or institution represented by the Respondent, or anyone acting for such firm, corporation, or institution has violated the antitrust laws of this state, codified in Section 15.01, et. seq., Texas Business and Commerce Code, or the Federal antitrust laws, nor communicated directly or indirectly the proposal made to any competitor or any other person engaged in such line of business.

2.3.5 By signature hereon, Respondent certifies that all statements and information prepared and submitted in response to this RFP are current, complete and accurate.

2.3.6 By signature hereon, Respondent certifies that the individual signing this document and the documents made part of the RFP is authorized to sign such documents on behalf of the company and to bind the company under any contract which may result from the submission of this proposal.

2.3.7 By signature hereon, Respondent certifies as follows:

“Under Section 231.006, Texas Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, is not ineligible to receive payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.”

“Under Section 2155.004, Texas Government Code, the vendor or applicant certifies that the individual or business entity named in this bid or contract is not ineligible to receive the specified contract and acknowledges that this contract may be terminated and payment withheld if this certification is inaccurate.”

“Under Section 2254.004, Texas Government Code, the vendor or applicant certifies that each individual or business entity proposed by Respondent as a member of its team that will engage in the practice of engineering or architecture was selected based on demonstrated competence and qualifications only.”

2.3.9 By signature hereon, Respondent certifies that no relationship, whether as a relative, business associate, by capital funding agreement or by any other such kinship exists between Respondent and an employee of The Texas A&M University System, or Respondent has not been an employee of the A&M System within the immediate twelve (12) months prior to the RFP response. All such disclosures will be subject to administrative review and approval prior to the Owner entering into any contract with Respondent.

2.3.10 By signature hereon, Respondent affirms that no compensation has been received for participation in the preparation of the specifications for this RFP. (Ref. Section 3.102, Article 601b, V.T.C.S.)

2.3.11 Respondent represents and warrants that all services to be provided in response to this RFP will meet or exceed the safety standards established and promulgated under the Federal Occupational Safety and Health law (Public Law 91-596) and its regulations in effect as of the date of this solicitation.

2.3.12 By signature hereon, Respondent signifies its compliance with all federal laws and regulations pertaining to Equal Employment Opportunities and Affirmative Action.

Compliance Certification Signature:

Submitted By:

(Company Name)

(Authorized Signature)

(Printed Name/Title)

(Date)

(Email)

STATE OF TEXAS

VIN No: _____

OR

FEI No: _____

If Sole Owner:

SS No: _____

If a Corporation:

State of Incorporation: _____

Charter No: _____

(Street Address)

(Mailing Address)

(City, State, Zip Code)

(Telephone Number)

(Facsimile Number)

AGREEMENT
BETWEEN
THE BOARD OF REGENTS OF THE TEXAS A&M UNIVERSITY
SYSTEM
AND
_____**[NAME BOLD]**_____,
CONSTRUCTION MANAGER-AT-RISK

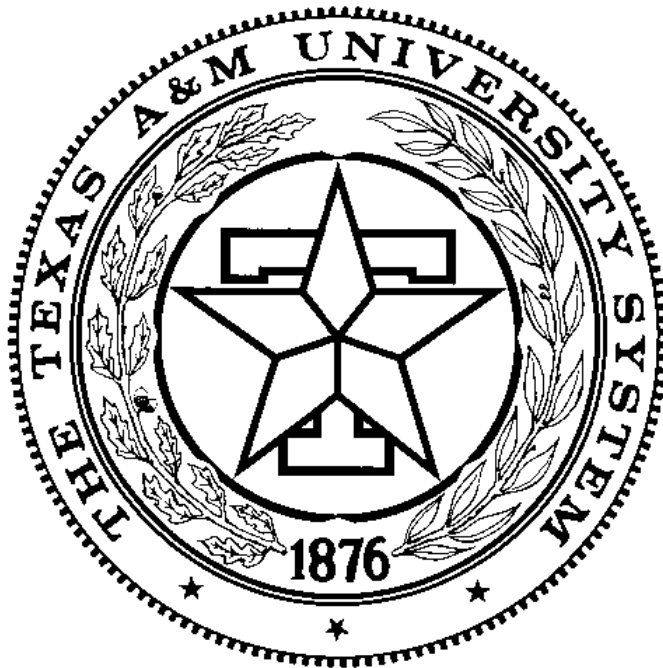


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List of Exhibits

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Ex I HSP - Prime Contractor Progress Assessment Report
Ex J BIM Execution Plan

**AGREEMENT
BETWEEN
THE BOARD OF REGENTS OF THE TEXAS A&M UNIVERSITY
SYSTEM
AND
[NAME BOLD],
CONSTRUCTION MANAGER-AT-RISK**

This Agreement is effective as of [Date the Chief Facilities Planning and Construction Officer signs this agreement], 201__ (the “Effective Date”), by and between the **BOARD OF REGENTS OF THE TEXAS A&M UNIVERSITY SYSTEM** (“Owner”) and [Name], Construction Manager at Risk (“Contractor”) for the: [Project Name] construction project (the “Project”). The parties acknowledge that [A/E Business Name] shall serve as the Architect/Engineer (hereafter “A/E”).

Owner intends to construct the Project at [Name of System Member], [City], Texas, within a construction cost limit of [AACC spelled out] and no/100 dollars (\$[AACC numerals].00). This sum is referred to as the Amount Available for the Construction Contract (“AACC”), which is further defined in Paragraph 2.1

Owner and Contractor agree as follows:

**ARTICLE 1
SCOPE OF WORK**

Contractor has overall responsibility for and shall provide complete Pre-Construction Phase and Construction Phase Services (the “Work”) and furnish all materials, equipment, tools and labor as necessary or reasonably inferable to complete the Work, or any phase of the Work, in accordance with the terms of this Agreement.

**ARTICLE 2
DEFINITIONS**

The terms, words and phrases used in this Agreement have the meanings given in the Uniform General and Supplementary Conditions for The Texas A&M University System and as follows:

2.1 “**Amount Available for the Construction Contract**” or “**AACC**” means the maximum monetary amount budgeted by Owner for all Construction Phase services, materials, labor and other work required of Contractor for completion of the Work in accordance with this Agreement. The AACC includes, without limitation, the General Conditions Costs, the Cost of the Work, the Construction Phase Fee, and Contractor’s Contingency. The AACC may be adjusted by the Owner for changes in the scope of the Project before or after acceptance of the Guaranteed Maximum Price Proposal. The AACC does not include Contractor’s Pre-Construction Phase Fee. The Final Amount Available for the Construction Contract is the AACC after the Project has been

approved by The Texas A&M University System Board of Regents.

2.2 **“A/E”** or **“Architect/Engineer”** refers to the professional firm employed by Owner as architect/engineer of record for the Project, and its consultants.

2.3 **“Building Information Modeling”** or **BIM** is defined in the National Building Information Modeling Standard as a digital representation of physical and functional characteristics of a facility. As such it serves as a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle from inception onward. A basic premise of BIM is collaboration by different stakeholders at different phases of the life cycle of a facility to insert, extract, update or modify information in the BIM process to support and reflect the roles of that stakeholder. The BIM is a shared digital representation founded on open standards for interoperability.

2.4 **“Contract Documents”** means this Agreement and all exhibits and attachments listed, contained or referenced in this Agreement specifically including the Uniform General and Supplementary Conditions; Special Conditions and Owner’s Specifications; the Drawings, Specifications, details and other documents developed by A/E or Owner’s consultants, if any, and accepted by Owner which describe the Project; all Addenda issued prior to the Effective Date of this Agreement; the Guaranteed Maximum Price Proposal when accepted by Owner and executed by the parties; all Change Orders issued after the Effective Date of this Agreement; and the HUB Subcontracting Plan submitted by Contractor. These Contract Documents form the entire and integrated contract between Owner and Contractor and supersede all prior negotiations, representations or agreements, written or oral.

2.5 **“Contractor’s Contingency”** has the meaning set forth in Paragraph 11.3.

2.6 **“Construction Documents”** means, collectively, the Uniform General and Supplementary Conditions; Owner’s Special Conditions and Specifications; and the Drawings, Specifications, details, Change Orders and other documents prepared by A/E, its consultants, and by Owner’s consultants, that describe the scope and quality of the Project and the materials, supplies, equipment, systems and other elements that are required for construction of the Project that are accepted by Owner.

2.7 **“Construction Phase Fee”** means the amount set forth in Paragraph 3 of Exhibit “A” attached to this Agreement.

2.8 **“Construction Phase Services”** means the coordination, implementation and execution of the Work required by this Agreement, which are further defined in Article 8.

2.9 **“Cost of the Work”** means those costs described in Paragraph 11.2.

2.10 **“Direct Construction Cost”** shall have the meaning set forth in Article 11.

2.11 **“Estimated Construction Cost”** or **“ECC”** means the amount calculated by Contractor for the total cost of all elements of the Work based on this Agreement available at the time(s)

that the ECC is prepared. The ECC shall be based on current market rates with reasonable allowance for overhead, profit and price escalation and shall include and consider, without limitation, all alternates and contingencies, designed and specified by A/E and the cost of labor and materials necessary for installation of Owner furnished equipment. The ECC shall include all the cost elements included in the AACC, as defined above, and shall represent Contractor's best current estimate of the Guaranteed Maximum Price it will propose for the Project based on the information then available. The ECC shall not include Contractor's Pre-Construction Phase Fee, A/E's Fees, the cost of the land and rights-of-way, or any other costs that are the direct responsibility of Owner.

2.12 **“Guaranteed Maximum Price”** or **“GMP”** means the amount proposed by Contractor and accepted by Owner as the maximum cost to Owner for construction of the Project in accordance with this Agreement. The GMP includes Contractor's Construction Phase Fee, the General Conditions Cost, the Cost of the Work, and Contractor's Contingency amount.

2.13 **“General Conditions Cost”** means costs incurred and minor work performed by Contractor without the need for competitive bids/proposals. The allowable General Conditions items are limited in Paragraph 11.1 and are further described on Exhibit “D”. The maximum allowable General Conditions Cost payable to Contractor during the Construction Phase of the Project is set out in Exhibit “A” attached to this Agreement.

2.14 **“Monthly Salary Rate”** means the amount agreed to by Owner that can be used on Applications for Payment throughout the Construction Phase to account for the monthly salary costs of Contractor's salaried personnel assigned to the Project. A Monthly Salary Rate must be established for each salaried person and must be approved in writing by Owner in advance of any Application for Payment for that person. The Monthly Salary Rate is for convenience only and any payments made for Contractor's personnel are subject to audit to determine the actual cost of the wages and allowable employer contributions incurred by Contractor for services performed. The initial Monthly Salary Rate is included in Exhibit “G” attached to this Agreement.

2.15 **“Owner's Specifications”** means the construction and contract administration requirements and standards detailed in Exhibit “C” attached to this Agreement, consisting of Division 1 of the Specifications.

2.16 **“Pre-Construction Phase Fee”** means the amount set forth in Paragraph 2 of Exhibit “A” attached to this Agreement.

2.17 **“Pre-Construction Phase Services”** means the participation, documentation and execution of Contractor's Pre-Construction Phase deliverables as required by this Agreement and further defined in Article 5.

2.18 **“Program Manager”** refers to the professional management firm selected by the Owner as the Owner's representative for the Project, and its employees and consultants.

2.19 **“Project Team”** means Owner, Contractor, A/E and consultants, any separate Contractors employed by Owner, and others employed for the purpose of programming, design,

and construction of the Project. The members of the Project Team will be designated in writing by Owner and may be modified from time to time in writing by Owner.

2.20 **“Reimbursable Services”** are the services specifically identified in Paragraph 10.2.2 that are provided by the Contractor in conjunction with the delivery of Pre-Construction Services under this Agreement.

2.21 **“Subcontractor”** means a person or entity who has an agreement with Contractor to perform any portion of the Work. The term Subcontractor does not include A/E or any person or entity hired directly by Owner.

2.22 **“Work”** means the provision of all construction services, labor, materials, supplies, and equipment that are required of Contractor to complete the Project in strict accordance with the requirements of this Agreement. Work includes, but is not limited to, the Construction Phase Services, additional work required by Change Orders, and any other work reasonably inferable from this Agreement. The term “reasonably inferable” takes into consideration the understanding of the parties that some details necessary for completion of the Work may not be shown on the Drawings or included in the Specifications, but they are a requirement of the Work if they are a usual and customary component of the Work or otherwise necessary for complete installation and operation of the Work.

2.23 **“Work Progress Schedule”** or **“WPS”** shall have the meaning given in Paragraph 5.3.1.

2.24 **“Worker Wage Rate”** means the actual hourly wage of non-salaried persons performing work on the Project plus allowable employer contributions as established on the Worker Wage Rate Form required by the Construction Documents. The Worker Wage Rate must be reasonable and customary for their industry, must equal or exceed the prevailing wage established by Owner and must be approved in writing by Owner in advance of any Application for Payment. All payments for non-salaried personnel working on the Project are subject to audit to determine the actual cost of the wages and allowable employer contributions incurred by employer for services performed for the Project.

ARTICLE 3 CONTRACTOR’S GENERAL RESPONSIBILITIES

3.1 Contractor shall perform all services specifically allocated to it by the Contract Documents, BIM Execution Plan, “Facility Design Guidelines” as well as those services reasonably inferable from the Contract Documents as necessary for completion of the Work and the Project. Contractor agrees to perform these services using its best efforts, skills, judgments and abilities.

3.2 Contractor shall collaborate and cooperate with A/E and endeavor to further the interests of Owner and the Project. Contractor shall furnish Pre-Construction Phase Services and Construction Phase Services and complete the Project in an expeditious and economical manner consistent with the interests of Owner and in accordance with the Work Project Schedule.

3.3 Contractor shall designate a representative authorized to act on Contractor's behalf with respect to the Project.

3.4 Contractor shall establish procedures for communication and coordination among the Project Team, Subcontractors, separate contractors, and others with respect to all aspects of the construction of the Project, and implement such procedures.

3.5 Contractor shall utilize an Owner's project website, *IMPACTTeam* for all project documentation for Pre-Construction and Construction Phase Services. Contractor shall follow Owner's guidelines on the use of *IMPACTTeam*.

3.6 If Owner elects to "fast-track" or develop the Project in multiple stages, Contractor shall organize and perform its services as appropriate to each stage. Each stage of the Project may have a unique schedule for completion and a specific AACC, at Owner's discretion. [The Contractor shall work with the A/E to identify drawings and specifications required to begin work on each stage/phase of work for projects issued in phases or packages.](#)

3.7 Contractor shall identify to Owner the employees and other personnel that it will assign to the Project and provide the Monthly Salary Rate or Worker Wage Rate for each of them. Contractor shall also identify any consultants that will be performing services for the Project. After execution of this Agreement by Owner, Contractor shall not remove or replace the persons or entities assigned to the Project except with Owner's written consent, which consent shall not be unreasonably withheld. Contractor shall not assign to the Project or contract with any person or entity to which Owner has a reasonable objection. Contractor shall promptly update the list of persons and consultants if they change during the course of the Project.

3.8 The Owner's HUB Subcontracting Plan for Construction Services is attached as Exhibit "H" to this Agreement. Contractor, as a provision of the Agreement, must comply with the requirements of the Owner's HUB policies and adhere to the HUB Subcontracting Plans submitted for Construction Phase Services. No changes to the HUB Subcontracting Plans can be made by Contractor without the prior written approval of Owner.

3.9 Contractor shall coordinate its services and work collaboratively with the A/E design team and provide cost information to the design team and the Owner at all stages of the design. It is the Contractor's responsibility to keep the design within the project AACC.

3.10 Participation of Contractor or its subcontractors and suppliers in contributions to the BIM process or model(s) shall not constitute the performance of design services.

3.11 The Contractor shall utilize a Building Information Modeling (BIM) authoring software and BIM based processes to produce building information models for this project from which drawings such as but not limited to shop, submittal, installation, coordination, and as-built shall be derived. The Building Information Modeling (BIM) software shall be compliant with current version of Industry Foundation Class (IFC) file format. Additional requirements are included in the BIM Execution Plan (Exhibit "J").

3.12 The Contractor is responsible for delivering COBie (Construction Operations Building Information Exchange) compliant data file(s) at project close out. The COBie data file(s) shall be compliant with the latest version of COBie. The Contractor is encouraged to extract the COBie data directly from the BIMs rather than develop COBie compliant spreadsheets.

ARTICLE 4 OWNER'S RESPONSIBILITIES

4.1 Owner has designated A/E as the Architect/Engineer for the Project.

4.2 Owner will provide the AACC and general schedule for the Project. The AACC provided by Owner will be established with due consideration for separate contingencies for changes in the Project during construction, and for other Project costs that are the responsibility of Owner. The general schedule will set forth Owner's plan for milestone dates and completion of the Project.

4.3 Owner will identify a person as its Owner's Designated Representative ("ODR") who is authorized to act on Owner's behalf with respect to the Project, including final determination of fees and costs earned by Contractor and equitable back charges against Contractor. The ODR shall examine the documents submitted by Contractor and shall render decisions on behalf of Owner. The ODR shall have all the responsibilities and authorities allocated to him/her in the UGSC.

4.4 Owner, at its sole cost, will secure the services of existing facility surveys, testing and balancing, environmental surveys or other special consultants to develop such additional information as may be necessary for the design or construction of the Project.

4.5 Owner shall arrange and pay for materials, structural, mechanical, chemical and other laboratory tests as required by the Construction Documents.

4.6 Owner shall furnish all legal, accounting, auditing and insurance counseling services for itself as may be necessary for the Project.

4.7 Owner shall furnish required information and services and shall render approvals and decisions as expeditiously as is consistent with reasonable skill and care and the orderly progress of Contractor's services and of the Work.

4.8 Owner may designate one or more construction inspectors who shall be given access to the Work as requested or needed. The provision of inspection services by Owner shall not reduce or lessen Contractor's responsibility for the Project. Contractor is fully and solely responsible for

constructing the Project in strict accordance with this Agreement.

4.9 Owner shall have the right to reject any defective Work on the Project. Should Contractor refuse or neglect to correct any such Work within a reasonable time after notice, Owner may have the Work corrected and recover all expenses incurred from Contractor on demand.

4.10 Owner shall cause A/E to provide Contractor BIM(s) as well as documents and data files derived from the model(s) at review milestones for its use in performing reviews, preparing cost estimates and a GMP proposal, obtaining bids/proposals for the work and constructing the Project. Owner shall also make available to Contractor any supplemental Contract Documents such as addenda, equipment procurement packages, RFI or RFP responses and change order documentation. Contractor shall be responsible for preparing all copies of these documents needed for its use and that of any of its consultants or Subcontractors for performing reviews, preparing cost estimates and a GMP proposal, obtaining bids/proposals for the work and constructing the Project as set forth in this Agreement. Contractor shall also be responsible for maintaining a register of document distribution, and distributing documents to its consultants, Subcontractors, bidders, proposers and plan rooms.

ARTICLE 5 PRE-CONSTRUCTION PHASE SERVICES

The Pre-Construction Phase shall be deemed to commence upon the date specified in a written Notice to Proceed with Pre-Construction Phase Services issued by Owner and shall continue through completion of the Construction Documents and procurement of all major Subcontractor agreements. Contractor is not entitled to reimbursement for any costs incurred for Pre-Construction Phase Services performed before issuance of the written Notice to Proceed. Pre-Construction Phase Services may overlap Construction Phase Services. Contractor shall perform the following Pre-Construction Phase Services:

5.1 General Coordination

- 5.1.1 Contractor's Pre-Construction Phase Services team shall attend Project Team meetings with Owner, Owner representatives, and A/E at regularly scheduled intervals throughout the Pre-Construction Phase. Frequent Project Team meetings are anticipated prior to Owner acceptance of the GMP and during completion of the Construction Documents.
- 5.1.2 Provide a preliminary evaluation of "Facility Design Guidelines", Program of Requirements and the AACC, each in terms of the other.
- 5.1.3 Review and understand the standards and requirements in Owner's Specifications and perform all services in accordance with those standards and requirements.
- 5.1.4 Visit the site and inspect the existing facilities, systems and conditions to ensure an accurate understanding of the existing conditions as required.

- 5.1.5 Participate as a member of the Project Team in the development of the Program of Requirements if such program has not been developed prior to the Effective Date of this Agreement.
- 5.1.6 Provide recommendations and information to the Project Team on: site usage and site improvements; building systems, equipment and construction feasibility; selection and availability of materials and labor; time requirements for installation and construction; assignment of responsibilities for safety precautions and programs; temporary Project facilities; equipment, materials and services for common use of Contractor and Owner's separate contractors, if any; cost factors, including costs of alternative materials or designs, preliminary budgets, and possible cost savings; recognizing and tracking the resolution of conflicts in the proposed Drawings and Specifications; methods of delivery of materials, systems, and equipment; and any other matters necessary to accomplish the Project in accordance with the Work Progress Schedule (as defined below) and the AACC. Notwithstanding the above, Contractor shall not be required to provide A/E services unless specifically required by the Contract Documents and Contractor's recommendations and information are furnished in its capacity as a Contractor.
- 5.1.7 Assist Owner in selecting and directing the services of existing facility surveys, testing and balancing, environmental surveys or other special consultants hired by Owner to develop additional information for the design or construction of the Project.
- 5.1.8 At Owner's request, attend public meetings and hearings concerning the development and schedule of the Project.
- 5.1.9 Contractor shall use all Construction Documents returned to A/E from the Subcontractor proposers.

5.2 **Constructability Program**

- 5.2.1 Implement and conduct a constructability program to identify and document Project cost and schedule savings opportunities. The constructability program shall follow accepted industry practices and be reviewed by Owner at design milestones. Whenever the term "value engineering" is used in conjunction with this Agreement or the Project, it has its commonly accepted meaning within the construction industry and does not imply the practice of professional engineering without a license. If any value engineering activities constitute the professional practice of engineering, then such activities shall be performed by an engineer licensed in Texas.
- 5.2.2 Prepare a "Constructability Report" that identifies items that, in Contractor's opinion, may negatively impact construction of the Project. The Constructability Report shall address the overall coordination of model(s), Drawings,

Specifications, details and schedules and identify discrepancies that may generate Change Orders or claims once Project construction commences. Contractor shall provide Owner with an update to the Constructability Report at every milestone meeting during the Pre-Construction Phase.

- 5.2.3 Provide and implement a system for tracking questions, resolutions, decisions, directions and other information matters that arise during the development of the model(s), Drawings and Specifications for the Project. The decision tracking system shall be in a format approved by Owner and updated by Contractor at least monthly during the Pre-Construction Phase.

5.3 **Scheduling**

- 5.3.1 Develop a Work Progress Schedule for Project Team review and Owner's approval that coordinates and integrates activities on the Project, including Contractor's services, A/E's design services, the work of other consultants and suppliers, and Owner's activities with the anticipated construction schedules for other contractors. The WPS must identify all major milestones through Project Final Completion. The WPS shall be created and maintained in accordance with Owner's Specifications Section 01 32 00 using Owner-specified format and software.
- 5.3.2 Contractor shall update the WPS throughout the Pre-Construction and Construction Phases as described in Owner's requirements and Specifications.
- 5.3.3 The WPS shall include other detailed schedule activities as directed by Owner including, but not limited to, Owner-managed work under separate contracts such as equipment, furniture and furnishings, telephones, project security, property protection, life-safety systems, integration with central campus monitoring systems, information and instructional technology data-transmission systems, and computer technology systems.

5.4 **Budget and Cost Consultation**

- 5.4.1 Contractor is responsible for the construction budget and for preparing and updating all procurement and Estimated Construction Costs and distributing them to the Project Team throughout the duration of the Project.
- 5.4.2 Contractor shall prepare and update an Estimated Construction Cost report at the completion of Schematic Design, Design Development, and at the twenty-five (25%), fifty percent (50%) seventy-five (75%) and the hundred percent (100%) completion stages of the Construction Documents phase of the Project. **[Project Manager to determine which milestones during construction documents to require ECC]** The GMP Proposal, when submitted, will have as its basis a current ECC report. The ECC report for Schematic Design shall be a detailed estimate organized in Construction Specifications Institute, UniFormat 98. The ECC reports for the

Design Development and Construction Documents phases shall be detailed estimates derived from cost quantity surveys based on unit prices for labor, materials, overhead and profit, organized in Construction Specifications Institute, MasterFormat 2004 and UniFormat 98 for each portion of the Work.

- 5.4.3 Contractor shall provide continuous cost consultation services throughout the duration of the Project, including identification and tracking of decisions that affect the scope or quality of the Project and providing ongoing updates of their cost and budget impact. Advise the Project Team immediately if Contractor has reason to believe that the most current ECC will exceed the AACC or not meet WPS requirements and recommend reasonable strategies for bringing the Project in line with the AACC and the WPS.
- 5.4.4 Contractor shall promptly identify all variances between estimated costs and actual costs during the Construction Phase, and shall promptly report such variances to the Project Team, in a format acceptable to Owner, along with recommendations for action, but in any event no more than two (2) business days after acquiring such information.
- 5.4.5 Should any ECC exceed or fall significantly below the approved AACC, Owner and Contractor shall negotiate changes to the Project scope, requirements or the AACC as required.
- 5.4.6 The Contractor is encouraged, but not required to, derive quantities or cost directly from the project BIM(s).

5.5 **Coordination of Design and Construction Contract Documents**

- 5.5.1 Review model(s), Drawings, Specifications and other Construction Documents as they are developed by A/E during the Schematic Design, Design Development, and Construction Documents design phases of the Project.
- 5.5.2 Consult with Owner and A/E on the selection of materials, equipment, component systems, and types of construction used on the Project. Advise Owner on site use, construction feasibility, availability of labor and materials, procurement time requirements, and construction coordination.
- 5.5.3 Advise Owner of any error, inconsistency or omission discovered in the model(s), Drawings, Specifications, and other Construction Documents.
- 5.5.4 Advise Owner on reasonable adjustments in the Project scope, quality or other options for keeping the Project cost within the AACC.
- 5.5.5 Review the model(s) and Construction Documents for compliance with all applicable laws, rules and regulations, the Contract Documents, and Owner requirements.

- 5.5.6 It is not the Contractor's responsibility to ascertain that the drawings and specifications are in accordance with applicable laws, statutes, ordinances, building codes, rules and regulations, but Contractor will report any variances which should have reasonably been discovered.
- 5.5.7 Review the model(s) and Construction Documents for required maintenance or access clearance around mechanical and electrical equipment.
- 5.5.8 The Contractor shall work with the A/E to identify any drawings, details, schedules, and specifications required to begin work on phases of construction scheduled to begin prior to the completion of construction documents.

5.6 Construction Planning and Subcontractor Buyout Strategy

- 5.6.1 Identify equipment or material requiring extended delivery times and advise Owner on expedited procurement of those items. Advise Owner and A/E on the preparation of performance specifications and requests for technical proposals for the procurement and installation of systems and components and for the procurement of long lead items. If requested by Owner, and subject to Owner's prior written approval, issue requests for technical proposals to qualified sources and receive proposals and assist in their evaluation.
- 5.6.2 Make recommendations to the Project Team regarding organization of the Construction Documents to facilitate the bidding and awarding of construction subcontracts in a manner that promotes the interests of the Project and Owner. These recommendations may include, but are not limited to, phased or staged construction or multiple separate contracts. The recommendations shall take into consideration such factors as time of performance, type and scope of work, availability of labor and materials, overlapping trade jurisdictions, provisions for temporary facilities, comparisons of factory and on-site production costs, shipping costs, code restrictions, Owner's goals for HUB Contractor participation, and other constraints.
- 5.6.3 Review the model(s) and Construction Documents with the Project Team to eliminate areas of conflict and overlap in the work to be performed by the various Subcontractors or Owner's separate contractors.
- 5.6.4 Develop a bid/proposal package strategy in coordination with A/E that addresses the entire scope of each phase and stage of the Project. In developing the bid/proposal package strategy, Contractor shall identify all bid/proposal packages on which Contractor intends to submit a self-performance bid/proposal. The bid/proposal package strategy shall be reviewed with Owner on a regular basis and revised throughout the buyout of the Project so as to best promote the interests of the Project and Owner.

- 5.6.5 Assist Owner, A/E, Owner's other consultants, and Owner's separate contractors in obtaining all applicable LEED documentation, risk management, code, and regulatory agency reviews and approvals for the Project including, without limitation, the Texas Higher Education Coordinating Board, the Texas Department of Licensing and Regulation, the State Fire Marshal, the local fire department, and Owner's insurance provider.
- 5.6.6 Refine, implement and monitor required HUB Subcontracting Plans to promote equal employment opportunity in the provision of goods and services to Owner for the Project.
- 5.6.7 Review the model(s) and Construction Documents to ensure that they contain adequate provision for job site areas required for construction, all temporary facilities necessary for performance of the Work, and provisions for all of the job site facilities necessary to manage, inspect, and supervise construction of the Project.
- 5.6.8 Provide an analysis of the types and quantities of labor required for the Project and review the appropriate categories of labor required for critical phases or stages. Make recommendations that minimize the adverse effects of labor shortages.
- 5.6.9 Consult with and make recommendations to Owner on the acquisition schedule for fixtures, furniture and equipment, and coordinate with Owner as may be required to meet the WPS.

5.7 Obtaining Bids/Proposals for the Project

- 5.7.1 Contractor shall publicly advertise and solicit competitive lump sum bids/proposals from trade contractors or subcontractors for the performance of all major elements of the Project other than the minor work that may be included in General Conditions. Criteria for determining the bid/ proposal that provides the best value to Owner shall be established by the Project Team and included in the request for bids or proposals. Contractor shall notify Owner in advance in writing of the date it will receive the bids/proposals.
- 5.7.2 Schedule and conduct pre-bid conferences with interested bidders/proposers, Subcontractors, material suppliers, and equipment suppliers, and record minutes of the conferences.
- 5.7.3 Contractor and Owner shall review all trade contractor or Subcontractor bids/proposals in a manner that does not disclose the contents of any bid/proposal to persons outside of the Project Team during the selection process. Based on the selection criteria included in the request for proposals, Contractor shall recommend to Owner, in a format acceptable to Owner, the bid/proposal(s) that provides the best value for the Project. Upon Owner's written concurrence with

the recommendation, Contractor may negotiate the terms of the subcontract with the apparent best value bidder/proposer.

- 5.7.4 All subcontracts must be on a lump sum basis unless other payment terms are approved in writing and in advance by the Chief Facilities Planning and Construction Officer for Facilities Planning and Construction or designee. Upon Owner's concurrence in the final terms of the subcontract, Contractor shall enter into a written subcontract for the subcontract work and upon request provide a copy to Owner. All bids/proposals shall be publicly available after award of the subcontract or within seven (7) days after the date of final selection, whichever is later.
- 5.7.5 If Contractor reviews, evaluates, and recommends to Owner a bid/proposal from a qualified trade contractor or subcontractor, but Owner requires another bid/proposal to be accepted, Owner shall compensate Contractor by a change in price, time, or Guaranteed Maximum Price for any additional cost and risk Contractor incurs because of Owner's requirement that the other bid/proposal be accepted.
- 5.7.6 Contractor may seek to self-perform portions of the Project identified for self-performance in the bid/proposal strategy. Contractor must submit a bid/proposal for the self-performance work in the same manner as all other trade contractors or Subcontractors. However, Contractor bid/proposal must be sealed and submitted not less than twenty four (24) hours before the submission date for all other trade contractors or Subcontractors. Owner will, at its sole discretion, determine whether Contractor's bid/proposal provides the best value for Owner, and its determination shall be final. Contractor must perform approved self-performance work in accordance with the same terms and conditions as its other Subcontractors. For payment purposes, Contractor shall account for self-performance work in the same manner as it does all other subcontract costs.
- 5.7.7 Contractor shall identify every Subcontractor it intends to use on the Project, including Subcontractors used for self-performed work, to Owner in writing, in a format acceptable to Owner, and deliver to Owner a HUB Subcontracting Plan at least ten (10) days before entering into any subcontract. Contractor shall not use any Subcontractor to which Owner has a reasonable objection. Contractor shall not be required to subcontract with any Subcontractor to which it has reasonable objection. Following Owner's acceptance of a Subcontractor, that Subcontractor shall not be changed without Owner's written consent, which shall not be unreasonably withheld.
- 5.7.8 If a selected trade contractor or Subcontractor fails to execute a subcontract after being selected in accordance with this Paragraph or defaults in the performance of its work, Contractor may, in consultation with Owner and without further advertising, fulfill the subcontract requirements itself or select a replacement trade contractor or subcontractor to do so.

5.7.9 There are no third party beneficiaries of this Agreement.

5.8 Safety

5.8.1 In accordance with the UGSC, Contractor is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Project. The safety program shall comply with all applicable requirements of the Occupational Safety and Health Act of 1970 and all other applicable federal, state and local laws and regulations.

5.8.2 Contractor shall provide recommendations and information to Owner and A/E regarding the assignment of responsibilities for safety precautions and programs, temporary Project facilities, and equipment, materials, and services for common use of the Subcontractors. Contractor shall verify that appropriate safety provisions are included in the Construction Documents.

ARTICLE 6 PRE-CONSTRUCTION PHASE FEE

The Pre-Construction Phase Fee is the total compensation payable to Contractor for the performance of Pre-Construction Phase Services, except for Additional Pre-Construction Phase Services approved in advance and in writing by Owner. The Pre-Construction Phase Fee shall be a lump sum amount based on the AACC established in this Agreement.

6.1 Except as specifically allowed by Owner, Contractor shall not be entitled to any increase in the Pre-Construction Phase Fee for any costs, expenses, liabilities or other obligations arising from the performance of Pre-Construction Phase Services.

6.2 Costs associated with the following items are specifically, but not exclusively, included in the establishment of the Pre-Construction Phase Fee: profit and profit sharing; general overhead; salaries and labor; housing and relocation; estimating, scheduling and information management systems and software; contract administration; office expenses; printing and copying; consulting fees; legal or accounting fees; cost of money; taxes; insurance premiums and deductibles; bond costs; purchase or rental of equipment; utilities; travel; per diem; fines or penalties; and damage awards.

6.3 If the scope of the Pre-Construction Phase Services is changed materially, the Pre-Construction Phase Fee shall be equitably adjusted. If the AACC is changed materially before acceptance of the GMP Proposal, the Pre-Construction Phase Fee shall be adjusted in writing in proportion to the change in the AACC. There shall be no adjustments in the Pre-Construction Phase Fee following acceptance of the GMP Proposal.

6.4 For Additional Pre-Construction Phase Services that are approved in advance and in writing by Owner, Contractor shall be entitled to additional compensation computed as follows:

- 6.4.1 A pre-established lump sum amount; or
- 6.4.2 The hourly cost of Contractor's employees or consultants who actually perform the Additional Services based on the employee's Worker Wage Rate or prorated Monthly Rate plus the actual cost of allowable expenses incurred in the performance of the Additional Pre-Construction Phase Services, plus an overhead and profit markup of ten percent (10%) of the total cost; or
- 6.4.3 As otherwise agreed in advance and in writing.

ARTICLE 7 GUARANTEED MAXIMUM PRICE PROPOSAL

7.1 At the conclusion of the Design Development phase the Contractor shall prepare and submit a Guaranteed Maximum Price Proposal to Owner based on the Design Development phase documents and review comments. The GMP shall be delivered to the Owner within three (3) weeks of the Design Development review meeting or a date established by the Owner. The GMP Proposal must be prepared in accordance with the guidelines established by Owner and delivered in the format specified by Owner in Exhibit "E" attached to this Agreement. Owner, at its sole option and discretion, may specify different requirements for the GMP Proposal. Contractor shall not withdraw its Guaranteed Maximum Price Proposal for ninety (90) days following submission to Owner.

7.2 In developing the GMP Proposal, Contractor shall coordinate efforts with A/E to identify qualifications, clarifications, assumptions, exclusions, value engineering and any other factors relevant to establishment of a GMP. Contractor shall review development of the GMP Proposal with Owner on an ongoing basis to address clarifications of scope and pricing, distribution of contingencies, schedule, assumptions, exclusions, and other matters relevant to the establishment of a GMP.

7.3 The GMP Proposal must include a written description of how it was derived that specifically identifies the clarifications and assumptions made by Contractor in the GMP and the monetary amounts attributable to them. The GMP Proposal shall include, without limitation, a breakdown of Contractor's estimated General Conditions Costs and estimated Cost of the Work organized by trade and Masterformat 2004; contingency amounts; the Construction Phase Fee; and the proposed Contract Time, including dates for Notice to Proceed, Substantial Completion and Final Completion. Notwithstanding the breakdown of Contractor's estimated costs, there are no line item guaranteed maximum amounts except for general conditions.

7.4 The Guaranteed Maximum Price Proposal shall allow for reasonably expected changes and refinements in the Drawings and Specifications through completion of the Construction Documents, except for material changes in scope.

7.5 The GMP Proposal shall include a Contractor's Contingency amount. .

7.6 Included with its GMP Proposal, Contractor shall provide three complete, bound sets of the drawings, specifications, plans, sketches, instructions, requirements, materials, equipment specifications and other information or documents that fully describe the Project as developed at the time of the GMP Proposal and that are relevant to the establishment of the GMP. The bound supporting documents shall be referenced in and incorporated into the GMP Proposal.

7.7 The GMP Proposal and all supporting documents shall identify and describe all items, assumptions, costs, contingencies, schedules and other matters necessary and relevant for proper execution and completion of the Work and for establishment of the GMP. The GMP Proposal and the supporting documents are complementary and, in the event of an irreconcilable conflict between or among them, the interpretation that provides for the higher quality or quantity of material and/or workmanship shall prevail over all other interpretations.

7.8 In submitting the GMP Proposal, Contractor represents that it will provide every item, system or element of performance that is identified, shown or specified in the GMP Proposal or the supporting documents, along with those necessary or ancillary materials that are reasonably inferable and equipment for their complete operating installation, unless specifically accepted in writing by Owner. Upon Owner's written acceptance of the GMP Proposal, Contractor shall not be entitled to any increase in the GMP due to the continued refinement of the Construction Documents or the absence or addition of any detail or specification that may be required in order to complete the construction of the Project as described in and reasonably inferable from the GMP Proposal or the supporting documents used to establish the GMP.

7.9 The GMP Proposal shall adopt and incorporate all of the terms and conditions of this Agreement and all attachments to this Agreement. Any proposed deviation from the terms and conditions of this Agreement must be clearly and conspicuously identified to Owner in writing and specifically accepted in writing by Owner. In the event of a conflict between any term of the GMP Proposal that was not clearly and conspicuously identified and approved by Owner and the terms of this Agreement and its attachments, the terms of the Agreement and its attachments shall control.

7.10 Owner may accept or reject the Guaranteed Maximum Price Proposal or attempt to negotiate its terms with Contractor. Upon acceptance by Owner of the GMP Proposal in writing, both parties shall execute the GMP Proposal which shall become part of this Agreement. If Owner rejects the GMP Proposal or the parties are unable or unwilling to agree on a GMP, Owner may terminate this Agreement.

7.11 Following Owner's acceptance of the GMP Proposal, Contractor shall continue to monitor the development of the Construction Documents so that, when complete, the Construction Documents adequately incorporate and resolve all qualifications, assumptions, clarifications, exclusions and value engineering issues identified in the GMP Proposal. During the Construction Documents stage, Contractor and A/E shall jointly deliver a monthly written status report to Owner describing the progress on the incorporation of all qualifications, assumptions, clarifications, exclusions, value engineering issues and all other matters relevant to the establishment of the GMP into the Construction Documents.

7.12 Contractor shall be entitled to an equitable adjustment of the GMP if it is required to pay or bear the burden of any new federal, state, or local tax, or any rate increase of an existing tax, except taxes on income, adopted through statute, court decision, written ruling, or regulation taking effect after acceptance of the GMP Proposal. This equitable adjustment does not apply to tax increases borne solely by Subcontractors.

7.13 The parties may agree to convert the GMP to a lump sum contract amount at any time after Contractor has received bids or proposals from trade Contractors or Subcontractors for the performance of all major elements of the Project. In proposing a lump sum amount, Contractor shall consider the buyout savings, any unused contingency amounts and the trade package contracts that have not been finalized. In preparing a lump sum conversion proposal, Contractor must provide the following information:

7.13.1 The stage of completion of the Project;

7.13.2 The trade packages that have been completely bought out;

7.13.3 The trade packages remaining that have not been bought out;

7.13.4 A complete line item breakdown of the calculations used to establish a lump sum amount based on the GMP Schedule of Values;

7.13.5 An accounting of all savings amounts that are to be returned to Owner as part of the lump sum calculation; and

7.13.6 Any other Project information requested by Owner.

7.14 Contractor shall document the actual Cost of the Project at buyout as compared to the Guaranteed Maximum Price Proposal and shall report this information to Owner monthly and with Contractor's recommendation for selection of a bid/proposal for each subcontracting package.

7.15 Notwithstanding anything to the contrary herein, Contractor shall have no liability for delay or liquidated damages if the parties are unable to reach an agreement on the GMP.

ARTICLE 8 CONSTRUCTION PHASE SERVICES

The Construction Phase shall be deemed to commence upon the date specified in a written Notice to Proceed issued by Owner after approval of the Guaranteed Maximum Price Proposal and shall continue until Final Completion of all Work. Pre-Construction Phase Services may overlap Construction Phase Services. Contractor shall not incur any Subcontractor costs for construction of the Project prior to issuance by Owner of written authorization to commence such Work. Contractor shall perform the following Construction Phase Services:

8.1 Construct the Work in strict accordance with this Agreement and as required by the UGSC, Special Conditions and Owner's Specifications within the time required by the Work Progress Schedule approved by Owner.

8.2 Organize and maintain a competent, full-time staff at the Project site with clearly defined lines of authority and communication as necessary to coordinate construction activities, monitor

and direct progress of the Work, and further the goals of the Project Team.

8.3 Designate in writing a representative who is responsible for the day-to-day management of the Construction Phase Services. The designated representative shall be Owner's primary contact during the Construction Phase and shall be available as required for the benefit of the Project and Owner. The designated representative shall be authorized to act on behalf of and bind Contractor in all matters related to Construction Phase Services including, but not limited to, execution of Change Orders and Applications for Payment.

8.4 Attend regularly scheduled Project progress meetings and fully advise the Project Team of the Project status including schedule, costs, quality and changes.

8.5 In addition to attending regularly scheduled Project progress meetings, Contractor shall schedule, direct and attend interim progress meetings (i.e., commissioning meetings, coordination meetings, pre-installation meetings) with other members of the Project Team as required to maintain Project progress. Contractor shall record and distribute the minutes of each meeting to each Project Team member. The minutes shall identify critical activities that require action and the dates by which each activity must be completed.

8.6 Coordinate delivery and installation of Owner-procured material and equipment.

8.7 In accordance with Owner's UGSC, provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and all other facilities and services necessary for the proper execution and completion of the Work in strict accordance with the requirements of the Construction Documents.

8.8 Obtain building permits and special permits for permanent improvements as required by law or the Construction Documents. Assist Owner or A/E in obtaining all approvals required from authorities having jurisdiction over the Project.

8.9 Coordinate, monitor and inspect the work of Subcontractors to ensure conformance with the Construction Documents.

8.10 Be responsible for all construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work. Contractor shall keep Owner informed of the progress and quality of the Work.

8.11 Contractor shall promptly correct any defective Work at Contractor's sole expense, unless Owner specifically agrees to accept the Work in writing.

8.12 Warrant that the materials and equipment provided for the Project will be of good quality and new unless otherwise required or permitted by the Construction Documents; that the construction will be free from faults and defects; and that the construction will conform with the requirements of the Construction Documents. Contractor shall be responsible for correcting all items that do not comply with the Construction Documents at its sole expense without cost to Owner.

8.13 In accordance with the UGSC's provisions regarding record documents and Owner's Specifications, Contractor shall maintain and deliver the required documents that describe changes or deviations from the Construction Documents that occurred during construction and that reflect the actual "Record Drawings" of the completed Work.

8.13 Conduct regularly scheduled coordination meetings to perform clash and collision detection using models developed for the creation of shop, coordination, installation, and as-built drawings.

8.14 BIM(s) shall be created for but not limited to the following trades or areas mechanical, electrical, plumbing, structural (steel and/or concrete), fire protection, building envelope, and architectural interiors.

8.15 The contractor shall provide as-built drawings derived from the as-built BIM model documenting the as-built/as-installed constructed project. The contractor shall provide the as-built BIM(s).

ARTICLE 9 CONSTRUCTION PHASE FEE

Contractor's Construction Phase Fee is the maximum amount payable to Contractor for any cost or profit expectation incurred in the performance of the Work that is not specifically identified as being eligible for reimbursement by Owner elsewhere in this Agreement. References in the UGSC to Contractor's "overhead" and "profit" mean Contractor's Construction Phase Fee. The Construction Phase Fee includes, but is not limited to, the following items:

9.1 All profit, profit expectations and costs associated with profit sharing plans such as personnel bonuses, incentives, and rewards; company stock options; or any other like expenses of Contractor.

9.2 Salaries of Contractor's officers, project manager(s), estimators, schedulers and all other employees not stationed at the Project site and performing services directly related to the Project.

9.3 Any and all overhead, labor or general expenses of any kind unless specifically allowed under General Conditions. These costs include, but are limited to: costs for the purchase, lease, rental of or allowance for vehicles and their maintenance, radios/communication equipment, jobsite computers, copiers and other business equipment, and specialized telephone systems, including cellular/digital/smart phones and PDAs; trade or professional association dues; cost for hiring and/or relocation of any of Contractor's personnel; and travel, per diem and subsistence expense of Contractor, its officers or employees except as specifically allowed under the General Conditions. See Exhibit D for reimbursable General Conditions Cost versus non-reimbursable General Conditions Cost.

9.4 Any financial costs incurred by Contractor including the cost of capital or interest on

capital, regardless of whether it is related to the Project, and costs associated with construction warranty reserves.

9.5 Any legal, accounting, professional or other similar costs incurred by Contractor, including costs incurred in connection with the prosecution or defense any dispute, mediation, arbitration, litigation or other such proceeding related to or arising from the Project.

9.6 Any Federal and/or State income and franchise taxes paid by Contractor. Any fines, penalties, sanctions or other levies assessed by any governmental body against Contractor.

9.7 Any cost arising out of a breach of this Agreement or the fault, failure or negligence of Contractor, its Subcontractors, or any person or entity for whom they may be liable. These costs include, without limitation: costs to remedy defective, rejected, or nonconforming work, materials or equipment; costs due to failure to coordinate the Work or meet WPS milestones; costs arising from Contractor's contractual indemnification obligations; liquidated or actual damages imposed by Owner for failure to complete the Work within the Contract Time; costs due to the bankruptcy or insolvency of any Subcontractor; and damage or losses to persons or property.

9.8 The cost of any and all insurance deductibles payable by Contractor and costs due to the failure of Contractor or any Subcontractor to procure and maintain insurance as and to the extent required by this Agreement.

9.9 Any and all costs that would cause the Guaranteed Maximum Price to be exceeded.

9.10 Any and all costs not specifically identified as an element of the Direct Construction Cost.

ARTICLE 10 PAYMENTS

10.1 General Requirements

10.1.1 Each Schedule of Values submitted with an Application for Payment shall include the originally established value for each work classification line item or subcontract and shall identify any revisions to the costs or cost estimates for each work classification or subcontract. The format and tracking method of the original Schedule of Values and of all updates shall be subject to approval by Owner. At all times, the estimated cost of performing the uncompleted and unpaid portion of the Work, including Contractor's overhead and profit, shall not exceed the unpaid balance of the GMP less the retainage held by Owner on Work previously completed.

10.1.2 Expenses of transportation and overnight living expenses in connection with Owner approved out-of-state travel shall be identified separately in each Application for Payment. All travel must be approved in writing and in advance by Owner to be eligible for payment.

10.1.3 Expenses specifically excluded from reimbursement include telephone charges, FAX services, alcoholic beverages, laundry service, valet service, entertainment expenses and any non-Project related items. Tips are included in the per diem rates.

10.1.4 Retainage, as specified in the UGSC Paragraph 10.3.2 will be withheld from the entire amount approved in an Application for Payment including the Cost of the Work, General Conditions, and Contractor's Construction Phase Fee. Retainage will not be withheld from payments for Pre-Construction Phase Services.

10.1.5 Owner is an agency of the State of Texas and materials and services utilized in the construction of the Project may be exempted from state and local taxes. Contractor is responsible for taking full advantage of all tax exemptions applicable to the Project. Owner will deduct from the Applications for Payment and from the Request for Final Payment any taxes paid for materials or services that were entitled to tax exemption.

10.1.6 This Agreement is subject to the assessment of liquidated damages against Contractor as set forth in Exhibit "A" attached to this Agreement. Amounts assessed as liquidated damages, and other amounts to which Owner is entitled by way of setoff or recovery, may be deducted from any moneys due Contractor.

10.1.7 Owner shall have the right to withhold from payments due Contractor such sums as are necessary to protect Owner against any loss or damage which may result from negligence by Contractor or any Subcontractor or failure of Contractor or any Subcontractor to perform their obligations under this Agreement.

10.1.8 Notwithstanding any other contractual provision to the contrary, Owner shall not be obligated to make any payment to Contractor under any of the following circumstances:

10.1.8.1 Contractor persistently fails to perform the Work in accordance with the Contract Documents or is otherwise in material breach or default under this Agreement;

10.1.8.2 The payment request includes services that are not performed in accordance with the Construction Documents; provided, however, Owner shall pay for those services performed in accordance with the Construction Documents;

10.1.8.3 The payment request has insufficient documentation to support the amount of payment requested for Project costs; provided, however, Owner shall pay for allowable Project costs for which there is sufficient documentation;

10.1.8.4 Contractor is in violation of the Prevailing Wage requirements or has failed to make payments promptly to Subcontractors or other third parties used in connection with any services or materials for which Owner has made payment to Contractor;

10.1.8.5 If Owner, in its good faith judgment, determines that the unpaid balance of the GMP, less retainage, is not sufficient to complete the Work in accordance with the Construction Documents;

10.1.8.6 Contractor has failed to complete the Work in accordance with the Work Progress Schedule requirements or if Owner, in its good faith judgment, determines that the remaining Work will not be completed within the agreed timeframe;

10.1.8.7 Contractor is insolvent, makes a general assignment for the benefit of its creditors or otherwise seeks protection under the laws and regulations of the bankruptcy courts; or

10.1.8.8 Contractor fails to obtain, maintain or renew insurance coverage as required by this Agreement.

10.1.8.9 Contractor fails to comply with conditions set forth in the HUB Subcontracting Plan, including but not limited to the submission of the HSP - Prime Contractor Progress Assessment Report with each monthly invoice.

10.1.9 No partial payment made by Owner shall constitute, or be construed to constitute, final acceptance or approval of the work to which the partial payment relates or of the documentation provided in support of the partial payment. No partial payment made by Owner shall constitute, or be construed to constitute, a release of Contractor from any of its obligations or liabilities with respect to the Project.

10.1.10 Owner shall have the right to verify and audit the details of Contractor's billings, certificates, accountings, cost data, and statements, either before or after payment, by (1) inspecting the books and records of Contractor during normal business hours; (2) examining any reports with respect to the Project; (3) interviewing Contractor's employees; (4) visiting the Project site; and (5) any other reasonable action. Contractor's records shall be kept on the basis of generally accepted accounting principles in accordance with cost accounting standards issued by the Federal Office of Management and Budget Cost Accounting Standards Board and organized by each Application for Payment period.

10.1.11 All payments to Contractor for Pre-Construction Phase Services and Construction Phase Services shall be by electronic direct deposit. Contractor is required to complete and submit to Owner a Vendor Direct Deposit Authorization prior to first payment request. Form can be accessed at www.window.state.tx.us/taxinfo/taxforms/74-176.pdf.

10.2 Pre-Construction Phase Payments

10.2.1 Payment for Pre-Construction Phase Services shall be made in accordance with the following schedule and upon approval by Owner:

| | |
|----------------------------------|-----|
| Schematic Design Stage | 15% |
| Design Development Stage | 20% |
| GMP Development Stage | 20% |
| Construction Documents Stage | 40% |
| Subcontractor Bid/Proposal Stage | 5% |

10.2.2 Reimbursable Services are a part of the Pre-Construction Phase Services. These include actual not-to-exceed expenditures made by the Contractor incurred solely and directly in connection with Contractor's performance of its services hereunder for the following expenses:

- 10.2.2.1 Cost of printing.
- 10.2.2.2 Cost of geotechnical investigations.
- 10.2.2.3 Other items agreed to by the Owner in writing.

[Project Manager should contact Director of Project Controls if travel needs to be included as a reimbursable expense.]

10.2.3 Expenses not allowed for reimbursement include the cost of telephone charges, cell phone and PDA charges, FAX service, alcoholic beverages, laundry, car washes, valet service, entertainment and any non-project related items.

10.2.4 Owner shall pay a mark-up not to exceed ten percent (10%) on those reimbursable identified in 10.2.2.1 through 10.2.2.2 above. A mark-up shall not be paid on lodging, meals or travel expenses. Contractor shall submit receipts for all reimbursable services along with any reimbursement request.

10.2.5 Owner must authorize all Reimbursable Services prior to the performance of the reimbursable item. Charges for Reimbursable Services must not exceed the established category amounts unless authorization, in writing, is obtained from the Owner.

10.2.6 All payment requests for Pre-Construction Phase Services shall be submitted on Owner's Application for Payment form and shall include Exhibit I HSP - Prime Contractor Progress Assessment Report.

10.3 Construction Phase Payments

10.3.1 Payments for Construction Phase Services shall be made as provided for in the UGSC and Owner's Specifications. All payment requests shall be submitted on Owner's Application for Payment with a Schedule of Values and include all required attachments identifying payments to Historically Underutilized Businesses and to all Subcontractors. Payment for approved Change Orders shall be made as part of Contractor's Application for Payment. Failure to submit an Exhibit I HSP - Prime Contractor Progress Assessment Report form with each Application for Payment will cause rejection of the application by Owner and its return to Contractor.

10.3.1.1 Contractor's Construction Phase Fee shall be shown as a separate line item on the Schedule of Values. Payment of Contractor's Construction Phase Fee shall be made with each Application for Payment in the same proportion as the percentage completion of the Cost of the Work of the Project.

10.3.1.2 For General Conditions Costs, Contractor's Application for Payment shall be submitted on a Schedule of Values approved by the Owner and include complete copies of all receipts, invoices with check vouchers or other evidence of payment, payrolls, and any and all other evidence which Owner or its designated representatives shall deem necessary to support the amount requested. This information is subject to audit and payment for these costs is dependent on Owner's receipt of accurate and complete records of all transactions. Owner may reduce the amount requested for General Conditions Costs in any Application for Payment if Owner, in its good faith judgment, determines that the unpaid balance of the General Conditions line item in the Schedule of Values is not sufficient to fund necessary General Conditions Costs for the remainder of the Project.

10.3.1.3 Pay requests for Subcontractor work included in an Application for Payment shall not exceed the percentage of Work allocated to that Subcontractor for each respective Schedule of Values work classification which has been actually completed and shall not exceed the total value of the subcontract amount.

10.3.1.4 Contractor's Request for Final Payment shall not be made until all Work is completed and all requirements of the Contract Documents have been satisfied including, without limitation: delivery to Owner of a complete release of all liens and claims arising out of the Work; written consent of the surety to release of final payment; and an affidavit that, to the best of Contractor's information, knowledge and belief, the release includes and covers all materials and services over which Contractor has control and for which a lien could be filed and that all known debts and claims arising from the Project have been satisfied. Alternatively, Contractor may, at its sole expense, furnish a bond satisfactory to Owner to indemnify Owner against any lien arising out of the Work. If any lien is asserted against Owner after all payments are made, Contractor shall reimburse Owner for all damages and costs Owner may incur in discharging such lien, including all court costs and reasonable attorneys' fees, and Owner shall retain all other remedies available to it at law and in equity.

10.3.1.5 Owner shall have no obligation to make Final Payment until a complete and final accounting of all the Direct Construction Cost has been submitted by Contractor and has been audited and verified by Owner or Owner's representatives.

10.3.1.6 Nothing contained herein shall require Owner to pay Contractor an aggregate amount for Construction Phase Services that exceeds the Guaranteed Maximum Price or to make any payment if, in Owner's belief, the cost to complete the Work would exceed the Guaranteed Maximum Price less previous payments to

Contractor. The total amount of all Construction Phase payments to Contractor shall not exceed the actual verified Direct Construction Cost for the Project plus Contractor's Construction Phase Fee.

10.3.1.7 The acceptance by Contractor or Contractor's successors of Final Payment under this Agreement, shall constitute a full and complete release of Owner from any and all claims, demands, and causes of action whatsoever that Contractor, its Subcontractors, suppliers and consultants or any of their successors or assigns have or may have against Owner arising from the Project or any provision(s) of this Agreement except for those previously made in writing and identified by Contractor as unsettled at the time of the Request for Final Payment.

ARTICLE 11 DIRECT CONSTRUCTION COST

Direct Construction Cost means the sum of the amounts that Contractor actually and necessarily incurs constructing the Project in strict compliance with the Construction Documents. Direct Construction Cost includes only the cost categories set forth in this Article and does not include the Pre-Construction Phase Fees or the Construction Phase Fees unless specifically noted. References in the UGSC to adjustments in "cost" or "costs" mean the Direct Construction Cost.

General Conditions Costs

11.1 Contractor is entitled to receive payment for the actual cost of the allowable General Conditions items incurred after receipt of a Notice to Proceed with Construction from Owner through Substantial Completion of the Project, plus 30 calendar days. Contractor is not entitled to reimbursement for General Conditions Costs incurred before receipt of the Notice to Proceed. General Conditions Costs incurred after Substantial Completion, plus 60 calendar days, must be approved in advance by Owner.

Allowable General Conditions items are identified below and in Exhibit "D" attached to this Agreement. These items shall be included in the General Conditions Cost amount shown as a line item in the Guaranteed Maximum Price Proposal and as detailed on the Schedule of Values. Items not specifically included below or in Exhibit "D" will not be allowed as General Condition Costs.

11.1.1 Personnel Costs. The actual Worker Wage Rate for Contractor's hourly employees and the Monthly Salary Rate of Contractor's salaried personnel who are identified to Owner in advance and in writing but only for the time actually stationed at the Project site with Owner's prior consent. The Project Manager's Monthly Salary Rate may be included in the General Conditions Costs only when the Project Manager is directly located on and managing the Project. All personnel costs are subject to audit to determine the actual cost of the wages, salaries and allowable employer contributions incurred by the Contractor for services performed for the Project.

- 11.1.2 Costs of long-distance telephone calls from the job-site, telegrams, postage, package delivery and courier service, hardwired internet and telephone service located on the job-site, and reasonable expenses of Contractor's jobsite office if incurred at the Project site and directly and solely in support of the Work.
- 11.1.3 Costs of materials, supplies, temporary facilities, equipment and hand tools (except those customarily owned by construction workers), supplied to the Project site by Contractor, if such items are fully consumed in the construction of the Work and are included in the list of allowable General Condition line items. Cost for used items shall be based on fair market value and may include transportation, installation, and minor maintenance costs, and removal costs. If an item is not fully consumed in the construction of the Work, its cost shall be based on actual cost of the item less its fair market salvage value.
- 11.1.4 Rental charges for temporary facilities, equipment, and hand tools (except those customarily owned by construction workers), supplied to the Project site by Contractor, provided they are included in the list of allowable General Condition line items and Owner has approved the rentals and the rental rates in advance and in writing. Rental rates may include transportation, installation, and minor maintenance costs, and removal costs. For tools, machinery or construction equipment rented directly from Contractor, the rental rate, including freight and delivery costs and all operating expenses except labor, shall be approved in advance by Owner and shall be in accordance with the "Rental Rate Blue Book for Construction Equipment" published by Penton Business Media dba Equipment Watch, latest edition, but no higher than the prevailing competitive rates for rental of similar equipment in the Project vicinity.
- 11.1.5 The aggregate rental cost of any item charged to Owner shall not exceed ninety percent (90%) of the purchase price and maintenance cost of the item. If the anticipated aggregate rental cost for an item of equipment exceeds ninety percent (90%) of the purchase and maintenance price, Contractor shall purchase the equipment and turn it over to Owner upon Final Completion of the Work or, at Owner's option, credit Owner with the fair market resale value of the item.
- 11.1.6 Permit and inspection fees that are not subject to exemption.
- 11.1.7 Premiums for insurance and bonds to the extent directly attributable to this Project.
- 11.1.8 Governmental sales and use taxes directly attributable to the General Conditions Items that are not subject to exemption. Taxes paid on materials or services that were entitled to tax exemption will not be reimbursed by Owner as Direct Construction Costs.

11.2 Cost of the Work

Contractor is entitled to receive payment for the actual cost of the allowable Cost of the Work items incurred after receipt of Owner's written authorization to commence the Construction Phase Work through Final Completion of the Project. Contractor is not entitled to reimbursement for Cost of the Work costs incurred before receipt of Owner's written authorization. Cost of the Work includes the following:

11.2.1 Costs of materials and equipment purchased directly by Contractor and incorporated into or consumed in the performance of the Work, including transportation charges, and a reasonable and customary allowance for waste and spoilage. Payment for stored materials is subject to the UGSC.

11.2.2 Costs of site debris removal and disposal in accordance with all applicable laws and regulations if not otherwise specifically provided for under the General Conditions Costs.

11.2.3 Payments made to Subcontractors and their vendors or suppliers by Contractor for the subcontract work in accordance with the Construction Documents and the requirements of the subcontracts with the Subcontractors, vendors or suppliers.

11.2.4 Payments earned by Contractor for self-performed subcontract work, other than General Conditions work, in accordance with the Construction Documents and the terms of this Agreement and approved by Owner.

11.2.5 Testing fees borne by Contractor pursuant to the UGSC.

11.2.6 Intellectual property royalties and licenses for items specifically required by the Construction Documents which are, or will be, incorporated into the Work

11.3 Contractor's Contingency

11.3.1 The Guaranteed Maximum Price Proposal shall include a Contractor's Contingency amount to be used to fund increases in the Direct Construction Cost of the Project identified through the refinement, development and completion of the Construction Documents or procurement of the Work.

11.3.2 Any re-allocation of funds from Contractor's Contingency to cover increases in the Direct Construction Cost must be approved by Owner in advance and in writing, such approval not to be unreasonably withheld. In written requests to use Contractor's Contingency, Contractor shall provide detailed documentation of the scope of work affected and the bases for any increases in costs.

11.3.3 Contractor's Contingency is specifically not to be used for Contractor rework or cost increases caused by lack of coordination or communication with A/E or trade Subcontractors.

11.3.4 As the Construction Documents are finalized and the buyout of the Work progresses, Contractor's Contingency amount shall be reduced by mutual agreement of Owner and Contractor. Any balance in Contractor's Contingency fund remaining at the end of the Project shall be returned to Owner as savings.

ARTICLE 12 CONTRACT SAVINGS, REBATES & REFUNDS

12.1 If the allowable amount of the General Conditions Costs, Cost of the Work, and Contractor's Contingency is less than the amount established for each of those categories in the originally approved Guaranteed Maximum Price Proposal, the entire difference shall be credited to Owner as savings, and the final Contract Sum shall be adjusted accordingly. When buyout of the Project is at least 85% complete, Owner may recognize any savings achieved to that point by issuing a deductive change order for the saved amount.

12.2 Owner shall be entitled to deduct amounts for the following items from any Application for Payment or from the Request for Final Payment submitted by Contractor:

12.2.1 The fair market value of all tools, surplus materials, construction equipment, and temporary structures that were charged to the Work (other than rental items) but were not consumed during construction or retained by Owner. Upon completion of the Work or when no longer required, Contractor shall either credit Owner for the fair market value (as approved by Owner) for all surplus tools, construction equipment and materials retained by Contractor or, at Owner's option, use commercially reasonable efforts to sell the surplus tools, construction equipment and materials for the highest available price and credit the proceeds to Owner's account.

12.2.2 Discounts earned by Contractor through advance or prompt payments funded by Owner. Contractor shall obtain all possible trade and time discounts on bills for material furnished, and shall pay bills within the highest discount periods. Contractor shall purchase materials for the Project in quantities that provide the most advantageous prices to Owner.

12.2.3 Rebates, discounts, or commissions obtained by Contractor from material suppliers or Subcontractors, together with all other refunds, returns, or credits received for materials, bond premiums, insurance and sales taxes.

12.2.4 Deposits made by Owner and forfeited due to the fault of Contractor.

12.2.5 Balances remaining on Contractor's Contingency or any other identified contract savings. Owner shall be entitled to recover any net savings realized between the GMP and the buyout price for subcontracting work once the buyout is complete. During the buyout Contractor may use savings from one procurement effort to offset overages in other procurement efforts, so long as the total Cost of the Work proposed in the GMP does not increase.

12.3 Owner shall be entitled to recognize and recover 100% of any savings identified by cost review or audit at any time, before or after Final Payment.

ARTICLE 13 OWNERSHIP AND USE OF DOCUMENTS

13.1 Drawings, specifications and other documents prepared by A/E or its consultants, or consultants retained by Owner for the Project that describe the Work to be executed by Contractor are instruments of service and shall remain the property of their authors whether the Project for which they are made is constructed or not. Contractor shall be permitted to retain one record set of the Construction Documents. All other copies of the Construction Documents shall be returned to their respective authors or suitably accounted for. Contractor and its Subcontractors are authorized to reproduce and use portions of the Construction Documents as necessary and appropriate for the execution of the Work. Contractor and its Subcontractors shall not use the Construction Documents on any other projects.

13.2 Submission or distribution of the Construction Documents to meet official regulatory requirements or for other purposes in connection with the Project shall not diminish A/E's or other author's rights.

ARTICLE 14 TIME

14.1 *TIME LIMITS STATED ARE OF THE ESSENCE OF THIS AGREEMENT AND THE OTHER CONTRACT DOCUMENTS.*

14.2 Unless otherwise approved, Owner and Contractor shall perform their respective obligations under this Agreement as expeditiously as is consistent with reasonable skill and care and the orderly progress of the Work.

14.3 Prior to commencement of the Construction Phase Services and concurrently with submission of the Guaranteed Maximum Price Proposal, Contractor shall submit an up-to-date WPS for the performance of Construction Phase Services as specified. The WPS shall include reasonable periods of time for Owner's and A/E's review and approval of shop drawings and submissions and for the approval of other authorities having jurisdiction over the Project.

14.4 Contractor shall achieve Substantial Completion of the Work on or before the date agreed to in the GMP Proposal, subject to time extensions granted by Change Order.

14.5 THE TIMES SET FORTH FOR COMPLETION OF THE WORK IN THE NOTICE TO PROCEED AND THE GMP PROPOSAL ARE ESSENTIAL ELEMENTS OF THIS AGREEMENT.

14.6 The Construction Phase shall be deemed to commence on the date specified in a written Notice to Proceed issued by Owner after approval of the Guaranteed Maximum Price Proposal.

14.7 Fast Track/Multiple Completion Times. Owner may elect, at its option, to stage or "fast-track" portions of the Work. In such event Owner, may issue a separate written Notice to

Proceed or written Change Order for each such stage. Each such stage, at Owner's sole option, may have a separate substantial completion date and a separate liquidated damages amount, in accordance with Exhibit "A". If Owner elects to "fast-track" or develop the Project in multiple stages, Contractor shall organize and perform its services as appropriate to each stage. Each stage of the Project may have a unique schedule for completion and a specific AACC, at Owner's discretion.

ARTICLE 15 PROJECT TERMINATION AND SUSPENSION

15.1 This Agreement may be terminated during the Pre-Construction Phase by either party upon fifteen (15) days written notice should the other party fail substantially to perform in accordance with its terms through no fault of the party initiating the termination and the breach is not cured or a plan to cure the breach acceptable to the non-breaching party is not established within the fifteen (15) day period.

15.2 This Agreement may be terminated by Owner during the Pre-Construction Phase upon at least three (3) business days written notice to Contractor in the event that the Project is to be temporarily or permanently abandoned.

15.3 This Agreement may be terminated by Owner and/or CMAR at the GMP Proposal stage upon at least three (3) business days written notice to Contractor in the event that the parties are unable or unwilling to agree on a GMP Proposal.

15.4 In the event of termination that is not the fault of Contractor, Contractor shall be entitled to compensation for all services performed to the termination date provided Contractor has delivered to Owner such statements, accounts, all reports, documents and other materials as required by Owner together with all reports, documents and other materials prepared by Contractor prior to termination. Upon such payment, Owner shall have no further obligation to Contractor.

15.5 Termination of this Agreement shall not relieve Contractor or any of its employees, Subcontractors, or consultants of liability for violations of this Agreement or for any act or omission, or negligence, of Contractor related to the Project. In the event of a termination, Contractor expressly acknowledges the right of Owner to employ a substitute contractor to complete the services under this Agreement.

15.6 In the event of termination, Owner shall have the right to use any documents or other materials prepared for the Project and the ideas and designs they contain for the completion of the services described by this Agreement, for completion of the Project, or for any other purpose.

15.7 If the Project is suspended or abandoned in whole or in part for more than ninety (90) consecutive days during the Pre-Construction Phase, Contractor shall be compensated for all services performed prior to receipt of written notice from Owner of such suspension or abandonment. If the Project is resumed after being suspended for more than ninety (90) consecutive days, Contractor's compensation for Pre-Construction Services shall be equitably adjusted if such adjustment is warranted.

ARTICLE 16
PRE-EXISTING CONDITIONS & DESIGN ERRORS AND OMISSIONS

16.1 Contractor acknowledges that it has been provided unrestricted access to the existing improvements and conditions on the Project site and that it has thoroughly investigated those conditions. Contractor's investigation will be instrumental in preparing its Guaranteed Maximum Price Proposal for the Work. Contractor shall not make or be entitled to any claim for any adjustment to the Contract Time or the Contract Sum for Pre-Construction Phase Services or for Construction Phase Services arising from Project conditions that Contractor discovered or, in the exercise of reasonable care, should have discovered in Contractor's investigation.

16.2 Contractor acknowledges that as part of its Pre-Construction Phase Services it shall participate in the development and review of the Construction Documents. Contractor's participation in the design development process will be instrumental in preparing its Guaranteed Maximum Price Proposal for the Work. Before submitting its Guaranteed Maximum Price Proposal, the Contractor shall review the drawings, specifications and other Construction Documents and notify Owner of any errors, omissions or discrepancies in the documents of which it is aware. Contractor shall not make or be entitled to any claim for any adjustment to the Contract Time or the Contract Sum for errors or omissions in the Construction Documents that Contractor discovered or, in the exercise of reasonable care, should have discovered in Contractor's Pre-Construction Phase design review process that Contractor did not bring to the attention of Owner and A/E in a timely manner. Contractor's review is made in the capacity as a contractor and not as a design professional. It is not the Contractor's responsibility to ascertain that the drawings and specifications are in accordance with applicable laws, statutes, ordinances, building codes, rules and regulations, but Contractor will report any variances which should have reasonably been discovered.

ARTICLE 17
BONDS AND INSURANCE

17.1 Upon execution of this Agreement, Contractor shall provide a security bond on the form attached as Exhibit "F" in the amount of 5% of the AACC. The surety for a security bond shall meet the same requirements as set forth for payment and performance bonds.

17.2 Upon acceptance by Owner of a Guaranteed Maximum Price Proposal, Contractor shall provide performance and payment bonds on forms prescribed by Owner and in accordance with the requirements set forth in the UGSC. The penal sum of the payment and performance bonds shall be equal to the GMP. If construction is phased or staged with different Guaranteed Maximum Prices established at different times, the penal sum of the bonds shall be increased at the start of each stage or phase based on the cumulative total value of all Guaranteed Maximum Prices in effect.

17.3 Contractor shall not commence work under this Agreement until it has obtained all required insurance and until evidence of the required insurance has been reviewed and approved by Owner. Owner's review of the insurance shall not relieve nor decrease the liability of the

Contractor. Prior to commencing any work under this Agreement, Contractor shall provide evidence of the following insurance coverages:

- 17.3.1 Pre-Construction Phase: Employer's Liability, Workers' Compensation, Comprehensive General Liability and Comprehensive Automobile Liability in the amounts as set forth in the UGSC.
- 17.3.2 Construction Phase: In addition to the coverages required during the Pre-Construction Phase, Builder's Risk and Owner's Protective Liability in the amounts as set forth in the UGSC.
- 17.3.3 Prior to commencing any construction work, Contractor shall provide evidence of Builder's Risk coverage as set forth in the UGSC, which coverage shall remain in full force and effect throughout the term of the Work and shall be increased as necessary for each separate bid package, phase, change order, or stage of construction prior to the commencement of construction for that package, phase, or stage.
 - 17.3.3.1 The Owner retains the right to secure Builder's Risk insurance for this project under its own insurance program, naming the Contractor as loss payee. This coverage does not extend to Contractor tools and equipment. Refer to Exhibit "X" for a copy of Owners Builder's Risk policy.
- 17.3.4 Contractor shall include required insurance information in trade packages and indicate on bid/proposal forms the insurance that bidders/proposers are to include in their base proposals.
- 17.3.5 Contractor shall include The Texas A&M University System Board of Regents for and on behalf of The Texas A&M University System and [System Member for which the Project is being constructed] and [Program Manager if applicable] as additional insured on the Commercial General Liability policy, and the Worker's Compensation policy shall include a waiver of subrogation in favor of the Owner.

17.4 Contractor shall not cause or allow any of its required insurance to be canceled nor permit any insurance to lapse during the term of this Agreement. If Contractor fails to obtain, maintain or renew any insurance required by this Agreement, Owner may obtain insurance coverage directly and recover the cost of that insurance from Contractor or deduct such cost of insurance from Contractor's fee.

17.5 Owner reserves the right to review the insurance requirements set forth in this Article during the effective period of this Agreement and to make reasonable adjustments to the insurance coverages and their limits when deemed necessary and prudent by Owner based upon changes in statutory law, court decisions, or the claims history of the industry in general and the claims history of Contractor.

17.6 Owner shall be entitled, upon request, and without expense, to receive complete copies of

the policies with all endorsements and may make any reasonable requests for deletion, or revision or modification of particular policy terms, conditions, limitations, or exclusions, except where policy provisions are established by law or regulation binding upon the parties or the underwriter of any of such policies. Damages caused by Contractor and not covered by insurance shall be paid by Contractor upon demand, or, to the extent of unpaid fees, shall be deducted by Owner from Contractor's fee.

17.7 The cost of premiums for any additional insurance coverage desired by Contractor in excess of that required by this Agreement, the UGSC or the other Contract Documents shall be borne solely by Contractor out of its fees and not included in the GMP Proposal as a Direct Construction Cost.

17.8 If the Guaranteed Maximum Price is increased by Change Orders by more than 5% the Contractor shall provide revised bonds and insurance that reflect the new project amount.

ARTICLE 18 DISPUTE RESOLUTION

18.1 The dispute resolution process provided in Chapter 2260, *Texas Government Code*, and the related rules adopted by the Texas Attorney General pursuant to Chapter 2260, shall be used by Owner and Contractor to attempt to resolve any claim for breach of contract made by Contractor that cannot be resolved in the ordinary course of business. Contractor shall submit written notice of a claim of breach of contract under this Chapter to the Chancellor of The Texas A&M University System, who shall examine Contractor's claim and any counterclaim and negotiate with Contractor in an effort to resolve the claim.

18.2 Neither the occurrence of an event giving rise to a breach of contract claim nor the pendency of a claim constitute grounds for the suspension of performance by Contractor, in whole or in part. Owner and Contractor agree that any periods set forth in this Agreement for notice and cure of defaults are not waived, delayed, or suspended by Chapter 2260 or this Paragraph 18.2.

18.3 It is agreed that such process is not invoked if Owner initiates the dispute by first bringing a claim against Contractor, except at Owner's sole option. If Owner makes a claim against Contractor and Contractor then makes a counterclaim against Owner as a claim under Chapter 2260 and in compliance therewith, the Owner's original claim against Contractor does not become a counterclaim and is not subject to the mandatory counterclaim provisions of Chapter 2260 of the *Texas Government Code*, except at the sole option of the Owner.

ARTICLE 19 INDEMNITY

19.1 SEE PARAGRAPH 3.3.10 OF THE UGSC FOR CONTRACTOR'S GENERAL INDEMNIFICATION OBLIGATIONS.

19.2 CONTRACTOR SHALL PROTECT AND INDEMNIFY OWNER FROM AND AGAINST ALL CLAIMS,

DAMAGES, JUDGMENTS AND LOSSES ARISING FROM INFRINGEMENT OR ALLEGED INFRINGEMENT OF ANY UNITED STATES PATENT, OR COPYRIGHT THAT ARISE OUT OF ANY OF THE WORK PERFORMED BY CONTRACTOR OR THE USE BY CONTRACTOR, OR BY OWNER AT THE DIRECTION OF CONTRACTOR, OF ANY ARTICLE OR MATERIAL. UPON BECOMING AWARE OF A SUIT OR THREAT OF SUIT FOR PATENT OR COPYRIGHT INFRINGEMENT, OWNER SHALL PROMPTLY NOTIFY CONTRACTOR AND CONTRACTOR SHALL BE GIVEN FULL OPPORTUNITY TO NEGOTIATE A SETTLEMENT. CONTRACTOR DOES NOT WARRANT AGAINST INFRINGEMENT BY REASON OF OWNER'S OR A/E'S DESIGN OF ARTICLES OR THEIR USE IN COMBINATION WITH OTHER MATERIALS OR IN THE OPERATION OF ANY PROCESS. IN THE EVENT OF LITIGATION, OWNER AGREES TO COOPERATE REASONABLY WITH CONTRACTOR AND THE PARTIES SHALL BE ENTITLED, IN CONNECTION WITH ANY SUCH LITIGATION, TO BE REPRESENTED BY COUNSEL AT THEIR OWN EXPENSE.

19.3 The indemnities contained in this Agreement shall survive the termination of this Agreement for any reason whatsoever.

ARTICLE 20 SPECIAL WARRANTIES

20.1 Notwithstanding anything to the contrary contained in this Agreement, Owner and Contractor agree and acknowledge Owner is entering into this Agreement in reliance on Contractor's represented expertise and ability to provide construction management services. Contractor agrees to use its best efforts, skill, judgment, and abilities to perform its obligations and to further the interests of Owner in accordance with Owner's requirements and procedures.

20.2 Contractor represents and agrees that it will perform its services in accordance with the usual and customary standards of Contractor's profession or business and in compliance with all applicable federal, state, and municipal, laws, regulations, codes, ordinances, or orders and with those of any other body having jurisdiction over the Project. Contractor agrees to bear the full cost of correcting Contractor's negligent or improper work and services, those of its consultants and Subcontractors, and any harm caused by the negligent or improper work or services.

20.3 Contractor's duties shall not be diminished by any approval by Owner nor shall Contractor be released from any liability by any approval by Owner, it being understood that Owner is ultimately relying upon Contractor's skill and knowledge in performing the services required hereunder.

20.4 Contractor represents and agrees that all persons connected with Contractor directly in charge of its services are duly registered and/or licensed under the laws, rules and regulations of any authority having jurisdiction over the Project if such registration and/or license is required.

20.5 Contractor represents and agrees to advise Owner of anything of any nature in any drawings, specifications, plans, sketches, instructions, information, requirements, procedures, and other data supplied to Contractor (by Owner or any other party) that is, in its opinion, unsuitable, improper, or inaccurate for the purposes for which the document or data is furnished.

20.6 Contractor represents and agrees to perform its services under this Agreement in an expeditious and economical manner consistent with good business practices and the interests of Owner.

20.7 Contractor represents and agrees that there are no obligations, commitments, or impediments of any kind that will limit or prevent performance of its obligations under this Agreement.

20.8 Contractor represents and agrees that the individual executing this Agreement on behalf of Contractor has been duly authorized to act for and to bind Contractor to its terms.

20.9 Except for the obligation of Owner to pay Contractor certain fees, costs, and expenses pursuant to the terms of this Agreement, Owner shall have no liability to Contractor or to anyone claiming through or under Contractor by reason of the execution or performance of this Agreement. Notwithstanding any obligation or liability of Owner to Contractor, no present or future affiliate of Owner or any agent, officer, director, employee, or regent of Owner, or of the members comprising The Texas A&M University System, or anyone claiming under Owner has or shall have any personal liability to Contractor or to anyone claiming through or under Contractor by reason of the execution or performance of this Agreement.

ARTICLE 21 CERTIFICATION OF NO ASBESTOS CONTAINING MATERIALS OR WORK

21.1 Contractor shall provide a certification statement, included with each materials submittal, stating that no asbestos containing materials or work is included within the scope of the proposed submittal.

21.2 Contractor shall ensure that Texas Department of State Health Services licensed individuals, consultants or companies are used for any required asbestos work including asbestos inspection, asbestos abatement plans/specifications, asbestos abatement, asbestos project management and third-party asbestos monitoring.

21.3 Contractor shall provide at Substantial Completion, a certificate, or at Owner's election, a notarized affidavit to Owner and A/E stating that no asbestos containing materials or work was provided, installed, furnished or added to the Project.

21.4 Contractor shall take whatever measures it deems necessary to insure that all employees, suppliers, fabricators, material men, subcontractors, or their assigns, comply with this requirement.

21.5 A person is prohibited by law from installing Asbestos Containing Building Materials (ACBM) or ACBM replacement parts in a public building unless it is demonstrated that there is no alternative material or part (25 TAC §295.34(i)). All materials used on this Project shall be certified as non- ACBM. Contractor shall ensure compliance with the following acts from all of its Subcontractors and assigns:

21.5.1 Asbestos Hazard Emergency Response Act and the Regulations promulgated under the Act (AHERA—40 CFR 763, Subpart E);

21.5.2 National Emission Standards for Hazardous Air Pollutants (NESHAP—EPA 40 CFR 61, Subpart M, National Emission Standard for Asbestos);

21.5.3 Texas Asbestos Health Protection Rules (TAHPR—Tex. Admin. Code Title 25, Part 1, Ch. 295, Subchapter C, Asbestos Health Protection)

21.6 Every Subcontractor shall provide a notarized statement that no ACBM has been used, provided, or left on this Project.

21.7 Contractor shall obtain and review material data safety sheets (MSDS) for all building materials or replacement parts listed in ***but not limited to*** 25 TAC §295.34(j) to ensure that no ACBM is used in the Project. Contractor shall provide, in hard copy and electronic form, all necessary MSDS of all products used in the construction of the Project to the Owner, along with the certification or affidavit required in Section 21.3 above.

21.8 At Final Completion Contractor shall provide a certification statement (notarized if required by Owner) that no ACBM was used during construction of the Project.

ARTICLE 22 BUSINESS ETHICS EXPECTATION

22.01 During the course of pursuing contracts with Owner and while performing contract work in accordance with this agreement, Contractor agrees to maintain business ethics standards aimed at avoiding any impropriety or conflict of interest which could be construed to have an adverse impact on the Owner's best interests.

22.02 Contractor shall take reasonable actions to prevent any actions or conditions which could result in a conflict with Owner's best interests. These obligations shall apply to the activities of Contractor's employees, agents, subconsultants, subconsultants' employees and other persons under their control.

Contractor's employees, agents, subconsultants (and their representatives) shall not make or offer, or cause to be made or offered, any cash payments, commissions, employment, gifts valued at \$50 dollars or more, entertainment, free travel, loans, free work, substantially discounted work, or any other considerations to Owner's representatives, employees or their relatives.

Contractor's employees, agents and subconsultants (and their relatives) shall not receive or accept any cash payments, commissions, employment, gifts valued at \$50 dollars or more, entertainment, free travel, loans, free work, or substantially discounted work or any other considerations from representatives of contractors, subcontractors, or material suppliers or any other individuals, organizations, or businesses receiving funds in connection with a Project.

22.03 Contractor agrees to notify Vergel L. Gay, Jr., Chief Facilities Planning and Construction Officer for Facilities Planning & Construction within 48 hours of any instance where the Contractor becomes aware of a failure to comply with the provisions of this article.

22.04 Upon request by Owner, Contractor agrees to provide a certified Management Representation Letter executed by a Contractor representative selected by Owner in a form agreeable to Owner stating that the representative is not aware of any situations violating the business ethics expectations outlined in this Agreement or any similar potential conflict of interest situations.

22.05 Contractor agrees to include provisions similar to this Article in all contracts with subconsultants receiving more than \$25,000 in funds in connection with a Project.

ARTICLE 23 MISCELLANEOUS PROVISIONS

23.1 Assignment. This Agreement is a personal service contract for the services of Contractor, and Contractor's interest in this Agreement, its duties and/or the fees due to Contractor may not be assigned or delegated to a third party.

23.2 Records Requirements. Records of expenses pertaining to Additional Services and services performed on the basis of a Worker Wage Rate or Monthly Salary Rate shall be kept on the basis of generally accepted accounting principles and in accordance with cost accounting standards promulgated by the Federal Office of Management and Budget Cost Accounting Standards Board and shall be available for audit by Owner or Owner's authorized representative on reasonable notice.

23.3 Child Support Certification. A child support obligor who is more than 30 days delinquent in paying child support and a business entity in which obligor is a sole proprietor, partner, shareholder, or Owner with an Ownership interest of at least 25 percent is not eligible to receive payments from state funds under a contract to provide property, materials, or services until all arrearages have been paid or the obligor is in compliance with a written repayment agreement or court order as to any existing delinquency. The Family Code requires the following statement: "Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate."

23.4 Eligibility Certification. A state agency may not accept a bid or award a contract that includes proposed financial participation by a person who received compensation from the agency to participate in preparing the specifications or request for proposals on which the bid or contract is based. The Government Code requires the following statement: "Under Section 2155.004, Government Code, the vendor certifies that the individual or business entity named in

this bid or contract is not ineligible to receive the specified contract and acknowledges that this contract may be terminated and payment withheld if this certification is inaccurate.”

23.5 Franchise Tax Certification. If Contractor is a taxable entity subject to the Texas Franchise Tax (Chapter 171, *Texas Tax Code*), then Contractor certifies that it is not currently delinquent in the payment of any franchise taxes or that Contractor is exempt from the payment of franchise taxes.

23.6 Payment of Debt or Delinquency to the State. Pursuant to Section 2252.903, *Texas Government Code*, Contractor agrees that any payments owing to Contractor under this Agreement may be applied directly toward any debt or delinquency that Contractor owes the State of Texas or any agency of the State of Texas regardless of when it arises, until such debt or delinquency is paid in full. "Debt or delinquency" means a debt, tax delinquency, student loan delinquency, or child support delinquency that results in a payment law prohibiting the comptroller from issuing a warrant or initiating an electronic funds transfer.

23.7 Entire Agreement; Modifications. This Agreement supersedes all prior agreements, written or oral, between Contractor and Owner and shall constitute the entire agreement and understanding between the parties with respect to the Project. This Agreement and each of its provisions shall be binding upon the parties and may not be waived, modified, amended or altered except by a writing signed by Contractor and Owner.

23.8 Captions. The captions of paragraphs in this Agreement are for convenience only and shall not be considered or referred to in resolving questions of interpretation or construction.

23.9 Governing Law and Venue. This Agreement is construed under and in accordance with the laws of the State of Texas, and is performable in the country in which the Project is located; however, mandatory venue for all legal proceedings against Owner is to be in the county in which the primary office of the chief executive officer is located.

23.10 Waivers. No delay or omission by either party in exercising any right or power arising from non-compliance or failure of performance by the other party with any of the provisions of this Agreement shall impair or constitute a waiver of any such right or power. A waiver by either party of any covenant or condition of this Agreement shall not be construed as a waiver of any subsequent breach of that or of any other covenant or condition of this Agreement.

23.11 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

23.12 Records Availability and Retention. Records of Contractor's costs, reimbursable expenses pertaining to the Project and payments shall be available to Owner or its authorized representative during business hours and shall be retained for four (4) years after final Payment or abandonment of the Project, unless Owner otherwise instructs Contractor in writing.

23.13 Severability. Should any term or provision of this Agreement be held invalid or unenforceable in any respect, the remaining terms and provisions shall not be affected and this

Agreement shall be construed as if the invalid or unenforceable term or provision had never been included.

23.14 Illegal Dumping. Contractor shall ensure that it and all of its Subcontractors and assigns prevent illegal dumping of litter in accordance with Title 5, *Texas Health and Safety Code*, Chapter 365.

23.15 Notices. All notices, consents, approvals, demands, requests or other communications relied on by the parties shall be in writing. Written notice shall be deemed to have been given when delivered in person to the designated representative of Contractor or Owner for whom it is intended; or sent by U.S. Mail to the last known business address of the designated representative; or transmitted by fax machine to the last known business fax number of the designated representative. Mail notices are deemed effective upon receipt or on the third business day after the date of mailing, whichever is sooner. Fax notices are deemed effective the next business day after faxing. Such notices of claims or disputes or other legal notices required by this Agreement shall be sent to the persons and at the locations set forth in Exhibit "A" attached to this Agreement.

23.16 List of Exhibits

The following exhibits are fully incorporated into this Agreement by reference:

- Ex. A Fees, Costs and Other Contract Variables
- Ex. B Uniform General and Supplementary Conditions
- Ex. C Special Conditions, Wage Rates and Owner's Specifications
- Ex. D Allowable General Conditions Line Items
- Ex. E Guaranteed Maximum Price Proposal Form
- Ex. F Security Bond
- Ex. G Personnel Titles and Monthly Rates
- Ex. H HUB Subcontracting Plan for Construction Services
- Ex. I HSP - Prime Contractor Progress Assessment Report
- Ex. J BIM Execution Plan

BY SIGNING BELOW, the Parties have executed and bound themselves to this Agreement as of the day and year first above written.

BOARD OF REGENTS OF
THE TEXAS A&M UNIVERSITY SYSTEM
(THE OWNER)

(Construction Manager)

Federal Tax I.D. No. _____

By _____
Chief Facilities Planning and Construction
Officer for
Facilities Planning and Construction

By _____
(Signature)

(Print or Type Name)

Date _____

Date _____

APPROVAL RECOMMENDED:

Director of Project Delivery
Facilities Planning and Construction

Name(s) of individual(s), sole proprietors,
partner(s), shareholder(s) or owner(s) with
an ownership interest of at least 25% of the
business entity executing this Contract.

Name: _____

Name: _____

APPROVED AS TO FORM:

Name: _____

Name: _____

General Counsel

EXHIBIT "A"
FEEES, COSTS AND OTHER CONTRACT VARIABLES

1. Guaranteed Maximum Price

The anticipated Guaranteed Maximum Price for the Project at the time this Agreement is executed is:

_____ Dollars (\$ _____);

2. Pre-Construction Phase Fee

A. For Pre-Construction Phase Services, Owner shall pay Contractor a Pre-Construction Phase Fee in the total stipulated amount of

_____ Dollars (\$ _____);

B. Refer to Paragraph 10.2.1 for the percentages of each stage of work within the Pre-Construction Phase Fee for payment purposes;

C. For Reimbursable Services for _____, Owner shall pay Contractor

_____ Dollars (\$ _____).

3. Construction Phase Fee

A. For Construction Phase Services, based on the anticipated GMP established at the time of this Agreement, Owner shall pay Contractor a stipulated Construction Phase Fee amount of:

_____ Dollars (\$ _____);

B. If the Owner agrees to an increase or decrease in the Guaranteed Maximum Price, the Construction Phase Fee shall be equitably adjusted.

4. Limitation on General Condition Costs

A. The maximum allowable amount of General Conditions Costs payable to the Contractor during the Construction Phase, based on the anticipated GMP established at the time of this Agreement, would be the total amount of:

_____ Dollars (\$ _____);

B. If Owner agrees by express written approval to an increase or decrease in the Guaranteed Maximum Price the maximum allowable amount of General Conditions Costs shall be equitably adjusted by an amount determined by Owner taking into consideration the affect of the increase or decrease on General Conditions Costs.

5. Time of Completion

The anticipated date for achieving Substantial Completion of the Project at the time this Agreement was executed is _____, 20__.

6. Liquidated Damages

For each consecutive calendar day after the date of Substantial Completion, plus any extensions of time granted by Change Order, that the Work is not substantially completed, Contractor shall pay to Owner, within ten (10) days following written demand, the amount of:

_____ Dollars per day (\$ _____ /day)

not as a penalty but as liquidated damages representing the parties' estimate at the time of contract execution of the damages that Owner will sustain for late completion and once paid shall represent owner's sole and exclusive remedy for late completion. Owner may also recover the liquidated damages from any money due or that becomes due Contractor.

The parties stipulate and agree that the actual damages sustained by Owner for late completion of the Project will be uncertain and difficult to ascertain, that calculating Owner's actual damages would be impractical, unduly burdensome, and cause unnecessary delay, and that the amount of daily liquidated damages set forth above is a reasonable estimate.

Payment of the liquidated damages does not preclude recovery by Owner of other damages or losses under other provisions of the Contract, except for claims related to delays in Substantial Completion. Owner's right to receive liquidated damages shall not affect Owner's right to terminate the Agreement as provided in the General Conditions or elsewhere in the Contract Documents, nor shall termination of the Agreement release Contractor from the obligation to pay the liquidated damages.

7. Names and Addresses for Notices:

If to Owner:

[Area Manager Name], Area Manager
Facilities Planning and Construction
The Texas A&M University System
[Address]

With Copies to:

Vergel L. Gay, Jr., Chief Facilities Planning and Construction Officer
Facilities Planning and Construction
The Texas A&M University System
200 Technology Way, Suite 1162
College Station, Texas 77845-3424

If to Contractor: [Name]
 [Company Name]
 [Address]
 [City, State, Zip Code]

The parties may make reasonable changes in the person or place designated for receipt of notices upon advance written notice to the other party.

8. Party Representatives

A. The Owner’s Designated Representative authorized to act in the Owner's behalf with respect to the Project is:

[Area Manager Name], Area Manager
 Facilities Planning and Construction
 The Texas A&M University System
 [Address]

B. The Contractor’s designated representative authorized to act on the Contractor’s behalf and bind the Contractor with respect to the Project is:

[Name]
 [Company Name]
 [Address]
 [City, State, Zip Code]

C. The parties may make reasonable changes in their designated representatives upon advance written notice to the other party and in accordance with Paragraph 22.15.

EXHIBIT "B"
UNIFORM GENERAL AND SUPPLEMENTARY CONDITIONS

[Insert Uniform General and Supplementary Conditions]

EXHIBIT "C"
SPECIAL CONDITIONS, WAGE RATES AND OWNER'S SPECIFICATIONS

[Insert Special Conditions, Wage Rates and Division 1 Sections as they appeared in the Request for Proposals or as modified during Negotiations for this Agreement]

EXHIBIT "D"
ALLOWABLE GENERAL CONDITION LINE ITEMS

On-Site Project Management Staff

| | |
|---------------------------------|---------------------------------------|
| Safety Coordinator/Assistant(s) | CPM Scheduler |
| Project Executive | Superintendent(s) |
| Project or Office Engineer(s) | Project Manager(s) |
| Project Expeditor(s) | Project Support Staff |
| Assistant Superintendent(s) | Out-of-State Project Specific Travel* |

Bonds and Insurance

- Builder's Risk Insurance
- General Liability Insurance
- Contractor Payment and Performance Bonds
- Other Project Insurance as Required by Contract

Temporary Project Utilities

- Temporary Toilets
- Temporary Fire Protection
- Dumpsters
- Project Electricity and Water
- Fencing, Covered Walkways and Barricades
- Monthly Telephone /Internet Service (Field Offices Only, No Cell Phones, PDAs, Smart Phones, or cell phone internet)
- Telephone / Internet System Installation (Field Offices Only, No Cell Phones, Smart Phones, or PDAs)
- Temporary Water Distribution and Meters (Field Offices Only)
- Temporary Electrical Distribution and Meters (Field Offices Only)
- Site Erosion Control (BMP) and Project Entrance(s)

Field Offices & Office Supplies

| | |
|-------------------------------------|-------------------------------------|
| Job Photos/Videos | First Aid Supplies |
| Project Specific Signage | Reprographic Services |
| Postage/Special Shipping | Monthly Office Supplies |
| Project Record Drawings | Remote Parking Expenses |
| Project Milestone Event(s)* | Project Reference Manuals |
| Employee Identification System | Move-In/Out and Office Setup |
| Small Tools and Storage Trailers | Drinking Water and Accessories |
| Monthly Office Trailer Rental Costs | Office Clean-Up/Janitorial Services |
| Safety Material and Equipment | Security System/Watchman |

* Specific justification and all estimated costs shall be submitted and approved by the Owner prior to any travel or event.

EXHIBIT "E"
GUARANTEED MAXIMUM PRICE (GMP) PROPOSAL

The Construction Manager hereby submits to The Board of Regents of The Texas A&M University System, pursuant to the provisions of Article 7 of the Agreement by and between the Board of Regents of The Texas A&M University System and Construction Manager the following Guaranteed Maximum Price Proposal for the [Project Name], Project No. [Project Number], based on Plans and Specifications dated [Date on Drawings Month Day, Year].

1. A not-to-exceed amount for the Cost of the Work pursuant to the Agreement:
(\$ _____)
(In Numerals)

2. A not-to-exceed amount for the General Conditions Costs pursuant to the Agreement:
(\$ _____)
(In Numerals)

3. A not-to-exceed amount for the Construction Manager's Contingency pursuant to the Agreement:
(\$ _____)
(In Numerals)

4. A lump sum amount for Contractor's Construction Phase Fee, pursuant to the Agreement is:
(\$ _____)
(In Numerals)

5. TOTAL OF ITEMS 1 THROUGH 4
This amount is the Guaranteed Maximum Price (GMP) which the Contractor hereby guarantees to the Owner for constructing the [Project Name], [System Member], [City], Texas, Project No. [Project Number] complete in place and operational. All attached breakdowns shall total this GMP amount:
(\$ _____)
(In Numerals)

6. CONSTRUCTION TIME:
The undersigned agrees to complete all Work in the following number of calendar days from the Notice to Proceed:
(_____)
(In Numerals)

This GMP Proposal will not be withdrawn for a period of ninety (90) days from the date of receipt of this offer by the Owner.

The Contractor further agrees to pay, as Liquidated Damages, the sum of [Liquidated Damages Amount from UGSC, Article 9] per calendar day for failure to complete the work within the contracted time in accordance with the Construction Manager at Risk Agreement between Owner and Contractor.

BY SIGNING BELOW, the Parties have executed and bound themselves to this Proposal.

(Construction Manager)

BOARD OF REGENTS OF
THE TEXAS A&M UNIVERSITY SYSTEM
(THE OWNER)

Federal Tax I.D. No. _____

By _____
(Signature)

By _____
Chief Facilities Planning and Construction Officer
Facilities Planning and Construction

(Print or Type Name)

Date _____

Date _____

APPROVAL RECOMMENDED:

Name(s) of individual(s), sole proprietors,
partner(s), shareholder(s) or owner(s) with an
ownership interest of at least 25% of the
business entity executing this Contract.

Director of Project Delivery
Facilities Planning and Construction

Date _____

Name: _____

APPROVED AS TO FORM:

Name: _____

Name: _____

General Counsel

Name: _____

Date _____

EXHIBIT "F"
SECURITY BOND

Surety Bond No. _____

STATE OF TEXAS §

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF _____ §

That we, _____, as Principal, and _____, as Surety, are hereby held and firmly bound unto The Board of Regents of The Texas A&M University System as Obligee in the penal sum of Five Percent (5%) of _____ (\$ _____), the Amount Available for the Construction Contract (AACC) for the Project defined herein below, for payment whereof the said Principal and Surety bind themselves, their heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

Whereas the Principal has executed a contract with Obligee dated _____, _____ (the "Contract"), for _____, Project No. _____ (the "Project").

NOW THEREFORE, the condition of this obligation is such that, if the aforesaid Principal shall execute a Guaranteed Maximum Price Proposal acceptable to all parties, the said Principal will, within the time required by the Contract, give Performance and Payment Bonds, as required by the Contract, to secure the performance of the terms and conditions of the Contract, then this obligation to be void; otherwise the Principal and Surety will pay to the Obligee the difference in money between the amount of the Guaranteed Maximum Price Proposal of the said Principal and the amount for which the Obligee legally contracts with another party to perform the work if the latter amount be in excess of the former, but in no event shall liability hereunder exceed the penal sum hereof.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their several seals this _____ day of _____ in the year _____, the name and corporate seal of each corporate party being hereto affixed, and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

(SEAL)

Principal

ATTEST:

By: _____

By: _____

(Typed Name and Title)

(Typed Name and Title)

(SEAL)

Surety

ATTEST:

By: _____

By: _____

(Typed Name and Title)

(Typed Name and Title)

**EXHIBIT “G”
PERSONNEL TITLES AND MONTHLY RATES**

The Construction Manager for this project will assemble the following information from its assigned staff associated with the project. The categories of personnel indicated should be edited to include only those expected to be actually working on this project. When preparing this schedule, you are expected to adhere to the position classifications and titles presented to the greatest extent possible. Additional listings and/or position classifications may be added as needed or required by the project.

Firm/Position Classification

Monthly Billing Rate

Construction Manager [Name of Firm]

Project Executive

Project Manager

Pre-Construction Manager

Cost Estimator

\$ _____

EXHIBIT "I"
HSP - Prime Contractor Progress Assessment Report

Available at <http://www.window.state.tx.us/procurement/prog/hub/hub-subcontracting-plan/>

A completed copy of this form shall be submitted with each Statement for Pre-Construction and Construction Services

EXHIBIT “J”
BIM Execution Plan

EXHIBIT "D"
ALLOWABLE GENERAL CONDITION LINE ITEMS (Itemized)

Full Time, On-Site Project Management Staff

| Minimum Full Time, On-Site Personnel Required by Contract: | Monthly Salary | Project Duration (months) | Positions Required | TOTAL |
|---|----------------|------------------------------|--------------------|---------|
| Superintendent | _____ | X _____ | X _____ | = _____ |
| Project Engineer/Expediter/Scheduler | _____ | X _____ | X _____ | = _____ |
| Quality Control (MEP/A/E & STRUCT) | _____ | X _____ | X _____ | = _____ |
| SUB-TOTAL FT On-Site Staff | | | | _____ |

| Bonds and Insurance <i>Include (Itemize on a separate sheet):</i> | SUB-TOTAL Bonds & Ins. |
|---|-----------------------------------|
| Builder's Risk Insurance | |
| General Liability Insurance | |
| Contractor Payment and Performance Bonds | |
| Other Project Insurance as Required by Contract | |

| Temporary Project Utilities <i>Include:</i> | SUB-TOTAL Temp. Util. |
|--|---|
| Temporary Toilets | Telephone / Internet System Installation (Field Offices Only, No Cell Phones or PDAs) |
| Temporary Fire Protection | Temporary Water Distribution and Meters (Field Offices Only) |
| Dumpsters | Temporary Electrical Distribution and Meters (Field Offices Only) |
| Project Electricity and Water | Site Erosion Control (BMP) and Project Entrance(s) |
| Fencing, Covered Walkways and Barricades | |
| Monthly Telephone and/or Wired Internet Service for Field Offices Only (No Cell) | |

| Field Offices & Office Supplies <i>Include:</i> | SUB-TOTAL Office & Supplies. | |
|---|---|-------------------------------------|
| Partnering Costs | First Aid Supplies | Small Tools and Storage Trailers |
| Job Photos/Videos | Reprographic Services | Monthly Office Trailer Rental Costs |
| Project Specific Signage | Monthly Office Supplies | Safety Material and Equipment |
| Postage/Special Shipping | Remote Parking Expenses | Office Clean-Up/Janitorial Services |
| Project Record Drawings | Project Reference Manuals | Security System/Watchman |
| Project Milestone Event(s)* | Move-In/Out and Office Setup | |
| Employee Identification System | Drinking Water and Accessories | |

*Specific justification and all estimated costs shall be submitted and approved by the Owner prior to any travel or event.

This number should EQUAL the number placed on PART 3.A of the attached "Pricing and Project Delivery Proposal - Best and Final Offer"

TOTAL General Conditions _____

EXHIBIT “J” BIM Execution Plan

Introduction

Building Information Modeling (BIM) is an emerging information technology having a profound impact on traditional design and construction deliverables. When implemented properly, BIM is an enabler. BIM optimizes and integrates otherwise fragmented workflows and communication in project execution. BIM supports a lifecycle view of information re-use in design, to sustainability, analysis to estimating, detailing, fabrication to pre-assembly, and commissioning to operations. When placed within the larger context of Virtual Design and Construction (VDC) and Lean Construction, BIM represents a collective set of tools, information strategies, and workflows that enable more integrated decision making, sustainable and re-usable information, higher quality documentation, and waste reduction in manpower, resources and materials.

The positive impact of BIM is readily apparent and The Texas A&M University System through its Facilities Planning and Construction department (FPC) has moved to BIM for project delivery. To support this goal FPC requires the use of IFC compliant parametric Building Information Modeling (BIM) software as the architectural/engineering tool for all projects and renovations.

This BIM requirement is informational rather than application specific. The goal is about using interoperable and sustainable information strategies and tools. Several BIM authoring applications in today’s marketplace meet the BIM capability that FPC expects from A/Es and contractors working on projects.

At an owner level, BIM supports a systems approach to information creation. This information is useful to A&M System Member operations. This extended and automated use of project information requires that FPC become more involved in the data standards used in BIM authoring by its A/E providers. The normalization of data is fundamental for BIM interoperability and data re-use and a requirement of BIM use on FPC projects.

BIM Goals and Uses

Support the design and validation of high performance and sustainable buildings

The design of all new A&M University System buildings must comply with all state laws and guidelines pertaining to energy use and high performance design requirements and employ sustainable design principles based on LEED 2009. BIM enables rapid prototyping of design alternatives and performance analyses among the different disciplines. BIM integrates site and discipline data, helping the team make better decisions on options impacting the building energy use and future operations.

The A/E shall utilize energy and daylighting modeling tools in conjunction with BIM to develop comparative energy analysis of the concept models and subsequent models throughout the design process

Provide quality documentation

In BIM, the computer is used to automate some coordination activities that traditionally represented individual tasks that expended project resources. BIM shall be used to generate and coordinate the plans, sections, elevations, dimensions, schedules and quantities, and sheet view coordination. Data shall be integrated within BIM objects and elements, additional information shall be generated or *derived* from the model in the form of COBie data. This derived information is critical to BIM use and represents a process change. It is this automated and coordinated generation of project relevant information that supports quality documentation.

The A/E shall organize the BIMs room, floor, and object naming conventions to facilitate the extraction of COBie data.

Floor and room numbers shall be part of the parametric data automatically assigned to objects.

The A/E shall utilize the software tools to compare and verify spaces in the model(s) with the spaces in the approved Program of Requirements.

The A/E shall utilize model coordination and checking software tools throughout the design process and present reports noting clashes, collisions, and the action taken to mitigate them. These reports shall be free of false positive issues.

The A/E and/or CMaR shall extract quantity information from the model(s) to support comparative cost analysis of options and as an aid to the contractor.

The CMaR is responsible for extracting COBie data from the BIMs. This process requires that they receive and input data either into the BIMs or COBie tables. The process also requires the A/E and Commissioning Agent provide information to the CMaR for addition or update to the COBie data in a timely manner.

Streamline the design and construction delivery process

BIM, used in all phases of project delivery provides the designer and stakeholders with a clearer understanding of the project. Visual explanations of complex issues support clearer communication with team and non-professional stakeholders. This helps reduce time wasted on non-value add activities. Designers and contractors can see non-obvious relationships and their impact on the project earlier in the process than in a traditional CAD process. BIM combined with interference and model checking at pre-defined times and across disciplines finds errors in the model(s) and reduces the number of change orders in the field.

The A/E shall utilize the model(s) at all presentations to aid in decision making with users and FPC.

The A/E in collaboration with the contractor shall utilize software tools and the model(s) to explore construction phasing.

The contractor shall utilize BIM authoring software to derive fabrication model(s), shop, and coordination drawings during construction.

Provide project data to support the building lifecycle

BIM data developed and used during the project is capable of supporting building lifecycle analysis and needs. Today this data is too often re-created and/or not available in a timely manner for analysis and decision making. FPC expects the sharing of BIM information between participants during the project in re-usable forms. At the end of the project the data and models shall be considered the property of the A&M University System.

The CMaR shall update the model(s) incorporating modifications to the construction documents as well as the changes made in models from which shop, fabrication, and coordination drawing are derived to record/as-built drawings and the model(s) from which they are derived.

The CMaR shall develop a COBIE data file for all equipment incorporated into the project for input into the campus computerized maintenance management system with assistance from the A/E and Commissioning Agent.

BIM Requirements

Current FPC requirements are written from a CAD perspective. Many of these CAD/NCS standards transition easily into BIM authoring tools, however some do not. FPC recognizes that strict adherence to 2D drawing symbology may be counter-productive to the efficient use of BIM.

Naming of Models

Model files shall be named according to the facility name assigned by FPC. When a model is broken apart it shall be done in a logical spatial way such as wing or building system. Building systems shall be defined using Unifomat.

Object/Element use in Modeling

An object/element matrix shall be developed by the A/E for use by the project team. Objects/elements will carry data for analysis and to support derived data. Objects shall be named in a logical fashion that makes the object easily identifiable. Floor and room number shall be part of the parametric data automatically assigned to object and shall be part of the COBie data extracted from the BIMs. Clear spaces required for maintenance of equipment shall be modeled for coordination purposes.

Dimensional Accuracy of Models

Models and derived plans, sections and elevations are being used to directly input dimensional and geometric information to downstream users. Tools exist to do floor layouts from drawings, and shop drawings are being generated from BIMs. Dimensional accuracy is critical for downstream needs. Traditional dimensioning using EQ/EQ, etc. shall not be used. All dimensions shall have an accuracy of 1/8" or less. Manual changes to dimension strings are not acceptable.

A clearly define method of modeling space is required to accurately derive space and volume calculations from the model. Areas bounded by walls shall be modeled to face of wall. Area volumes shall be model to height of drop ceiling and a second volume for plenum space should one be designed. (Supports energy analysis) Area shall be calculated using standards set forth by THECB. These areas shall be updated to accurately reflect changes made to floor plans.

Objects Modeled

Model all mechanical and plumbing elements 2 inches and larger in diameter and electrical elements 4 inches and larger in diameter for Design Development and Construction Documents.

**THE TEXAS A&M UNIVERSITY SYSTEM
Uniform General and Supplementary Conditions
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Uniform General and Supplementary Conditions For The Texas A&M University System

The Texas A&M University System has incorporated its Supplementary Conditions that apply to all A&M System and member institution construction projects into the Texas Building and Procurement Commissions' Uniform General Conditions. Material changes are indicated by the bold and italicized typeface shown here. Superseded sections of the Texas Building and Procurement Commissions' Uniform General Conditions are not included in the A&M System Uniform General and Supplementary Conditions. All users are advised to read and understand this entire document.

Article 1. Definitions

Unless the context clearly requires another meaning, the following terms have the meaning assigned herein:

- 1.1 *Architect/Engineer (A/E)* means a person registered as an architect pursuant to Tex. Occ. Code Ann., Chapter 1051, as a landscape architect pursuant to Tex. Occ. Code Ann., Chapter 1052, a person licensed as a professional engineer pursuant to Tex. Occ. Code Ann., Chapter 1001 and/or a firm employed by Owner or a design-build contractor to provide professional architectural or engineering services and to exercise overall responsibility for the design of a Project or a significant portion thereof, and to perform the contract administration responsibilities set forth in the Contract.
- 1.2 *Change Order* means a written modification of the Contract between the Owner and Contractor, signed by the Owner, the Contractor and the A/E.
- 1.3 *Change Order Proposal* means a Contractor-generated document in response to a Change Order Request (COR).
- 1.4 *Close-out documents* means the product brochures, product/equipment maintenance and operations instructions, manuals, and other documents/warranties, as-built record documents, affidavit of payment, release of lien and claim, and as may be further defined, identified, and required by the Contract Documents.
- 1.5 *Contract* means the entire agreement between the Owner and the Contractor, including all of the Contract Documents.
- 1.6 *Contract Date* is the date when the agreement between the Owner and the Contractor becomes effective.

- 1.7 *Contract Documents* means those documents identified as a component of the agreement (contract) between the Owner and the Contractor. These may include, but are not limited to, Drawings, Specifications, these Uniform General and Supplementary Conditions, Special Conditions, Change Orders, and all pre-bid and/or pre-proposal addenda.
- 1.8 ***Contract Revision means a document which informs the Contractor of a proposed change in the Work, and appropriately describes or otherwise documents such change.***
- 1.9 *Contractor* means the individual, corporation, company, partnership, firm or other entity contracted to perform the Work, regardless of the type of construction contract used, so that the term as used herein includes a Construction Manager-at-Risk or a Design-Build firm as well as General or Prime Contractor. The Contract Documents refer to Contractor as if singular in number.
- 1.10 *Contract Sum* means the total compensation payable to the Contractor for completion of the Work in accordance with the terms of the Contract.
- 1.11 *Contract Time* means the period between the Date of Commencement (Start Date) identified in the Notice to Proceed with Construction and the Substantial Completion date identified in the Notice to Proceed or as subsequently amended by Change Order.
- 1.12 *Date of Commencement* means the date designated in the Notice to Proceed for the Contractor to commence the Work.
- 1.13 *Day* means a calendar day, unless otherwise specifically stipulated.
- 1.14 *Drawings* means that product of the A/E which graphically depicts the Work.
- 1.15 *Final Completion* means the date determined and certified by the A/E and Owner on which the Work is fully and satisfactorily complete in accordance with the Contract.
- 1.16 *Owner* means the State of Texas and any Agency of the State of Texas, acting through the responsible entity of the State of Texas, identified in the Contract as the Owner.
- 1.17 *Owner's Designated Representative (ODR)* means the individual assigned by the Owner to act on its behalf, and to undertake certain activities as specifically outlined in the Contract. The ODR is the only party authorized to direct changes to the scope, cost, or time of the Contract.

- 1.18 *Project* means all activities necessary for realization of the Work. This includes design, contract award(s), execution of the Work itself, and fulfillment of all contract and warranty obligations.
- 1.19 *Samples* mean representative physical examples of materials, equipment or workmanship, used to confirm compliance with requirements and/or to establish standards for use in execution of the Work.
- 1.20 *Schedule of Values* means the detailed breakdown of the cost of the materials, labor and equipment necessary to accomplish the Work as described in the Contract Documents, submitted by Contractor for approval by Owner and A/E.
- 1.21 *Shop Drawings* means the drawings, diagrams, illustrations, schedules, performance charts, brochures and other data prepared by the Contractor or its agents, which detail a portion of the Work.
- 1.22 *Site* means the geographical area of the location of the Work.
- 1.23 *Special Conditions* means the documents containing terms and conditions, which may be unique to the Project. Special Conditions are a part of the Contract Documents and have precedence over these Uniform General and Supplementary Conditions.
- 1.24 *Specifications* mean the written product of the A/E that establishes the quality and/or performance of products utilized in the Work and processes to be used, including testing and verification for producing the Work.
- 1.25 *Subcontractor* means a business entity that enters into an agreement with the Contractor to perform part of the Work or to provide services, materials or equipment for use in the Work.
- 1.26 *Substantial Completion* means the date determined and certified by the Contractor, A/E and Owner when the Work or a designated portion thereof is sufficiently complete, in accordance with the Contract, so as to be operational and fit for the use intended.
- 1.27 *Unit Price Work* means Work or a portion of the Work paid for based on incremental units of measurement.
- 1.28 *Unilateral Change Order* means a Change Order issued by the Owner without the agreement of the Contractor. ***A Unilateral Change Order has the same effect as a contract modification.***

- 1.29 *Work* means the administration, procurement, materials, equipment, construction and all services necessary for the Contractor, and/or its agents, to fulfill the Contractor's obligations under the Contract.

Article 2. Laws Governing Construction

2.1. Environmental Regulations. The Contractor shall conduct activities in compliance with applicable laws and regulations and other requirements of the Contract relating to the environment and its protection at all times. Unless otherwise specifically determined, the Owner is responsible for obtaining and maintaining permits related to stormwater run-off. The Contractor shall conduct operations consistent with stormwater run-off permit conditions. Contractor is responsible for all items it brings to the Site, including hazardous materials, and all such items brought to the Site by its Subcontractors and suppliers, or by other entities subject to direction of the Contractor. The Contractor shall not incorporate hazardous materials into the Work without prior approval of Owner, and shall provide an affidavit attesting to such in association with the request for the Substantial Completion Inspection.

2.2. Wage Rates. The Contractor shall not pay less than the wage scale of the various classes of labor as shown on the "Prevailing Wage Schedule" provided by the Owner. The specified wage rates are minimum rates only. The Owner is not bound to pay any claims for additional compensation made by any contractor because the Contractor pays wages in excess of the applicable minimum rate contained in the Contract. The "Prevailing Wage Schedule" is not a representation that qualified labor adequate to perform the Work is available locally at the prevailing wage rates.

2.2.1 Notification to Workers. The Contractor shall notify each worker, in writing, of the following as they commence work on the Contract: the worker's job classification, the established minimum wage rate requirement for that classification, as well as the worker's actual wage. The notice must be delivered to and signed in acknowledgement of receipt by the worker and must list both the wages and fringe benefits to be paid or furnished for each classification in which the worker is assigned duties. When requested by the Owner, the Contractor shall furnish evidence of compliance with the Texas Prevailing Wage Law.

2.2.1.1 The Contractor shall submit a copy of each worker wage-rate notification to the ODR with the application for progress payment for the period during which the worker was engaged in activities on behalf of the Project.

2.2.1.2 The "Prevailing Wage Schedule" is determined by the Owner in compliance with Tex. Gov't Code, Chapter 2258. Should the Contractor at any time become aware that a particular skill or trade not reflected on the Owner's Prevailing Wage Schedule will be or is being employed in the Work, whether by the Contractor or by a Subcontractor, the Contractor shall promptly inform the ODR of the proposed wage to be paid for the skill along with a justification for same. The Contractor is responsible for determining the most appropriate wage for a particular skill in relation to similar skills or trades identified on the Prevailing Wage Schedule. In no case shall any worker be paid less than the wage indicated for Laborers.

2.2.1.3 Penalty for Violation. The Contractor and any Subcontractor will pay to the State a penalty of sixty dollars (\$60) for each worker employed for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the Prevailing Wage Schedule.

2.2.1.4 Complaints of Violations.

2.2.1.4.1 Owner's Determination of Good Cause. Upon receipt of information concerning a violation of Tex. Gov't Code, Chapter 2258, the Owner will, within 31 days, make an initial determination as to whether good cause exists that a violation occurred. The Owner will send documentation of the initial determination to the Contractor against whom the violation was alleged, and to the worker involved. Upon making a good-cause finding, the Owner will retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the Prevailing Wage Schedule and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.

- 2.2.1.4.2 If the Contractor and claimant worker reach an agreement concerning the claim, the Contractor shall promptly notify the Owner in a written document countersigned by the worker.
- 2.2.1.4.3 Arbitration Required. If the violation is not resolved within 14 days following initial determination by the Owner, the Contractor and the claimant worker must participate in binding arbitration in accordance with the Texas General Arbitration Act, Tex. Civ. Prac. & Rem. Code, Chapter 171. If the Contractor and the claimant worker do not agree on an arbitrator within 10 days, after the date arbitration is required, a district court may be petitioned by any of the parties to the arbitration to appoint an arbitrator whose decision will be binding on all parties. (See Tex. Gov't Code, § 2258.053)
- 2.2.1.4.4 Arbitration Award. If an arbitrator assesses an award against the Contractor, the Contractor shall promptly furnish a copy of said award to the Owner. The Owner may use any amounts retained under Article 2.2.1.4.1 to pay the worker the amount as designated in the arbitration award. If the retained funds are insufficient to pay the worker in accordance with the arbitration award, the worker has a right of action against the Contractor, and/or the surety to receive the amount owed, plus attorneys' fees and court costs. The Owner has no duty to release any funds to either the claimant or the Contractor until it has received the notices of agreement or the arbitration award.
- 2.2.1.4.5 No Extension of Time. If the Owner's determination proves valid that good cause existed to believe a violation had

occurred, the Contractor is not entitled to an extension of time for any delay arising directly or indirectly from the arbitration procedures set forth herein.

- 2.3. Venue for Suits. ***The venue for any suit arising from the Contract will be in a court of competent jurisdiction in Brazos County, Texas.***
- 2.4. Licensing of Trades. The Contractor shall comply with all applicable provisions of state law related to license requirements for skilled tradesmen, contractors, suppliers and/or laborers, as necessary to accomplish the Work. In the event the Contractor, or one of its Subcontractors, loses its license during the term of performance of the Contract, the Contractor shall promptly hire or contract with a licensed provider of the service at no additional cost to the Owner.
- 2.5. Royalties, Patents & Copyrights. The Contractor shall pay all royalties and license fees, defend all suits or claims for infringement of any patent rights, and shall save the Owner harmless from loss on account thereof.
- 2.6. State Sales and Use Taxes. The Owner qualifies for exemption from certain State and Local Sales and Use Taxes pursuant to the provisions of Tex. Tax Code, Chapter 151. The Contractor may claim exemption from payment of applicable State taxes by complying with such procedures as prescribed by the State Comptroller of Public Accounts. ***Contractor shall not be entitled to reimbursement for taxes paid on items that are exempt from taxation.***

Article 3. General Responsibilities of Owner and Contractor

- 3.1. Owner's General Responsibilities. The Owner is the entity identified as such in the Contract and referred to throughout the Contract Documents as if singular in number.
 - 3.1.1 Preconstruction Conference. Prior to, or concurrent with, the issuance of the Notice to Proceed with Construction, a conference will be convened for attendance by the Owner, Contractor, A/E and appropriate Subcontractors. The purpose of the conference is to establish a working understanding among the parties as to the Work, the operational conditions at the Project Site, and general administration of the Project. Topics include communications, schedules, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, maintaining required records and all other matters of importance to the administration of the Project and effective communications between the project team members.

3.1.2 Owner's Designated Representative. Prior to the start of construction, Owner will identify the Owner's Designated Representative (ODR), who has the express authority to act and bind the Owner to the extent and for the purposes described in the Contract, including responsibilities for general administration of the Contract.

3.1.2.1 Unless otherwise specifically defined elsewhere in the Contract Documents, the ODR is the single point of contact between the Owner and Contractor. Notice to the ODR, unless otherwise noted, constitutes notice to the Owner under the Contract.

3.1.2.2 All directives on behalf of the Owner will be conveyed to the Contractor by the ODR in writing.

3.1.3 Owner Supplied Materials and Information.

3.1.3.1 The Owner will furnish to the Contractor those surveys describing the physical characteristics, legal description, limitations of the Site, site utility locations, and other information used in the preparation of the Contract Documents.

3.1.3.2 The Owner will provide information, equipment, or services under the Owner's control to the Contractor with reasonable promptness. ***The Owner makes no representation as to the accuracy or completeness of the site information furnished to the Contractor by the Owner, and is not responsible for any interpretations or conclusions reached by the Contractor with respect to the information.***

3.1.4 Availability of Lands. The Owner will furnish, as indicated in the Contract, all required rights to use the lands upon which the Work occurs. This includes rights-of-way and easements for access and such other lands that are designated for use by the Contractor. The Contractor shall comply with all Owner-identified encumbrances or restrictions specifically related to use of lands so furnished. The Owner will obtain and pay for easements for permanent structures or permanent changes in existing facilities, unless otherwise required in the Contract Documents.

3.1.5 Limitation on Owner's Duties.

3.1.5.1 The Owner will not supervise, direct, control or have authority over or be responsible for Contractor's means, methods, technologies, sequences or procedures of construction or the safety precautions and programs incident thereto. The Owner is not responsible for any failure of Contractor to comply with laws and regulations applicable to the Work. The Owner is not responsible for the failure of Contractor to perform or furnish the Work in accordance with the Contract Documents. Owner is not responsible for the acts or omissions of Contractor, or any of its Subcontractors, suppliers or of any other person or organization performing or furnishing any of the Work on behalf of the Contractor.

3.1.5.2 The Owner will not take any action in contravention of a design decision made by the A/E in preparation of the Contract Documents, when such actions are in conflict with statutes under which the A/E is licensed for the protection of the public health and safety.

3.2 Role of A/E. Unless specified otherwise in the Contract between the Owner and the Contractor, the A/E shall provide general administration services for the Owner during the construction phase of the Project. Written correspondence, requests for information, and Shop Drawings/submittals shall be directed to the A/E for action. The A/E has the authority to act on behalf of the Owner to the extent provided in the Contract Documents, unless otherwise modified by written instrument, which will be furnished to the Contractor by the ODR, upon request.

3.2.1 Site Visits

3.2.1.1 The A/E will make visits to the Site at intervals as provided in the A/E's contract agreement with the Owner, to observe the progress and the quality of the various aspects of Contractor's executed Work and report findings to the Owner.

3.2.1.2 The A/E has the authority to interpret Contract Documents and inspect the Work for compliance and conformance with the Contract. Except as referenced in Article 3.1.5.2, the Owner retains the sole authority to accept or reject Work and issue direction for correction, removal, or replacement of Work.

3.2.2 Clarifications and Interpretations. It may be determined that clarifications or interpretations of the Contract Documents are necessary. Upon direction by the ODR such clarifications or interpretations will be provided by the A/E consistent with the intent of the Contract Documents. The A/E will issue these clarifications with reasonable promptness to the Contractor as Architect's Supplemental Instruction (ASI) or similar instrument. If Contractor believes that such clarification or interpretation justifies an adjustment in the Contract Sum or the Contract Time, the Contractor shall so notify the Owner in accordance with the provisions of Article 11.

3.2.3 Limitations on A/E Authority. The A/E is not responsible for:

3.2.3.1 The Contractor's means, methods, techniques, sequences, procedures, safety, or programs incident to the Project nor will the A/E supervise, direct, control or have authority over the same.

3.2.3.2 The failure of Contractor to comply with laws and regulations applicable to furnishing or performing the Work.

3.2.3.3 The Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

3.2.3.4 Acts or omissions of the Contractor, or of any other person or organization performing or furnishing any of the Work.

3.3 Contractor's General Responsibilities. The Contractor is solely responsible for implementing the Work in full compliance with all applicable laws and the Contract Documents and shall supervise and direct the Work using the best skill and attention to assure that each element of the Work conforms to the Contract requirements. The Contractor is solely responsible for all construction means, methods, techniques, safety, sequences, coordination and procedures. ***The Contractor is responsible for having visited the Site and having ascertained all pertinent local conditions such as existing subsurface concealed conditions, location, accessibility and general character of the Site or building, the character and extent of existing work, the character and extent of existing work within adjacent sites, and any other work being performed thereon at the time Contractor's bid or proposal is submitted.***

- 3.3.1 Project Administration. The Contractor shall provide project administration for all Subcontractors, vendors, suppliers, and others involved in implementing the Work and shall coordinate administration efforts with those of the A/E and ODR in accordance with these Uniform General and Supplementary Conditions and provisions of Division 1 Specifications, and as outlined in the Pre-construction Conference.
- 3.3.2 Contractor's Superintendent. The Contractor shall employ a competent resident Superintendent who will be present at the Project Site during the progress of the Work. The Superintendent is subject to the approval of the ODR. The Contractor shall not change approved Superintendents during the course of the Project without the written approval of the ODR unless the Superintendent leaves the employ of the Contractor.
- 3.3.3 Labor. The Contractor shall provide competent, suitably qualified personnel to survey, lay-out, and construct the Work as required by the Contract Documents, and maintain good discipline and order at the Site at all times.
- 3.3.4 Services, Materials, and Equipment. Unless otherwise specified, the Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities, incidentals, and services necessary for the construction, performance, testing, start-up, inspection and completion of the Work.
- 3.3.5 Non-Compliant Work. Should the A/E and/or the ODR identify Work as non-compliant with the Contract Documents, the ODR will communicate the finding to the Contractor and the Contractor will correct such Work at its expense. The approval of Work by either the A/E or ODR does not relieve the Contractor from the obligation to comply with all requirements of the Contract Documents.
- 3.3.6 Subcontractors. The Contractor shall not employ any Subcontractor, supplier or other person or organization, whether initially or as a substitute, against whom the Owner may have reasonable objection. The Owner will communicate such objections in writing. The Contractor is not required to employ any Subcontractor, supplier or other person or organization to furnish any of the work to whom the Contractor has reasonable objection. The Contractor will not substitute Subcontractors without the acceptance of the Owner.

- 3.3.6.1 All Subcontracts and supply contracts shall be consistent with and bound to the terms and conditions of the Contract Documents including provisions of the agreement between the Contractor and the Owner.
- 3.3.6.2 The Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with the Contractor. The Contractor shall require all Subcontractors, suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with Owner only through the Contractor. The Contractor shall furnish to the Owner a copy of each first-tier subcontract promptly after its execution. The Contractor agrees that the Owner has no obligation to review or approve the content of such contracts and that providing the Owner such copies in no way relieves the Contractor of any of the terms and conditions of the Contract, including, without limitation, any provisions of the Contract which require the Subcontractor to be bound to the Contractor in the same manner in which the Contractor is bound to the Owner.
- 3.3.7 Continuing the Work. The Contractor shall carry on the Work and adhere to the progress schedule during all disputes, disagreements or alternative resolution processes with the Owner. The Contractor shall not delay or postpone any Work because of the pending resolution of any disputes, disagreements or processes, except as the Owner and the Contractor may agree in writing.
- 3.3.8 Cleaning. At all times, the Contractor shall keep the Site and the Work clean and free from accumulation of waste materials or rubbish caused by the construction activities under the Contract. The Contractor shall ensure that the entire Project is thoroughly cleaned prior to requesting Substantial Completion Inspection and, again, upon completion of the Project prior to the Final Completion Inspection.
- 3.3.9 Acts and Omissions of Contractor, its Subcontractors and Employees. The Contractor is responsible for acts and omissions of its employees and all its Subcontractors, their agents and

employees. The Owner may, in writing, require the Contractor to remove from the Project any of Contractor's or its Subcontractor's employees that the ODR finds to be careless, incompetent, or otherwise objectionable.

3.3.10 Indemnification of Owner. The Contractor covenants and agrees to FULLY INDEMNIFY and HOLD HARMLESS, the Owner and the employees, officers, Regents, volunteers, and representatives of the Owner, individually or collectively, from and against any and all costs, claims, liens, damages, losses, expenses, fees, fines, penalties, proceedings, actions, demands, causes of action, liability and suits of any kind and nature, including but not limited to, personal or bodily injury, death and property damage, made upon the Owner directly or indirectly arising out of, resulting from or related to Contractor's activities under this Contract, including any acts or omissions of Contractor, any agent, officer, director, representative, employee, consultant or Subcontractor of Contractor, and their respective officers, agents, employees, directors and representatives while in the exercise of performance of the rights or duties under this Contract. The indemnity provided for in this paragraph does not apply to any liability resulting from the negligence of the Owner, its officers or employees, separate contractors or assigned contractors, in instances where such negligence causes personal injury, death or property damage. IN THE EVENT CONTRACTOR AND OWNER ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY WILL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS, WITHOUT WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO THE STATE UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.

3.3.10.1 The provisions of this indemnification are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

3.3.10.2 The Contractor shall promptly advise the Owner in writing of any claim or demand against the Owner or the Contractor known to the Contractor related to or arising out of the Contractor's activities under this Contract.

3.3.10.3 Notwithstanding anything to the contrary in this Section 3.3.10 or the Contract Documents, in no event

other than as a setoff asserted by the Owner to offset a damage claim by Contractor, its affiliates, consultants, agents or subcontractors or suppliers of any tier, or the employees, officers or directors of any of the foregoing, be liable for any consequential, indirect, special, punitive or exemplary damages of any kind or damages arising from or in connection with loss of profits, loss of revenues, loss of use, loss of rent, loss by reason of shutdown, rental payments for temporary offices, customer claims, cost of capital, increased cost of production, increased taxes or loss of tax credits, whether due to or based upon delay, contract, tort, negligence, strict liability, warranty, indemnity, error and omission or any other cause whatsoever.

3.3.11 Ancillary Areas. The Contractor shall operate and maintain operations and associated storage areas at the Site of the Work in accordance with the following:

3.3.11.1 The Contractor shall confine all Contractor operations, including storage of materials and employee parking upon the Site of the Work, to areas designated by the Owner.

3.3.11.2 The Contractor may erect, at its own expense, temporary buildings that will remain its property. The Contractor shall remove such buildings and associated utility service lines upon completion of the Work, unless the Contractor requests and the Owner provides written consent that it may abandon such buildings and utilities in place.

3.3.11.3 The Contractor shall use only established roadways or construct and use such temporary roadways as may be authorized by the Owner. The Contractor shall not allow load limits of vehicles to exceed the limits prescribed by appropriate regulations or law. The Contractor shall provide protection to road surfaces, curbs, sidewalks, trees, shrubbery, sprinkler systems, drainage structures and other like existing improvements to prevent damage, and shall repair any damage, thereto at the expense of the Contractor.

3.3.11.4 The Owner may restrict the Contractor's entry to the Site to specifically assigned entrances and routes.

3.3.12 Separate Contracts. Additional Contractor responsibilities when the Owner awards separate contracts:

3.3.12.1 The Owner reserves the right to award other contracts in connection with other portions of the Project under these or similar contract conditions.

3.3.12.2 The Owner reserves the right to perform operations related to the Project with the Owner's own forces.

3.3.12.3 Under a system of separate contracts, the conditions described herein continue to apply except as may be amended by Change Order.

3.3.12.4 *The Contractor shall cooperate with other contractors employed on the Project by the Owner, including providing access to the Site and project information as requested.*

Article 4. Historically Underutilized Business (HUB) Subcontracting Plan

4.1. General Description. The purpose of the Historically Underutilized Business (HUB) Program is to promote equal business opportunities for economically disadvantaged persons (as defined by Tex. Gov't Code, Chapter 2161) to contract with the State of Texas in accordance with the goals specified in the State of Texas Disparity Study. The HUB Program annual procurement utilization goals per 34 Texas Administrative Code (TAC) §20.13 are: 11.9 percent for heavy construction other than building contracts, 26.1 percent for all building construction, including general contractors and operative builders contracts, 57.2 percent for all special trade construction contracts, 20 percent for professional services contracts, 33 percent for all other services contracts, and 12.6 percent for commodities contracts.

4.1.1 State agencies are required by statute to make a good faith effort to assist HUBs in participating in contract awards issued by the State. 34 TAC §20.11-20.28, outline the State's policy to encourage outreach to and potential utilization of HUBs in state contracting opportunities through race, ethnic and gender neutral means.

4.1.2 A contractor who contracts with the State in an amount of \$100,000 or more is required to make a good faith effort to award

subcontracts to HUBs in accordance with 34 TAC §20.14 by submitting a HUB Subcontracting Plan at the time of bidding and complying with the HUB Subcontracting Plan after it is accepted by the Owner and during the term of the contract.

- 4.2. Compliance with Approved HUB Subcontracting Plan. Contractor, having been awarded the Contract in part by complying with the HUB Program statute and rules, hereby covenants to continue to comply with the HUB Program as follows:
- 4.2.1 Prior to substituting a Subcontractor, promptly notify the Owner in the event a change is required for any reason to the accepted HUB Subcontracting Plan.
 - 4.2.2 Conduct the good faith effort activities required and provide the Owner with necessary documentation to justify approval of a change to the approved HUB Subcontracting Plan.
 - 4.2.3 Cooperate in the execution of a Change Order or such other approval of the change in the HUB Subcontracting Plan as the Contractor and Owner may agree to.
 - 4.2.4 Maintain and make available to Owner upon request business records documenting compliance with the accepted HUB Subcontracting Plan.
 - 4.2.5 Upon receipt of payment for performance of Work, submit to Owner a compliance report, in the format required by the Owner that demonstrates Contractor's performance of the HUB Subcontracting Plan.
 - 4.2.6 Promptly and accurately explain and provide supplemental information to Owner to assist in the Owner's investigation of the Contractor's good faith effort to fulfill the HUB Subcontracting Plan and the requirements under 34 TAC §20.14.
- 4.3. Failure to Demonstrate Good Faith Effort. Upon a determination by Owner that Contractor has failed to demonstrate a good faith effort to fulfill the HUB Subcontracting Plan or any contract covenant detailed above, the Owner may, in addition to all other remedies available to it, report the failure to perform to the Texas Procurement and Support Services under its Vendor Performance and Debarment Program and may bar the Contractor from future contracting opportunities with the Owner.

Article 5. Bonds & Insurance

- 5.1. Construction Bonds. The Contractor is required to tender to Owner, prior to commencing the Work, performance and payment bonds, as required by Tex. Gov't Code, Chapter 2253.
- 5.1.1. Performance Bond. A Performance Bond is required if the Contract Sum is in excess of \$100,000. The Performance Bond is solely for the protection of the Owner. The Performance Bond is to be for the Contract Sum to guarantee the faithful performance of the Work in accordance with the Contract Documents. The form of the bond shall be approved by the Attorney General of Texas. The Performance Bond shall be effective through the Contractor's warranty period.
- 5.1.2. Payment Bond. A Payment Bond is required if the Contract Sum is in excess of \$25,000. The Payment Bond is to be for the Contract Sum and is payable to the Owner solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the Contractor or a Subcontractor. The form of the bond shall be approved by the Attorney General of Texas.
- 5.1.3. Bond Requirements. Each bond shall be executed by a corporate surety or sureties authorized to do business in the State of Texas and acceptable to the Owner, on the Owner's form, and in compliance with the relevant provisions of the Texas Insurance Code. If any bond is for more than 10 percent of the surety's capital and surplus, the Owner may require certification that the company has reinsured the excess portion with one or more reinsurers authorized to do business in the State. A reinsurer may not reinsure for more than 10 percent of its capital and surplus. If a surety upon a bond loses its authority to do business in the State, the Contractor shall, within thirty (30) days after such loss, furnish a replacement bond at no added cost to the Owner.
- 5.1.4. Power of Attorney. Each bond shall be accompanied by a valid power-of-attorney issued by the surety company, attached to the bond, and signed and sealed with the corporate embossed seal, authorizing the attorney in fact who signs the bond to commit the surety to the terms of the bond, and stating any limit in the amount for which the attorney can issue a single bond.
- 5.1.5. Bond Indemnification. The process of requiring and accepting bonds and making claims thereunder shall be conducted in compliance with Tex. Gov't Code, Chapter 2253. IF FOR ANY REASON A STATUTORY PAYMENT OR PERFORMANCE BOND

IS NOT HONORED BY THE SURETY, THE CONTRACTOR SHALL FULLY INDEMNIFY AND HOLD THE OWNER HARMLESS OF AND FROM ANY COSTS, LOSSES, OBLIGATIONS OR LIABILITIES IT INCURS AS A RESULT.

- 5.1.6. Furnishing Bond Information. Owner shall furnish certified copies of the Payment Bond and the related Contract to any qualified person seeking copies who complies with Tex. Gov't Code, § 2253.026.
- 5.1.7. Claims on Payment Bonds. Claims on Payment Bonds must be sent directly to the Contractor and his surety in accordance with Tex. Gov't Code § 2253.041. All Payment Bond claimants are cautioned that no lien exists on the funds unpaid to the Contractor on such Contract, and that reliance on notices sent to the Owner may result in loss of their rights against the Contractor and/or his surety. The Owner is not responsible in any manner to a claimant for collection of unpaid bills, and accepts no such responsibility because of any representation by any agent or employee.
- 5.1.8. Payment Claims when Payment Bond not Required. The rights of Subcontractors regarding payment are governed by Tex. Prop. Code, §§53.231 – 53.239 when the value of the Contract between the Owner and the Contractor is less than \$25,000.00. These provisions set out the requirements for filing a valid lien on funds unpaid to the Contractor as of the time of filing the claim, actions necessary to release the lien and satisfaction of such claim.
- 5.1.9. Sureties. Sureties shall be listed on the US Department of the Treasury's Listing of Approved Sureties stating companies holding Certificates of Authority as acceptable sureties on Federal Bonds and acceptable reinsuring companies (Department Circular 570) **and have a rating of A- or better with A.M. Best Company.**
- 5.2. Insurance Requirements.

The Contractor shall carry insurance in the types and amounts indicated in this Article for the duration of the Contract. The required insurance shall include coverage for Owner's property in the care, custody and control of Contractor prior to construction, during construction and during the warranty period. The insurance shall be evidenced by delivery to the Owner of certificates of insurance executed by the insurer or its authorized agent stating coverages, limits, expiration dates and compliance with all applicable required provisions. Upon request, the Owner, and/or its agents, shall be entitled to receive without expense, copies of the policies and all endorsements. The Contractor shall update

all expired policies prior to submission for monthly payment. Failure to update policies shall be reason for withholding of payment until renewal is provided to the Owner.

5.2.1 The Contractor shall provide and maintain the insurance coverage with the minimum amounts described below until the end of the warranty period unless otherwise stated in Special Conditions. Failure to maintain insurance coverage, as required, is grounds for Suspension of Work for Cause pursuant to Article 14. The Contractor will be notified of the date on which the Builder's Risk insurance policy may be terminated through Substantial Completion notices, acceptance notices and/or other means as deemed appropriate by the Owner.

5.2.2 Coverage shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas and rated A- or better by A.M. Best Company or otherwise acceptable to Owner, and shall include:

5.2.2.1 Workers' Compensation Insurance with limits as required by the Texas Workers' Compensation Act, with the policy endorsed to provide a waiver of subrogation as to the Owner, and Employer's Liability insurance of not less than:

\$500,000 each accident
\$500,000 disease each employee
\$500,000 disease policy limit

5.2.2.2 Commercial General Liability Insurance, including Independent Contractor's liability, Products and Completed Operations and Contractual Liability, covering, but not limited to, the liability assumed under the indemnification provisions of this Contract, fully insuring Contractor's (or Subcontractors) liability for bodily injury and property damage with a combined bodily injury (including death) and property damage minimum limit of:

\$1,000,000 per occurrence
\$1,000,000 general aggregate
\$1,000,000 products and completed operations aggregate

Coverage shall be on an "occurrence" basis.

The policy shall include coverage extended to apply to completed operations and explosion, collapse, and underground hazards. The policy shall include endorsement CG2503 Amendment-Aggregate Limits of Insurance (Per Project) or its equivalent.

- 5.2.2.3 Asbestos Abatement Liability Insurance, including coverage for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos containing materials. *This requirement applies if the Work or the Project includes asbestos containing materials.

The combined single limit for bodily injury and property damage will be a minimum of \$1,000,000 per occurrence.

*Specific Requirement for Claims-Made Form: Required period of coverage will be determined by the following formula: Continuous coverage for life of the Contract, plus one (1) year (to provide coverage for the warranty period), and an extended discovery period for a minimum of five (5) years which shall begin at the end of the warranty period.

If this Contract is for asbestos abatement only, the All-Risk Builder's Risk or All-Risk Installation Floater (e) is not required.

- 5.2.2.4 Comprehensive Automobile Liability Insurance, covering owned, hired, and non-owned vehicles, with a combined bodily injury (including death) and property damage minimum limit of \$1,000,000 per occurrence. No aggregate shall be permitted for this type of coverage.

Such insurance is to include coverage for loading and unloading hazards.

- 5.2.2.5 All Risk Builder's Risk Insurance (or All Risk Installation Floater for instances in which the Project involves solely the installation of equipment). Coverage shall be All-Risk, including, but not limited to, Fire, Extended Coverage, Vandalism and Malicious Mischief, Flood, Earthquake, Theft and damage resulting from faulty workmanship, design or

materials. If Builder's Risk, limit shall be equal to 100 percent of the Contract. If Installation Floater, limit shall be equal to 100 percent of the contract cost. The policy shall be written jointly in the names of the Owner, the Contractor, Subcontractors and, Subcontractors shall be named as additional insured. The policy shall have endorsements as follows:

5.2.2.5.1 This insurance shall be specific as to coverage and not contributing insurance with any permanent insurance maintained on the property.

5.2.2.5.2 This insurance shall not contain an occupancy clause suspending or reducing coverage should the Owner occupy, or begin beneficial occupancy before the Owner has accepted final completion.

5.2.2.5.3 Loss, if any, shall be adjusted with and made payable to the Owner as Trustee for the insureds as their interests may appear; the right of subrogation under the Builder's Risk policy shall be waived as to the Owner. The Owner shall be named as Loss Payee. For renovation projects or projects that involve portions of work contained within an existing structure, refer to Special Conditions for possible additional Builder's Risk insurance requirements.

5.2.2.6 "Umbrella" Liability Insurance. The Contractor shall obtain, pay for and maintain umbrella liability insurance during the contract term, insuring the Contractor (or Subcontractor) for an amount of not less than the amount specified in the Special Conditions that provides coverage at least as broad as and applies in excess and follows form of the primary liability coverages required hereinabove. The policy shall provide "drop down" coverage where underlying primary insurance coverage limits are insufficient or exhausted.

If the Contract is for asbestos abatement only, the "Umbrella" Excess Liability is not required.

5.2.3 Policies must include the following clauses, as applicable:

- 5.2.3.1 This insurance shall not be canceled, materially changed, or non-renewed until after thirty (30) days prior written notice has been given to the Owner.
 - 5.2.3.2 It is agreed that the Contractor's insurance shall be deemed primary with respect to any insurance or self insurance carried by the Owner for liability arising out of operations under the Contract with the Owner.
 - 5.2.3.3 The Owner, its officials, directors, employees, representatives, and volunteers are added as additional insureds as respects operations and activities of, or on behalf of the named insured performed under contract with the Owner. The additional insured status must cover completed operations as well. This is not applicable to the workers' compensation policy.
 - 5.2.3.4 The workers' compensation and employers' liability policy will provide a waiver of subrogation in favor of the Owner.
- 5.2.4 Without limiting any of the other obligations or liabilities of the Contractor, the Contractor shall require each Subcontractor performing work under the Contract, at the Subcontractor's own expense, to maintain during the term of the Contract, the same stipulated minimum insurance including the required provisions and additional policy conditions as shown above. As an alternative, the Contractor may include its Subcontractors as additional insureds on its own coverage as prescribed under these requirements. The Contractor's certificate of insurance shall note in such event that the Subcontractors are included as additional insureds and that Contractor agrees to provide Workers' Compensation for the Subcontractors and their employees. The Contractor shall obtain and monitor the certificates of insurance from each Subcontractor in order to assure compliance with the insurance requirements. The Contractor must retain the certificates of insurance for the duration of the Contract plus 5 years and shall have the responsibility of enforcing these insurance requirements among its Subcontractors. The Owner shall be entitled, upon request and without expense, to receive copies of these certificates.

- 5.2.5 Workers' Compensation Insurance Coverage must meet the statutory requirements of Tex. Lab. Code, §401.011(44), and those specific to construction projects for public entities as required by Tex. Lab. Code, §406.096.

Article 6. Contract Documents

6.1. Drawings and Specifications

- 6.1.1 Copies Furnished. The Contractor will be furnished one (1) digital copy of Drawings and Specifications free of charge.
- 6.1.2 Ownership of Drawings and Specifications. All Drawings, Specifications and copies thereof furnished by the A/E are to remain A/E's property. These documents are not to be used on any other project, and with the exception of one contract set for each party to the Contract, are to be returned to the A/E, upon request, following completion of the Work.
- 6.1.3 Interrelation of Documents. The Contract Documents as referenced in the agreement between the Owner and the Contractor, are complimentary, and what is required by one shall be as binding as if required by all.
- 6.1.4 Resolution of Conflicts in Documents. Where conflicts may exist between and/or within the Contract Documents, the higher quality, greater quantity, more restrictive, and/or more expensive requirement **shall be required** and shall be the basis of Contractor pricing. The Contractor shall notify the A/E and the ODR for resolution of the issue prior to executing the work in question.
- 6.1.5 Contractor's Duty to Review Contract Documents. In order to facilitate its responsibilities for completion of the Work in accordance with and as reasonably inferable from the Contract Documents, prior to pricing or commencing the Work, the Contractor shall examine and compare the Contract Documents, information furnished by the Owner, relevant field measurements made by the Contractor and any visible or reasonably anticipated conditions at the Site affecting the Work. This duty extends throughout the construction phase prior to commencing each particular work activity and/or system installation.
- 6.1.6 Discrepancies and Omissions in Drawings and Specifications
- 6.1.6.1 The Contractor shall promptly report to the ODR and to the A/E the discovery of any apparent error, omission or

inconsistency in the Contract Documents prior to execution of the Work.

- 6.1.6.2 It is recognized that the Contractor is not acting in the capacity of a licensed design professional, unless it is performing as a Design-Build firm.
- 6.1.6.3. It is further recognized that the Contractor's examination of Contract Documents is to facilitate construction and does not create an affirmative responsibility to detect errors, omissions or inconsistencies or to ascertain compliance with applicable laws, building codes or regulations, unless it is performing as a Design-Build firm.
- 6.1.6.4 When performing as a Design-Build firm, the Contractor has sole responsibility for discrepancies, errors, and omissions in the Drawings and Specifications.
- 6.1.6.5 When performing as a Construction Manager-at-Risk, the Contractor has a shared responsibility for discovery and resolution of discrepancies, errors, and omissions in the Contract Documents. In such case, the Contractor's responsibility pertains to review, coordination, and recommendation of resolution strategies within budget constraints, but does not establish a liability for design.
- 6.1.6.6 The Contractor has no liability for errors, omissions, or inconsistencies in the Drawings and Specifications unless the Contractor knowingly failed to report a recognized problem to the Owner or the Work is executed under a Design-Build contract as outlined above. Should the Contractor fail to perform the examination and reporting obligations of these provisions, the Contractor is responsible for avoidable costs, direct, and/or consequential damages.
- 6.1.6.7 ***The Owner makes no representations, express or implied, about the adequacy or accuracy of the Drawings, Specifications or other Construction Documents provided or their suitability for their intended use. Owner expressly disclaims any implied warranty that the Construction Documents are adequate, accurate or suitable for their intended use.***

6.2 Requirements for Record Documents.

The Contractor shall maintain at the Site one copy of all Drawings, Specifications, addenda, approved submittals, contract modifications, and all Project correspondence. The Contractor shall keep current and maintain Drawings and Specifications in good order with postings and markings to record actual conditions of Work and show and reference all changes made during construction. The Contractor shall provide Owner and A/E access to these documents.

6.2.1 The Contractor shall maintain the record set of Drawings and Specifications which reflect the "As Constructed" conditions and representations of the Work performed, whether it be directed by addendum, Change Order or otherwise. The Contractor shall make available all records prescribed herein for reference and examination by the Owner and its representatives and agents.

6.2.2 The Contractor shall update the "As-Constructed" Drawings and Specifications monthly prior to submission of periodic partial pay estimates. Failure to maintain such records constitutes cause for denial of a progress payment otherwise due.

6.2.3 Prior to requesting the Substantial Completion Inspection by the ODR and A/E, the Contractor shall furnish the ODR a complete set of the marked up "As-Constructed" set maintained at the Site and one photocopy of same. Concurrently with furnishing these record drawings, the Contractor shall furnish a preliminary copy of each operating and maintenance manual (O&M) required by the Contract Documents, for review by the A/E and the ODR.

6.2.4 Once determined acceptable, the Contractor shall provide to Owner mylar prints of professionally drafted "As-Constructed" drawings, along with an electronic copy on CD, "As-Constructed" specifications in bound volume(s) along with an electronic copy on CD, two sets of photocopies or prints of the mylar "As-Constructed" drawings, two sets of operating and maintenance manuals, two sets of approved submittals, and other record documents as required elsewhere in the Contract Documents. ***All electronic copies shall be provided in a format acceptable to the ODR.***

Article 7. Safety

7.1. General. It is the duty and responsibility of the Contractor and all of its Subcontractors to be familiar with, enforce and comply with all requirements of Public Law 91-596, 29 U.S.C. §§651 et. seq., the Occupational Safety and Health Act of 1970 (OSHA), and all amendments

thereto. The Contractor shall prepare a Safety Plan specific to the Project and submit it to the ODR and A/E prior to commencing Work. In addition, the Contractor and all of its Subcontractors shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property to protect them from damage, injury or loss, and erect and maintain all necessary safeguards for such safety and protection.

7.2. Notices. The Contractor shall provide notices as follows:

7.2.1 Notify owners of adjacent property including those that own or operate utility services and/or underground facilities, and utility owners, when prosecution of the Work may affect them or their facilities, and cooperate with them in the protection, removal, relocation and replacement of their facilities, and with respect to access to their facilities and/or utilities.

7.2.2 Coordinate the exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in connection with laws and regulations. Maintain a complete file of MSDS for all materials in use on Site throughout the construction phase and make such file available to the Owner and its agents as requested.

7.3. Emergencies. In any emergency affecting the safety of persons or property, the Contractor shall act to minimize, mitigate, and prevent threatened damage, injury or loss.

7.3.1 Have authorized agents of Contractor respond immediately upon call at anytime of day or night when circumstances warrant the presence of Contractor to protect the Work or adjacent property from damage or to take such action pertaining to the Work as may be necessary to provide for the safety of the public.

7.3.2 Give the ODR and A/E prompt notice of all such events.

7.3.3 If Contractor believes that any changes in the Work or variations from Contract Documents have been caused by its emergency response, promptly notify the Owner within 72 hours of the emergency response event.

7.3.4 Should Contractor fail to respond, Owner is authorized to direct other forces to take action as necessary and Owner may deduct any cost of remedial action from funds otherwise due the Contractor.

7.4. Injuries. In the event of an incident or accident involving outside medical care for an individual on or near the Work, Contractor shall notify the ODR and other parties as may be directed within 24 hours of the event.

7.4.1 Record the location of the event and the circumstances surrounding it, by using photography or other means, and gather witness statements and other documentation which describes the event.

7.4.2 Supply the ODR and A/E with an incident report no later than 36 hours after the occurrence of the event. In the event of a catastrophic incident (one fatality or three workers hospitalized), barricade and leave intact the scene of the incident until all investigations are complete. A full set of incident investigation documents, including facts, finding of cause, and remedial plans shall be provided by Contractor to Owner within one week after occurrence, unless otherwise directed by Owner's legal counsel. Contractor shall provide the ODR with written notification within one week of such catastrophic event if legal counsel delays submission of a full report.

7.5. Environmental Safety. Upon encountering any previously unknown potentially hazardous material, or other materials potentially contaminated by hazardous material, Contractor shall immediately stop work activities impacted by the discovery, secure the affected area, and notify the ODR immediately.

7.5.1 The Contractor shall bind all Subcontractors to the same duty.

7.5.2 Upon receiving such notice, the ODR will promptly engage qualified experts to make such investigations and conduct such tests as may be reasonably necessary to determine the existence or extent of any environmental hazard. Upon completion of this investigation, the ODR will issue a written report to the Contractor identifying the material(s) found and indicate any necessary steps to be taken to treat, handle, transport or dispose of the material.

7.5.3 The Owner may hire third-party contractors to perform any or all such steps.

7.5.4 Should compliance with the ODR's instructions result in an increase in the Contractor's cost of performance, or delay the Work, the Owner will make an equitable adjustment to the Contract Sum and/or the Contract Time, and modify the Contract in writing accordingly.

- 7.6. Trenching Plan. When the Project requires excavation which either exceeds a depth of four feet, or results in any worker's upper body being positioned below grade level, the Contractor is required to submit a trenching plan to the ODR prior to commencing trenching operations. The plan is required to be prepared and sealed by a professional engineer registered in the State of Texas, and employed by the Contractor. Said engineer cannot be anyone who is otherwise either directly or indirectly engaged on this Project.

Article 8. Quality Control

- 8.1. Materials & Workmanship. The Contractor shall execute Work in a good and workmanlike manner in accordance with the Contract Documents. The Contractor shall develop and provide a Quality Control Plan specific to this Project and acceptable to the Owner. Where Contract Documents do not specify quality standards, the Contractor shall complete and construct all Work in compliance with generally accepted construction industry standards. Unless otherwise specified, the Contractor shall incorporate all new materials and equipment into the Work under the Contract.

8.2. Testing

- 8.2.1 *Contractor Testing.* The Contractor is responsible for coordinating and paying for all routine and special tests required to confirm compliance with quality and performance requirements of the Contract Documents. This "quality control" testing shall include any particular testing required by the Specifications and the following general tests:

8.2.1.1 Any test of basic material or fabricated equipment included as part of a submittal for a required item in order to establish compliance with the Contract Documents.

8.2.1.2 Any test of basic material or fabricated equipment offered as a substitute for a specified item on which a test may be required in order to establish compliance with the Contract Documents.

8.2.1.3 Routine, preliminary, start-up, pre-functional and operational testing of building equipment and systems as necessary to confirm operational compliance with requirements of the Contract Documents.

8.2.1.4 All subsequent tests on original or replaced materials conducted as a result of prior testing failure.

- 8.2.2 Owner Testing. The Owner reserves the right to subject materials and systems incorporated into the Project to routine tests as may be specified or as deemed necessary by the ODR or the A/E to insure compliance with the quality and/or performance requirements of the Contract Documents and/or with laws, ordinances, rules, regulations and/or orders of any public authority having jurisdiction. The results of such “quality assurance” testing will be provided to the Contractor and, to the extent provided, the Contractor may rely on findings.
- 8.2.3 All testing shall be performed in accordance with standard test procedures by an accredited laboratory, or special consultant as appropriate, acceptable to the Owner. Results of all tests shall be provided promptly to the ODR, A/E and the Contractor.
- 8.2.4 Non-Compliance (Test Results). Should any of the tests indicate that a material and/or system does not comply with the contract requirements, the burden of proving compliance remains with the Contractor. The tests are subject to the following conditions:
- 8.2.4.1 The Contractor’s selected laboratory must be acceptable to the Owner.
 - 8.2.4.2 The quality and nature of the tests must be acceptable to the Owner.
 - 8.2.4.3 All tests must be taken in the presence of the A/E and/or ODR, or their representatives.
 - 8.2.4.4 If tests confirm that the material/systems comply with Contract Documents, the Owner will pay the cost of the test.
 - 8.2.4.5 If tests reveal noncompliance, the Contractor will pay the laboratory fees and costs of that particular test and all future tests of that failing Work, necessary to eventually confirm compliance with Contract Documents.
 - 8.2.4.6 Proof of noncompliance with the Contract Documents will make the Contractor liable for any corrective action which the ODR determines appropriate, including complete removal and replacement of non-compliant work or material.

8.2.5 Notice of Testing. The Contractor shall give the ODR and the A/E timely notice of its readiness and the date arranged so the ODR and A/E may observe such inspection, testing or approval.

8.2.6 Test Samples. The Contractor is responsible for providing Samples of sufficient size for test purposes and for coordinating such tests with the Work Progress Schedule to avoid delay.

8.2.7 Covering Up Work If the Contractor covers up any Work without providing the Owner an opportunity to inspect, the Contractor shall, if requested by the ODR, uncover and recover the Work at Contractor's expense.

8.3 Submittals

8.3.1 Contractor's Submittals. The Contractor shall submit with reasonable promptness consistent with the Work Project Schedule and in orderly sequence all Shop Drawings, Samples, or other information required by the Contract Documents, or subsequently required by Change Order. Prior to submitting, the Contractor shall review each submittal for compliance with the Contract Documents and certify its approval by an approval stamp affixed to each copy. Submittal data presented without the Contractor's certification will be returned without review or comment, and any delay resulting from such certification is the Contractor's responsibility.

8.3.1.1 Within twenty-one (21) calendar days of the effective date of the Notice to Proceed with construction, the Contractor shall submit to the ODR, and the A/E, a submittal schedule/register, organized by specification section, listing all items to be furnished for review and approval by the A/E and Owner. The list shall include Shop Drawings, manufacturer's literature, certificates of compliance, materials samples, materials colors, guarantees, and all other items identified throughout the Specifications.

8.3.1.2 The Contractor shall indicate the type of item, contract requirements reference, and Contractor's scheduled dates for submitting the item along with the requested dates for approval answers from the A/E and Owner. The submittal register shall indicate the projected dates for procurement of all included items and shall be updated at least monthly with actual approval and procurement dates. The Contractor shall show and allow a minimum of thirty (30)

calendar days duration after receipt by the A/E and ODR for review and approval. If re-submittal is required, allow a minimum of an additional fifteen (15) calendar days for review. Submit the updated submittal register with each request for progress payment. The Owner may establish routine review procedures and schedules for submittals at the preconstruction conference and/or elsewhere in the Contract Documents. ***Failure to update and provide the submittal schedule/register as required shall constitute cause for Owner to withhold payment otherwise due.***

8.3.1.3 The Contractor shall coordinate the submittal register with the Work Progress Schedule. Do not schedule Work requiring a submittal to begin prior to scheduling review and approval of the related submittal. The Contractor shall revise and/or update both schedules monthly to ensure consistency and current project data. The Contractor shall provide to the ODR the updated submittal register and schedule with each application for progress payment. The Contractor shall refer to the requirements for the Work Progress Schedule for inclusion of procurement activities therein. Regardless, the submittal register shall identify dates submitted and returned and shall be used to confirm status and disposition of particular items submitted, including approval or other action taken and other information not conveniently tracked through the Work Progress Schedule.

8.3.1.4 By submitting Shop Drawings, Samples or other required information, the Contractor represents and certifies that it has determined and verified all applicable field measurements, field construction criteria, materials, catalog numbers and similar data; and has checked and coordinated each Shop Drawing and Sample with the requirements of the Work and the Contract Documents.

8.3.2 Review of Submittals. A/E and ODR review is only for conformance with the design concept and the information provided in the Contract Documents. Responses to submittals will be in writing. The approval of a separate item does not indicate approval of an assembly in which the item functions. The approval of a submittal does not relieve the Contractor of responsibility for any deviation

from the requirements of the Contract unless the Contractor informs the A/E and ODR of such deviation in a clear, conspicuous, and written manner on the submittal transmittal and at the time of submission, and obtains the **A/E's and** Owner's written specific approval of the particular deviation.

- 8.3.3 Correction and Resubmission. The Contractor shall make any corrections required to a submittal and resubmit the required number of corrected copies promptly so as to avoid delay, until submittal approval. When applicable, the Contractor shall direct attention of the A/E and the ODR in writing to any new revisions other than the corrections requested on previous submissions.
- 8.3.4 Limits on Shop Drawing Approvals. The Contractor shall not commence any Work requiring a submittal until approval of the submittal. The Contractor shall construct all such work in accordance with approved submittals. Approval of Shop Drawings and Samples is not authorization to Contractor to perform extra work or changed work unless authorized through a Change Order. The A/E's and ODR's approval, if any, does not relieve Contractor from responsibility for defects in the Work resulting from errors or omissions of any kind on the submittal, regardless of any approval action.
- 8.3.5 No Substitutions Without Approval. The ODR and the A/E may receive and consider the Contractor's request for substitution when the Contractor agrees to reimburse the Owner for review costs and satisfies 8.3.5.1, 8.3.5.2, and 8.3.5.3 in combination with one or more of the items in 8.3.5.4 through 8.3.5.11 of the following conditions, as determined by the Owner. If the Contractor does not satisfy these conditions, the ODR and A/E will return the request without action except to record noncompliance with these requirements. The Owner will not consider the request if the Contractor cannot provide the product or method because of failure to pursue the Work promptly or coordinate activities properly.
- 8.3.5.1 The Contract Documents do not require extensive revisions.
- 8.3.5.2 Proposed changes are in keeping with the general intent of the Contract Documents and the design intent of the A/E and do not result in an increase in cost to the Owner.
- 8.3.5.3 The request is timely, fully documented, and properly submitted.

- 8.3.5.4 The Contractor cannot provide the specified product, assembly or method of construction within the Contract Time.
 - 8.3.5.5 The request directly relates to an "or-equal" clause or similar language in the Contract Documents.
 - 8.3.5.6 The request directly relates to a "product design standard" or "performance standard" clause in the Contract Documents.
 - 8.3.5.7 The requested substitution offers the Owner a substantial advantage in cost, time, energy conservation or other considerations, after deducting additional responsibilities the Owner must assume.
 - 8.3.5.8 The specified product or method of construction cannot receive necessary approval by an authority having jurisdiction, and the ODR can approve the requested substitution.
 - 8.3.5.9 The Contractor cannot provide the specified product, assembly or method of construction in a manner that is compatible with other materials and the Contractor certifies that the substitution will overcome the incompatibility
 - 8.3.5.10 The Contractor cannot coordinate the specified product, assembly or method of construction with other materials and the Contractor certifies it can coordinate the proposed substitution.
 - 8.3.5.11 The specified product, assembly or method of construction cannot provide a warranty required by the Contract Documents and the Contractor certifies that the proposed substitution provides the required warranty.
- 8.3.6 Unauthorized Substitutions at Contractor's Risk. The Contractor is financially responsible for any additional costs or delays resulting from using materials, equipment or fixtures other than those specified. The Contractor shall reimburse the Owner for any increased design or contract administration costs resulting from such unauthorized substitutions.

8.4 Field Mock-up.

8.4.1 Mock-ups shall be constructed prior to commencement of a specified scope of work to confirm acceptable workmanship.

8.4.1.1 As a minimum, field mock-ups shall be constructed for roofing systems, exterior veneer/finish systems, glazing systems, and any other Work requiring a mock-up as identified throughout the Contract Documents. Mock-ups for systems not part of the project scope shall not be required.

8.4.1.2 Mock-ups may be incorporated into the Work if allowed by the Contract Documents and if acceptable to the ODR. If mock-ups are freestanding, they shall remain in place until otherwise directed by the Owner.

8.4.1.3 The Contractor shall include field mock-ups in their Work Progress Schedule and shall notify the ODR and A/E of readiness for review sufficiently in advance to coordinate review without delay.

8.5 Inspection During Construction.

8.5.1 The Contractor shall provide sufficient, safe, and proper facilities, including equipment, as necessary for safe access at all reasonable times for observation and/or inspection of the Work by the Owner and its agents.

8.5.2 The Contractor shall not cover up any work with finishing materials or other building components prior to providing the Owner and its agents an opportunity to perform an inspection of the Work.

8.5.2.1 Should corrections of the Work be required for approval, the Contractor shall not cover up corrected Work until the Owner indicates approval.

8.5.2.2 The Contractor shall provide notification of at least five (5) working days or otherwise as mutually agreed, to the ODR of the anticipated need for a cover-up inspection. Should the ODR fail to make the necessary inspection within the agreed period, the Contractor may proceed with cover up Work, but is not relieved of responsibility for Work to comply with requirements of the Contract Documents.

Article 9. Construction Schedules

- 9.1. Contract Time. TIME IS AN ESSENTIAL ELEMENT OF THE CONTRACT. The Contract Time is the time between the dates indicated in the Notice to Proceed for the Date of Commencement (Start Date) and for achieving Substantial Completion. The Contract Time can be modified only by Change Order. Failure to achieve Substantial Completion within the Contract Time, and Final Completion within thirty (30) days following Substantial Completion or as otherwise agreed to in writing will cause damage to the Owner and may subject the Contractor to Liquidated Damages as provided in Article 9.11.
- 9.2. Notice to Proceed. The Owner will issue a Notice to Proceed which shall state the dates for beginning Work (the Date of Commencement) and for achieving Substantial Completion and Final Completion of the Work.
- 9.3. Work Progress Schedule. Refer to Special Conditions and Division 1 General Administration Specifications for additional schedule requirements. Unless indicated otherwise in those documents, Contractor shall submit to the ODR and the A/E its initial Work Progress Schedule for the Work in relation to the entire Project not later than twenty-one (21) days after the effective date of the Notice to Proceed. Unless otherwise indicated in the Contract Documents, the Work Progress Schedule shall be based upon a computerized Critical Path Method (CPM) with full reporting capability. This initial schedule shall indicate the dates for starting and completing the various aspects required to complete the Work, including mobilization, procurement, installation, testing, inspection, and acceptance of all the Work of the Contract. When acceptable to the Owner, the initially accepted schedule shall be the Baseline Schedule for comparison to actual conditions throughout the contract duration.
 - 9.3.1 Schedule Requirements. The Contractor shall submit an electronic and a paper copy of the initial Work Progress Schedule reflecting accurate and reliable representations of the planned progress of the Work, the Work to date if any, and of the Contractor's actual plans for its completion. The Contractor shall organize and provide adequate detail so the Work Progress Schedule is capable of measuring and forecasting the effect of delaying events on completed and uncompleted activities.
 - 9.3.1.1 The Contractor shall re-submit initial Schedule as required to address review comments from A/E and ODR until such Schedule is accepted as the Baseline Schedule.

- 9.3.1.2 Submittal of a schedule, schedule revision or schedule update constitutes the Contractor's representation to the Owner of the accurate depiction of all progress to date and that the Contractor will follow the schedule as submitted in performing the Work.
- 9.3.2 Schedule Updates. The Contractor shall update the Work Progress Schedule and the Submittal Schedule monthly, as a minimum, to reflect progress to date and current plans for completing the Work, and submit a paper and electronic copy of the update to the A/E and ODR as directed. The Owner has no duty to make progress payments unless accompanied by the updated Work Progress Schedule. The Contractor shall show the anticipated date of completion reflecting all extensions of time granted through Change Order as of the date of the update. The Contractor may revise the Progress Schedule logic only with the Owner's concurrence when in the Contractor's judgment it becomes necessary for the management of the Work. The Contractor shall identify all proposed changes to the schedule logic to the Owner and to the A/E via an Executive Summary accompanying the updated schedule for review prior to implementation of revisions.
- 9.3.3 The Work Progress Schedule is for the Contractor's use in managing the Work, and submittal of the Schedule and successive updates or revisions, is for the information of the Owner and to demonstrate that the Contractor has complied with requirements for planning the Work. The Owner's acceptance of a schedule, schedule update or revision, constitutes the Owner's agreement to coordinate its own activities with the Contractor's activities as shown on the schedule.
- 9.3.3.1 Acceptance of the Work Progress Schedule, or an update and/or revision thereto does not indicate any approval of the Contractor's proposed sequences and duration.
- 9.3.3.2 Acceptance of a Work Progress Schedule update or revision indicating early or late completion does not constitute the Owner's consent, alter the terms of the Contract, or waive either the Contractor's responsibility for timely completion or the Owner's right to damages for the Contractor's failure to do so.
- 9.3.3.3 The Contractor's scheduled dates for completion of any activity or the entire Work do not constitute a

change in terms of the Contract. Change Orders are the only method of modifying the completion date(s) and Contract Time.

9.4. Ownership of Float. Unless indicated otherwise in the Contract Documents, the Contractor shall develop the Work Progress Schedule and its execution plan to provide a minimum of 10 percent total float at the project level at acceptance of the Baseline Schedule. Float time contained in the Work Progress Schedule is not for the exclusive benefit of the Contractor or the Owner, but belongs to the Project and may be consumed by either party as needed on a first-used basis.

9.5. Completion of Work. The Contractor is accountable for completing the Work in the time stated in the Contract, or as otherwise amended by Change Order.

9.5.1 If, in the judgment of the Owner, the work is behind schedule and the rate of placement of work is inadequate to regain scheduled progress to insure timely completion of the entire Work or a separable portion thereof, the Contractor, when so informed by the Owner, shall immediately take action to increase the rate of work placement by:

9.5.1.1 An increase in working forces.

9.5.1.2 An increase in equipment or tools.

9.5.1.3 An increase in hours of work or number of shifts.

9.5.1.4 Expediting delivery of materials.

9.5.1.5 Other action proposed if acceptable to Owner.

9.5.2 Within ten (10) calendar days after such notice from the ODR, the Contractor shall notify the ODR in writing of the specific measures taken and/or planned to increase the rate of progress. The Contractor shall include an estimate as to the date of scheduled progress recovery and an updated Work Progress Schedule illustrating the Contractor's plan for achieving timely completion of the Project. Should the ODR deem the plan of action inadequate, the Contractor shall take additional steps or make adjustments as necessary to its plan of action until it meets with the ODR's approval.

9.6 Modification of the Contract Time

9.6.1 Delays and extension of time as hereinafter described are valid only if executed in accordance with provisions set forth in Article 11.

9.6.2 When a delay defined herein as excusable prevents the Contractor from completing the Work within the Contract Time, the Contractor is entitled to an extension of time. The Owner will make an equitable adjustment and extend the number of calendar days lost because of excusable delay, as measured by the Contractor's progress schedule. All extensions of time will be granted in calendar days. In no event, however, will an extension of time be granted for delays that merely extend the duration of non-critical activities, or which only consume float without delaying the project completion date.

9.6.2.1 "A Weather Day" is a day on which the Contractor's current schedule indicates Work is to be done, and on which inclement weather and related site conditions prevent the Contractor from performing seven continuous hours of Work between the hours of 7:00 a.m. and 6:00 p.m. Weather days are excusable delays. When weather conditions at the Site prevent Work from proceeding, the Contractor shall immediately notify the ODR for confirmation of the conditions. At the end of each calendar month, the Contractor shall submit to the ODR and A/E a list of Weather Days occurring in that month along with documentation of the impact on critical activities. Based on confirmation by the ODR, any time extension granted will be issued by Change Order **for those weather days during that month which exceed the number expected, as shown in the Rainfall Table located in Special Conditions**. If the Contractor and Owner cannot agree on the time extension, the Owner may issue a Unilateral Change Order for a fair and reasonable time extension.

9.6.2.2 Excusable Delay. The Contractor is entitled to an equitable adjustment of time, issued via Change Order, for delays caused by the following:

9.6.2.2.1 Errors, omissions and imperfections in design which the A/E corrects by means of changes in the Drawings and Specifications.

- 9.6.2.2.2 Unanticipated physical conditions at the Site which the A/E corrects by means of changes to the Drawings and Specifications or for which the ODR directs changes in the Work identified in the Contract Documents.
- 9.6.2.2.3 Changes in the Work that affect activities identified in the Contractor's schedule as "critical" to completion of the entire Work, if such changes are ordered by the ODR or the A/E.
- 9.6.2.2.4 Suspension of Work for unexpected natural events (sometimes called "acts of God"), civil unrest, strikes or other events which are not within the reasonable control of the Contractor.
- 9.6.2.2.5 Suspension of Work for convenience of the ODR, which prevents Contractor from completing the Work within the Contract Time.

9.6.3 The Contractor's relief in the event of such delays is the time impact to the critical path as determined by analysis of the Contractor's schedule. In the event that the Contractor incurs additional direct costs because of the delay, they are to be determined pursuant to the provisions of Article 11.

9.7 No Damages for Delay. *The Contractor has no claim for monetary damages for delay or hindrances to the Work from any cause, including without limitation any act or omission of the Owner.*

9.8 Concurrent Delay. When the completion of the Work is simultaneously delayed by an excusable delay and a delay arising from a cause not designated as excusable, the Contractor may not be entitled to a time extension for the period of concurrent delay.

9.9 Other Time Extension Requests. Time extensions requested in association with changes to the Work directed or requested by the Owner shall be included with the Contractor's proposed costs for such change. Time extensions requested for inclement weather are covered by paragraph 9.6.2.1 above. If the Contractor believes that the completion of the Work is delayed by a circumstance other than for changes directed to the Work or weather, it shall give the ODR written notice, stating the

nature of the delay and the activities potentially affected, within five (5) calendar days after the onset of the event or circumstance giving rise to the delay. The Contractor shall provide sufficient written evidence to document the delay. In the case of a continuing cause of delay, only one **notice of delay** is necessary. The Contractor shall state claims for extensions of time in numbers of whole or half calendar days.

9.9.1 Within ten (10) calendar days after the cessation of the delay, the Contractor shall formalize its request for extension of time in writing to include a full analysis of the impact of the delay on the Work Progress Schedule and substantiation of the excusable nature of the delay. All changes to the Contract Time or made as a result of such claims is by Change Order, as set forth in Article 11.

9.9.2 No extension of time releases the Contractor or the Surety furnishing a performance or payment bond from any obligations under the Contract or such bond. Those obligations remain in full force until the discharge of the Contract.

9.9.3 Contents of Time Extension Requests. The Contractor shall provide with each time extension request a quantitative demonstration of the impact of the delay on project completion time, based on the Work Progress Schedule. The Contractor shall include with Time Extension Requests a reasonably detailed narrative setting forth:

9.9.3.1 The nature of the delay and its cause; the basis of the Contractor's claim of entitlement to a time extension.

9.9.3.2 Documentation of the actual impacts of the claimed delay on the critical path indicated in the Contractor's Work Progress Schedule, and any concurrent delays.

9.9.3.3 Description and documentation of steps taken by the Contractor to mitigate the effect of the claimed delay, including, when appropriate, the modification of the Work Progress Schedule.

9.9.4 Owner's Response. The Owner will respond to the Time Extension Request by providing to the Contractor written notice of the number of days granted, if any, and giving its reason if this number differs from the number of days requested by the Contractor.

9.9.4.1 The Owner will not grant time extensions for delays that do not affect the Contract Completion Date.

9.9.4.2 The Owner will respond to each properly submitted Time Extension Request within fifteen (15) calendar days following receipt. If the Owner cannot reasonably make a determination about the Contractor's entitlement to a time extension within that time, the Owner will notify the Contractor in writing. Unless otherwise agreed by the Contractor, the Owner has no more than fifteen (15) additional calendar days to prepare a final response. If the Owner fails to respond within forty-five (45) calendar days from the date the Time Extension Request is received, the Contractor is entitled to a time extension in the amount requested.

9.10 Failure to Complete Work Within the Contract Time. **TIME IS OF THE ESSENCE OF THIS CONTRACT.** The Contractor's failure to substantially complete the Work within the Contract Time or to achieve Final Completion as required will cause damage to the Owner. These damages are liquidated by agreement of the Contractor and the Owner, as set forth in Article 9.11 below.

9.11 Liquidated Damages. *For each consecutive calendar day after the date of Substantial Completion, plus any extensions of time granted by Change Order, that the Work is not substantially completed, Contractor shall pay to Owner, within ten (10) days following written demand, an amount determined by the following schedule:*

| AACC | | <i>Liquidated Damages</i> |
|------------------------|-----------------|---------------------------|
| <u>From</u> | <u>To</u> | <u>per day</u> |
| \$1,000,000 | \$14,999,999.99 | \$ 2,500 |
| \$15,000,000 | \$29,999,999.99 | \$ 5,000 |
| \$30,000,000 | \$44,999,999.99 | \$ 7,500 |
| \$45,000,000 | \$59,999,999.99 | \$10,000 |
| \$60,000,000 | \$69,999,999.99 | \$12,500 |
| \$70,000,000 | \$79,999,999.99 | \$15,000 |
| \$80,000,000 | \$99,999,999.99 | \$17,500 |
| \$100,000,000 and over | | \$20,000 |

not as a penalty but as liquidated damages representing the parties' estimate at the time of contract execution of the damages that Owner will sustain for late completion. Owner may also recover the liquidated damages from any money due or that becomes due Contractor. The amount of liquidated damages may be adjusted by Owner in Special Conditions.

The parties stipulate and agree that the actual damages sustained by Owner for late completion of the Project will be uncertain and difficult to ascertain, that calculating Owner's actual damages would be impractical, unduly burdensome, and cause unnecessary delay, and that the amount of daily liquidated damages set forth above is a reasonable estimate.

Payment of the liquidated damages does not preclude recovery by Owner of other damages or losses under other provisions of the Contract, except for claims related to delays in Substantial Completion or Final Completion. Owner's right to receive liquidated damages shall not affect Owner's right to terminate the Contract as provided in these UGSC or elsewhere in the Contract Documents, nor shall termination of the Contract release Contractor from the obligation to pay the liquidated damages.

Article 10. Payments

10.1. Schedule of Values. The Contractor shall submit to the ODR and the A/E for acceptance a Schedule of Values, or Work Breakdown, accurately itemizing material and labor for the various classifications of the Work based on the organization of the specification sections and using the same activity names and terms as the Work Progress Schedule. The accepted Schedule of Values will be the basis for the progress payments under the Contract.

10.1.1 No progress payments will be made prior to receipt and acceptance of the Schedule of Values, provided in such detail as required by the ODR, and submitted not less than twenty-one calendar (21) days prior to the first request for payment. The Schedule of Values shall follow the order of trade divisions of the Specifications and include costs for general conditions, fees, contingencies, and Owner cash allowances, if applicable, so that the sum of the items will equal the Contract Sum. As appropriate, the Contractor shall assign labor and/or material values to each item, the subtotal thereof equaling the value of the Work in place when complete.

10.1.2 The Contractor shall retain a copy of all worksheets used in preparation of its bid or proposal, supported by a notarized statement that the worksheets are true and complete copies of the documents used to prepare the bid or proposal, and. make the worksheets available to the ODR at the time of Contract execution. Thereafter the Contractor shall grant the Owner during normal business hours access to said notarized copy of worksheets at any time during the period commencing upon

execution of the Contract and ending one year after final payment.

10.2. Progress Payments. The Contractor will receive periodic progress payments for Work performed, materials in place, suitably stored on site, or as otherwise agreed to by the Owner and the Contractor. Payment is not due until receipt by the ODR or his designee of a correct and complete Pay Application in electronic and/or hard copy format as set forth in Special Conditions or Division 1 Specifications, and certified by the A/E. Progress payments are made provisionally and do not constitute acceptance of Work not in accordance with the Contract Documents. The Owner will not process progress payment applications for Change Order work until all parties execute the Change Order.

10.2.1 Preliminary Pay Worksheet. Once each month that a progress payment is to be requested, the Contractor shall submit to the A/E and the ODR a complete, clean copy of a preliminary pay worksheet or Preliminary Pay Application, to include the following:

10.2.1.1 The Contractor's estimate of the amount of Work performed, labor furnished and materials incorporated into the Work, using the established Schedule of Values.

10.2.1.2 An updated Work Progress Schedule including the Executive Summary and all required schedule reports.

10.2.1.3 HUB Subcontracting Plan reports.

10.2.1.4 Such additional documentation as Owner may require as set forth elsewhere in the Contract Documents.

10.2.2 Contractor's Application for Progress Payment. As soon as practicable, but in no event later than seven days after receipt of the Preliminary Pay Worksheet, the A/E and ODR will meet with the Contractor to review the Preliminary Pay Worksheet and to observe the condition of the Work. Based on this review, the ODR and the A/E may require modifications to the Preliminary Pay Worksheet prior to the submittal of an application for progress payment, and will promptly notify the Contractor of revisions necessary for approval. As soon as practicable, the Contractor shall submit its Invoice on the appropriate and completed form, reflecting the required modifications to the Schedule of Values required by the A/E and/or ODR. The Contractor shall attach all

additional documentation required by the ODR and/or A/E, as well as an affidavit affirming that all payrolls, bills for labor, materials, equipment, subcontracted work and other indebtedness connected with the Contractor's invoice are paid or will be paid within the time specified in Tex. Gov't Code, Chapter 2251. No invoice is complete unless it fully reflects all required modifications, and attaches all required documentation including the Contractor's affidavit.

10.2.3 Certification by A/E. Within five days or earlier following the A/E's receipt of the Contractor's formal invoice, the A/E will review the application for progress payment for completeness, and forward to the ODR. The A/E will certify that the application is complete and payable, or that it is incomplete, stating in particular what is missing. If the Invoice is incomplete, the Contractor shall make the required corrections and resubmit the Invoice for processing.

10.3 Owner's Duty to Pay. The Owner has no duty to pay the Contractor except on receipt by the ODR of: 1) a complete Invoice certified by the A/E, and 2) the Contractor's updated Work Progress Schedule, and 3) confirmation that the Contractor's as-built documentation at the Site is kept current.

10.3.1 Payment for stored materials and/or equipment confirmed by the Owner and A/E to be on-site or otherwise properly stored is limited to 85 percent of the invoice price or 85 percent of the scheduled value for the materials or equipment, whichever is less.

10.3.2 Retainage. The Owner will withhold from each progress payment, as retainage, 5 percent of the total earned amount, or the amount authorized by law. Retainage is managed in conformance with Tex. Gov't Code, Chapter 2252, Government Code, subchapter B.

10.3.2.1 The Contractor shall provide written consent of its Surety for any request for reduction or release of retainage.

10.3.2.2 At least sixty-five (65) percent of the total Contract must be completed before the Owner can consider a retainage reduction or release.

10.3.3 Price Reduction to Cover Loss. The Owner may reduce any Periodic Invoice, or application for Progress Payment, prior to

payment to the extent necessary to protect the Owner from loss on account of actions of the Contractor including, but not limited to:

- 10.3.3.1 Defective or incomplete Work not remedied.
- 10.3.3.2 Damage to Work of a separate Contractor.
- 10.3.3.3 Failure to maintain scheduled progress or reasonable evidence that the Work will not be completed within the Contract Time.
- 10.3.3.4 Persistent failure to carry out the Work in accordance with the Contract Documents.
- 10.3.3.5 Reasonable evidence that the Work cannot be completed for the unpaid portion of the Contract Sum.
- 10.3.3.6 Assessment of fines for violations of Prevailing Wage Rate law; or
- 10.3.3.7 Failure to include the appropriate amount of retainage for that periodic progress payment.

10.3.4 Title to all material and Work covered by progress payments transfers to the Owner upon payment.

- 10.3.4.1 Transfer of title to Owner does not relieve the Contractor of the sole responsibility for the care and protection of materials and Work upon which payments have been made until final acceptance of the entire Work, or the restoration of any damaged Work, or waive the right of the Owner to require the fulfillment of all the terms of the Contract.

10.4 Progress payments to the Contractor do not release the Contractor or its surety from any obligations under the Contract.

10.4.1 Upon the Owner's request, the Contractor shall furnish manifest proof of the status of Subcontractor's accounts in a form acceptable to the Owner.

10.4.2 Pay estimate certificates must be signed by a corporate officer or a representative duly authorized by the Contractor.

- 10.4.3 The Contractor shall provide copies of bills of lading, invoices, delivery receipts or other evidence of the location and value of such materials in requesting payment for materials.
- 10.4.4 For purposes of Tex. Gov't Code § 2251.021(a)(2), the date the performance of service is complete is the date when the Owner's representative approves the application for payment.
- 10.5 Off-Site Storage. With prior approval by the Owner and in the event Contractor elects to store materials at an off-site location, abide by the following conditions, unless otherwise agreed to in writing by the Owner.
 - 10.5.1 Store materials in a Bonded Commercial Warehouse.
 - 10.5.2 Provide separate Insurance Coverage adequate not only to cover materials while in storage, but also in transit from the off-site storage areas to the Project Site. Copies of duly authenticated certificates of insurance, made out to insure the Owner must be filed with the Owner's representative.
 - 10.5.3 Inspection by Owner's representative is allowed at any time. The Owner's Inspectors must be satisfied with the security, control, maintenance, and preservation measures.
 - 10.5.4 Materials for this Project are physically separated and marked for the Project in a sectioned-off area. Only materials which have been approved through the submittal process are to be considered for payment.
 - 10.5.5 Owner reserves the right to reject materials at any time prior to final acceptance of the complete Project if they do not meet Contract requirements regardless of any previous progress payment made.
 - 10.5.6 With each monthly payment estimate, submit a report to the ODR, A/E, and Inspector listing the quantities of materials already paid for and still stored in the off-site location.
 - 10.5.7 Make warehouse records, receipts and invoices available to Owner's representatives, upon request, to verify the quantities and their disposition.
 - 10.5.8 In the event of Contract termination or default by Contractor, the items in storage off-site, upon which payment has been made, will be promptly turned over to Owner or Owner's agents at a location near the jobsite as directed by the ODR. The full provisions of

performance and payment bonds on this Project cover the materials off-site in every respect as though they were stored on the Project Site.

Article 11. Changes

11.1. Change Orders. A Change Order issued after execution of the Contract is a written order to the Contractor, signed by the ODR, the Contractor, and the A/E, authorizing a change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time can only be changed by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum and/or the Contract Time. The ODR may issue written authorization for the Contractor to proceed with work of a Change Order in advance of final execution by all parties. ***In the absence of an agreement with the Contractor on a Change Order, the Owner may issue a Unilateral Change Order that will have the full force and effect of a contract modification. The issuance of a Unilateral Change Order does not prejudice the Contractor's rights to make claims or to appeal disputed matters under terms of the Contract.***

11.1.1 The Owner, without invalidating the Contract, ***and without prior approval of the surety,*** may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, and the Contract Sum and the Contract Time will be adjusted accordingly. All such changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents. If such changes cause an increase or decrease in the Contractor's cost of, or time required for, performance of the Contract, an equitable adjustment shall be made and confirmed in writing in a Change Order.

11.1.2 It is recognized by the parties hereto and agreed by them that the Drawings and Specifications may not be complete or free from errors, omissions and imperfections or that they may require changes or additions in order for the Work to be completed to the satisfaction of Owner and that, accordingly, it is the express intention of the parties, notwithstanding any other provisions in this Contract, that any errors, omissions or imperfections in such Drawings and Specifications, or any changes in or additions to same or to the Work ordered by Owner and any resulting delays in the Work or increases in Contractor's costs and expenses, shall not constitute or give rise to any claim, demand or cause of action of any nature whatsoever in favor of Contractor, whether for breach of contract,

quantum meruit, or otherwise; provided, however, that Owner shall be liable to Contractor for the sum stated to be due Contractor in any Change Order approved and signed by both parties, it being agreed hereby that such sum, together with any extension of time contained in said Change Order, shall constitute full compensation to Contractor for all costs, expenses and damages to Contractor, whether direct, consequential or otherwise in any wise incident to, arising out of, or resulting directly or indirectly from the work performed by Contractor under such Change Order.

- 11.1.3 Procedures for administration of Change Orders shall be established by the Owner and stated elsewhere in the Contract Documents.
 - 11.1.4 Except as provided above, no order, oral statement, or direction of the Owner or his duly appointed representative shall be treated as a change under this article or entitle the Contractor to an adjustment.
 - 11.1.5 The Contractor agrees that the Owner or any of its duly authorized representatives shall have access and the right to examine any directly pertinent books, documents, papers, and records of the Contractor. Further, the Contractor agrees to include in all its subcontracts a provision to the effect that the Subcontractor agrees that the Owner or any of its duly authorized representatives shall have access to and the right to examine any directly pertinent books, documents, papers and records of such Subcontractor relating to any claim arising from this Contract, whether or not the Subcontractor is a party to the claim. The period of access and examination described herein which relates to appeals under the Disputes article of the Contract, litigation, or the settlement of claims arising out of the performance of the Contract shall continue until final disposition of such claims, appeals or litigation.
- 11.2 Unit Prices. If unit prices are stated in the Contract Documents or subsequently agreed upon, and if the quantities originally contemplated are so changed in a **Contract Revision** that application of the agreed unit prices to the quantities of work proposed will cause substantial inequity to the Owner or the Contractor, the applicable unit prices shall be equitably adjusted as provided in the Special Conditions or as agreed to by the parties and incorporated into the Change Order.
- 11.3 Claims for Additional Costs

- 11.3.1 If the Contractor wishes to make a claim for an increase in the Contract Sum not related to a requested change, it shall give the Owner and the A/E written notice thereof within twenty-one (21) days after the occurrence of the event giving rise to such claim, but, in any case before proceeding to execute the work considered to give rise to the additional cost or time, except in an emergency endangering life or property in which case the Contractor shall act in accordance with Article 7.2.1. No such claim shall be valid unless so made. If the Owner and the Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined as set forth under Article 15. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.
- 11.3.2 If the Contractor claims that additional cost is involved because of, but not limited to: 1) any written interpretation of the Contract Documents, 2) any order by the Owner to stop the Work pursuant to Article 14 where the Contractor was not at fault, or 3) any written order for a minor change in the Work issued pursuant to Article 11.4, the Contractor shall make such claim as provided in Article 11.3.1.
- 11.3.3 Should the Contractor or its Subcontractors fail to call attention of the A/E to obvious discrepancies or omissions in the Bid/Proposal Documents during the pre-bid/pre-proposal period, but claim additional costs for corrective work after contract award, the Owner may assume intent to circumvent competitive bidding for necessary corrective work. In such case, the Owner may choose to let a separate contract for the corrective work, or issue a Unilateral Change Order to require performance by the Contractor. Claims for time extensions or for extra cost resulting from delayed notice of contract document discrepancies or omissions will not be considered by the Owner.
- 11.4. Minor Changes. The A/E, with concurrence of the ODR, will have authority to order minor changes in the Work not involving an adjustment in the Contract Sum or an extension of the Contract Time. Such changes shall be effected by written order which the Contractor shall carry out promptly and record on as-built record documents.
- 11.5. Concealed Site Conditions. If, in the performance of the Contract, subsurface, latent or concealed conditions at the Site are found to be materially different from the information included in the bid/proposal documents, or if unknown conditions of an unusual nature are discovered differing materially from the conditions usually inherent in work of the character shown and specified, the ODR and the A/E shall be notified in

writing of such conditions before they are disturbed. Upon such notice, or upon its own observation of such conditions, the A/E, with the approval of the ODR, will promptly make such changes in the Drawings and Specifications as they deem necessary to conform to the different conditions, and any increase or decrease in the cost of the Work, or in the time within which the Work is to be completed, resulting from such changes will be adjusted by Change Order, subject to the prior approval of the ODR.

- 11.6. Extension of Time. All Changes to the Contract Time shall be made as a consequence of requests as required under Article 9.6, and as documented by Change Order as provided under Article 11.1.
- 11.7. Administration of Change Orders. All changes in the Contract shall be administered in accordance with procedures approved by the Owner, and when required make use of such electronic information management system(s) as the Owner may employ.
 - 11.7.1 Routine changes in the Contract shall be formally initiated by the **ODR or A/E** by means of a **Contract Revision** form detailing requirements of the proposed change for pricing by the Contractor. This action may be preceded by communications between the Contractor, A/E and ODR concerning the need and nature of the change, but such communications shall not constitute a basis for beginning the proposed Work by the Contractor. Except for emergency conditions described below, approval of the Contractor's cost proposal by the Owner will be required for authorization to proceed with the Work being changed. The Owner will not be responsible for the cost of work changed without prior approval and the Contractor may be required to remove work so installed.
 - 11.7.2 All proposed costs for change order work must be supported by itemized accounting of material, equipment and associated itemized installation costs in sufficient detail, following the outline and organization of the established Schedule of Values, to permit analysis by the A/E and ODR using current estimating guides and/or practices. Photocopies of Subcontractor and vendor proposals shall be furnished unless specifically waived by the ODR. Contractor shall provide written response to a Contract Revision within twenty-one (21) calendar days of receipt.
 - 11.7.3 Any unexpected circumstance which necessitates an immediate change in order to avoid a delay in progress of the Work may be expedited by **written** communication and authorization between the Contractor and Owner. A limited scope not-to-exceed

estimate of cost and time will be requested prior to authorizing Work to proceed. Should the estimate be impractical for any reason, the ODR may authorize the use of detailed cost records of such Work to establish and confirm the actual costs and time for documentation in a formal Change Order.

- 11.7.4 Emergency changes to save life or property may be initiated by the Contractor alone (see Article 7.3) with the claimed cost and/or time of such work to be fully documented as to necessity and detail of the reported costs and/or time.
- 11.7.5 The method of incorporating approved changes into the parameters of the accepted Schedule of Values must be coordinated and administered in a manner acceptable to the ODR.
- 11.8 Pricing Change Order Work. The amounts that the Contractor and/or its Subcontractors add to a Contract Revision for profit and overhead will also be considered by the Owner before approval is given and a Change Order issued. The amounts established hereinafter are the maximums that are acceptable to the Owner.
 - 11.8.1 For work performed by its forces, the Contractor will be allowed its actual costs for materials, **equipment charges**, the total amount of wages paid for labor, the total cost of Federal Old Age Benefit (Social Security Tax) and of Worker's Compensation and Comprehensive General Liability Insurance, plus Bond cost if the change results in an increase in the Bond premium paid by the Contractor. To the total of the above costs, the Contractor will be allowed to add a percentage as noted below to cover overhead and profit combined. Overhead shall be considered to include insurance other than mentioned above, field and office supervisors and assistants, including safety and scheduling personnel, use of small tools, incidental job burdens and general home office expenses, and no separate allowance will be made therefore. Allowable percentages for overhead and profit on changes will not exceed 15 percent if the total of self-performed work is less than or equal to \$10,000, 10 percent if the total of self-performed work is between \$10,000 and \$20,000 and 7.5 percent if the total of self-performed work is over \$20,000, for any specific change priced.
 - 11.8.2 For subcontracted Work each affected Subcontractor shall figure its costs, overhead and profit as described above for Contractor's work, all subcontractor costs shall be combined, and to that total subcontractor cost the Contractor will be allowed to add a

maximum mark-up of 10 percent if the total of all subcontracted work is less than or equal to \$10,000, 7.5 percent if the total of all subcontracted work is between \$10,000 and \$20,000 and 5 percent if the total of all subcontractor work is over \$20,000.

11.8.3 On changes involving both additions and deletions, percentages for overhead and profit will be allowed only on the net addition. The Owner does not accept and will not pay for additional contract cost identified as indirect, consequential, or as damages caused by delay.

11.8.4 *On contracts based on a Guaranteed Maximum Price (GMP), the Construction Manager-at-Risk or Design Build Firm shall NOT be entitled to a percentage mark-up on any change order work unless the Change Order increases the Guaranteed Maximum Price.*

Article 12. Project Completion and Acceptance

12.1. Closing Inspections

12.1.1 Substantial Completion Inspection. When the Contractor considers the entire Work or part thereof Substantially Complete, it shall notify the ODR in writing that the Work will be ready for Substantial Completion Inspection on a specific date. The Contractor shall include with this notice the Contractor's Punchlist to indicate that it has previously inspected all the Work associated with the request for inspection, has corrected items where possible, and includes all items scheduled for completion or correction prior to final inspection. The failure to include any items on this list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. If any of the items on this list prevents the facility from being used as intended, the Contractor shall not request a Substantial Completion Inspection. The Owner and its representatives will review the list of items and schedule the requested inspection, or inform the Contractor in writing that such an inspection is premature because the Work is not sufficiently advanced or conditions are not as represented on the Contractor's list.

12.1.1.1 Prior to the Substantial Completion Inspection, the Contractor shall furnish a copy of its marked-up As-Built Drawings and a preliminary copy of each instructional manual, maintenance and operating manual, parts catalog, wiring diagrams, spare parts,

specified written warranties and like publications or parts for all installed equipment, systems and like items. Delivery of these items is a prerequisite for requesting the Substantial Completion Inspection.

- 12.1.1.2 On the date requested by Contractor, or as mutually agreed upon pending the status of the open items list, the A/E, ODR, the Contractor and other Owner representatives as determined by the Owner, will jointly attend the Substantial Completion Inspection, which shall be conducted by the ODR or their delegate. If the ODR determines that the Work is Substantially Complete, the ODR will issue a Certificate of Substantial Completion to be signed by the A/E, Owner and Contractor, establishing the date of Substantial Completion, **and identifying responsibilities for security, maintenance, and insurance**. A/E will provide with this certificate a list of punchlist items (the Pre-Final Punchlist) for completion prior to final inspection. This list may include items in addition to those on the Contractor's punchlist, which the inspection team deems necessary to correct or complete prior to Final Inspection. If the Owner occupies the facility upon determination of Substantial Completion, the Contractor shall complete all corrective Work at the convenience of the Owner, without disruption to Owner's use of the facility for its intended purposes.
- 12.1.2 Final Inspection. The Contractor shall complete the list of items identified on the Pre-Final Punchlist prior to requesting a Final Inspection. Unless otherwise specified, or otherwise agreed in writing by the parties as documented on the Certificate of Substantial Completion, the Contractor shall complete and/or correct all Work within thirty (30) days of the Substantial Completion date. Upon completion of the Pre-Final Punchlist work, the Contractor shall give written notice to the ODR and A/E that the Work will be ready for Final Inspection on a specific date. The Contractor shall accompany this notice with a copy of the updated Pre-Final Punchlist indicating resolution of all items. On the date specified or as soon thereafter as is practicable, the ODR, A/E and the Contractor will inspect the Work. The A/E will submit to the Contractor a Final Punchlist of open items that the inspection team requires corrected or completed before final acceptance of the Work.

- 12.1.2.1 The Contractor must correct or complete all items on the Final Punchlist before requesting Final Payment. Unless otherwise agreed to in writing by the parties, complete this work within seven (7) days of receiving the Final Punchlist. Upon completion of the Final Punchlist, the Contractor shall notify the A/E and ODR in writing stating the disposition of each Final Punchlist item. The A/E, Owner and Contractor shall promptly inspect the completed items. When the Final Punchlist is complete, and the Contract is fully satisfied according to the Contract Documents the ODR will issue a certificate establishing the date of Final Completion. Completion of all Work is a condition precedent to the Contractor's right to receive Final Payment.
- 12.1.3 Annotation. Any certificate issued under this Article may be annotated to indicate that it is not applicable to specified portions of the Work, or that it is subject to any limitation as determined by the Owner.
- 12.1.4 Purpose of Inspection. Inspection is for determining the completion of the Work, and does not relieve the Contractor of its overall responsibility for completing the Work in a good and competent fashion, in compliance with the Contract. Work accepted with incomplete punchlist items or failure of the Owner or other parties to identify Work that does not comply with the Contract Documents or is defective in operation or workmanship does not constitute a waiver of the Owner's rights under the Contract or relieve the Contractor of its responsibility for performance or warranties.
- 12.1.5 Additional Inspections
- 12.1.5.1 If the Owner's inspection team determines that the Work is not Substantially Complete at the Substantial Completion Inspection, the ODR or A/E will give the Contractor written notice listing cause(s) of the rejection. The ODR will set a time for completion of incomplete or defective work. The Contractor must complete or correct all work so designated prior to requesting a second Substantial Completion Inspection.
- 12.1.5.2 If the Owner's inspection team determines that the Work is not complete at the Final Inspection, the

ODR or the A/E will give the Contractor written notice listing the cause(s) of the rejection. The ODR will set a time for completion of incomplete or defective work. The Contractor shall complete or correct all Work so designated prior to again requesting a Final Inspection.

12.1.5.3 The Contract contemplates three (3) comprehensive inspections: the Substantial Completion Inspection, the Final Completion Inspection, and the Inspection of Completed Final Punchlist Items. The cost to the Owner of additional inspections resulting from the Work not being ready for one or more of these inspections is the responsibility of the Contractor. The Owner may issue a Unilateral Change Order deducting these costs from Final Payment. Upon the Contractor's written request, the Owner will furnish documentation of any costs so deducted. Work added to the Contract by Change Order after Substantial Completion Inspection is not corrective work for purposes of determining timely completion, or assessing the cost of additional inspections.

12.1.6 Phased Completion. The Contract may provide, or project conditions may warrant, as determined by the ODR, that designated elements or parts of the Work be completed in phases. Where phased completion is required or specifically agreed to by the parties, the provisions of the Contract related to Closing Inspections, Occupancy and Acceptance apply independently to each designated element or part of the Work. For all other purposes, unless otherwise agreed by the parties in writing, Substantial Completion of the Work as a whole is the date on which the last element or part of the Work completed receives a Substantial Completion certificate. Final Completion of the Work as a whole is the date on which the last element or part of the Work completed receives a Final Completion certificate.

12.2 Owner's Right of Occupancy. The Owner may occupy or use all or any portion of the Work following Substantial Completion, or at any earlier stage of completion. Should the Owner wish to use or occupy the Work, or part thereof, prior to Substantial Completion, the ODR will notify the Contractor in writing. Work performed on the premises by third parties on the Owner's behalf does not constitute occupation or use of the Work by the Owner for purposes of this Article. All Work performed by the Contractor after occupancy, whether in part or in whole, shall be at the

convenience of the Owner so as to not disrupt Owner's use of, or access to, occupied areas of the Project.

12.3 Acceptance & Payment

12.3.1 Request for Final Payment. Following the certified completion of all Work, including all punch list items, cleanup, and the delivery of record documents, the Contractor shall submit a certified Application for Final Payment. The Contractor must include in the Application of Final Payment all sums held as retainage and forward to the A/E and the ODR for review and approval.

12.3.2 Final Payment Documentation. The Contractor shall submit, prior to or with the Application for Final Payment, final copies of all Close-Out Documents, maintenance and operating instructions, guarantees and warranties, certificates, record documents and all other items required by the Contract. The Contractor shall submit Consent of Surety to Final Payment and an affidavit that all payrolls, bills for materials and equipment, subcontracted work and other indebtedness connected with the Work, except as specifically noted, are paid, will be paid, or otherwise satisfied within the period of time required by Tex. Gov't Code, Chapter 2251. The Contractor shall furnish documentation establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of claims and liens arising out of the Contract. The Contractor may not subsequently submit a claim on behalf of a Subcontractor or vendor unless the Contractor's affidavit notes that claim as an exception.

12.3.3 A/E Approval. The A/E will review a submitted Application for Final Payment promptly but in no event later than ten (10) days after its receipt. Prior to the expiration of this deadline, the A/E will either 1) return the Application for Final Payment to Contractor with corrections for action and resubmission or 2) accept it, note its approval and send to Owner.

12.3.4 Offsets and Deductions. The Owner may deduct from the Final Payment all sums due from the Contractor. If the Certificate of Final Completion notes any Work remaining, incomplete, or any defects not remedied, the Owner may deduct the cost of remedying such deficiencies from the Final Payment. On such deductions, the Owner will identify each deduction, the amount, and the explanation of the deduction on or by the 21st day after Owner's receipt of an approved Application for Final Payment. Such offsets and deductions shall be incorporated via a final

Change Order, including a Unilateral Change Order as may be applicable.

- 12.3.5 Final Payment Due. Final Payment is due and payable by the Owner, subject to all allowable offsets and deductions, on the 31st day following the Owner's approval of the final Application for Payment. If the Contractor disputes any amount deducted by the Owner, the Contractor shall give notice of the dispute on or before the thirtieth (30th) day following receipt of Final Payment. Failure to do so will bar any subsequent claim for payment of amounts deducted.
- 12.3.6 Effect of Final Payment. Final Payment constitutes a waiver of all claims by the Owner, relating to the condition of the Work except those arising from:
- 12.3.6.1 Faulty or defective Work appearing after Substantial Completion (latent defects); and/or
 - 12.3.6.2 Failure of the Work to comply with the requirements of the Contract Documents; and/or
 - 12.3.6.3 Terms of any warranties required by the Contract, or implied by law; and/or
 - 12.3.6.4 Claims arising from personal injury or property damage to third parties.
- 12.3.7 Waiver of Claims. Final payment constitutes a waiver of all claims and liens by the Contractor except those specifically identified in writing and submitted to the ODR prior to the application for Final Payment.
- 12.3.8 Effect on Warranty. Regardless of approval and issuance of Final Payment, the Contract is not deemed fully performed by the Contractor and closed until the expiration of all warranty periods.

Article 13. Warranty and Guarantee

- 13.1. Contractor's General Warranty and Guarantee. Contractor warrants to the Owner that all Work is executed in accordance with the Contract, complete in all parts and in accordance with approved practices and customs, and of the best finish and workmanship. The Contractor further warrants that unless otherwise specified, all materials and equipment incorporated in the Work under the Contract are new. The Owner may, at its option, agree in writing to waive any failure of the Work to conform to

the Contract, and to accept a reduction in the Contract Sum for the cost of repair or diminution in value of the Work by reason of such defect. Absent such a written agreement, the Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute and is not waived by any inspection or observation by the Owner, A/E or others, by making any progress payment or final payment, by the use or occupancy of the Work or any portion thereof by the Owner, at any time, or by any repair or correction of such defect made by the Owner.

13.2. Warranty Period. Except as may be otherwise specified or agreed, the Contractor shall repair all defects in materials, equipment, or workmanship appearing within one year from the date of Substantial Completion of the Work. If Substantial Completion occurs by phase, then the warranty period for that particular Work begins on the date of such occurrence, or as otherwise stipulated on the Certificate of Substantial Completion for the particular Work.

13.3. Limits on Warranty. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

13.3.1 Modification or improper maintenance or operation by persons other than Contractor, Subcontractors, or any other individual or entity for whom Contractor is responsible, unless Owner is compelled to undertake maintenance or operation due to the neglect of the Contractor.

13.3.2 Normal wear and tear under normal usage after acceptance of the Work by the Owner.

13.4. Events Not Affecting Warranty. Contractor's obligation to perform and complete the Work in a good and workmanlike manner in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

13.4.1 Observations by Owner and/or A/E;

13.4.2 Recommendation to pay any progress or final payment by A/E;

13.4.3 The issuance of a Certificate of Substantial Completion or any payment by Owner to Contractor under the Contract Documents;

- 13.4.4 Use or occupancy of the Work or any part thereof by Owner;
 - 13.4.5 Any acceptance by Owner or any failure to do so;
 - 13.4.6 Any review of a Shop Drawing or Sample submittal; or
 - 13.4.7 Any inspection, test or approval by others.
- 13.5 Separate Warranties. If a particular piece of equipment or component of the Work for which the Contract requires a separate warranty is placed in continuous service before Substantial Completion, the Warranty Period for that equipment or component will not begin until Substantial Completion, regardless of any warranty agreements in place between suppliers and/or Subcontractors and the Contractor. The ODR will certify the date of service commencement in the Certificate of Substantial Completion.
- 13.5.1 In addition to the Contractor's warranty and duty to repair, the Contractor expressly assumes all warranty obligations required under the Contract for specific building components, systems and equipment.
 - 13.5.2 The Contractor may satisfy any such obligation by obtaining and assigning to the Owner a complying warranty from a manufacturer, supplier, or Subcontractor. Where an assigned warranty is tendered and accepted by the Owner which does not fully comply with the requirements of the Contract, the Contractor remains liable to the Owner on all elements of the required warranty not provided by the assigned warranty.
- 13.6 Correction of Defects. Upon receipt of written notice from the Owner, or any agent of the Owner designated as responsible for management of the Warranty Period, of the discovery of a defect, the Contractor shall promptly remedy the defect(s), and provide written notice to the Owner and designated agent indicating action taken. In case of emergency where delay would cause serious risk of loss or damage to the Owner, or if the Contractor fails to remedy within 30 days, or within another period agreed to in writing, the Owner may correct the defect and be reimbursed the cost of remedying the defect from the Contractor or its Surety.
- 13.7 Certification of No Asbestos Containing Materials or Work. The Contractor shall ensure compliance with the Asbestos Hazard Emergency Response Act (AHERA—40 CFR 763-99 (7)) from all Subcontractors and materials suppliers, and shall provide a notarized certification to the Owner that all equipment and materials used in fulfillment of its contract responsibilities are non-Asbestos Containing Building Materials (ACBM).

This certification must be provided no later than the Contractor's application for Final Payment.

Article 14. Suspension and Termination

14.1 Suspension of Work for Cause. The Owner may, at any time without prior notice, suspend all or any part of the Work, if after reasonable observation and/or investigation, the Owner determines it is necessary to do so to prevent or correct any condition of the Work, which constitutes an immediate safety hazard, or which may reasonably be expected to impair the integrity, usefulness or longevity of the Work when completed.

14.1.1 The Owner will give the Contractor a written notice of suspension for cause, setting forth the reason for the suspension and identifying the Work suspended. Upon receipt of such notice, the Contractor shall immediately stop the Work so identified. As soon as practicable following the issuance of such a notice, the Owner will initiate and complete a further investigation of the circumstances giving rise to the suspension, and issue a written determination of the findings.

14.1.2 If it is confirmed that the cause was within the control of the Contractor, the Contractor will not be entitled to an extension of time or any compensation for delay resulting from the suspension. If the cause is determined not to have been within the control of the Contractor, and the suspension has prevented the Contractor from completing the Work within the Contract Time, the suspension is an Excusable Delay and a Time Extension will be granted through a Change Order.

14.1.3 Suspension of work under this provision will be no longer than is reasonably necessary to remedy the conditions giving rise to the suspension.

14.2 Suspension of Work for Owner's Convenience. Upon seven (7) calendar days written notice to the Contractor, the Owner may at any time without breach of the Contract suspend all or any portion of the Work for a period of up to thirty days for its own convenience. The Owner will give the Contractor a written notice of suspension for convenience, which sets forth the number of suspension days for which the Work, or any portion of it, will be suspended and the date on which the suspension of Work will cease. When a suspension prevents the Contractor from completing the Work within the Contract Time, it is an Excusable Delay. A notice of suspension for convenience may be modified by the Owner at any time on seven (7) calendar days written notice to the Contractor. If the Owner suspends the Work for its convenience for more than sixty (60)

consecutive calendar days, the Contractor may elect to terminate the Contract pursuant to the provisions of the Contract.

14.3 Termination by Owner for Cause.

14.3.1 The Owner may, without prejudice to any right or remedy, terminate the employment of the Contractor and take possession of the Site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor, under any of the following circumstances:

14.3.1.1 Persistent or repeated failure or refusal, except during complete or partial suspensions of work authorized under the Contract, to supply enough properly skilled workmen or proper materials; and/or

14.3.1.2 Persistent disregard of laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, including the ODR; and/or

14.3.1.3 Persistent failure to prosecute the Work in accordance with the Contract, and to insure its completion within the time, or any approved extension thereof, specified in this Contract; and/or

14.3.1.4 Failure to remedy defective work condemned by the ODR; and/or

14.3.1.5 Failure to pay Subcontractors, laborers, and material suppliers pursuant to Tex. Gov't Code Chapter 2251; and/or

14.3.1.6 Persistent endangerment to the safety of laborers or of the Work; and/or

14.3.1.7 Failure to supply or maintain statutory bonds or to maintain required insurance, pursuant to the Contract; and/or

14.3.1.8 Any material breach of the Contract; and/or

14.3.1.9 The Contractor's insolvency, bankruptcy, or demonstrated financial inability to perform the Work.

14.3.2 Failure by the Owner to exercise the right to terminate in any instance is not a waiver of the right to do so in any other instance.

- 14.3.3 Should the Owner decide to terminate the employment of the Contractor under the provisions of Article 14.3.1, it will provide to the Contractor and its Surety thirty (30) days prior written notice.
- 14.3.4 Should the Contractor or its Surety, after having received notice of termination, remedy to the satisfaction of the Owner the condition(s) upon which the notice of termination was based, the notice of termination shall be rescinded in writing by the Owner. If so rescinded, the Work may continue without an extension of time.
- 14.3.5 If the Contractor or its Surety fails to remedy the condition(s) to the satisfaction of the Owner within thirty (30) days following receipt of notice, the Owner may **immediately terminate the Contract, make arrangements** for completion of the Work, and deduct the cost of completion from the unpaid Contract Sum.
 - 14.3.5.1 Cost of completion includes additional Owner costs such as A/E services, the cost of other consultants, and contract administration.
 - 14.3.5.2 The Owner will make no further payment to the Contractor or its Surety until all costs of completing the Work are paid. If the unpaid balance of the Contract Sum exceeds the costs of administering and finishing the Work, the Contractor will receive the excess funds. If such costs exceed the unpaid balance, the Contractor or its Surety will pay the difference to the Owner.
 - 14.3.5.3 This obligation for payment survives the termination of the Contract.
 - 14.3.5.4 The Owner reserves the right in termination for cause to take assignment of all contracts between the Contractor and its Subcontractors, vendors and suppliers. The ODR will promptly notify the Contractor of the contracts the Owner elects to assume. Upon receipt of such notice, the Contractor shall promptly take all steps necessary to effect such assignment.
- 14.4 Termination for Convenience of Owner. The Owner reserves the right, without breach, to terminate the Contract prior to, or during the performance of the Work, for any reason. Upon such an occurrence, the following shall apply:

- 14.4.1 The Owner will immediately notify the Contractor and the A/E in writing, specifying the reason for and the effective date of contract termination. Such notice may also contain instructions necessary for the protection, storage or decommissioning of incomplete work or systems, and for safety.
- 14.4.2 Upon receipt of the notice of termination, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due at that point in the Contract:
- 14.4.2.1 Stop all work.
 - 14.4.2.2 Place no further subcontracts or orders for materials or service.
 - 14.4.2.3 Terminate all subcontracts.
 - 14.4.2.4 Cancel all materials and equipment orders as applicable.
 - 14.4.2.5 Take action that is necessary to protect and preserve all property related to this Contract which is in the possession of the Contractor.
- 14.4.3 When the Contract is terminated for the Owner's convenience, the Contractor may recover from the Owner payment for all Work executed ***before the notice of termination along with the actual and reasonable cost of any additional work required to secure the Project and property related to the Contract following the notice of termination. The Contractor will not be entitled to recover any other costs or damages arising from the termination for convenience of the Owner including, but not limited to, claims for lost business opportunities.***
- 14.5 Termination By Contractor. If the Work is stopped for a period of ninety (90) days under an order of any court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the Work under a contract with the Contractor, then the Contractor may, upon thirty (30) additional days' written notice to the ODR, terminate the Contract and recover from the Owner payment for all Work executed **before the work**

stoppage along with the actual and reasonable cost of securing the Project and property related to the Contract during the period of work stoppage. The Contractor will not be entitled to recover any other costs or damages arising from the work stoppage including, but not limited to, claims for lost business opportunities. If the cause of the work stoppage is removed prior to the end of the thirty (30) day notice period, the Contractor may not terminate the Contract *but may be entitled to an equitable adjustment in the Contract Sum and Contract Time.*

- 14.6 Settlement on Termination. When the Contract is terminated for any reason, at any time prior to 180 days after the effective date of termination, the Contractor shall submit a final termination settlement proposal to the Owner based upon recoverable costs as provided under the Contract. If the Contractor fails to submit the proposal within the time allowed, the Owner may determine the amount due to the Contractor because of the termination and pay the determined amount to the Contractor.

Article 15. Dispute Resolution

- 15.1 Unresolved Contractor Disputes. The dispute resolution process provided for in Tex. Gov't Code, Chapter 2260, shall be used by the Owner and the Contractor to attempt to resolve any claim for breach of contract made by the Contractor, that is not resolved under procedures described throughout these Uniform General and Supplementary Conditions, or Special Conditions of the Contract.
- 15.2 Alternative Dispute Resolution Process. The Owner may establish a dispute resolution process to be utilized in advance of that outlined in Tex. Gov't Code, Chapter 2260.
- 15.3 *Nothing in the Contract shall prevent or be construed as a waiver of Owner's right to seek redress on any disputed matter in a court of competent jurisdiction.***
- 15.4 *Nothing in the Contract shall waive or be construed to waive the state's sovereign immunity.***

Article 16. Miscellaneous

- 16.1 Special Conditions. When the Work contemplated by the Owner is of such a character that the foregoing Uniform General and Supplementary Conditions of the Contract cannot adequately cover necessary and additional contractual relationships, the Contract may include Special Conditions. Special Conditions shall relate to a particular project and be

peculiar to that project but shall not weaken the character or intent of the Uniform General and Supplementary Conditions.

16.2 Federally Funded Projects. On Federally funded projects, the Owner may waive, suspend or modify any Article in these Uniform General and Supplementary Conditions which conflicts with any Federal statute, rule, regulation or procedure, where such waiver, suspension or modification is essential to receipt by the Owner of such Federal funds for the Project. In the case of any project wholly financed by Federal funds, any standards required by the enabling Federal statute, or any Federal rules, regulations or procedures adopted pursuant thereto, shall be controlling.

16.3 Internet-based Project Management Systems. At its option, the Owner may administer its design and construction management through an Internet-based management system. In such cases, the Contractor shall conduct communication through this media and perform all project related functions utilizing this database system. This includes correspondence, submittals, requests for information, vouchers or payment requests and processing, amendment, change orders and other administrative activities.

16.3.1 Accessibility and Administration.

16.3.1.1 When used, the Owner will make the software accessible via the Internet to all project team members.

16.3.1.2 The Owner shall administer the software.

16.3.2 Training. When used, the Owner shall provide training to the project team members.

END OF UNIFORM GENERAL AND SUPPLEMENTARY CONDITIONS

SPECIAL CONDITIONS

The following supplements modify, change, delete from or add to the “UNIFORM GENERAL AND SUPPLEMENTARY CONDITIONS,” of The Texas A&M University System. Where any Article of the Uniform General Conditions or Supplemental Uniform General Conditions is modified or any paragraph or clause thereof is modified or deleted by these supplements, the unaltered conditions of the article, paragraph, sub-paragraph or clause shall remain in effect.

Article 2 Laws Governing Construction

2.2.1.2.1 Prevailing Wage Schedules

The rates of pay for some classifications which prevail in the locality of this Project are included at the end of these Special Conditions. Contributions by a worker toward retirement plans, health insurance, apprentice programs, etc., are part of the worker's pay; contributions by the employer are not. Contractors shall identify, briefly describe, and request a predetermination of rates for crafts (or apprentice programs) not included in the following Wage Predetermination. Such request shall be made within 15 days after contract award to the Director of Project Delivery, Facilities Planning & Construction, The Texas A&M University System, phone number 979-458-7000.

2.7 Legal Restrictions on Specific Activities

2.7.3 Endangered Species

2.7.3.1 No activity is authorized that is likely to jeopardize the continued existence of a threatened or endangered species as listed or proposed for listing under the Federal Endangered Species Act (ESA), and/or the State of Texas Parks and Wildlife Code on Endangered Species, or to destroy or adversely modify the habitat of such species. The Owner has previously coordinated with the appropriate agencies and has determined that there is no known occurrence of threatened or endangered species at the project site.

2.7.3.2 If a threatened or endangered species is encountered during construction, the Contractor shall immediately cease work in the area of the encounter and notify the Owner, who will immediately implement actions in accordance with endangered species act and applicable State statutes. These actions shall include reporting the encounter to the Texas Parks and Wildlife Department, and obtaining any necessary approvals or permits to enable the work to continue. The Contractor shall not resume work in the area of the encounter until authorized to do so by the ODR.

2.7.4 Airport Restrictions:

The Contractor shall verify that Construction activities and/or equipment do not constitute an obstruction or hazard to the flight paths of the nearby airport. The Federal Aviation Administration regulates airport airspace which may limit the height or working height of cranes, etc. This limitation is determined by FAA formula

which, if exceeded, requires notification of and approval by FAA. A preliminary assessment will be provided, upon Contractor request, by the Airport Manager or other authority based on the construction equipment proposed to be used. Texas A&M University will prepare and mail the appropriate forms to the FAA by the Airport Director should notification be required.

Article 3. General Responsibilities of the Owner & Contractor

3.3 Contractor's General Responsibilities.

Delete Paragraph 3.3.2 "Contractor's Superintendent" and replace with the following:

3.3.2 Contractor's Personnel: As a minimum the Contractor's on-site personnel shall consist of the following and shall be in attendance at the site during the progress of the Work.

3.3.2.1 The Contractor shall employ a part-time Project Manager. The Project Manager shall be satisfactory to the Owner and shall not be changed without approval of the Owner at least fourteen (14) days prior to the change unless the Project Manager leaves the employment of the Contractor. The Project Manager shall have authority to act on the Contractor's behalf. All communications with the Project Manager shall be as binding as if given to the Contractor. All verbal communications shall be confirmed in writing.

3.3.2.2 The Contractor shall employ a full-time Superintendent for the project. The Superintendent shall be satisfactory to the Owner and shall not be changed without approval of the Owner at least fourteen (14) days prior to the change unless the Superintendent leaves the employment of the Contractor.

3.3.2.3 The Contractor shall employ a full-time Project Engineer/Expediter/Scheduler for proper execution of the Work and to meet the conditions of the Contract Documents. The Project Engineer shall provide the project team with complete scheduling information; expediting and status of material delivery; shop drawing and other submittal status and request for information status. The Project Engineer shall be experienced with the CPM scheduling software proposed by the Contractor and have project experience of similar scope and size.

3.3.2.4 Quality Control Program: The Contractor shall establish a Quality Control Program that shall include one full-time Quality Control Supervisor (QCS), for Architectural, Structural, Mechanical, Plumbing, and Electrical work. The QCS will assist the Owner's representative in the verification of the materials and installation of the Work. The Contractor shall be responsible for Quality Control and the Owner will provide Quality Assurance. The QCS shall not have less than 10 years experience with projects of similar

size and scope.

Article 5. Bonds and Insurance

5.2.2.2 Additional Insurance is required as follows:

5.2.2.2.1 In addition to the insurance required under Article 5, of the Uniform General and Supplementary Conditions, the Contractor's Public Liability and Property Damage Insurance shall include an umbrella policy in the amount of \$2,000,000.00.

Article 9. Construction Schedule

9.6.2.1.1 Rainfall Table

The number of weather days expected for each month during the term of this Contract is compiled by the State Climatologist, based on U.S. Weather Bureau records. The number of weather days shown in the Rainfall Table for the first and last months of the Contract will be prorated in determining the total number of weather days expected during the term of this Contract.

| | | |
|-----------|-------------|------|
| | T | |
| | A | |
| | M | |
| | U | |
| January |5..... | Days |
| February |5..... | Days |
| March |5..... | Days |
| April |5..... | Days |
| May |5..... | Days |
| June |4..... | Days |
| July |4..... | Days |
| August |4..... | Days |
| September |6..... | Days |
| October |4..... | Days |
| November |4..... | Days |
| December |5..... | Days |

9.6.2.2.6 Unanticipated asbestos material, hazardous material, archeological artifacts, or endangered species are discovered on a part of the construction site where Contractor is performing his work.

Article 10. Payments

10.1.3 In addition to the SOV and prior to the first pay request, the Contractor shall provide a one-time breakdown of the original Contract Sum into the following categories. Each line item on the breakdown shall be coded with one of the following category codes:

| | |
|-------------|-----------------|
| <u>CODE</u> | <u>CATEGORY</u> |
|-------------|-----------------|

- 001.0 General Condition Items
- 002.0 Demolition
- 003.0 Asbestos Abatement
- 004.0 Parking Lots & Driveways
- 005.0 Paved Area - Non Parking
- 006.0 Sidewalks & Paved Walk Areas
- 007.0 Streets or Roads - (includes curbs & gutters)
- 008.0 Electrical Distribution (Site) - (includes elec. lines, equipment & site lighting)
- 009.0 Telephone Distribution - (includes site lines other than fiber optic phone lines)
- 010.0 Fiber Optics - (all site fiber optic lines including fiber optic phone lines)
- 011.0 Natural Gas Lines (Site)
- 012.0 Water Distribution (Site) - (includes heated & chilled water & steam lines)
- 013.0 Sanitary & Storm Sewers (Site)
- 014.0 Fences (other than temporary)
- 015.0 Landscaping
- 016.0 Irrigation System
- 017.0 Retaining Walls & Mow Strips
- 018.0 Improvements - General (Site) - (includes benches, monuments, statues, markers)
- 019.0 Tunnels

Plus the following 11 component categories for EACH building.

NOTE: If the project includes construction of only one building, the following category codes should be used, however, if a second building is included in the project the category codes should be 201.0 through 211.0, and if a third building is included the codes should be 301.0 - 311.0, etc.

- 101.0 Building Shell
- 102.0 Roof Coverings
- 103.0 Elevator System
- 104.0 Floor Coverings
- 105.0 Interior Finishes
- 106.0 HVAC System
- 107.0 Plumbing System
- 108.0 Electrical and Lighting System
- 109.0 Fire Protection System
- 110.0 Fixed Equipment Assets
- 111.0 Miscellaneous Construction Features

Componentization Descriptions:

Code

101.0 Building shell: the exterior walls, foundation, floors and roof structural system

- and decking. The walls consist of the wall layers starting with the exterior building skin and ending at the inner thermal layer;
- 102.0 Roof Coverings: includes the covering material used to establish the water barrier on the building's roof deck. The roof covering starts with the first membrane above the roof decking materials including the urethane layer, coating, shingles, films, metal panels, clay tiles and all materials installed above the roof deck;
 - 103.0 Elevator system: comprised of the elevator and escalator conveyance systems including controls;
 - 104.0 Floor Coverings: includes carpet, ceramic tile, stone, terrazzo, vinyl tile, wood, laminate and linoleum floor coverings, and other types of floor coverings and all padding and barrier sheeting installed above the concrete slab or wooden deck;
 - 105.0 Interior finishes: all walls, partitions, ceiling and millwork that are inside the building shell walls. This will include but not limited to, all framework, interior doors, interior windows, sheet rock, paneling, paint and any other wall and ceiling coverings;
 - 106.0 HVAC: includes the chillers, condensers, exhaust fans and coil units, heating strips, chilled/heating water supply and return piping, air ducts, registers, climate control panels and all circuitry connected to the power supply panel within the perimeter of the building;
 - 107.0 Plumbing system: all piping, drains, fixtures, and associated equipment within the perimeter of the building used for moving domestic water, other fluid gases, compressed air or sewage;
 - 108.0 Electrical and lighting systems: all telecommunication and alarm wiring, lighting fixtures, electrical conduit, wire, cables, circuits, switches and controls within the perimeter of the building;
 - 109.0 Fire protection system: comprised of the piping, sprinkler heads and controls (Circuitry for fire detection, alarms, and warning devices are included in "Electrical");
 - 110.0 Fixed equipment assets: is any equipment other than equipment comprised of the HVAC system, electrical system, fire protection system, plumbing system of elevator system that is installed and permanently attached to some part of the building's structure;
 - 111.0 Miscellaneous construction features: any building component that does not fit into one of the other ten categories.

Article 13. Warranty and Guarantee

- 13.2.1 Specific requirements for warranties and guarantees to include parts, labor, and other costs are noted in various sections of the technical specifications. Warranties and guarantees are required for, but not limited to, the following:

| | |
|---------------------------------|----------------------|
| Membrane Waterproofing | 2 years |
| Urethane Roofing System | 10 years |
| Joint Sealers | 2 years |
| Insulated Glass | 5 years |
| Aluminum Doors & Frames..... | 3 years |
| Wood & Plastic Faced Doors..... | Life of installation |
| Upward Acting Doors | 5 years |

| | |
|--|----------|
| Mirror Glazing | 5 years |
| Window Wall System | 2 years |
| Access Flooring..... | 5 years |
| Dampproofing | 2 years |
| Water Repellant Coating | 5 years |
| Sheet Metal & Flashing..... | 2 years |
| Roof Hatches | 2 years |
| Door Closers | 5 years |
| Metal Windows | 2 years |
| Curtain Wall/Skylights..... | 2 years |
| Fixed Seating..... | 10 years |
| Carpet | 15 years |
| Chalkboard Surfaces | 50 years |
| Dock Lift | 2 years |
| Prefabricated Environmental Box | 10 years |
| Environmental Box Refrigeration Systems and Controls..... | 2 years |
| Air Conditioning and Refrigeration Systems | 2 years |
| HVAC Controls..... | 2 years |
| Variable Speed Controllers | 3 years |

Until receipt of these guarantees, final inspection will not be conducted nor final payment released.

- 13.8. Service Contracts. The Contractor shall, prior to completion of the Work, deliver to the Owner service contracts for equipment furnished and/or installed by the Contractor in connection with the Work. Specific requirements for service contracts are noted in various sections of the technical specifications. Service contracts are required for, but not limited to, the following:

Elevators
 Motorized Book Stacks (If Used in Project)

Until receipt of these contracts, where applicable, final payment will not be released.



TEXAS A&M UNIVERSITY SYSTEM
200 Technology Way, Suite 1162
College Station, Texas 77845-3424

Minimum Prevailing Wage Rate
County: Brazos
Revised: 02/02/10

| CLASSIFICATION | RATE | NOTES |
|--------------------------------|-------------|---|
| Acoustic Ceiling Installer | 12.75 | |
| Asbestos Abatement Worker | 10.97 | |
| Carpenter | 12.32 | |
| Concrete – Pour and Finish | 13.01 | |
| Crane Operator | 27.32 | |
| Driver | 12.75 | |
| Drywall Installer | 10.77 | |
| Electrician – Journeyman | 19.46 | |
| Electrician – Apprentice | 11.11 | |
| Elevator Mechanic – Journeyman | 18.78 | |
| Elevator Mechanic – Apprentice | 11.27 | |
| Fire Protection – Controls | 13.60 | |
| Fire Protection – Pipefitter | 17.21 | |
| Formwork Builder | 11.67 | |
| Glazier | 14.60 | |
| HVAC – Journeyman | 22.47 | |
| HVAC – Apprentice | 12.92 | |
| HVAC – Controls | 16.05 | |
| Insulator | 12.62 | |
| Ironworker | 15.25 | |
| Laborer/Helper | 10.00 | |
| Mason | 17.43 | |
| Equipment Operator – Light | 12.86 | |
| Equipment Operator – Heavy | 15.22 | |
| Painter | 11.57 | |
| Pipefitter – Journeyman | 17.21 | |
| Pipefitter - Apprentice | 10.74 | |
| Plasterer | 16.07 | |
| Plumber – Journeyman | 24.06 | |
| Plumber – Apprentice | 15.02 | |
| Reinforcing Steel Worker | 10.16 | |
| Roofer | 11.72 | |
| Stone Mason | 15.05 | |
| Terrazzo Installer | 19.55 | |
| Tile Setter | 11.90 | |
| Waterproofer | 11.76 | |
| Welder | | Receive rate for classification performing operation. |

Note: Listed minimum prevailing wage rate is the base hourly wage rate including fringes.

SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Work covered by Contract Documents.
- B. Contract Method.
- C. Starting Work.
- D. Work by Others.
- E. Contractor's Use of Premises.
- F. Owner Occupancy.

1.02 WORK COVERED BY CONTRACT DOCUMENTS:

- A. The Work of this Contract comprises the general construction of a Joint Library Facility located on the Riverside Campus of Texas A&M University for the Board of Regents of The Texas A&M University System.
- B. The Drawings and Specifications do not necessarily indicate or describe all Work required for completion of Project.
- C. The Contract Documents describe the essential elements sufficiently to determine the scope of the Project.
- D. Provide all items required for complete operating systems including items not necessarily shown in these Contract Documents, but that can be reasonably inferred as being required for a complete operating system.
- E. The Drawings and Specifications indicate the basic quality of material and quality of construction required for the entire Project.

1.03 CONTRACT METHOD:

- A. Construct the Work under a GMP contract.

1.04 STARTING WORK:

- A. The Contractor shall not start work until the Notice to Proceed has been issued and all insurance certificates have been reviewed and accepted by The Texas A&M University System.
 - 1. The Contractor shall furnish the required Insurance Certificates to the Area Manager. (UGSC Article 5).

2. The Contractor shall notify the ODR prior to commencing any Work.

1.05 WORK BY OTHERS (see UGSC 3.3.12):

- A. Contractor shall cooperate and coordinate its Work with Work provided under other contracts. Separate Contracts will include, but not necessarily be limited to the following:
 1. Owner's Testing Laboratory Services (Quality Assurance).
 2. Owner's independent HVAC balancing, testing and adjusting.
 3. Owner's commissioning agent.
 4. Owner's movable furnishings.
 5. Owner supplied equipment.
 6. N.I.C. (Not In Contract) Work.

1.06 CONTRACTOR'S USE OF PREMISES (see UGSC 3.1.4 and 3.3.11):

- A. Contractor shall have complete and exclusive use of premises within the construction limits indicated on the Drawings, for execution of Work.
 1. Where it is necessary for the Contractor to use portions of existing buildings and/or grounds for operations, such use shall be strictly in accordance with requirements and approval of the Owner. Contractor shall provide proper and safe access to the Owner occupied areas at all times.
 2. All interruptions of mechanical and electrical underground services shall be only at such time and for the lengths of time as approved by Owner. Where modifications to existing facilities or utility services are required, Contractor shall organize its work in order that inconvenience to the Owner is minimized. Give a minimum fourteen (14) days notice to ODR prior to interruption of services.
 3. Unless otherwise indicated or specified, or unless otherwise directed by the Owner; water, gas, lighting, power and telephone conduits and wires, sewer lines, and other surface and subsurface structures and lines, shall be maintained by Contractor and shall not be disturbed, disconnected or damaged by the Contractor during progress of Work. Should Contractor in performance of the Work disturb, disconnect or damage any of the above, any cost arising from such disturbance or in replacing or repair shall be borne by the Contractor.
- B. Contractor shall:
 1. Not unreasonably encumber the Project site with materials and equipment.
 2. Not load structure with weight that will endanger the structure.
 3. Assume full responsibility for protection and safekeeping of stored materials.

4. Move stored materials which interfere with operations of Owner and other contractors.
 5. Obtain and pay for use of additional storage land work areas needed for operations.
- C. Upon receipt of notice that the Contractor is ready to commence the Work, Owner will make the Project site available to the Contractor to execute the Work.
- D. The Contractor shall coordinate use of the premises with the ODR and must comply with the Owner's requirements concerning the Contractor's operations and use of the premises, parking, loading and unloading.

1.07 OWNER OCCUPANCY (see UGSC 12.2)

- A. The Owner will occupy the area surrounding the Project site during the entire period of construction for the conduct of its normal operations. The Contractor shall cooperate with ODR in all construction operations to minimize conflict, and to facilitate the Owner's usage.
- B. The Contractor shall at all times conduct its operations to ensure the least inconvenience to the general public.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 23 00

ALTERNATES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Identification of Alternates.
- B. Description of Alternates.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Divisions 2 through 35: Specific sections could be affected by any Alternate.

1.03 IDENTIFICATION OF ALTERNATES:

- A. Alternates will be selected at the option of Owner. Alternates accepted by Owner for incorporation into the Work are identified in the Contract.
- B. Coordinate related Work and modify surrounding Work as required to complete the Work, including changes required by each Alternate, designated in the Contract.

1.04 DESCRIPTION OF ALTERNATES: *[Project Manager working with A/E to include complete description of alternates]*

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General requirements for product options and substitution procedures.
- B. Material and product options.
- C. Substitutions.
- D. Coordination.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 31 00 - Project Management and Coordination
- C. Section 01 33 00 - Submittal Procedures
- D. Section 01 34 00 - Shop Drawings, Product Data and Samples.
- E. Section 01 60 00 - Product Requirements.
- F. Section 01 77 00 - Closeout Procedures.

1.03 GENERAL:

- A. In addition to Uniform General and Supplementary Conditions, Article 8 (UGSC 8.3.5), comply with product option and substitution requirements specified in this Section.

1.04 MATERIAL AND PRODUCT OPTIONS:

- A. Materials and Products Specified by Reference Standards, by Performance, or by Description Only: Any product meeting specified requirements.
- B. Materials and Products Specified by Naming Products of One or More Manufacturers with a Provision for an Equivalent Product: Submit one of the products listed which complies with specified requirements or submit a request for substitution for a product of manufacturer not specifically named which complies with specified requirements.
- C. Materials and Products Specified by Naming Products of Several Manufacturers Meeting Specifications: Submit one of the products listed which complies with specified requirements or submit a request for substitution for a product of manufacturer not specifically named which complies with specified requirements.

1.05 SUBSTITUTIONS (UGSC 8.3.5)

- A. Within sixty (60) days after date of Owner's Notice to Proceed, A/E will consider requests from Contractor for substitutions. Subsequently, substitutions will be considered only when a material or product becomes unavailable due to no fault

of Contractor or as follows:

1. Lockouts,
 2. Strikes,
 3. Bankruptcy,
 4. Discontinuation of product,
 5. Proven shortage,
 6. Other similar occurrences.
- B. Each proposed substitution of materials or products for that one specified is a representation by Contractor that it has personally investigated the substitution and determined that the proposed substitution is equivalent or superior to that specified in quality, durability and serviceability, design, appearance, function, finish, performance, and of size and weight which will permit installation in spaces provided and allow adequate service access. Additionally, Contractor agrees that it will provide and/or do the following:
1. Same warranty on substitution as for specified product or material,
 2. Coordinate installation and make other changes that may be required for Work to be complete in all respects,
 3. Waive claims for additional costs which may subsequently become apparent,
 4. Verify that proposed materials and products comply with applicable building codes and governing regulations and, where applicable, has approval of governing authorities having jurisdiction.
- C. The A/E will review requests from Contractor for substitutions with the ODR. Do not purchase or install substitute materials and products without written approval. The A/E will give written notice to Contractor and the ODR of acceptance or rejection within a reasonable time.
- D. Document each request for substitution with complete data substantiating compliance of proposed substitution with Contract Documents. As appropriate include:
1. Reason for the proposed substitution,
 2. Change in Contract Sum and Contract Time, if any,
 3. Effect on WPS and completion date,
 4. Changes in details and construction of related work required due to substitution,
 5. Drawings and samples,
 6. Product identification and description,
 7. Performance and test data,
 8. Itemized comparison of the qualities of the proposed substitution to the product specified including durability, serviceability, design, appearance, function, finish, performance, size and space limitations, vibration, noise, and weight,
 9. Availability of maintenance service, source and interchangeability of parts or components,

10. Additional information as requested.

- E. In the event of credit change in the cost, the Owner shall receive all benefit of the reduction in cost of the proposed substitution. Credit shall be established prior to final approval of the proposed substitution and will be adjusted by Change Order.
- F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request, without having been reviewed and approved by Contractor, or when acceptance will require substantial revision of Contract Documents without additional compensation to A/E.
- G. In the event that the Contractor or Subcontractor has neglected to place an order for specified materials and products to meet the WPS, specified requirements, color schemes or other similar provisions, such failure or neglect shall not be considered as legitimate grounds for an extension of completion time nor shall arbitrary substitutions be considered to meet completion date.
- H. Only one request for substitutions will be considered for each product. When substitutions are not accepted, the Contractor shall provide specified product.
- I. Should substitution be accepted, and substitution subsequently is defective or otherwise unsatisfactory, replace defective material with specified material at no cost to Owner.

1.06 COORDINATION:

- A. When a specified, optional, specified by reference standard, or proposed substitution item of equipment or material is submitted which requires minor changes or additions to the designed structure, finishes or to mechanical and/or electrical services due to its requirements being different from those shown on the Contract Documents, itemize the changes required and attach to submittal. Do not proceed with changes without written approval from the A/E.
- B. Contractor shall make adjustments and changes required to coordinate Work for installation of optional materials and products, approved substitutions and materials and products specified by reference standards without additional costs to Owner or A/E.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

END OF SECTION

SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

PART I - GENERAL

1.01 SECTION INCLUDES:

- A. The Uniform General and Supplementary Conditions (UGSC) specify that the Owner through the Owner's Designated Representative (ODR) can modify the construction contract.

1.02 CONTRACT CHANGES:

- A. UGSC, Article 11 states that the Owner may order changes in the Work within the general scope of the Contract, consisting of additions, deletions or other changes. If such changes cause an increase or decrease in the Contract Sum or Contract Time, an equitable adjustment may be made and confirmed in writing in the form of a Change Order.

1. A desired Contract modification is identified as a Contract Revision that will generally only be issued by the ODR or A/E in accordance with UGSC 11.7.1. The Contract Revision is priced by the Contractor, then evaluated by the ODR and A/E and approval by the Owner. A Change Order may contain one or more approved Contract Revisions. After the Change Order incorporating one or more Contract Revisions into the Contract is approved, the Contractor can add the work to the next payment application. It is necessary that all Contract Revisions be recorded and numbered in sequence. The ODR maintains a log of all Contract Revisions and their status. Any suggestion of a change, including possible claims, must be in the log and numbered.
2. Paragraph Not Used
3. A Contract Revision will be issued to the Contractor by the Owner. Copies will be provided to other parties as indicated on the form. (Form C-19)

Contractor's Proposal - The Contractor will complete the Contract Revision thirty (30) days and return the original to the ODR, with a copy to the A/E, along with a detailed cost breakdown using Form C-15 (Adjustment for Changes in Work). The cost breakdown shall consist of itemized pricing of easily identifiable components such as linear footage, square footage, cubic yardage, pounds, etc. This breakdown shall also be broken down by labor and materials. In addition, all subcontractor pricing shall be broken down using the same format. This detailed cost breakdown makes it possible to evaluate the Contractor's cost proposal. If the Contractor requests a time extension for the changed work, adequate

justification must be provided to prove the impact on the accepted construction schedule (refer to UGC Article 9 and Section 01 32 00).

Owner's Action - Upon receipt of the Contract Revision, the ODR and A/E will review the Contractor's cost and time proposals and make a decision whether to proceed with the Contract Revision, reject it, or negotiate all or certain items with the Contractor. The ODR will notify the Contractor of the decision taken and will provide copies of the decision to the A/E and Project Inspector. Approval will authorize the Contractor to proceed with the work. Approved Contract Revisions will be incorporated into a subsequent Change Order.

4. The cost of increased or decreased work will be calculated according to Uniform General and Supplementary Conditions, Article 11 (UGSC 11.8).
5. Interim Change Authorization (ICA) – (see UGSC 11.7.3 & 11.7.4) - When changes are done by ICA, the Owner's Project Manager will define the scope of work in a Contract Revision which will also serve as the Contractor's Notice to Proceed. This work, in effect, becomes cost reimbursable Work, which will be subject to careful, detailed record keeping. The ODR will carefully verify the manpower, supplies and equipment used on the Contract Revision so that the Owner gets the benefit of economic and efficient operation. Any overhead or fee markups on the cost of the direct work will be as agreed between the ODR and the Contractor and set forth in the ICA, but in no case will they exceed the maximums established in UGSC 11.8.

When the ICA method is ordered, the Contractor shall submit a TAMUS Form C-14 (Interim Change Authorization Statement) daily and it shall show labor by craft and payroll rate; material by kind and price supported by a copy of an invoice; and equipment by rental rates. Both the ODR and Contractor's representative will sign the completed forms and the ODR will furnish the Contractor one copy of the executed form. The additional copy will be kept by the ODR.

The form provided is a three part original and copies. The yellow copy is for the Construction Project Inspector, pink copy is for the Contractor, and the original is to be submitted with the COR.

It is important to understand that the original C-14 sheet must be submitted. If the original is lost or misplaced, the changed work will be treated as an ordinary Contract Revision and the pricing will be resolved by negotiation with reasonableness as the guiding principle.

When the scope of the work requested under an ICA has been completed, all ICA Statements will be consolidated onto one Form C-15 and

transmitted to the Owner in the same manner as a regular Contract Revision.

As soon as possible after the work is complete, the price will be agreed upon and incorporated into a Change Order.

Lump Sum Proposal - Lump sum proposals for Work under an ICA can be acceptable when it is not feasible to itemize the elements of work. In general, Lump Sum proposals should be avoided except for small items of work.

6. Unilateral Change Order (ULCO) - (see UGSC 1.28) - The ULCO will be used sparingly and may be used only on the approval of the Director of Project Delivery Division.
7. At least once a month, the Director of Project Delivery Division will prepare a Change Order to incorporate all approved Contract Revision not incorporated into a previous Change Order.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

END OF SECTION

SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Payment requests.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 77 00 - Closeout Procedures.
- C. Section 01 34 00 - Shop Drawings, Product Data and Samples.

1.03 PAYMENT REQUESTS:

- A. General: Except as otherwise indicated, the progress payment cycle is to be regular. Each application must be consistent with previous applications and payments. Certain applications for payment, such as the initial application, the application for final payment involve additional requirements. Refer to UGSC 10.2 and 12.3 for additional requirements.
- B. At the earliest convenient time, no later than 45 days after the Notice to Proceed, the Contractor shall develop a Schedule of Values (SOV) to reflect the value of the categories of work (UGSC 10.1). If more than one building is involved, the breakdown shall be by building. All exterior work involving utilities, landscaping, sidewalks, etc., should be identified as separate items.
 - 1. The initial SOV may require some revisions by the Contractor after the ODR's review. It is, therefore, recommended that this schedule be prepared and submitted as soon as possible to prevent delay of the initial payment to the Contractor.
 - 2. The ODR's initial interest in the SOV is to assure that the breakdown is in sufficient detail to meet the above requirements. After this requirement is satisfied, the A/E and ODR will review the schedule to assure that reasonable dollar values are assigned to the various items of work and to avoid front loading of payments.
 - 3. Computer generated or photo copied schedules of values prepared by the Contractor using the approved breakdown are acceptable.

C. MONTHLY PAYMENT ESTIMATES:

The A/E will show approval of the monthly pay estimate by affixing their signature to the original pay estimate. The original pay estimate will be forwarded to FPC for further processing.

1. Limitations - Estimates will not be approved if the job site record drawings are not up to date and posted (UGSC 6.2). Estimates will also not be approved if other periodic requirements are not provided, i.e., WPS, Cash Flow Schedule, Required Logs, etc.
2. Historically Underutilized Business Progress Reports (Form C-25) will be prepared and submitted with the pay request each month in accordance with Uniform General and Supplementary Conditions, Article 4. Pay requests will not be approved without this completed form.
3. Contract Change Statement - All approved Change Orders should be entered on the Contract Change Statement. This Statement will then be attached to the Contractor's monthly payment estimate. Percentages complete should be shown opposite each item listed and extended into the "Total Complete to Date" column. The total of the "Total Complete to Date" should be brought forward to the line item on the breakdown schedule titled, "Changes Complete to Date".
4. Payment for Stored Materials (UGSC 10.5) - Invoices for stored materials will be submitted when required by the ODR. Stored material invoices will be accepted only after an approved shop drawing or sample has been received by the ODR.

Invoices for stored materials will only be considered when they exceed five hundred dollars (\$500) for each individual item. There will be no invoices accepted that contain tools, or expendable materials.

Invoices will only be considered that are referenced to the materials in the SOV. Invoices that are not legible will not be considered for payment.

All stored materials will be checked by the Project Superintendent and verified by the ODR before being incorporated into the payment estimate.

5. Payment of Estimates - It is the desire of the Director of Project Delivery, FPC to process the Contractor's estimates as promptly as possible. In order to do this, it is requested that these instructions be followed and that the Contractor make every effort to see that the estimate is mathematically correct and that only approved items are included as material stored on the site.

- D. Base applications for payment on value of work installed, and materials and equipment suitably stored at Site. Materials and equipment suitably stored off site in an insured or bonded warehouse may be included, if approved in writing by ODR. See UGSC 10.5 for additional requirements when requesting payment for materials stored off site.
- E. Payment for Stored Materials: The ODR shall be the sole authority for approval (proof of insurance or bond will be required).
1. Where the Schedule of Values separates items into labor amounts and material amounts, payment will be made for materials delivered and suitably stored on Site provided said material is required for installation according to the Contractor's Work Progress Schedule (WPS).
 2. Materials stored at an off site location which are eligible for inclusion on progress payments are defined as finished goods made specifically for the Project, provided said material is required for installation according to the Contractor's WPS. Raw materials, work in progress at fabrication plants, and commodity items readily available for purchase are not eligible for inclusion in Contractor's Application for Payment.
 3. Payment will be made under following provisions:
 - a. Items are listed separately on Application for Payment.
 - b. Include with Application for Payment:
 - (1) Paid receipts showing Contractor is unconditional owner.
 - (2) Fully executed Transfer of Title on photocopy of form provided herein.
 - (3) Location where materials are stored if off site, and method used to store.
 - (4) Identify items in offsite storage as property of Owner and furnish description of identification method.
 - (5) Inventory of items and methods used to verify inventory, including Contractor's certification that quantities have been received in good order.
 - (6) Proof of insurance for materials stored off site, in Owner's name.
 - (7) Proof of transportation arranged for delivery of material stored off site.
 - (8) Material delivered and stored on site or off site needs to parallel WPS.
 - c. ODR reserves right to verify storage by physical inspection at any time.
 - d. Payment does not relieve Contractor's obligations to protect, transport and install materials.
 - e. Title of materials upon which partial payments are made shall transfer to Owner. Partial payment does not constitute acceptance

by ODR nor a waiver of any right or claim by ODR. Any costs incurred by Owner shall be paid by Contractor.

- F. Final Payment Application (see UGSC 12.3): Administrative actions and submittals must precede or coincide with submittal of Contractor's final payment application.
1. Complete project closeout requirements specification in Section 01 77 00 and 01 78 00.
 2. Additions and deductions resulting from Change Orders.
 - a. Original Contract Sum.
 3. The Owner will prepare final Change Order, reflecting approval adjustments to Contract Sum not previously made by Change Orders.
 4. After final acceptance of the work, the Director of Project Delivery, FPC, will prepare the final payment. When Federal Funds or other grant funds are included, approval of that agency may also be required.
- G. Application Transmittal: Submit one (1) executed copy of the final payment application complete with waivers of liens.
- H. Cash Flow Schedule: Cash Flow Schedule will be required within 21 days after approval of the SOV. This schedule shall show monthly payment requirements for the duration of the Contract. The schedule shall include a graphic analysis showing anticipated total completed to date accounts versus actual completed to date amounts. This Cash Flow Schedule is required to be updated monthly and submitted with each payment estimate.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Coordination of Contract Work.
- B. Correspondence.
- C. Meetings.
- D. Coordination of Submittals.
- E. Coordination of Contract Closeout.
- F. Coordination with Local Personnel.

1.02 RELATED SECTIONS:

- A. Uniform General and Supplementary Conditions Article 3
- B. Section 01 11 00 - Summary of Work.
- C. Section 01 25 00 - Substitutions Procedures.
- D. Section 01 31 50 - Project Meetings.
- E. Section 01 32 00 - Construction Progress Documentation
- F. Section 01 33 00 - Submittal Procedures
- G. Section 01 34 00 - Shop Drawings, Product Data and Samples
- H. Section 01 60 00 - Product Requirements.
- I. Section 01 73 50 - Cutting and Patching.
- J. Section 01 77 00 - Closeout Procedures.
- K. Section 01 78 00 - Closeout Submittals.
- L. All Divisions of Facility Services Subgroup

1.03 COORDINATION, GENERAL:

- A. Coordinate all portions of the Work under the Contract. Require each Subcontractor to coordinate their portion of the Work and provide their requirements for coordination of their Work with other related Work. (see UGSC 3.3.6)

Contractor shall require and be responsible for cooperation and coordination between various trades and Subcontractors whose work is dependent upon one another. Schedule such work so as to prevent delays in dependent work and so that all related work will progress together. Fully inform each trade or Subcontractor of the relation of its work to other work, and require each to make necessary provisions for the requirements of such other work. No additional compensation for extra work incurred through the lack of cooperation and coordination between various trades and Subcontractors will be allowed.

- B. Coordinate mechanical and electrical Work with that of other trades in order that various components of systems are installed at proper time, fit available space, and allow proper service access to those requiring maintenance, including equipment specified in other Divisions.
- C. Coordinate Work of sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate use of Project space and sequence of installation of mechanical, plumbing, and electrical Work which is indicated diagrammatically on Drawings. Follow routings shown for pipes, ducts, and conduits as closely as practicable, with proper allowance for available physical space; make runs parallel with lines of building. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas, except as otherwise shown, conceal pipes, ducts, conduit, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements. Provide escutcheon plates at penetrations through finished walls and ceilings with finish appropriate to adjacent finished surface.
- F. Coordination Drawings: Before materials are fabricated or installation of the Work , prepare coordination drawings (Section 01 34 00). Prepare drawings including plans, elevations, sections, and details as required to clearly define relationships between all building trades including HVAC, Electrical, Plumbing, Fire Sprinkler Systems and the structural components of the building such as ceilings, beams, columns, walls and floors. The drawings shall clearly define locations of sleeves, floor penetrations, Plumbing and HVAC piping, ductwork, equipment, light fixtures, electrical and control wiring conduits, panels, and their relationship to building structural components.
 - 1. In preparation of the coordination drawings the Contractor is required to hold coordination meetings with all trades providing the above Work for each building level and each mechanical and electrical room.
 - 2. Resolve conflicts between trades and prepare composite coordination drawings and submit six (6) sets of drawings to the A/E and one set to ODR. Allow sufficient time for review, in accordance with submittal procedures, prior to proceeding with fabricated or installation of the Work.
 - a. Prepare CAD coordination drawings to 3/8" = 1'0" scale for each floor level and for each mechanical and electrical room. The drawings shall indicate all work items located on each level shown on the drawing with the work items indicated by the following colors:

| | |
|------------------------------------|-------|
| Building and structural components | black |
|------------------------------------|-------|

| | |
|------------------------------------|-------------|
| HVAC ductwork and diffusers | dark green |
| HVAC piping | blue |
| Fire sprinkler piping and heads | red |
| Electrical conduits and equipment | orange |
| Domestic cold and hot water piping | brown |
| Plumbing storm and sanitary drain | purple |
| Plumbing gas piping | light green |

- b. All piping and ductwork larger than 2½” in diameter shall be drawn two line; smaller piping and ductwork shall be drawn double thickness single line.
- c. Show access space around equipment as directed by Specifications.
- d. The superintendent for each trade and the Contractor shall sign the drawing indicating that he has reviewed the drawing for accuracy.

- 3. When conflicts cannot be resolved, Contractor shall request clarification from the A/E prior to proceeding with that portion of the Work affected by such conflicts or discrepancies. Prepare interference Drawings to scale and include plans, elevations, sections, and other details as required to clearly define the conflict between the various systems and other components of the building such as beams, columns, and walls, and to indicate the Contractor's proposed solution.

- G. Remove and relocate items which are installed without regard to proper access, as directed by the A/E and ODR, at no additional cost to the Owner.

1.04 CORRESPONDENCE:

All correspondence relating to this Project must show the Project name, Project number and Contract number. Copies of all correspondence between the ODR, Contractor and A/E (except shop Drawings and submittals) should be provided to all parties. Copies of correspondence for the ODR should be provided to both the Construction Project Manager and Project Inspector.

1.05 MEETINGS:

- A. In addition to project meetings specified in Section 01 31 50, hold coordination meetings and pre-installation conferences with appropriate personnel to assure coordination of Work.

1.06 COORDINATION OF SUBMITTALS:

- A. Schedule and coordinate submittals specified in Sections 01 32 00, 01 33 00, 01

34 00, 01 25 00 and 01 78 00 and other Sections of Divisions 2 through 35.

- B. Coordinate requests for substitutions to assure compatibility of space, of operating elements, and effect on Work of other sections.

1.07 COORDINATION OF CONTRACT CLOSEOUT:

- A. Coordinate completion and cleanup of Work of separate sections in preparation for Substantial Completion.
- B. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.08 COORDINATION WITH LOCAL PERSONNEL:

- A. Problems concerning traffic, parking or blocking streets must be referred to the appropriate campus personnel. Confine truck route egress and exit to Site as indicated on Drawings. Coordination is to be through the ODR.
- B. Any exterior problems, including the moving of utilities is to be referred to the Physical Plant Department. Coordination is to be through the ODR.
- C. The scheduling of utility outages must be coordinated with the Physical Plant of the campus at least fourteen (14) days in advance. This coordination is to be arranged through the ODR.

1.09 PROTECTION:

- A. Contractor shall assume responsibility for initiation and maintenance of protective requirements specified in Section 01 50 00, Temporary Facilities and Controls.

1.10 REPAIR OF DAMAGE:

- A. Damage: Restore accidental or careless damage to the Work to a condition as good as or better than existed before work was commenced and at no cost to the Owner.

1.11 SECURITY:

- A. Conform to requirements of public laws, ordinances and regulations and requirements of insurance carriers concerning security of Site while Work is in progress as well as when it has been suspended, if this occurs.

1.12 RECORD DOCUMENTS:

06/08

- A. Maintain project record documents at Site. Refer to Section 01 78 00 for requirements.

1.13 CONSTRUCTION LOADING:

- A. General: Concrete slabs on grade and suspended floors have not been designed for heavy loading.
- B. Slabs On Grade: Do not subject slabs on grade to excessive loading by shoring, storage of materials or operation of construction equipment unless adequately protected by planking. Maintenance of slabs in good condition is the responsibility of the Contractor, who shall remove all damaged areas of such slabs and replace them with new work at no cost to Owner.
- C. Suspended Floors: Do not subject suspended slabs to construction loads beyond 40 pounds per square foot unless adequately shored. Such shoring shall be designed for the Contractor by a registered (Texas) Structural Engineer, who shall certify prior to imposing construction loads on slabs, that the shoring as installed conforms with the shoring as designed. Submit three prints, for record only, of the shoring drawings to the A/E, signed by the Contractor's design engineer.

1.14 SPECIAL REQUIREMENTS:

- A. Existing Utilities: Schedule shut downs if needed in order to minimize inconvenience to Owner. Notify ODR in writing fourteen (14) days in advance of any anticipated shutdowns. Utility shutdowns will only be scheduled at a time mutually agreeable to the Owner and Contractor.
- B. Existing Valves and Switchgear: Owner will be responsible for opening and closing all valves and switches on all utility services. This will be done by University's Physical Plant personnel without cost, except when overtime work is required.
- C. Damaged Utilities and Services: When existing utilities are damaged, University Physical Plant shall make repairs or permit Contractor to make repairs under supervision of Physical Plant personnel. If repairs are to utilities shown on Contract Documents, all costs or repairs incurred by Owner will be borne by Contractor.
- D. No additional compensation will be made to Contractor for reasons of premium time, after hours, overtime or for inefficiency of operation.
- E. Parking: Restricted to areas indicated on Drawings for Contractor's use. Contractor shall make arrangements and pay for any additional parking required off Project site.

- F. Deliveries and Removals: All deliveries of construction material, equipment, supplies, and similar operations, and removals shall be performed only in areas designated and approved by ODR.
- G. Circulation: Confine construction operations to designated areas avoiding any interruption of vehicular circulation to existing facilities. Should these requirements become unavoidable, submit a request to ODR in writing at least two weeks prior to anticipated interruption, stating predicted time, location and duration of interruption.
- H. Construction Scheduling: The Work shall be conducted in such a way as to cause a minimum of interference with the use of adjacent existing facilities during regular school and/or work hours.
- I. Noise Control: The Contractor shall execute the Work in this Contract as quietly as practical to avoid unnecessary disturbances.
 - 1. Any complaints duly registered by Owner of unacceptable noise levels shall be cause for use of special precautions and methods of operation by Contractor to reduce noises to acceptable levels at no additional cost to the Owner.
 - 2. The ODR shall be sole judge of tolerability of noise levels.
- J. Dust Control: Control all dust, to Owner's satisfaction, in working area and involved portions of the Project Site including access roads or drives.

PART 2 – PRODUCTS

NOT USED

PART 3 – PRODUCTS

NOT USED

END OF SECTION

SECTION 01 31 50

PROJECT MEETINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General Project Meeting Information.
- B. Pre-Construction Meeting.
- C. Progress Meetings.
- D. Pre-Installation Meetings.
- E. Lockset Hardware/Key Conference.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 25 00 - Substitutions Procedures
- C. Section 01 32 00 - Construction Progress Documentation
- D. Section 01 33 00 - Submittal Procedures
- E. Section 01 34 00 - Shop Drawings, Product Data and Samples
- F. Section 01 60 00 - Product Requirements..
- G. Section 01 73 50 - Cutting and Patching.
- H. Section 01 77 00 - Closeout Procedures.
- I. Section 01 78 00 - Closeout Submittals.

1.03 GENERAL:

- A. Contractors, Subcontractors and suppliers representatives attending the meetings/conferences of this section shall be qualified and authorized to act on behalf of the entity each represents.
- B. Contractor shall comply with the following meeting requirements during performance of the Contract.
 - 1. Arrangements: Arrange for a convenient, comfortable room in which to conduct the progress meetings, furnished as necessary to accommodate the people involved and to accomplish the purpose of the meeting. Owner will provide the room for the pre-construction meeting.
 - 2. Notices: Distribute written notices to all concerned at least seven (7) days in advance of the meeting date.
 - 3. Records: Keep notes during each meeting and distribute them in the form of minutes of the meeting to all concerned within four (4) days after the adjournment of the meeting with three (3) copies furnished to the A/E and one (1) copy furnished to the ODR.
 - 4. Schedule Updating: Immediately following each progress meeting, where revisions to the Work Progress Schedule (WPS) have been made or recognized, revise the progress schedule. Reissue revised colored copies of the WPS concurrently with minutes of each meeting.

1.04 PRE-CONSTRUCTION CONFERENCE (see UGSC 3.1.1):

06/08

- A. Chairman: The meeting will be presided over by the ODR.
- B. Attendance: The following persons will be expected to attend:
 - 1. Owner's Representatives.
Project Manager
User Coordinator
Physical Plant representative
 - 2. A/E's Construction Administrator.
 - 3. A/E's Consultants for Mechanical, Electrical and Structural Engineering.
 - 4. A/E's special consultants as maybe required.
 - 5. Contractor's General Superintendent and Project Manager.
 - 6. Major Subcontractors including at least those for mechanical, plumbing and electrical work.
- C. Agenda: Subjects shall include, but are not limited to the following:
 - 1. Distribution of submittals. Refer to Sections 01 33 00 & 01 34 00.
 - 2. Sequence of critical work.
 - 3. Relation and coordination by the Contractor.
 - 4. Designation of responsible personnel.
 - 5. Processing of Change Orders.
 - 6. Distribution of Construction Documents.
 - 7. Access to Work to permit inspection.
 - 8. Maintaining project Record Documents.
 - 9. Use of the premises, access to the Site, office and storage areas, and Owner's requirements.
 - 10. Major equipment deliveries and priorities.
 - 11. Safety and first aid procedure.
 - 12. Security procedures.
 - 13. Housekeeping procedures.
 - 14. Additional subjects as requested by the Owner, the Architect/Engineer or the Contractor.
 - 15. List of major Subcontractors and suppliers.

1.05 PROGRESS MEETINGS:

- A. Chairman: Contractor's Project Manager or Project Superintendent shall preside over the meeting, prepare agenda, record minutes, and distribute copies within four (4) working days after meeting to participants, with three (3) copies furnished to the A/E and one (1) copy furnished to the ODR
- B. Attendance: The following persons will be expected to attend:
 - 1. Owner's Representatives.
Project Manager
User Coordinator
Physical Plant representative
 - 2. Architect/Engineer's Construction Administrator.
 - 3. Architect/Engineer's Consultants for mechanical, electrical and structural

- engineering until excused from attendance.
 - 4. A/E's special consultants as maybe required.
 - 5. Contractor's General Superintendent, Project Superintendent and Project Manager.
 - 6. Subcontractors who have work in progress.
 - 7. Subcontractor who will start work within the next month.
 - 8. Others as requested by ODR, A/E, or Contractor.
- C. Agenda: The Contractor will provide a written agenda including but not necessarily limited to the following items:
 - 1. Present a brief written narrative of construction progress since the last monthly meeting containing:
 - a. General description of work performed.
 - b. Expectation of meeting scheduled dates.
 - c. Description of current or anticipated delaying factors or problems, if any.
 - 2. Review the updated WPS and present a written schedule analysis.
 - 3. Review the Submittal Schedule/Log.
 - 4. Review the COR Log.
 - 5. Review of Requests for Information.
 - 6. Review of project Record Documents.
 - 7. Review/approval of the Progress Payment.
 - 8. General discussion: Other outstanding/current business.
- D. Review of Pre-Installation Meetings
- E. At the end of the meeting, contractor is required to provide ODR with:
 - 1. One (1) set of Agenda (including all logs and information for meetings).
 - 2. One (1) Disc of WPS
 - 3. Two (2) colored copies of WPS
 - 4. One (1) HUB Report
 - 5. One (1) Certified Payroll
 - 6. One (1) Cash Flow Schedule
 - 7. One (1) Pay Estimate
- F. Number of Meetings: A minimum of one progress meeting shall be held each month. Other weekly or biweekly progress meetings shall be held as determined by the ODR and shall cover those subjects as required by the ODR.

1.06 PRE-INSTALLATION MEETINGS:

- A. Provide a list of all pre-installation meetings anticipated.
- B. Convene a pre-installation meeting at the Project field office prior to commencing any work.
- C. Require attendance of entities directly affecting, or affected by, work of Section.
- D. Notify A/E and ODR ten (10) days in advance of meeting date.

- E. Contractor shall prepare agenda, preside at meeting, record minutes, and distribute copies within four (4) working days after meeting to participants as required by contract.
- F. Review conditions of installation, preparation and installation procedures, and coordination with related work. Review submittals for all Work to be installed.
- G. The Contractor shall maintain an adequate inspection system and perform such inspection to insure that the work called for by this contract conforms to the contract specifications and requirements.
- H. The Contractor shall maintain complete inspection records and make them available to the ODR.
- I. Subcontractor foreman or project manager are required to attend this meeting.

1.07 LOCKSET HARDWARE/KEY CONFERENCE:

A key conference shall be conducted after approval of hardware submittal prior to the ordering of lock hardware. The Contractor shall, in conjunction with the ODR, A/E, User Coordinator and Physical Plant representative, establish a date for the key conference to be held. A key conference is required to review the function of the locks and to insure that all security requirements of the Using Agency will be met.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 32 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Work Progress Schedule (WPS).
- B. Daily reports.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 31 00 - Project Management and Coordination.
- C. Section 01 33 00 - Submittal Procedures.
- D. Section 01 33 50 - Shop Drawings, Product Data and Samples.
- E. Section 01 77 00 - Closeout Procedures.

1.03 WORK PROGRESS SCHEDULE (see UGSC 9.3):

Coordination: Comply with Uniform General and Supplementary Conditions, Article 9. Coordinate both the listing and timing of reports and other activities required by provisions of this Section and other Sections, so as to provide consistency and logical coordination between the reports. Maintain coordination and correlation between separate reports by updating at monthly or shorter time intervals. Make appropriate distribution of each report and updated report to all parties involved in the Work including the A/E and the Owner. In particular, provide close coordination of the WPS, contract price breakdown, listing of subcontracts, schedule of submittals, progress reports, and payment requests.

- A. Initial Work Progress Schedule: Submit a bar-chart type progress schedule within ten (10) calendar days after receipt of Notice to Proceed. On this schedule, indicate a time bar for each major category or unit of work to be performed at the Site, properly sequenced and coordinated with other elements of work. Show completion of the activity sufficiently in advance of the date established for completion of the Work. Under no circumstances will construction operations begin other than initial mobilization until the preliminary Work Progress Schedule is submitted.
- B. Work Progress Schedule: Within thirty (30) calendar days after the receipt of the notice to proceed, submit a comprehensive Work Progress Schedule (WPS). This schedule shall address and include all comments received from the ODR and the A/E that were in reference to the preliminary Work Progress Schedule.

- 1. General: The Work Progress Schedule shall be in accordance with the Precedence Diagramming Method (PDM) consisting of a time scaled

diagram and related computer generated analysis reports.

2. **Work Progress Schedule:** Based on development of the preliminary WPS and whatever updating and feedback may have occurred during project start-up, secure commitments for performing major elements of the Work. Submit a comprehensive WPS indicating, by stage-coded symbols, a time bar for each major category or unit of work to be performed at the Site; include minor elements of work which are involved in overall sequencing of the Work. Contractor shall identify all critical items, in red ink. Arrange schedule to graphically show the major sequences of Work necessary for the completion of related elements of Work. Prepare and maintain the schedule on either a sheet of sufficient size, not to exceed 11" x 17", or a series of sheets showing required data clearly for the entire Construction Time. Provide monthly updates in color, graphically and digitally to the ODR.
3. **Area Separations:** Arrange the WPS with separations between buildings and floors as approved by the ODR.
4. **Network Diagram:** Activities shown on the WPS shall be categorized and described as follows:
 - a. Each individual construction activity.
 - b. A concise description of the work.
 - c. An activity duration shall not exceed 20 work days. Durations of greater than 20 work days are acceptable for non-construction activities or as required by the type of construction activity.
 - d. Each activity shall be coded with an activity code or hammock that relates that activity to an item on the Schedule of Values.
 - e. Each activity shall be coded with an activity code that relates that activity to a phase or building. This subdivision of the Project shall be mutually agreed upon between the ODR and the Contractor.
 - f. Items requiring fabrication and delivery longer than 180 days.
 - g. Times anticipated for shutdown and tying-in to existing services. Note: This does not serve as an official request to the ODR and each individual request for an outage shall be submitted in writing fourteen (14) calendar days prior to the anticipated outage, as described in Section 01 31 00 Project Management and Coordination. An integrated schedule containing all of the above categories, or individual schedules for each of the above categories, or both, shall be as required by the A/E and/or the ODR.
 - h. After Substantial Completion the Contractor shall show the

following activities as a minimum:

1. Completion of pre-final punchlist (Suggested duration 30 days minimum).
2. Final inspection (Suggested duration 5 days).
3. The above activities are to be Finish to Start.

i. The WPS shall show the following Major Milestone Target Finish Dates:

1. Completion of main structure foundation piers or footings.
2. First or ground floor slab complete.
3. Structure top out.
4. Building dry-in or enclosed. This is defined as the roof, exterior walls, exterior windows and openings closed in.
5. Start of conditioned air. This is defined as the building is ready to hold environmental conditions.
6. Any Early Occupancy required by the Contract.
7. Project phases as outlined in the Construction Documents.
8. Permanent Power Required
9. Other milestones as appropriate to the Project.

j. Application of Major Milestones Requirement:

1. The Major Milestone Target Finish Dates identified above are to allow for periodic assessment of critical points of delivery in the construction process. If the Work progresses behind the WPS to the extent that a Major Milestone Target is missed, the ODR may retain sufficient funds, otherwise due to the Contractor, to provide for the assessment of Liquidated Damages in the event that the lost time is not regained. There will be no such additional retainage of funds, provided the published Major Milestone Target Finish Dates are maintained throughout the life of the project.
2. In the event that a Major Milestone Target Finish Date has not been met according to the approved schedule, then an assessment equal to the number of days beyond the scheduled date, multiplied by the contractual liquidated damage amount will be withheld as additional retainage (see UGSC 10.3.2 and 10.3.3) from the current progress payment. The Contractor shall consider this action by the ODR as Notice under UGSC 9.5 and shall increase the rate of Work placement accordingly.
3. Contractor is expected to implement a recovery action plan that re-establishes the original project progress schedule within thirty (30) calendar days of the missed

milestone target date.

4. Actions taken that restore the progress schedule within this 30 day work cycle will entitle the Contractor to recover the assessed additional retainage amount for that occurrence.
 5. Beyond thirty (30) calendar days, no reimbursement will be made and a deductive Change Order will be issued.
 6. All costs to recover lost time will be borne solely by the contractor.
- k. The WPS shall also show as a minimum the following activities:
1. Permanent power energized.
 2. Required inspections such as: above ceiling inspections, wall inspections and pre-final inspections.
 3. Sufficient time to correct the items listed in the above inspections.
 4. Chilled and heating water required.
- l. Each activity shall be represented by a graphical horizontal line, as follows:
1. Each line clearly and briefly described.
 2. Estimated duration.
 3. Early start, late start, early finish, late finish, actual start and actual finish.
 4. Each activity shall have its own number.
 5. Each activity, except for start and finish activities shall have at least one preceding and succeeding activity and each may have more than one.
 6. Line shall be drawn to the length as dictated by the item scale to indicate the activity's duration including both target duration and percent complete to date.
 7. Each activity shall be placed at its proper calendar location as determined by the time scale.
 8. Float shall be shown in its proper time scale for all activities. Float on specific activities shall be defined as the late finish date minus the early finish date. Total Float shall be the Contract Time less the duration of the critical path, or the amount of time non-critical activities can be delayed without causing the Contract Time to be exceeded.
 9. The path of critical activities shall be illustrated or accented in red, thereby easily distinguished from non-critical activities. There should only be one defined critical path.

10. Milestones or intermediate completion dates shall be clearly shown.
 11. Substantial Completion Date on the WPS shall coincide with time of completion indicated in the Contract Documents.
 12. The duration of each activity shall be shown in work days and include anticipated days lost due to inclement weather based on the Rainfall Table in Special Conditions 24.1.1.1.
 13. Upon review and acceptance of the WPS by the A/E and the ODR, the target bars shall be locked showing comparison between anticipated schedule and actual schedule.
 14. The original schedule shall be saved as the baseline schedule and each monthly update shall be saved as a different name or version.
5. Submittals: Submit two (2) color copies each of the Network Diagram and/or bar chart and two (2) copies each of the computer generated reports to the A/E and to the ODR. Also submit a digital copy of the WPS to the ODR. The ODR and A/E will request revisions, if necessary, and return to the Contractor.
6. Distribution: Following the initial submittal to and response by the A/E and ODR, print and distribute WPS to A/E, ODR, the principal subcontractors, suppliers or fabricators, and others with a need-to-know schedule-compliance requirement. Post copies in the project meeting room and temporary field office. When revisions are made, distribute updated issues to the same entities and post updated issues in the same locations. Delete entities from distribution when they have completed their assigned Work and are no longer involved in performance of scheduled Work.
- a. As major revisions are made during construction, distribute current issues to the same entities listed above and make postings accordingly.
7. Reports: Computer generated printouts with data regarding each activity shown on the Network Diagram shall include the following:
- a. Description of the activity.
 - b. Activity number.
 - c. Duration.
 - d. Early start, late start, early finish, late finish, actual start and actual finish dates.
 - e. Float.

- f. Show dates as calendar dates.
 - g. Target start and target finish dates.
8. Report format shall be sorted in accordance with following format with “a” being the highest priority:
- a. List of activities in ascending order according to activity number.
 - b. List of activities by amount of total float with activities having lowest float listed first, followed by activities with next lowest float.
 - c. List activities by early start date.
9. Submit two (2) color copies each of the updated WPS to the ODR and the A/E and an electronic copy (current/active version) to the ODR at the Monthly Progress Meeting each month, illustrating the following:
- a. Show progress on all active items.
 - b. Show actual completed Work as contrasted to estimated Work (i.e. target bar schedule).
 - c. Show critical path activities marked to distinguish them from non-critical path activities.
 - d. Show target bars from the baseline schedule.
10. Submit a detailed, written analysis describing deviations from the previous month's schedule as follows:
- a. Description of the critical path with changes from the previous month.
 - b. Changes in the network diagram and logic from the previous month.
 - c. Addition/deletion of activities.
 - d. Activities not finishing on the late finish date, the reason for the delay, the impact on the project and corrections to the project timeline.
 - e. Activities impacting meeting the Contract completion date and the reason and the corrective measures taken to correct the situation.
 - f. Any other items deviating from or impacting the WPS in relation to the previous month's WPS which would have an adverse effect on the Project.
 - g. Change Orders causing modifications in the Work which affect the duration, start or finish date of activities to the extent that the critical path is changed.

Note: Each of the above items shall be addressed monthly in this report.

11. Revisions to the schedule, including those created by Change Orders, shall be made at no cost to the Owner.
12. Time Extensions: Contract time extensions will not be granted unless a Change Order causes either of the following:
 - a. An increase in the duration of the Critical Path.
 - b. The available float of a non-critical activity is consumed causing the activity to become critical and thereby altering the critical path.
13. Time extensions shall be limited to the duration of the revised critical path less the Contract Time.
14. Project Summary Schedule: A summary project bar chart schedule shall be submitted monthly. The summary activities will match the construction items found on the Schedule of Values. The recommended method of producing this schedule is through the use of hammock activities. All of the underlying construction activities should be linked to a hammock activity and the scheduled value for that item should be loaded onto the hammock activity. The monthly submittal of this schedule should include the originally submitted schedule as a target schedule and the current status of that activity. In addition a cost weighted plan versus actual overall project progress curve should be submitted. Immediately after the WPS has been accepted by the ODR a projected cash flow chart shall also be developed from this target schedule and transmitted to the ODR. This cash flow chart shall show graphically projected total billings versus actual total billings. This chart shall be updated monthly and submitted along with the Payment Application. It is a requirement for approval of the Payment Application.
15. Work Progress Schedules should use one of the following scheduling software: Primavera or Microsoft Project. No substitutions will be allowed unless approved by the owner. The scheduling system utilized shall be compatible with Windows XP operating system or later.

1.04 DAILY REPORTS:

- A. Prepare a daily report, recording the following information concerning events at the Site; and submit two (2) copies each to A/E and ODR at regular intervals not exceeding weekly intervals:
 1. List of Subcontractors at the Site with a brief description of the work being performed.
 2. Approximate count of personnel at the Site.
 3. High/low temperatures, general weather conditions.

4. Accidents (refer to accident reports).
5. Meetings and significant decisions.
6. Unusual events (refer to special reports).
7. Stoppages, delays, shortages, losses.
8. Meter readings and similar recordings, as required.
9. Emergency procedures, field orders.
10. Orders/requests by governing authorities.
11. Visitors.
12. Services connected, disconnected.
13. Equipment or system test and/or start-ups.
14. Partial completions, occupancies.
15. Status of long lead items that affect the critical path.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General submittal information.
- B. List of proposed Subcontractors and suppliers.
- C. List of proposed materials.
- D. Schedule of Values (SOV).

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 25 00 - Substitution Procedures.
- C. Section 01 32 00 - Construction Progress Documentation.
- D. Section 01 34 00 - Shop Drawings, Product Data, and Samples.
- E. Section 01 60 00 - Product Requirements.
- F. Section 01 77 00 - Closeout Procedures.
- G. All Divisions of Facility Services Subgroup - Additional submittal requirements

1.03 GENERAL REQUIREMENTS (see UGSC 8.3):

- A. General: Prepare a complete schedule of work-related submittals. Submit this submittal to both the ODR and the A/E within twenty-one (21) days after the effective date of the Notice to Proceed with construction (per UGSC 8.3.1.1). Correlate this submittal schedule with the listing of subcontractors and with the "list of materials" as specified in the Contract Documents.
- B. Form: Prepare the submittal schedule in chronological order of submittals. Show category of the submittal, name of Subcontractor, a generic description of work covered, related section numbers, activity or event number on WPS, the scheduled date for the first submission, resubmittal, and the final release or approval by A/E. There should be sufficient time allowed for the approval process, including resubmittals, between the submission time and the required approval. The Contractor should typically follow the critical timing of these submittals in accordance with the WPS.
- C. Delivery: Submittals shall be sent to the A/E's office. The required date shall be considered met if the submittal is postmarked with such date.
- D. Approval: When approval is required, if resubmittals are necessary they shall be made in the manner described for the original submission, unless specified otherwise.

1.04 LIST OF PROPOSED SUBCONTRACTORS AND SUPPLIERS:

- A. General: Not later than thirty (30) days after award of Contract, submit the names of Subcontractors and material suppliers tabulated by each portion of the Work, in addition to the requirements set forth in UGSC 3.3.6.2. Performance or non-performance of any Subcontractor or material supplier will not relieve the Contractor of its responsibility for Work as called for in the Contract Documents.

1.05 LIST OF PROPOSED MATERIALS:

- A. Submit list of materials within forty-five (45) days after issuance of Notice to Proceed in accordance with UGSC 8.3.
- B. Materials List: Submit a list of the following types of materials proposed for installation:
 - 1. Material(s) not specified. (Refer to Section 01 25 00, Substitution Procedures).
 - 2. Material(s) selected from a Specification naming more than one manufacturer or supplier.
 - 3. Material(s) selected to conform to a reference specification when no manufacturer has been named.
- C. It will be assumed that materials omitted from the list will be furnished as specified when only one manufacturer has been specified. When more than one manufacturer has been named or when reference specifications have been used the A/E's selection will govern.
- D. The list shall be complete and tabulated by, each Specification section and/or portion of the Work. Include name of manufacturer of each material. For materials specified by reference standards, also include the following with the listing of each such product:
 - 1. Address of manufacturer.
 - 2. Trade name.
 - 3. Model or catalogue designation.
 - 4. Manufacturer's data, including performance and test data and referenced standards.

1.06 SCHEDULE OF VALUES (see UGSC 10.1):

- A. General:
 - 1. Submit a Schedule of Values (SOV) in sufficient time to allow review and approval by the ODR and A/E prior to submitting first Application for Payment. (Refer to UGSC 10.1)

2. Upon request by A/E or ODR, furnish additional data to support SOV values given that will substantiate their correctness.
3. Approved SOV will be used as basis for reviewing Contractor's Applications for Payment.
4. No payment will be made to the Contractor until the ODR and the A/E have approved the SOV.

B. Form and Content:

1. Use the Specification table of contents as basis of format for preparing the SOV.
2. List installed value of component parts of Work in sufficient detail to serve as basis for computing values for progress payments.
3. Line item costs shall not include General Contractor fee/overhead and profit; but, shall reflect the direct cost for labor and materials to General Contractor.
4. Separate line item cost for each of the following General Contractor cost items:
 - a. Bonds.
 - b. Field supervision and layout.
 - c. Temporary facilities and controls.
 - d. General Contractor overhead and profit.
5. Separate items into labor amounts and material amounts for each item.
 - a. Labor Costs: Estimated installation costs including labor, applicable taxes, insurance, fringe benefits, erection equipment and tools.
 - b. Materials Costs: Include estimated material and manufactured equipment costs including delivery, taxes and insurance.
6. Combined total of all costs listed in SOV shall equal Contract Sum.

C. Review and Resubmittal:

1. After initial review by ODR and A/E, revise and resubmit as required.

PART 2 – PRODUCTS - NOT USED

PART 3 – EXECUTION - NOT USED

END OF SECTION

SECTION 01 34 00

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General submittal information.
- B. Architect's and Engineer's action.
- C. Shop drawings, product data and samples.
- D. Field mock-ups and field samples
- E. Color schedules
- F. Brick selection.
- G. Precast architectural concrete and cut stone approvals.
- H. Required submittals.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 25 00 - Substitution Procedures
- C. Section 01 31 00 - Project Management and Coordination.
- D. Section 01 32 00 - Construction Progress Documentation.
- E. Section 01 33 00 - Submittal Procedures.
- F. Section 01 60 00 - Product Requirements.
- G. Section 01 77 00 - Closeout Procedures.
- H. Other Technical Sections: Additional submittal requirements.

1.03 SUBMITTALS, GENERAL:

- A. In addition to the requirements outlined in the Uniform General and Supplementary Conditions, Article 8, Contractor shall comply with the following duties and responsibilities.
- B. The Contractor shall submit to the A/E for review all shop drawings, product data, samples and other submittals for all items required in the Technical Sections of the Specifications and for all items proposed for use in the Work. Do not combine submittals for specified work with requests for substitutions. Submit requests for substitutions in accordance with Section 01 25 00. The Contractor will also send two (2) complete set of review copies of shop drawings, product data, samples and other submittals for all items proposed for use in the Work to the ODR marked "For Review Only".

- C. The Contractor shall review and stamp approval and submit, with reasonable promptness and in orderly sequence, all shop drawings, product data and samples required.
- D. Submit shop drawings, product data and samples far enough in advance to allow ample time for A/E's review, resubmittal if required, and fabrication without creating any delay in the Work, or the work of any other contractor or subcontractor.
1. Make architectural submittals a minimum of thirty (30) days prior to needed return date.
 2. Make structural, mechanical and electrical submittals a minimum of thirty (30) days prior to needed return date.
 3. Allow more review time for requests of substitutions.
 4. Shop drawings will be discussed at the pre-construction conference on an individual project basis regarding the number of shop drawings to be submitted for review by the A/E and ODR.
 5. The A/E, after review and approval of submittals, will mail or deliver one (1) approved copy to the Construction Project Inspector, and one (1) copy to the ODR. An extra copy of the submittals for mechanical, electrical and plumbing will also be required for the test and balance contractor and the commissioning agent [total of two (2) copies]. Do not send the approved copies for the Owner to the Contractor - but directly to the Owner.
 6. For submittals that are rejected or require resubmittal to the A/E for any reason, the A/E is requested to provide two (2) copies of the submittal to the ODR, i.e., one (1) copy to the Construction Project Inspector and one (1) copy to the ODR.
 7. The use of e-mail submittals will be discussed at the Pre-Construction Conference.
- E. Submittal Content Requirements:
1. Shop drawings shall be completely detailed and dimensioned with types, sizes, and gauges of materials noted. Where shop coat of paint is required on materials, brand name, and chemical content shall be noted on the drawings.
 2. Shop drawings shall be neatly, accurately, and legibly drawn, noted and referenced.
 3. Each item contained in the submittal shall be clearly referenced and noted establishing the item's location in the finished work.
 4. Member and item designations shall be the same as those used on the A/E's drawings, except that, where the A/E's has used the same designation for more than one member or item, the Contractor may add a suffix to the designation to differentiate between these members.
 5. Where published standard exist (such as ACI Standard 315-99 Details and Detailing of Concrete Reinforcement), these shall be followed in the preparation of shop drawings. Where no such standards are published by the industry or trade concerned, the shop drawings shall be prepared in a suitable form acceptable to

the A/E.

F. Submittal Format Requirements:

1. Submittal Preparation: Mark each submittal with a permanent label or title block, as appropriate, for identification with the following information on the label or title block for proper processing and recording of action taken.
 - a. Title of submittal and date submitted.
 - b. Sheet number and number of sheets included (as applicable). Number drawings consecutively.
 - c. Project Name, Project Number, and location of Project.
 - d. Name of Architect and Architect's Project Number.
 - e. Name of Contractor, subcontractor, fabricator supplier, and manufacturer, as appropriate.
 - f. Name of drawing and scale (as applicable).
 - g. Name and date of each revision.
 - h. Cross reference to A/E's Drawings and Specification Sections, as appropriate.
 - i. Provide a space on the label or adjacent to title block for the Contractor's review and approval markings, and appropriate space for the Architect's or Engineer's "Action" stamp.
 - j. Name of each item on each sheet submitted and indicate its location in the Project Work.
2. Submittal Numbering System: To expedite review of shop drawings, product data, samples and other submittals, all submittals shall be assigned a submittal number clearly visible on all transmittal forms and on each copy of each submittal adjacent to Contractor's review stamp. Numbering system shall track Specifications format. In the example 03 30 00-001.0, the number represents the following:
 - a. First Six Numbers: Specification Section; Section 03 00 00 in example.
 - b. Seventh Through Ninth Numbers: Numerical log of submittals within each Division; Submittal number 001 in example.
 - c. Last Number: Initial or re-submittal of each submittal; .0 for initial submittal, .1 for first re-submittal, and so forth.
3. Transmittal Form: Provide a letter of transmittal with each submittal, in duplicate, accurately describing the complete contents of the submittal, including the following:
 - a. Project name.
 - b. Date.
 - c. To:
 - d. From:
 - e. Names of subcontractor, manufacturer and supplier.
 - f. References.
 - g. Category and type of submittal.

- h. Submittal purpose and description of number of sheets, type of data, equipment and product types, finishes, submittal number, and similar data.
 - i. Submittal and transmittal distribution record.
 - j. Signature of transmitter.
 - k. Record relevant information and requests for data on the transmittal form. On the transmittal form, or on a separate sheet attached to the form, record deviations from the requirements of the Contract Documents, if any, including minor variations and limitations.
 4. Submit Plumbing, Mechanical and Electrical items specified in each individual Section at the same time. Partial submittals will not be considered.
 5. Bind each of the Plumbing, Mechanical and Electrical submittals into a complete brochure; loose sheets will not be accepted. Each complete brochure shall contain a Table of Contents showing the order in which the items are arranged in the brochure and shall have extended index tabs for each item. Arrange items in the same order in each brochure. Where manufacturer's literature contains information on more than one product, clearly mark the item being submitted, using the symbol or designation used to identify the item on the Drawings or in the Specifications.
 6. Group only like or related items together in a single submittal. Do not combine submittals for specified work with requests for substitutions. Submit requests for substitutions as specified in Section 01 25 00.

G. Contractor Duties and Responsibilities:

1. Coordinate requirements for submission of each shop drawing, product data and sample as required to properly execute the Work and as necessary to maintain satisfactory progress of the Work in accordance with the WPS and Submittal Schedule.
2. Review shop drawings, product data, and samples prior to submission to A/E. By submitting shop drawings, product data, and samples, Contractor represents that it has verified field measurements, field construction criteria, catalog numbers and similar data, and has coordinated each submittal with requirements of the Work and of the Contract Documents. Contractor's responsibility for errors and omissions in submittals is not relieved by A/E's review of submittals. Submittals received from sources other than Contractor will be returned to sender without A/E's review "action".
3. Contractor shall certify by stamped, signed, and dated notation on each submittal, that "Submittal is in compliance with requirements of Contract Documents without deviation." Submittals without Contractor's stamp and submittals which, in A/E's or ODR's opinion, are incomplete, contain numerous errors, have not been checked, or have been checked only superficially, will be returned without disposition. Delays resulting there from shall be Contractor's responsibility.
4. Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by A/E's review of shop drawings,

product data, and samples unless Contractor has specifically informed the A/E in writing of such deviation at time of submission and A/E has given written acceptance to the specific deviation.

5. Contractor shall direct specific attention, in writing or on resubmitted shop drawings, product data or samples, to revisions other than those requested by A/E on previous submittals.
 6. Contractor shall give prompt written notice to A/E of inability to comply with exceptions noted on the returned submittals or if unsatisfactory results are anticipated. Document specific reasons for inability to comply or specific unsatisfactory results that are anticipated. Propose substitution to comply with intent of the Contract Documents and produce satisfactory results in accordance with the substitution requirements of Section 01 25 00.
 7. No portion of the Work requiring submission of a shop drawing, product data or sample shall be commenced until submittal has been reviewed with "No Exceptions Taken" status by A/E, except as otherwise provided in this Section.
 8. All portions of the Work shall be in accordance with approved submittals.
- H. Submittal Quantity: The Contractor shall furnish Shop Drawings submittals for A/E review and approval. Submit minimum seven (7) copies to the A/E and additional copies as required by the Contractor, Subcontractors and suppliers. Number of copies required for by the Contractor shall be determined by the Contractor. Submit minimum of three samples of materials requiring choice of color, texture or finish. Large job site samples shall be limited to one for each approval submittal.
- I. Reproduction and Distribution of Submittals After A/E's Review: Provide and distribute prints of reviewed shop drawing reproducible transparencies as required to provide two (2) copies for ODR and one (1) copy for job site file (both "No Exceptions Taken" status only), and copies necessary for Contractor operations. Distribute sets of product data to provide two (2) copies for ODR and one (1) copy for job site file (both "No Exceptions Taken" status only) and others as necessary for Contractor operations. Retain job site mock-ups and samples until removal is approved by A/E and ODR.
- J. There will be no payment made for submittal preparation.

1.04 ARCHITECT'S AND ENGINEER'S ACTION (UGSC 8.3.2):

- A. Upon receipt of submittals requiring review, the A/E will review submittals and return them to the Contractor with results of the review indicated as follows:
1. **REVIEWED; NO EXCEPTIONS TAKEN:** Submittal has been reviewed for the limited purpose of checking for conformance information given and design concept expressed in the Contract Documents and no exceptions are taken; Contractor may proceed with work represented in submittal, provided no deviation to Contract Documents.

2. REVIEWED; EXCEPTIONS NOTED: Submittal has been reviewed as stated above and certain exceptions are noted. Contractor may proceed with work represented in submittal, unless otherwise noted. Revise submittal, incorporating exceptions noted, and resubmit to A/E until "Reviewed; No Exceptions Taken" status is given.
3. REVIEWED; REVISE AND RESUBMIT: Submittal has been reviewed as stated in paragraph 1 above, Contractor may not proceed with work represented in submittal, and submittal is not acceptable for one of the following reasons:
 - a. Not enough information is provided to make a determination.
 - b. Submittal contains too many errors or omissions to make a determination.
 - c. Information provided does not conform with the information given in the Contract Documents.
4. REJECTED; SUBMIT SPECIFIC ITEM: Submittal has been reviewed as stated in paragraph 1 above, work represented in submittal has not been accepted in accordance with procedures specified in Section 01 25 00; submit specified item.

1.05 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES (UGSC 8.3.4):

A. Shop Drawings: Comply with "Submittals, General" and the following:

1. Definition: The term Shop Drawings refers to original drawings prepared by the Contractor, Subcontractor, supplier, fabricator or distributor illustrating a portion of the Work including fabrication drawings, manufacturing drawings, erection drawings, setting drawings, patterns, coordination drawings, schedules, design mix formulas, Contractor's engineering calculations, and layout drawings including ceiling layouts if different from the Contract Documents. Do not submit Contract Documents for Shop Drawings.
2. Format: Prepare drawings on minimum 8-1/2" x 11" to maximum 30" x 42" sheets. Draw plan and section details at a scale of 1" = 1' - 0", details shall be drawn at a scale of 3" = 1' - 0" or larger scale. In addition to "Submittals, General" requirements, each drawing shall be cross-referenced to A/E's Drawings.
3. Content: Shop Drawings shall include, but not be limited to the following:
 - a. The size thickness of members.
 - b. The method of anchoring and securing parts.
 - c. The quantity and location of each item.
 - d. Other pertinent data necessary to show the work to be done, where, and how it is to be done.
 - e. Materials and finishes.
 - f. How item fits to abutting work and requirements for related construction.
 - g. Required connections.
 - h. Overall size and weight.
 - i. Clearances and tolerances.
 - j. Verification of field conditions prior to fabrication.
 - k. Coordination of Shop Drawings and data with requirements for related

construction.

1. Refer to Section 01 31 00 - Project Management and Coordination for other requirements.

B. Product Data:

1. Definition: Manufacturer's standard product specifications, installation instructions, rough-in diagrams and templates, standard wiring diagrams, printed performance and operational range diagrams, mill reports, operating and maintenance manuals, color charts, data sheets, brochures, drawings and diagrams, and other standard illustrative and descriptive data to clearly identify pertinent data, models and materials, uses, limitations, actual dimensions and clearances required, and technical performance data including wiring diagrams and controls. Specific item must be identified on catalog cut sheets.
2. Mark out information not applicable to this Project and supplement standard product data to show compliance with requirements.

C. Samples:

1. Definition: Samples include:
 - a. Partial sections of manufactured or fabricated work.
 - b. Small cuts or containers of materials.
 - c. Complete units of repetitively-used materials.
 - d. Swatches showing full range of color, texture and pattern.
 - e. Color range sets.
 - f. Units of work to be used for independent inspection and testing.
 - g. Units of work to be used as a standard to judge materials and workmanship.
2. Provide samples for items where specified and for items requiring a choice of color, texture or finish. Samples shall illustrate the materials and workmanship and establish standards by which to judge the completed work.
3. Typical office samples shall be approximately 12" square or 12" long unless otherwise noted and shall clearly illustrate the applicable function, corners, joints, related parts, attachment devices, specified finish and full range of colors. Full size approved samples may be incorporated into the Work unless otherwise noted.

1.06 FIELD MOCK-UPS AND FIELD SAMPLES (UGSC 8.4):

- A. The Contractor shall erect and maintain mock-ups and field samples as required by the various sections of the specifications. Mock-ups and field samples are required for, but not limited to the following:
 1. Concrete sidewalk finishes.

2. Exterior face brick wall complete with required tooled mortar, sealants, related stonework, windows, glazing, roofing systems, flashings and other related exterior building materials. (see UGSC 8.4.1.1)
- B. Field samples and job site mock-ups shall be erected at the Project Site at a mutually agreed location. Contractor shall request approval for location on which to construct mock-up of field sample prior to proceeding. Each field sample or mock-up shall be complete and illustrate the range of finish and workmanship required in the completed Work and will be used by A/E and ODR, upon approval, as a standard to judge subsequent work.
 - C. Where several mock-ups of alternate construction techniques or finishes are required and prepared, each shall be labeled for clear identification indicating base construction finish material, special techniques used and where important for duplication of effect line pressures, grit classification, lengths of exposure, surface preparation, undercoats, strength of reagents, etc.
 - D. Contractor shall request review of mock-up or field sample upon completion prior to proceeding with actual construction work.
 - E. Contractor shall protect mock-up or field samples from damage, dirt and discoloration after A/E's and Owner's approval. Retain on the job as a standard reference for materials, workmanship and appearance until removal is authorized. Do not alter, move or destroy mock-up or field sample until so authorized. Remove and dispose of mock-up only after approval is given by the ODR.

1.07 COLOR SCHEDULES:

- A. After receipt of all samples, A/E will present to the ODR a proposed comprehensive color schedule for review and approval.
 1. Once approved, the colorboard will be sent to and kept at the job site for reference. A second set of approved colors, in a 3-ring binder, will be provided to FPC Interior Designer by the A/E. A copy of the color finish schedule compiled after the colors are approved must be provided to the ODR.
 2. The Contractor must insure that required submittals for all items requiring color selection are accomplished in a timely manner. The A/E cannot prepare the colorboard for approval by the ODR until all items requiring color selection have been submitted.
- B. The approved color schedule will then be released to the Contractor for ordering materials.
- C. No color selection will be released until all colors are approved in the comprehensive

color schedule. Any "early" selections requested, and acted upon by the Contractor, shall be at its own risk and understanding that material of color differing from the approved color schedule will be rejected.

- D. If the Contractor is unable to submit all exterior color selections/samples within sixty (60) days or all interior color selections/samples within ninety (90) days after "Notice to Proceed", the A/E may proceed with preparation of the color schedule using the color selections of a specified product. The Contractor shall be required to match the selected colors at no additional cost to the Owner of the specified product selected by the A/E.

1.08 BRICK SELECTION

Brick selection is a very important item from the Owner's perspective and timely submittals by the Contractor are important to prevent delay.

1.09 PRECAST ARCHITECTURAL CONCRETE AND CUT STONE APPROVALS (if applicable)

Contract may require a project sample of precast architectural concrete or cut stone to be constructed. After the project sample is erected, the ODR will arrange for appropriate personnel to inspect and approve the sample.

1.10 REQUIRED SUBMITTALS:

A. General:

1. In addition to the requirements outlined in the UGSC Article 8.3, Special Conditions, Division 1 and in the Technical Sections of the Specifications, the Contractor shall submit shop drawings, product data, samples, color samples, warranties, and other pertinent data as briefly scheduled herein.
2. Refer to each individual Section of the Specifications for specific requirements of each submittal item.
3. Where requirements are not specifically indicated, provide sufficient data as required to incorporate each item into the work.
4. All subcontractors, suppliers, and manufacturers shall provide a warranty of materials and workmanship of not less than one year duration, and as otherwise specified (see UGSC 13.2).

B. Submittal Legend: The following abbreviations are used in remarks column of the Submittals:

1. SD: Shop Drawings
2. M: Manufacturer's Data
3. C: Color Selection Required
4. S: Physical Samples

5. R: Additional Replacement Materials
6. MO: Maintenance and Operating Manuals
7. IO: Instruction of Owner's Personnel
8. G1, G5, Etc: Guarantee with number of years duration
9. TR: Test Reports
10. CR: Certifications

C. Submittals:

Division 1 - General Requirements

| | |
|--|--|
| List of Subcontractors | within 30 days after notification of Contract Award (UGSC Article 3) |
| List of Materials | within 45 days after issuance of Notice to Proceed (UGSC 8.3) |
| Initial WPS | within 10 days after issuance of Notice to Proceed (UGSC 9.3) |
| WPS | within 30 days after issuance of Notice to Proceed |
| General Contractor's Maintenance Warranty | G1 |
| Schedule of Values | not later than 45 days after issuance of Notice to Proceed and each month thereafter (UGSC 10.1.1) |
| Contract Warranty and Guarantee | additions noted herein |
| Guarantees | additions noted herein |
| Project Sign | SD within 30 days |
| Maintenance | MO 4 sets prior to Final Acceptance and payment All items requiring Color Selection within 60 days Soil, Concrete Mix Designs M, S |
| Coordination Drawings | within 90 days after issuance of Notice to Proceed and 10 days prior to work taking place |

Division 2 - Existing Conditions

Division 3 - Concrete

| | |
|-------------------------------------|----------------------|
| Concrete Formwork | SD |
| Concrete Reinforcement & Assemblies | M, TR, CR, SD, G1 |
| Cast-in-Place Concrete | M, TR, SD, CR, G1 |
| Post Tension Concrete | M, SD, TR, CR, G1 |
| Architectural Precast Concrete | M, SD, S, TR, CR, G1 |

Division 4 - Masonry

| | |
|--------------|-----------------|
| Unit Masonry | M, S, C, CR, G1 |
|--------------|-----------------|

| | |
|-------------------------------|---------------------|
| Granite Veneer & Marble Stone | M, SD, S, CR, C, G5 |
| Granite Stone Counter Tops | M, SD, S, CR, C, G1 |
| Limestone Veneer | M, SD, CR, C, G5 |

Division 5 - Metals

| | |
|---------------------------|---------------------|
| Structural Steel | M, SD, CR, TR, G1 |
| Metal Roof Decking | M, SD, CR, TR, G1 |
| Cold Formed Metal Framing | M, SD, CR, G1 |
| Miscellaneous Metals | M, CR, C, S, SD, G1 |
| Metal Stairs | M, SD, TR, CR, G1 |
| Handrails and Railings | M, SD, CR, G1 |
| Ornamental Handrails | M, SD, CR, S, G1 |
| Ornamental Pipe Handrails | M, SD, S, CR, G1 |

Division 6 – Wood, Plastics and Composites

| | |
|---------------------|-----------------|
| Rough Carpentry | M, CR, G1 |
| Glue-Laminated Wood | M, SD, S, C, G1 |
| Finish Carpentry | S, SD, G1 |
| Wood Paneling | M, S, SD, C, G1 |

Division 7 - Thermal and Moisture Protection

| | |
|-----------------------------|------------------------------|
| Fluid Applied Waterproofing | M, S, CR, SD, G10 |
| Flexible Flashing | M, S, CR, G1 |
| Dampproofing | M, G1 |
| Vapor Retarder | M, G1 |
| Building Insulation | M, S, CR, G1 |
| Cementitious Fireproofing | M, TR, G1 |
| Firestopping | M, SD, G1, Schedule |
| Standing Seam Metal Roofing | M, SD, S, C, CR, G5/20 |
| Roofing | M, SD, S, CR, C, MO, IO, G10 |
| Flashing and Sheet Metal | M, SD, S, CR, G2 |
| Roof Accessories | M, SD, G5 |
| Joint Sealers | M, SD, S, CR, C, G5 |

Division 8 - Openings

| | |
|-------------------------|--------------------------|
| Metal Doors and Frames | M, SD, CR, G1 |
| Wood Doors | M, SD, S, C, CR, G(Life) |
| Access Doors | M, SD, G1 |
| Overhead Rolling Grills | M, SD, S, G1 |
| Aluminum Storefront | M, SD, S, C, CR, TR, G5 |

| | |
|--------------------------|-----------------------------|
| Aluminum Windows | M, SD, S, TR, CR, C, G5 |
| Finish Hardware Schedule | M, SD, S, G1/5 |
| Glass and Glazing | M, SD, S, C, G1/5 (mirrors) |

Division 9 - Finishes

| | |
|-----------------------------|-------------------------|
| Lath and Plaster | M, S, CR, C, G1 |
| Gypsum Board Systems | M, S, CR, TR, G1 |
| Tile | M, S, C, CR, R, G1 |
| Acoustical Ceiling Systems | M, SD, S, R, CR, G1 |
| Acoustical Wall Surfaces | M, S, SD, G1 |
| Wood Flooring and Ceiling | M, S, C, G1 |
| Stone Flooring | M, SD, S, CR, C, R, G5 |
| Terrazzo | M, SD, S, CR, C, MO, G1 |
| Resilient Flooring | M, SD, S, CR, R, C, G1 |
| Carpeting | M, SD, S, C, TR, R, G15 |
| Elastomeric Liquid Flooring | M, S, CR, C, G2 |
| Painting | M, SD, S, C, CR, R, G1 |
| Wallcovering | M, S, C, G1 |

Division 10 - Specialties

| | |
|---------------------------------|--------------------------------------|
| Markerboards | M, SD, S, C, G1/50 (writing surface) |
| Toilet Partitions | M, SD, S, C, CR, G1 |
| Metal Wall Louvers | M, SD, S, CR, C, G1 |
| Identifying Devices | M, SD, S, C, G1 |
| Fire Extinguishers and Cabinets | M, SD, C, G1 |
| Operable Partitions | M, SD, S, C, G2 |
| Toilet Accessories | M, SD, C, CR, S, G1 |

Division 11 - Equipment

| | |
|------------------------|---|
| Projection Screens | M, SD, S, G10 |
| Loading Dock Equipment | M, SD, CR, G5 |
| Appliances | M, SD, C, S, G1 (manufacturer's warranties) |
| Darkroom Equipment | M, SD, S, C, G1 |

Division 12 - Furnishings

| | |
|-----------------------|---------------------|
| Manufactured Casework | M, SD, S, C, CR, G2 |
| Horizontal Blinds | M, SD, S, C, G1 |
| Foot Grilles | M, SD, C, S, G1 |
| Multiple Seating | M, SD, S, CR, C, G1 |
| Entrance Mats | M, SD, S, G1 |

Division 13 - Special Construction

Division 14 - Conveying Equipment

| | |
|---------------------|-------------------------|
| Hydraulic Elevators | M, SD, S, C, MO, IO, G1 |
| Traction Elevators | M, SD, SC, MO, IO, G1 |

Divisions 21 to 28 – Facility Services Subgroup

| | |
|---|-------------------------|
| Refer to the various Division Sections specific submittal requirements | M, SD, S, C, MO, IO, G1 |
|---|-------------------------|

Division 31 – Earthwork

| | |
|--|------------------------|
| Select Structural Fill Borrow Material | TR, S, G1 |
| Lime Stabilization | TR, G1 |
| Compaction and Testing | TR, Special Provisions |
| Soil Treatment | M, G5 |
| Drilled Pier Report | M, TR, G1 |

Division 32 – Exterior Improvements

| | |
|--------------------------------|------------------------|
| Concrete Pavers | M, S, TR, G1 |
| Sidewalk Finish Sample | S, G1 |
| Concrete and Reinforcing Steel | M, TR, SD, G1 |
| Granite Pavers | M, TR, S, C, SD, R, G5 |
| Pavement Marking | M, C, SD, G1 |
| Chain Link Fence | M, SD, S |
| Bicycle Racks | M, SD, G1 |
| Site Furniture | M, S, C, G1 |

Division 33 – Utilities

| | |
|-----------------------|---------------|
| Water Service System | M, SD, TR, G1 |
| Fire Hydrants | M, TR, G1 |
| Storm Sewer System | M, G1 |
| Sanitary Sewer System | M, SD, G1 |

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

END OF SECTION

SECTION 01 42 00

REFERENCES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Reference Requirements.
- B. Governing Regulations and Authorities.
- C. Definitions

1.02 REFERENCE REQUIREMENTS:

- A. Materials, equipment and operations specified by reference to published standards and specifications of a technical society, trade association, or other agency standard, shall comply with the requirements of the current edition of the listed document that is in effect on the issue date of the Specifications or Addendum page making reference thereto, unless otherwise specified. Make copies of referenced documents available at site, as the ODR or A/E may request.
- B. No provision of a reference standard, specification, manual, or code shall change the duties and responsibilities of the Owner, the Contractor, the A/E and their consultants, their agents and employees from those duties and responsibilities set forth in the Contract Documents.
- C. Acronyms for names of technical societies, associations, and agencies referenced in the Contract Documents shall be interpreted as follows:

AA Aluminum Association
900 19th St., NW, Suite 300; Washington, DC 20006;
202-862-5100
www.aluminum.org

AABC Associated Air Balance Council
1518 K Street, NW, Suite 503; Washington, DC 20005
202-737-0202
www.aabchq.com

AAMA American Architectural Manufacturers Association
1827 Walden Office Square, Ste 550; Schaumburg, IL 60173-4268
847-303-5664
www.aamanet.org

ANLA American Nursery & Landscape Association

1000 Vermont Ave., NW, Ste 300; Washington, DC 20005-4914
202-789-2900
www.anla.org

- ACI American Concrete Institute
38800 Country Club Drive; Farmington Hills, MI, 48331;
248-848-3700
www.concrete.org
- ACIL American Council of Independent Laboratories
1629 K Street, NW, Suite 400; Washington, DC 20006-1633
202-887-5872
www.acil.org
- ADC Air Diffusion Council
1000 E. Woodfield Road, Suite 102; Schaumburg, IL 60173-5921
847-706-6750
www.flexibleduct.org
- AGC Associated General Contractors of America
333 John Carlyle Street, Suite 200; Alexandria, VA 22314
703-548-3118
www.agc.org
- AIA America Institute of Architects
1735 New York Avenue, NW; Washington DC 20006
202-626-7300
www.aia.org
- AIC American Institute of Constructors
466 94th Avenue North; St. Petersburg, FL 33702
727-578-0317
www.aicnet.org
- AISC American Institute of Steel Construction, Inc.
One East Wacker Drive, Suite 3100; Chicago, IL 60601-2001
312-670-2400
www.aisc.org
- AISI American Iron and Steel Institute
1140 Connecticut Avenue, Suite 705; Washington, DC 20036
202-452-7100
www.steel.org
- AMCA Air Movement and Control Association
30 West University Drive; Arlington Heights, IL 60004-1893

847-394-0150
www.amca.org

ANSI American National Standards Institute
1819 L. Street, NW, 6th Floor; Washington, DC 20036
202-293-8020
www.ansi.org

APA American Plywood Association
P.O. Box 11700; Tacoma, WA 98411-0700
253-565-6600
www.apawood.org

ARI Air Conditioning and Refrigeration Institute
4100 North Fairfax Drive, Suite 200; Arlington, VA 22203
703-524-8800
www.ari.org

ASHRAE American Society of Heating, Refrigerating &
Air Conditioning Engineers, Inc.
1791 Tullie Circle, NE; Atlanta, GA 30329
404-636-8400
www.ashrae.org

ASME American Society of Mechanical Engineers
3 Park Avenue; New York, NY 10016
212-591-7000
www.asme.org

ASTM American Society for Testing and Materials
100 Barr Harbor Drive; West Conshohocken, PA 19428-2959
610-832-9500
www.astm.org

AWI Architectural Woodwork Institute
1952 Isaac Newton Square West; Reston, VA 20190
703-733-0600
www.awinet.org

AWPA American Wood Preservers' Association
P.O. Box 388; Selma, Alabama 36702-0388
www.awpa.com

AWS American Welding Society, Inc.
550 Le Jeune Road, NW; Miami, FL 33126
305-443-9353

www.aws.org

- AWWA American Water Works Association
6666 West Quincy Avenue; Denver, CO 80235
303-794-7711
www.awwa.org
- BHMA Builders' Hardware Manufacturers Association
355 Lexington Ave., 17th Floor; New York, NY 10017
212-297-2122
www.buildershardware.com
- BIA Brick Institute of America
11490 Commerce Park Drive, Suite 300; Reston, VA 20191
703-620-0010
www.bia.org
- BICSI Building Industry Consulting Services International
8610 Hidden River Parkway; Tampa, FL 33637
800-242-7405
www.bicsi.org
- CPA Composite Panel Association
18922 Premiere Court; Gaithersburg, MD 20879
301-670-0604
www.pbmdf.com
- CPSC Consumer Product Safety Commission
National Injury Information Clearinghouse
4330 East-West Hwy.; Bethesda, MD 20814-4408
301-504-6816
www.cpsc.gov
- CRSI Concrete Reinforcing Steel Institute
933 Plum Grove Road; Schaumburg, IL 60173-4758
847-517-1200
www.crsi.org
- DHI Door and Hardware Institute
14150 Newbrook Drive, Suite 200; Chantilly, VA 20151-2223
703-222-2010
www.dhi.org
- FM Factory Mutual Engineering and Research Organization
1151 Boston-Providence Turnpike; Norwood, MA 02062-5001
781-762-4300

FS Federal Specification (General Services Administration) Specifications Unit (WFSIS)

GA Gypsum Association
810 First Street, NE, Suite 510; Washington, DC 20002
202-289-5440
www.gypsum.org

IEEE Institute of Electrical and Electronics Engineers
445 Hoes Lane; Piscataway, NJ 08854
732-981-0660
www.ieee.org

IESNA Illuminating Engineering Society of North America
120 Wall Street, Floor 17; New York, NY 10005
212-248-5000
www.iesna.org

IGCC Insulating Glass Certification Council
c/o ETL Testing Labs, P.O. Box 9, Henderson Harbor, NY 13651
315-646-2234
www.igcc.org

ILI Indiana Limestone Institute of America
400 Stone City Bank Building, Bedford, IN 47421
812-275-4426
www.iliai.com

LPI Lightning Protection Institute
3335 N. Arlington Hts. Road, Suite E; Arlington Hts., IL 60004
847-577-7200
www.lightning.org

MIL Military Standardization Documents (U.S. Dept. of Defense)

MSS Manufacturers Standardization Society of the Valve and Fittings Industry
127 Park Street, NE; Vienna, VA 22180-4602
703-281-6613
www.mss-hq.com

NAAMM National Association of Architectural Metal Manufacturers
8 South Michigan Avenue, Suite 1000; Chicago, IL 60603
312-332-0405
www.naamm.org

NCMA National Concrete Masonry Association
13750 Sunrise Valley Drive; Herndon, VA 20171-4662
703-713-1900
www.ncma.org

NEC National Electric Code (by NFPA)

NEI National Elevator Industry, Inc.
1677 County Route 64, P.O. Box 838; Salem, NY 12865-0838
518-854-3100
www.neii.org

NEMA National Electrical Manufacturers Association
1300 North 17th Street; Rosslyn, VA 22209
703-841-3200
www.nema.org

NFPA National Fire Protection Association
One Batterymarch Park; Quincy, MA 02269-9101
617-770-3000
www.nfpa.org

NIST National Institute of Standards and Technology
(formerly National Bureau of Standards; U.S. Dept. of Commerce)
Gaithersburg, MD 20899-3460
301-975-6478
www.nist.gov

NPCA National Paint and Coatings Association
1500 Rhode Island Ave., NW; Washington, DC 20005
202-462-6272
www.paint.org

NRCA National Roofing Contractors Association
10255 W. Higgins Road, Suite 600; Rosemont, IL 60018-5607
847-299-9070
www.nrca.net

NSF National Sanitation Foundation
P.O. Box 130140, 789 N. Dixboro Rd; Ann Arbor, MI 48113-0140
734-769-8010
www.nsf.org

NTMA The National Terrazzo and Mosaic Association, Inc.
201 N. Maple Avenue, Suite 208; Purcellville, VA 20132

800-323-9736
www.ntma.com

NWWDA National Wood Window and Door Association (formerly NWMA)
1400 E. Touhy Avenue #G54; Des Plaines, IL 60018
708-299-1286
www.nwwda.org

OSHA Occupational Safety & Health Administration
200 Constitution Avenue, NW; Washington, DC 20210
www.osha.gov

PCA Portland Cement Association
5420 Old Orchard Road; Skokie, IL 60077
847-966-6200
www.portcement.org

PCI Precast/Prestressed Concrete Institute
209 W. Jackson Blvd, Suite 500.; Chicago, IL 60606-6938
312-786-0300
www.pci.org

PS Product Standard of NBS (U.S. Department of Commerce)

RFCI Resilient Floor Covering Institute
401 E. Jefferson Street, Suite 102; Rockville, MD 20850
301-340-8580
www.rfci.com

RIS Redwood Inspection Service (Grading Rules)
405 Enfrente Drive, Suite 200; Novato, CA 94949
415-382-0662

SDI Steel Deck Institute
P.O. Box 25; Fox River Grove, IL 60021
847-458-4647
www.sdi.org

SDI Steel Door Institute
30200 Detroit Road; Cleveland, OH 44145-1967
440-899-0010
www.steeldoor.org

SIGMA Sealed Insulating Glass Manufacturers Association
401 N. Michigan Avenue, Suite 2400; Chicago, IL 60611
312-644-6610

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|---------|---|
| SMACNA | Sheet Metal & Air Conditioning Contractors National Association, Inc. 4201 Lafayette Center Drive; Chantilly, VA 20151-1209 703-803-2980 www.smacna.org |
| SPIB | Southern Pine Inspection Bureau (Grading Rules) 4709 Scenic Highway, Pensacola, FL 32504-9094 850-434-2611 www.spib.org |
| SSPC | The Society for Protective Coatings 40 24 th Street, 6 th Floor; Pittsburgh, PA 15222-4656 877-281-7772 www.sspc.org |
| TCA | Tile Council of America, Inc. 100 Clemson Research Blvd.; Anderson, SC 29625 864-646-8453 www.tileusa.com |
| TIA/EIA | Telecommunications Industry Association/Electronic Industries Alliance 2500 Wilson Blvd., Suite 300; Arlington, VA 22201 703-907-7700 www.tiaonline.org |
| UL | Underwriter's Laboratories 333 Pfingsten Road; Northbrook, IL 60062 847-272-8800 www.ul.com |
| WCLIB | West Coast Lumber Inspection Bureau (Grading Rules) P.O. Box 23145; Portland, OR 97281 503-639-0651 www.wclib.com |
| WWPA | Western Wood Products Association 522 SW 5 th Avenue, Suite 500; Portland, OR 97204-2122 503-224-3930 www.wwpa.org |

1.03 GOVERNING REGULATIONS/AUTHORITIES:

- A. The A/E has contacted the appropriate authorities having jurisdiction for the listed

regulations and codes to obtain information for preparation of the Contract Documents. The Contractor may contact authorities having jurisdiction directly for information and decisions having bearing on the Work.

1. Life Safety Code, NFPA 101, 2006 edition, and all referenced codes.
2. International Building Code, 2006 edition, International Code Council, Inc., (for all items not covered by Life Safety Code).
3. Other applicable National Fire Codes, NFPA.
4. State Energy Conservation Design Standard (ASHRAE 90.1-2004 Energy Standard).
5. State Energy Conservation Office (SECO) Suggested Water Efficiency Guidelines for Buildings and Equipment at Texas State Facilities.
6. Other applicable ASHRAE Standards
7. International Plumbing Code and International Mechanical Code, 2006 edition, International Code Council, Inc.
8. Building Service Piping, ASME/ANSI B31.9.
9. Applicable ANSI, ASTM and ASME codes and standards
10. Applicable OSHA, EPA and Texas Commission on Environmental Quality (TCEQ) regulations
11. Texas Accessibility Standards (TAS), Texas Department of Licensing and Regulations, Architectural Barriers Act, Ch. 469, Government Code.
12. Americans with Disabilities Act, Public Law 101-336, enacted July 26, 1990
13. Safety Code for Elevators and Escalators, ASME A17.1 & A17.3.
14. TIA/EIA Standards.
15. FM Global Standards for Roof Systems and Fire Protection Systems

1.04 DEFINITIONS:

- A. Require and Similar Words: As needed to complete the Work and as directed by A/E, unless stated otherwise.
- B. Perform: Contractor, at its expense, shall perform operations necessary to complete the Work, including furnishing of necessary labor, tools and equipment, and further including furnishing and installing of materials indicated, specified or required to complete such performance.
- C. Provide: Contractor, at its expense, shall furnish and install the Work complete in place and ready for use, including furnishing of necessary labor, materials, tools, equipment and transportation. Definitions apply same to future, present and past tenses, except word "provide" may mean "contingent upon" where such is context.
- D. Other Acceptable Manufacture, Equal, Or Equal, Equivalent and Words of

Similar Import: It shall be understood such words are followed by expression "in opinion of A/E" unless stated otherwise.

- E. Acceptable, Acceptance or Words of Similar Import: Acceptance or similar import of A/E is intended unless stated otherwise.
- F. At No Extra Cost to Owner, With No Extra Compensation to Contractor, at Contractor's Expense or Terms of Similar Import: Such terms shall be understood to mean that Contractor shall perform or provide specified products, materials or operations of the Work at no increase to Contract Sum stated in executed Contract.
- G. NIC: Work which is not being performed or provided as part of Contract; term shall mean "Not In This Contract" or "Not a Part of the Work to be Performed or Provided by Contractor." "NIC" work is indicated as an aid to Contractor in scheduling the amount of time and materials necessary for completion of Contract.
- H. Indicated: The term "indicated" is a cross-reference to graphics, notes or schedules on Drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.
- I. Directed, Requested or Similar Words: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by the ODR, A/E," "requested by the ODR, A/E," and similar directions by the ODR and A/E. However, no such implied meaning will be interpreted to extend Owner's and A/E's responsibility into Contractor's area of construction supervision.
- J. Approve: Where used in conjunction with Owner's and A/E's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of the term "approved" will be held to limitations of Owner's and A/E's responsibilities and duties specified in General Conditions. In no case will "approval" by Owner and/or A/E be interpreted as a release of Contractor from responsibilities to fulfill requirements of Contract Documents.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

END OF SECTION

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SECTION 01 43 00

QUALITY ASSURANCE

PART I - GENERAL

1.01 SECTION INCLUDES:

- A. General Requirements and Qualifications for Owner's Quality Assurance Testing.
- B. Below Grade Inspections.
- C. Concrete Inspections.
- D. Wall Closure and Above Ceiling Inspections.
- E. Pre-final Inspection.
- F. Final Inspection
- G. Final Acceptance
- H. One Year Inspection.

1.02 RELATED SECTIONS:

- A. Section 01 34 00 - Shop Drawings, Product Data, and Samples

1.03 GENERAL REQUIREMENTS FOR OWNERS QUALITY ASSURANCE TESTING (UGSC 8.2.2):

- A. The Owner will employ a testing laboratory and/or geotechnical engineering service to perform quality assurance tests and to transmit copies of test reports to Contractor. Sampling and testing that the Owner may require is specified in this section and in the various technical sections requiring quality assurance testing. Cooperate with Owner's testing laboratory personnel, provide access to the Work, to manufacturer's and fabricator's operations, furnish incidental labor and facilities, and samples for test and inspections, as specified.
 - 1. Employment of testing laboratory to perform quality assurance tests is for benefit of Owner in confirming that performance and quality of the Work is in conformance with the Contract Documents.
 - 2. Employment of a testing laboratory by Owner in no way relieves Contractor's obligation to perform the Work in accordance with Contract Documents.
 - 3. Owner's testing laboratory shall not be the same as Contractor's testing laboratory used for design and certification testing unless otherwise acceptable to the A/E and Owner.
 - 4. Where the terms "Inspector" and "Laboratory" are used, they mean and refer to an officially designated and accredited inspector of the testing laboratory engaged by the Owner.
 - 5. The testing firm shall make all inspections and perform all tests in accordance with the rules and regulations of the building code, local

authorities, the Specifications of the ASTM and these Contract Documents.

6. Commercial Testing Laboratories: In general, all Contracts awarded by The Texas A&M University System will require that testing not performed by the Contractor (i.e., hydrostatic testing of piping) or by the A/E (i.e., spot checking of air flow by the Engineer) will be performed by a commercial testing laboratory selected by the Owner. The cost of such commercial testing will be paid directly by The Texas A&M University System through the Area Manager, FPC. Retesting will also be paid by the Owner, but will be reinvoiced at cost to the Contractor. The number of copies of test reports will be determined for each individual project but in general will include:

Two copies for the Contractor;
One copy for the A/E;
One copy for the Area Manager, FPC; and
One copy for the Construction Project Inspector.

Employment of the testing laboratory is for the benefit of the Owner for confirming that performance and quality of the Work is in conformance with the Contract Documents.

7. The engagement of a testing laboratory by the Owner in no way relieves the Contractor of its responsibility, for full compliance of the Contract. The Contractor remains liable for the quality of the materials, products/equipment installed, and satisfactory work performance.

- B. Owner's quality assurance testing and sampling may include the following testing and other services to ensure Contract performance.

1. Compacted Fill and Backfill: Perform field density tests.
2. Footing Subgrades: Perform tests and visual comparisons of footing subgrades to verify design bearing capacities.

- C. Limits of Testing Laboratory Authority: Laboratory is not authorized to:

1. Approve or reject any portion of the Work.
2. Perform any duties of the Contractor and Subcontractors.
3. Revoke, alter, relax, expand, or release any requirement of the Contract Documents or to approve or accept any portion of the Work, except where such approval is specifically called for in the Specifications.
4. Laboratory technicians do not act as foremen, or perform other duties for Contractor. Work will be checked as it progresses, but failure to detect any defective work or materials shall not, in any way, prevent later rejection when such defect(s) are discovered.

1.04 QUALIFICATIONS:

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A. Laboratory Qualifications and Procedures:

1. Meet "Recommended Requirements for Independent Laboratory Qualification," latest edition published by American Council of Independent Laboratories. Testing firms shall meet the requirements of ASTM E 329, "Recommended Practice for Inspection and Testing Agencies for Concrete, Steel and Bituminous Materials as Used in Construction" and ASTM E 543, "Determining the Qualification of Nondestructive Testing Agencies."
2. Testing firms shall each be insured against errors and omissions by a professional liability insurance policy having a limit of liability not less than \$500,000.00.
3. The inspection and testing services of the testing firm shall be under the direction of a Registered Engineer licensed in the State of Texas and having at least five years engineering experience in inspection and testing of construction materials.
4. Inspecting personnel monitoring concrete work shall be ACI certified inspectors.
5. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during most recent tour of inspection. Include memorandum of remedies of deficiencies reported by this inspection.
6. Testing Equipment: Calibrated at reasonable intervals by devices of accuracy traceable to National Bureau of Standards.
7. Tests and inspections shall be conducted in accordance with specified requirements and if not specified, in accordance with applicable standards of the American Society for Testing and Materials and other recognized authorities, as approved.
8. Primary inspectors performing structural steel inspection shall be currently certified AWS Certified Welding Inspectors (CWI), in accordance with the provisions of AWS QCI, "Standard and Guide for Qualification and Certification of Welding Inspectors." The inspector may be supported by assistant inspectors who may perform specific inspection functions under the supervision of the inspector. Assistant inspectors shall be currently certified ASW Certified Associate Welding Inspectors (CAWI). The work of assistant inspectors shall be regularly monitored by the inspector.

1.05 BELOW GRADE INSPECTIONS (UGSC 8.2.7)

- A. Before the covering or backfilling of any improvement below grade, cover up inspections will be conducted to see that all items meet the plans and specs. Only after all the deficiencies have been corrected will the Contractor be allowed to install any backfill.

1.06 CONCRETE INSPECTIONS

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- A. Before the placing of any cast-in-place concrete structure, an inspection will be conducted to see that all items meet the intent of the plans or specs. Only after all the deficiencies have been corrected will the Contractor be allowed to proceed.

1.07 WALL CLOSURE/ABOVE-CEILING INSPECTIONS (UGSC 8.2.7)

- A. Before the installation of any ceiling or the closing of walls and chases, an inspection will be conducted to see that all items fully meet the plans and specs before being covered. Only after all the deficiencies have been corrected will the Contractor be allowed to install the ceiling or close-up the wall.
- B. As a minimum, the following should be in place before an above-ceiling inspection is scheduled:
 - 1. All light fixtures installed and working;
 - 2. All plumbing installed and insulation complete;
 - 3. All rigid and flexible ducts installed;
 - 4. All required valve identification tags installed;
 - 5. All air devices installed and connected;
 - 6. All controlled air tubing installed; and
 - 7. The ceiling support structure installed.
- C. Walls and chases will be inspected to verify the presence of blocking and bridging, and to verify electrical conduit and boxes are installed and supported properly.
- D. Those in attendance at these inspections shall include the A/E, selected personnel from the FPC, the General Contractor, plumbing, electrical and mechanical subcontractors and representatives from Physical Plant or Using Agency.
- E. A minimum of fourteen (14) days notice shall be given to the ODR prior to these inspections.

1.08 A/E AND PROJECT INSPECTOR'S SUBSTANTIAL COMPLETION INSPECTION (UGSC 12.1.1)

- A. When the Contractor feels that the Work is complete and ready for the Owner's use, it will notify the A/E and the ODR in writing fourteen (14) days prior to the date that the Work is anticipated to be complete and ready for a Substantial Completion Inspection. The A/E, along with representatives of the FPC, User Coordinator, and members of the Physical Plant will make a detailed inspection of all Work included in the Contract and the A/E will furnish to the Contractor a list of incomplete items. When all these items have been completed by the Contractor, the A/E and the ODR will be notified that all items of the Pre-Final Inspection have been completed.

1.09 FINAL INSPECTION AND ACCEPTANCE (UGSC 12.1.2)

- A. Upon verification by the A/E and the ODR that the deficiencies found during the Pre-Final Inspection have been corrected, and the Work is ready for Final Inspection and Acceptance, the ODR will, within ten (10) calendar days after receiving written verification by the A/E, make a Final Inspection. When the Work is found acceptable under the Contract Documents without any exceptions and the Contract is fully performed, then final payment will be made to the

Contractor. Those in attendance at the Final Inspection will include the A/E, representatives of the FPD and FCD, and User Coordinator.

1.10 FINAL ACCEPTANCE (12.3)

- A. When the Work is fully complete, the A/E and construction project manager will notify the Director of Project Delivery, FPC, recommending final acceptance of the Work. The Director of Project Delivery, FPC, will prepare a Report of Final Inspection and Acceptance.

1.11 ONE YEAR INSPECTION

- A. All Contracts awarded by The Texas A&M University System contain a one (1) year workmanship and material guarantee as stated in Uniform General and Supplementary Conditions, Articles 13.2 and 13.5. Defects which might result in damage to the facility or other property should be called to the attention of the Director of Project Delivery, FPC, who will notify the A/E and the Contractor.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

3.01 PIER DRILLING OPERATION

- A. Provide services herein specified.
- B. A representative of the soils testing laboratory shall make continuous inspections to determine that proper bearing stratum is obtained and utilized for bearing and that shafts as are properly clean and dry before pouring concrete.
- C. Soils testing laboratory shall furnish complete pier log showing the diameter, top and bottom elevations of each pier, casing required or not required, bell size, actual penetration into bearing stratum, elevation of top of bearing stratum, and volume of concrete used.
- D. Request probe holes when deemed necessary to confirm safe bearing capacity.

3.02 REINFORCING STEEL MECHANICAL SPLICES

- A. Visually inspect and report on the completed condition of each mechanical splice of reinforcing steel.
- B. Each mechanical splice shall be visually inspected to ensure compliance with building code and the manufacturer's published criteria for acceptable completed

splices.

- C. Special emphasis shall be placed on inspection of the end preparation of each bar to be spliced, as required by the building code.
- D. Submit copies of manufacturer's published criteria for acceptable completed splices prior to observing mechanical splices.
- E. Reports on each mechanical splice shall indicate location of the splice, size of bars spliced, and acceptability or rejection of splice. Reasons for rejection shall be shown on each report.

3.03 CONCRETE REINFORCING STEEL AND EMBEDDED METAL ASSEMBLIES

- A. Inspect all concrete reinforcing steel prior to placing of concrete for compliance with Contract Documents and approved shop drawings. All instances of noncompliance with Contract Documents and approved shop drawings shall be immediately brought to the attention of the Contractor for correction and then, if uncorrected, reported to the A/E.
- B. Observe and Report on the Following:
 - 1. Number and size of bars.
 - 2. Bending and lengths of bars.
 - 3. Splicing.
 - 4. Clearance to forms including chair heights.
 - 5. Clearance between bars or spacing.
 - 6. Rust, form oil, and other contamination.
 - 7. Grade of steel.
 - 8. Securing, tying, and chairing of bars.
 - 9. Excessive congestion or reinforcing steel.
 - 10. Installation of anchor bolts and placement of concrete around such bolts.
 - 11. Fabrication of embedded metal assemblies, including visual inspection of all welds.
 - 12. Visually inspect studs and deformed bar anchors on embedded assemblies for compliance with Contract Documents. Check number, spacing and weld quality. If, after welding, visual inspection reveals that a sound weld or a full 360 degree fillet has not been obtained for a particular stud or bar, such stud or bar shall be struck with a hammer and bent 15 degrees off perpendicular and then bent back into position. Anchors failing this test shall be replaced.

3.04 CONCRETE INSPECTION AND TESTING

- A. Receive and evaluate all proposed concrete mix designs submitted by the Contractor. If the mix designs comply with the Drawings and Specifications, the

laboratory shall submit a letter to the A/E certifying compliance. Mix designs not complying with the Drawings and Specifications shall be returned by the laboratory as unacceptable.

- B. Secure composite samples of concrete at the jobsite in accordance with ASTM C 172.
- C. Mold and cure three specimens from each sample in accordance with ASTM C 31. Supervise the curing and protection provided (by others) for test specimens in the field, and the transportation from the field to the laboratory. The test cylinders shall be stored in the field 24 hours and then be carefully transported to the laboratory and cured in accordance with ASTM C 31.
- D. Test specimens in accordance with ASTM C 39. Two specimens shall be tested at 28 days for acceptance and one shall be tested at seven days for information.
- E. Make one strength test (three cylinders) for each 100 cubic yards or fraction thereof, of each mix design of concrete placed in any one day.
- F. Make one slump test for each set of cylinders following the procedural requirements of ASTM C 243 and ASTM C 172. Make additional slump tests whenever the consistency of concrete appears to vary. Do not permit placement of concrete having a measured slump outside the limits given on the Drawings, except when approved by the A/E. Slump tests corresponding to samples from which strength tests are made shall be reported with the strength test results. Other slump tests need not be reported.
- G. Determine total air content of air entrained normal-weight concrete sample for each strength test in accordance with ASTM C 231.
- H. Determine temperature of concrete sample for each strength test.
- I. The testing agency shall furnish and maintain a competent inspector at the mixing plant at the start of each day's mixing. The inspector shall examine concrete materials for compliance with Specifications and approved mix design, weighing and measuring devices, proportioning and mixing of materials, the water and cement content of each batch, the general operation of the plant and the transportation of concrete to the jobsite. The inspector shall verify that the amount of free surface moisture contained in the fine and coarse aggregate has been properly accounted for in the concrete mixing to achieve the required consistency and water cement ratio.
- J. The testing laboratory shall monitor the addition of water to the concrete at the jobsite and the length of time the concrete is allowed to remain in the truck before placement. The personnel shall compare the mixture with the criteria on the approved mix design and report any significant deviation to the A/E, ODR,

Contractor and concrete supplier. Do not permit the addition of water which will exceed the maximum water/cement ratio for the mix as given on the approved mix design.

- K. Observe the placing of all concrete, except non-structural slabs-on-grade and sitework. Observe and report on placing method, consolidation, cold joints, length of drop, and displacement of reinforcement. Report deficiencies to the Contractor immediately for corrective action. Inspections may be reduced to a periodic basis when all procedures have been deemed satisfactory by the laboratory.
- L. The testing laboratory shall certify each delivery ticket indicating class of concrete delivered (or poured), amount of water added and the time at which the cement and aggregate was dispensed into the truck, and the time at which the concrete was discharged from the truck.
- M. Evaluation and Acceptance:
 - 1. If the measured slump, or air content of air entrained concrete, falls outside the specified limits, a check test shall be made immediately on another portion of the same sample. In the event of a second failure, the concrete shall be considered to have failed to meet the requirements of the specifications, and shall not be used in the structure.
 - 2. The strength level of the concrete will be considered satisfactory if the averages of all sets of three consecutive strength test results are equal to, or exceed specified strength and no individual test result (average of two cylinders) is below specified strength by more than 500 psi.
 - 3. Completed concrete work will be accepted when the requirements of "Specifications for Structural Concrete for Buildings," ACI 301, Chapter 18, have been met.
- N. Concrete Test Reports:
 - 1. Reports shall be made and distributed immediately after the respective tests or inspections are made.
 - 2. Where reports indicate deviations from the Contract Documents, they shall also include a determination of the probable cause of the deviation and, where applicable, a recommendation for corrective action.
 - 3. Whenever the testing laboratory recognizes a trend of decreasing quality in the concrete due to changing seasons, conditions of curing, or other cause; this shall be brought to the attention of the A/E and the ODR, along with a recommendation for corrective action to be taken before the materials fall below the requirements of these Specifications.
- O. Comply with ACI 311, "ACI Manual of Concrete Inspection".

- P. Inspect the application of curing compound and monitor all curing conditions to assure compliance with specification requirements. Report curing deficiencies to the Contractor immediately and submit a written report to the A/E and the ODR.

3.05 POST-TENSIONING OF CONCRETE

- A. Verify certification of calibration of jacking equipment used in post-tensioning operations.
- B. Observe and report on placement and anchorage of tendons immediately prior to concreting.
- C. Provide a Registered Professional Engineer experienced in post-tension operations to observe and report on the placement, post-tensioning and elongation measurement of each tendon.
- D. The Contractor shall log and submit detailed reports of the stressing and elongation of each tendon. The laboratory representative shall observe the recording of information by the Contractor and make such spot checks as are necessary to verify the accuracy of the post-tensioning reports.
- E. Receive and review final stressing and elongation reports prepared by the Contractor. Compare the actual and required elongation of each tendon and the actual and required load on each tendon. Grant permission to cut the tails of tendons which are within specified tolerance, unless otherwise noted on the Drawings, and submit reports of those which are not within specified tolerance along with recommended corrective action, to the Architect for further evaluation. Forward a copy of all stressing reports to the Architect for record.
- F. Observe and report on grouting of tendons noted to be bonded.

3.06 MASONRY

- A. Inspection:
 - 1. Provide a qualified inspector to inspect all structural masonry work on a periodic basis. Masonry requiring inspection includes load bearing walls and other grouted and reinforced masonry shown on the Drawings. Inspect the Work in progress at least once for each 5000 square feet of wall laid, but not less than once each day, to check compliance with the Contract Documents and applicable building code.
 - 2. Inspect the following:
 - a. Preparation of masonry prisms for testing.
 - b. Placement of reinforcing
 - c. Grout spaces (prior to grouting and prior to closing cleanouts, if any).

- d. Mortar mixing operations.
 - e. Bedding of mortar for each type of unit and placing of units.
 - f. Grouting operations.
 - g. Condition of units before laying for excessive absorption.
3. Provide a report of each inspection.

B. Field Compressive Test for Mortar:

1. Secure composite samples of mortar at the jobsite in accordance with ASTM C 780.
2. Mold and cure three cube specimens in accordance with ASTM C 109 and ASTM C 780. Supervise the curing protection provided (by others) for test specimens in the field and the transportation from the field to the laboratory. The specimens shall be stored in the field 24 hours and then be carefully transported to the laboratory and cured in accordance with ASTM C 780.
3. Test specimens in accordance with ASTM C 780. Two specimens shall be tested in 28 days for acceptance and one shall be tested at 7 days for information.
4. Make one strength test (three cubes) for each 5000 square feet of wall area.

C. Field Compressive Tests for Grout:

1. Secure composite samples of grout at the jobsite in accordance with ASTM C 172.
2. Mold and cure three, 3" x 6", cylindrical specimens from each sample in accordance with ASTM C 31. Supervise the curing protection provided (by others) for test specimens in the field and the transportation from the field to the laboratory. The test cylinders shall be stored in the field 24 hours and then be carefully transported to the laboratory and cured in accordance with ASTM C 31.
3. Test specimens in accordance with ASTM C 39. Two specimens shall be tested at 28 days for acceptance and one specimen shall be tested at 7 days for information.
4. Make one strength test (three cylinders) for each 10 cubic yards of grout poured but not less than one strength test for each 5000 square feet of wall area.

D. Prism Tests:

1. Prism tests are required for load bearing brick masonry only.
2. Make prism tests in advance of operations using materials under same conditions, and with same bonding arrangement, as for structure. In building prisms, moisture content of unit at time of laying, consistency of mortar and width and thickness of mortar joints shall be same as used in

the structure.

3. Cure and test prisms in accordance with applicable provisions of ASTM E 447. Test five specimens of each type of masonry unit before delivering material to jobsite and submit results for approval. During construction, test three specimens of each type of masonry unit for each 5000 square feet of wall placed.
4. The standard age of test specimens is 28 days, but 7 day tests may be used, provided relation between 7 day and 28 day strengths is established by test for materials used.
5. Build brick prisms one brick width and length in plan and five bricks high, using full bed joints as specified. Compute ultimate compressive strength by dividing ultimate load by gross area of masonry units.
6. Build prisms on job using same materials and methods as for wall construction. Store prisms in a place where they will be undisturbed for 2 days and have approximately same curing conditions as wall construction. After 2 days, transport to laboratory in a manner which will not disturb mortar bond and then cure and test as set forth under ASTM E 447.
7. When the average strength of a set of prisms falls below the specified compressive strength, the masonry corresponding to the test shall be deemed unacceptable. In such case, notify the Architect and Contractor immediately.

E. Absorption Tests:

1. Perform a field test of water absorption on three representative clay units, at least once for each 5000 square feet of wall, before laying.
2. The field test shall consist of drawing a 1 inch diameter circle with a wax pencil (the diameter of a quarter). Place 20 drops of water from a medicine dropper in rapid succession within the circle. If all of the water is absorbed into the brick in less than 90 seconds, the units are too dry and should be prewetted.

3.07 STRUCTURAL STEEL

- A. Inspect all structural steel during fabrication and during and after erection for conformance with Contract Documents and Shop Drawings. Any cases of insufficient bracing or guying, or other unsafe conditions shall be immediately called to attention of the Contractor and reported to A/E and the ODR.

B. Shop Inspection:

1. Examination of all steel for straightness and alignment.
2. Examination of all fabricated pieces and checking of same with erection plans and detail drawings.
3. Visual examination of welding.
4. Ultrasonic testing of all full penetration welds.

5. Examination of galvanizing.
6. Examination of installation of shop welded shear studs.
7. Examination of shop painting.

C. Field Inspection:

1. Proper erection of all pieces.
2. Proper installation of all bolts.
3. Plumbness of structure and proper bracing.
4. Proper field painting.
5. Visual examination of all field welding.
6. Inspect all shop fabricated members, upon their arrival at the jobsite, for defects incurred during transit and handling.

D. Qualifications of Welders: Fabricator and erector shall provide the testing laboratory with names of welders to be employed to work, together with certification that each of these welders has passed qualification tests within the last year using procedures covered in the American Welding Society "Structural Welding Code - Steel," latest edition. Verify all welder qualifications.

E. Inspections of shop and field welding shall be "verification inspection," in accordance with the AWS Structural Welding Code and as follows:

1. Visually inspect the welding of all shop fabricated members and note the location of all cover plates, connectors, bearing stiffeners, splices, and fillet welds for proper return around ends and check for seams, folds and delaminations.
2. Warped or out-of-plumb connectors shall be reported prior to any further welding.
3. Ultrasonically test all penetration welds in accordance with ASTM # 164.
4. Surfaces to be welded and all filler metal shall be carefully inspected. Surface preparations, fit-up and cleanliness of surface shall be noted. Electrodes shall be checked for size, type and condition.
5. Welds shall be sound, clean metal, free of slag inclusions and porosity. Filler metal shall be completely fused with base metal and shall completely penetrate the joint. Root passes shall be checked for penetration from the back side of joint. Welds showing inclusions, porosity, lack of fusion, incomplete penetration or uneven contour (sagging or overlaps) shall be ordered gouged out and rewelded. Welds showing any undercut shall have a small stringer bead ordered to be run in along the toe of under cut using a smaller diameter electrode than that which made the original weld. No craters shall be left in welds. Any welding defects, including porosity, fusion and undercuts in excess of that allowed, shall be cause for rejection. Where craters occur, the inspector shall order them to be filled out with weld metal.
6. The inspector shall check that all welds have been marked with the

welder's symbol. The inspector shall mark the welds requiring repairs and shall make a reinspection. The inspector shall maintain a written record of all welds. Work completed and inspected shall receive an identification mark by the inspector. Unacceptable material and work shall be identified by the word "reject" or "repair" marked directly on the material.

7. The testing agency shall advise the ODR and the A/E of any shop and/or field conditions which, in its opinion, may require further tests and examination by means other than those specified. Such further tests and examinations shall be performed as authorized by the ODR and the A/E.

8. The Owner reserves the right to use ultrasonic or radiographic inspection to verify the adequacy of all welds. Testing procedures and acceptance criteria shall be as specified in AWS D1.1.

F. Inspection of bolted construction shall be in accordance with AISC Specification for Structural Steel Buildings and as follows:

1. All bolts shall be visually inspected to ensure that the plies have been brought into snug contact.

G. Inspection of stud field welding shall be in accordance with the AWS Structural Welding Code, latest edition and as follows:

1. A minimum of two shear studs shall be welded at the start of each production period in order to determine proper generator, control unit, and stud welder setting. These studs shall be capable of being bent 45 degrees from vertical without weld failure.

2. Visually inspect studs for compliance with contract documents. Check number, spacing, and weld quality. If, after welding, visual inspection reveals that a sound weld or a full 360 degree fillet has not been obtained for a particular stud, such stud shall be struck with a hammer and bent 15 degrees off perpendicular to the nearest end of the beam. Studs failing under this test shall be replaced.

3.08 EXPANSION BOLT INSTALLATION

A. Inspect the drilling of each hole and installation of each expansion bolt for compliance with the Contract Documents and shop drawings.

B. Verify the installation torque for each expansion bolt for compliance with manufacturer's installation instructions.

3.09 METAL FLOOR DECK

A. Field inspection shall consist of the following:

1. Checking types, gauges and finishes for conformance with Contract

- Documents and Shops Drawings.
2. Examination for proper erection of all metal deck, fastenings, reinforcing of holes, deck reinforcing, miscellaneous deck supports, hanger tabs, shear studs, deck closures, painting or other coating.
 3. Certification of welders.
 4. Field welded shear studs used to fasten metal floor decking to supporting steel shall be inspected and tested as described in the paragraph addressing structural steel.

3.10 METAL ROOF DECK

- A. Field inspection shall consist of the following:
1. Checking types, gauges, and finishes for conformance with Contract Documents and Shop Drawings.
 2. Examination for proper erection of all metal deck, including fastenings at supports and side laps, reinforcing of holes, and miscellaneous deck supports.
 3. Certification of welders.
 4. Visual inspection of at least 25 percent of all welds.

END OF SECTION

SECTION 01 45 00

QUALITY CONTROL

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General Requirements and Qualifications for Contractor's Testing Laboratory Services.
- B. Submittals.
- C. Reference Standards.

1.02 RELATED SECTIONS:

- A. Section 01 34 00 - Shop Drawings, Product Data, and Samples

1.03 GENERAL REQUIREMENTS FOR CONTRACTOR'S LABORATORY SERVICES (UGSC 8.2):

- A. Contractor's Design and Certification Testing: Provide services of an independent testing laboratory or facility acceptable to the A/E and the ODR to perform design and certification testing services.
 - 1. Submit written description of testing laboratory giving qualifications of personnel, laboratory facilities and equipment, and other information as may be requested by A/E and ODR.
 - 2. Contractor's testing laboratory shall not be the same as Owner's testing laboratory used for quality assurance testing unless otherwise acceptable to the A/E and ODR.
- B. Contractor's design testing and certification testing includes:
 - 1. Earthwork: Identify suitable soil material at borrow material location, sampling soil material, and testing of soil material samples.
 - 2. Performing certified welding procedure qualification and requalification testing specified.
 - 3. Testing of materials when mill certificates are unavailable.
 - 4. Additional testing when source of material is changed after initial tests have been performed.
 - 5. Other testing required by other Sections of the Specifications.

1.04 QUALIFICATIONS:

- A. Laboratory Qualifications and Procedures:

1. Meet "Recommended Requirements for Independent Laboratory Qualification," latest edition published by American Council of Independent Laboratories. Testing firms shall meet the requirements of ASTM E 329, "Recommended Practice for Inspection and Testing Agencies for Concrete, Steel and Bituminous Materials as Used in Construction" and ASTM E 543, "Determining the Qualification of Nondestructive Testing Agencies."
 2. Testing firms shall each be insured against errors and omissions by a professional liability insurance policy having a limit of liability not less than \$500,000.00.
 3. The inspection and testing services of the testing firm shall be under the direction of a Registered Engineer licensed in the State of Texas and having at least five years engineering experience in inspection and testing of construction materials.
 4. Inspecting personnel monitoring concrete work shall be ACI certified inspectors.
 5. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during most recent tour of inspection. Include memorandum of remedies of deficiencies reported by this inspection.
 6. Testing Equipment: Calibrated at reasonable intervals by devices of accuracy traceable to National Bureau of Standards.
 7. Tests and inspections shall be conducted in accordance with specified requirements and if not specified, in accordance with applicable standards of the American Society for Testing and Materials and other recognized authorities, as approved.
 8. Primary inspectors performing structural steel inspection shall be currently certified AWS Certified Welding Inspectors (CWI), in accordance with the provisions of AWS QCI, "Standard and Guide for Qualification and Certification of Welding Inspectors." The inspector may be supported by assistant inspectors who may perform specific inspection functions under the supervision of the inspector. Assistant inspectors shall be currently certified ASW Certified Associate Welding Inspectors (CAWI). The work of assistant inspectors shall be regularly monitored by the inspector.
- B. Laboratory Duties: Cooperate with A/E, ODR and Contractor. Upon notice, provide qualified personnel to perform required tests and inspections. In performing tests and inspections, Laboratory shall:
1. Comply with specified standards. Comply with building code requirements for "Special Inspection" whether or not such inspections are specified herein.
 2. Ascertain compliance of materials with requirements of Contract Documents. If the material furnished and/or work performed fails to meet requirements of Contract Documents, laboratory inspector shall promptly notify the Contractor, A/E and the ODR of such failure.

3. Promptly notify ODR, Contractor and A/E of observed irregularities or deficiencies in the Work.
4. A representative of the Owner's testing laboratory, who has reviewed and is familiar with the Project and Specifications, shall participate in all preconstruction conferences. The testing firm shall coordinate material testing and inspection requirements with the Contractor and its Subcontractors consistent with the planned construction schedule. The laboratory personnel shall attend, throughout the course of the Project, such conferences as may be required or requested to address quality control issues.
5. Laboratory personnel shall inspect and/or test materials, assemblies, specimens, and work performed, including design mixes, methods and techniques and furnish report(s) to the A/E and the ODR of the progress thereof.

C. Contractor's Responsibilities:

1. Cooperate with laboratory personnel, provide access to the Work, and to manufacturer's and fabricator's operations wherever the Work is in preparation or progress.
2. Secure and deliver to the laboratory, without cost to Owner, adequate quantities of representative samples of materials proposed to be used and which require testing.
3. Furnish Incidental Labor and Facilities:
 - a. To provide access to work to be tested.
 - b. To obtain and handle samples at the Project Site or at the source of the product to be tested.
 - c. To facilitate inspections and tests. Furnish such labor as required to assist laboratory personnel in obtaining and handling samples at the Project Site.
 - d. For safe storage and curing of concrete test cylinders at Project Site and other test samples as required for field curing by ASTM C31.
4. Costs of tests, samples, and mock-ups of substitute material, where the substitution is requested by the Contractor and the tests are necessary in the opinion of the A/E to establish equality with specified items, shall be borne by the Contractor.
5. Costs of tests, samples, and mock-ups performed solely for the benefit or convenience of the Contractor shall be borne by the Contractor.
 6. Notify laboratory sufficiently in advance of construction operations to allow laboratory to make assignment of personnel and scheduling of tests to complete any required checks or tests.
7. Owner's testing laboratory will conduct additional tests at Contractor's expense when initial quality control testing indicates work is defective or does not conform to requirements. Materials and workmanship not meeting the required standards or performance obligations are to be

removed and replaced. Replacement and subsequent testing shall be at the expense of the Contractor.

8. Furnish concrete mix designs, in accordance with ACI 301, made by an independent testing laboratory or qualified concrete supplier. When mix designs by an independent testing laboratory are required, the laboratory shall be selected by the Contractor, approved by the A/E and ODR, and paid by the Contractor.
9. Obtain required inspections or approvals of the building official when required. All inspection requests and notifications required by the building code are the responsibility of the Contractor.
10. Provide current welder certifications for each welder to be employed.
11. Furnish fabrication/erection inspection and testing of all welds in accordance with AWS D1.1, Chapter 6.
12. Prequalification of all welding procedures to be used in executing the Work.

1.05 SUBMITTALS:

- A. General: Testing laboratory shall promptly submit written report of each and every test and inspection. Each report shall include:
 1. Date issued.
 2. Project title and number.
 3. Testing laboratory name, address, and telephone number.
 4. Name and signature of laboratory personnel.
 5. Date and time of sampling or inspection.
 6. Record of temperature and weather conditions.
 7. Identification of product and Specification section.
 8. Date of test.
 9. Location of sample or test in the Project.
 10. Type of inspection or test.
 11. Results of tests and observation regarding compliance with Contract Documents.
 12. Interpretation of test results, when requested by Architect.
- B. State in report all details of each inspection and test. Indicate compliance or noncompliance with requirements of the Contract Documents. Also state in report any and all unsatisfactory conditions.
- C. In addition to furnishing a written report, notify the A/E, the ODR and the Contractor verbally of any uncorrected conditions or failures to comply with the requirements of the Contract Documents.
- D. At completion of each trade or branch of the Work requiring inspecting and testing, submit a final certificate attesting to satisfactory completion of the Work and full compliance with requirements of Contract Documents.

- E. Upon completion of building, testing laboratory shall furnish, to ODR and A/E, statement that all required tests and inspections were made in accordance with requirements of Contract Documents.

1.06 REFERENCED STANDARDS

- A. The latest edition of all standards references in this section shall apply, unless noted otherwise. In case of conflict between these Contract Documents and a referenced standard, the Contract Documents shall govern. In case of conflict between these Contract Documents and the building code, the more stringent shall govern.

PART 2 – PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 50 00 (TAMU)

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General requirements.
- B. Temporary utilities and services
- C. Construction aids
- D. Barriers and enclosures.
- E. Security.
- F. Parking, access roads and traffic
- G. Temporary controls.
- H. Project identification and signs
- I. Field Offices

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 74 00 - Cleaning.
- C. Section 01 77 00 - Closeout Procedures

1.03 GENERAL REQUIREMENTS:

- A. Contractor shall provide all construction facilities and temporary controls specified in this Section and as necessary for the proper and expeditious prosecution of the Work.
- B. Contractor shall make or have made and pay all charges for all connections to and distribution from existing services and sources of supply.
- C. Requirements of service and utility companies relating to the Work shall be ascertained by Contractor. Comply with all requirements, including those relating to continued protection and maintenance until completion of Work.
- D. Materials and construction for construction facilities and temporary controls may be new or used, must be adequate in capacity for required usage, and must not create unsafe conditions. Comply with requirements of federal, state and local authorities having jurisdiction.
- E. Construction facilities and temporary controls shall be maintained by Contractor in usable condition at all times until completion of Work or when their removal is authorized by A/E or ODR.
- F. Relocate temporary services and facilities as required by progress of construction, by storage or work requirements, to accommodate legitimate requirements of the Owner and other contractors employed at the Site, and when directed by the ODR.

- G. When any portions of permanent systems are in operating condition, that part of the system may be used for construction purposes provide that the Contractor:
 - 1. Obtains ODR's approval,
 - 2. Assumes full responsibility for the system used,
 - 3. Pays all costs for operation, maintenance, cleaning, and restoration of the system to as new condition,
 - 4. Operates the system under the supervision of the Subcontractor responsible for system installation and ultimate performance,
 - 5. Does not effect specified warranty.
- H. Completely remove temporary services and facilities when their use is no longer required and/or at completion of Project, when directed by ODR.
- I. Clean and repair damage caused by temporary services and facilities to new condition for new Work and to a condition as good as or better than existed prior to start of Work for existing construction, services, and facilities.

1.04 TEMPORARY UTILITIES AND SERVICES:

- A. General
 - 1. New temporary utility connections and metering for construction purposes
 - 2. Existing utility service connections and metering in renovation and construction
 - 3. Permanent new utility service upgrades, connections, and metering, for construction or renovation
 - 4. Utility connections, investigations and Contractor charges for construction or renovation
- B. Texas A&M University maintains and operates full service utility production and distribution assets which serve the College Station campus. Temporary and/or permanent utility services and metering required for a project may include primary and secondary type Electrical Distribution Systems, Chilled Water, Heating Hot Water, Domestic Cold Water, Domestic Hot Water, Sanitary Sewer, and Refuse Collection.
- C. Unless otherwise noted in the contract documents, the Texas A&M University, Physical Plant Department, Utility Division (TAMU Utilities) will investigate, approve, extend and activate all temporary and permanent utility services and metering to construction sites, campus facilities, buildings and structures. The extent of service connection responsibilities may differ considerably between projects and will be clearly denoted on the contract drawings.
- D. Typical utility services and metering provided to a job site by the Owner may include 120/208 volt, 200 amp, three-phase service, or 120/240 volt 200 amp single-phase electrical service, 277/480 volt three-phase service, potable cold water, and refuse services on request. Temporary sanitary facilities and sanitary waste removal in accordance with the contract documents are the sole responsibility of the Contractor.

- E. The general responsibilities for requesting and receiving required utility connections and metering are delineated in this section of the contract specifications for each of the following: the Contractor, the ODR, and TAMU Utilities.

1.05 TEMPORARY UTILITY CONNECTIONS AND METERING FOR CONSTRUCTION

- A. To activate an account for utility services with TAMU Utilities, the Contractor shall submit the completed form, Application to Receive Utility Services form, Exhibit- A, through the ODR, within ten days of receiving notification of contract award. The completed Application to Receive Utility Services form is to be sent to the Physical Plant Energy Office, contact information is on the application. The ODR will create a Work Request and assign appropriate phases to proceed. Forms can be accessed by connecting to the URL: <http://energy.tamu.edu/>. Be sure to use the utility rates applicable for the current fiscal year.
- B. Should a Contractor require service connections not shown in the contract documents, it shall apply for an investigation through the Application to Receive Utility Services form. The completed Application to Receive Utility Services form is to be sent to the Physical Plant Energy Office. Investigations will be performed by TAMU Utilities or its' designate. The investigation will determine utility availability to a specific construction site location and shall establish a cost estimate for each requested utility extension. The Contractor shall pay for actual services received using rates from Exhibit- B, Costs and Fees for Utility Services, as well as all applicable material costs described in paragraph F below.
- C. Temporary utility services are not intended as permanent utility connections. Refer to 1.07 for provisions pertaining to permanent utility connections, services and billing accounts.
- D. The attached utility rates and connection fees shown in Exhibit- B will remain in effect until changed by the Assistant Vice President for Physical Plant.
- E. Unless otherwise noted here, all utility per unit rates appearing in these contract documents are fixed for the duration of the project.
 - 1. There are no exclusions to the fixed rate schedule in Exhibit- B for this project.
- F. The Contractor's rate for each utility service is listed in Exhibit- B. For requested investigations and for extending additional utility services requested by the Contractor, labor costs will be calculated at the hourly charge-out rates listed in Exhibit-B. All costs associated with materials deemed non-reusable by the Owner, which were required to provide additional utility services requested by the Contractor, will be charged to the Contractor.
 - 1. If specifically noted by the TAMU Utility's response to an investigation that non-reusable material has been itemized, such materials paid for by the Contractor shall become the Contractor's property, when no longer required for a temporary connection to a utility service.
- G. Billing inquiries may be made by telephone from 9:00am to 4:00pm, Monday through Friday directly to the Physical Plant Accounting office at (979) 845-4933. Billing disputes must be

made in writing to the Physical Plant Accounting Office, Texas A&M University, 1371 TAMU, College Station, TX 77843-1371, ATTN: Assistant Director for Fiscal Operations.

1. The Physical Plant may choose not to review or respond to any disputed monthly billing statement that is aged over twelve (12) months from initial issuance to the Contractor.
 2. Unauthorized utility connections constituting un-metered services installed by a Contractor or its Sub-Contractors is strictly prohibited and may be referred to the University Police Department for investigation. Any tampering of, or modification to, TAMU metering devices is strictly prohibited. In addition to potential legal implications, the Contractor will be responsible for all costs associated with properly provided utility connections, as well as TAMU Utilities estimated costs of un-metered utility services received by the Contractor.
- H. All utility extensions from the metering points are the responsibility of the Contractor. These installations must conform with applicable plumbing, electrical and health codes and all standards required by the contract documents. Service extensions beyond any metering point that are installed by the Contractor shall be approved by the ODR and TAMU Utilities prior to activating any utility services.
- I. The Contractor, through the ODR, shall notify TAMU Utilities no less than 30 days prior to requesting termination of temporary utility services by submitting the completed form, Request for Utility Service Termination, Exhibit- C. The completed Application to Receive Utility Services form is to be sent to the Physical Plant Energy Office, contact information is on the application. The ODR will create a Work Request and assign appropriate phases to proceed.
1. The Contractor will complete the form, Request for Utility Service Termination, when requesting a transfer of account from temporary to permanent utility services installed under this project. Refer to 1.07 for provisions pertaining to permanent utility connections, services and billing accounts.
- J. The Contractor is responsible for payment of all utility costs associated with its temporary or permanent services. Final payment to the Contractor will not be processed until all utility bills are paid.
- K. Temporary Electrical Service:
1. Contractor shall install all temporary electrical wiring, lamps, including meter pole and meter loop, for temporary lighting and power required to perform work of this Contract. The TAMU Physical Plant Utilities Division will furnish the electrical meter.
 2. Install and maintain temporary electrical systems in accordance with the current edition of the National Electric Code and OSHA.
 3. **Explanatory Notes:** Three or four weeks may be needed for the TAMU Physical Plant to obtain the necessary pricing and materials. Requests for temporary service should be made by the Contractor as soon as possible to prevent delays. The

Contractor should order sufficient power to support all phases of the Project. To add power capacity at a later date can be expensive and will be at the Contractor's expense.

The cost of the service (normally 3 phase, 200 amp) required by the Contract is paid from project funds and not by the Contractor. The Contractor is responsible only for additional costs to provide a larger service.

L. Temporary Water:

1. **Explanatory Notes:** Contractor shall install all temporary piping required to provide water to perform work of this Contract. The TAMU Physical Plant Utilities Division will furnish the water meter. The Contractor is responsible for all other costs of installing additional temporary water systems, including taps into existing lines and additional water meters. All connections to existing lines must be coordinated through the ODR with TAMU Utilities. Any change in water meter location must be approved by TAMU Utilities.

M. Temporary Heat and Ventilation: Provide temporary heat and ventilation, including installation, maintenance, operation and removal of systems, and costs of fuel, to maintain adequate environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for installation of materials, for making necessary tests, and to protect materials and finishes from damage due to temperature and humidity.

1. For not less than seven (7) days prior to drywall erection and during application and taping operations, provide sufficient heat to maintain building temperature of not less than 55 deg. F., while maintaining adequate ventilation for drying of taping compounds.
2. Before wood doors and any millwork are delivered to the building, for not less than 5 days prior to installing wood, and throughout the placing of this finish and other finishing operations such as painting, provide sufficient heat to maintain building temperature at 65 deg. F.
3. Provide ventilation of enclosed areas to cure materials, control humidity, and prevent accumulations of dust, fumes, vapors and gas.

N. Temporary Telephone Service: Provide and maintain telephone service with a minimum of one direct line instrument in the Contractor's field office. The Contractor shall pay for costs of installation, maintenance and removal and service charges for local calls. Toll charges shall be paid by party who places the call, except toll calls made by Owner's and A/E's personnel related to project business shall be paid for by Contractor. Refer to 1.11 this Section for ODR requirements.

O. Temporary Toilets and Sanitation: Provide service, clean, and maintain sanitary conveniences with proper enclosures, in conformance with requirements of local laws and ordinances governing such installations. Post notices, take such precautions as may be necessary, and do cleaning necessary to keep the building and the premises in a sanitary condition. From start of the Work, provide suitable temporary toilets and enclosures for the use of the workmen on the Project. Maintain these facilities in a sanitary condition. Use of Owner's existing toilet facilities will not be permitted.

- P. Temporary Fire Protection: Construction practices, including cutting and welding, and fire protection during construction shall be in accordance with applicable requirements of federal, state, and local authorities having jurisdiction. Provide prominently located multi-purpose portable fire extinguishers, with at least one in each wing on each floor.
1. Gasoline and other flammable liquids shall be stored in Underwriter's Laboratories listed safety containers. Storage shall not be permitted within the building.
 2. Do not light fires of any kind in or about the premises. The use of salamanders is prohibited.
 3. Schedule the Work so that the permanent fire protection system is installed and made operable at the earliest possible date. At such time, the Contractor shall furnish sufficient hose to provide adequate coverage of each floor.
 4. All tarpaulins that may be used for any purpose during the construction of the Work shall be made of material which is resistant to fire, water, and weather.
- Q. Elevators: Temporary use of elevators will be permitted only if acceptable to the ODR and elevator installer. Prior to such approved temporary use, provide the following:
1. Arrange and pay for necessary approvals, elevator manufacturer's acceptance, and temporary use permits.
 2. Install temporary protection over hoistway entrances and doors, car doors and frames, car front returns and enclosures so that elevator work will be without damage at completion of Project. Repair or replace damaged work prior to Final Inspection.
 3. Provide and pay for power, operators, necessary signaling and safety devices, lights and other equipment, temporary protection and enclosures required for safe elevator operation.
 4. After temporary elevator use is discontinued, remove temporary protections and enclosures.
 5. Refer to appropriate section in Division 14 of these Specifications for additional requirements.

1.06 TEMPORARY AND PERMANENT SERVICE FOR NATURAL GAS

- A. The ODR shall notify TAMU Utilities no less than 10 days prior to requesting Natural Gas services by submitting the completed form, **Application to Receive Utility Services**. TAMU Utilities does not provide the Natural Gas but will process the request for service with the Local Distribution Company.
- B. Liquefied gas, such as propane, is prohibited unless otherwise authorized in the contract documents. Liquid fuels stored and used on a construction site must be coordinated with and approved by ODR, and conform to all applicable University safety guidelines.
- C. All costs associated with temporary or permanent gas service, up to the date the Owner has determined a date of substantial completion of the building, which include connection fees, fixed and/or variable monthly charges, late fees, transactions costs, disputed charges, and any other administrative costs associated with the natural gas service account is the sole responsibility of the Contractor.

- D. The ODR shall notify TAMU Utilities no less than 10 working days prior to requesting transfer or termination of Natural Gas services by submitting the completed form, **Request for Utility Service Transfer or Termination**. The completed form is to be sent to the Physical Plant Energy Office, contact information is on the application.

1.07 PERMANENT UTILITY SERVICES IN CONSTRUCTION CONTRACTS

- A. Permanent utility services in new construction or renovation may be classified as existing services not requiring an upgrade, existing services that will require an upgrade, or a new service installation. These service extensions, metering, and attendant equipment, in particular, primary to secondary power transformers, relaying and other switchgear may be either a Contractor or an Owner provided responsibility. The extent of each party's responsibilities will be clearly delineated in the contract documents.
- B. The intent of this section is to outline responsibilities of the Contractor, the ODR, and TAMU Utilities with regard to, permanent utility service extensions, service activation, meter type and certification of metering devices, and transfer of utility billing responsibility from the Contractor to the permanent paying customer account.
- C. A Contractor who assumes control of an existing facility in its entirety, for renovation purposes, or at the point any permanent utility service is activated during construction, and being prior to substantial completion, shall be responsible for all billing costs associated for each such utility service shown in Exhibit-B, Costs and Fees for Utility Services, (based on the current Fiscal Year).
 - 1. A Contractor's obligation for the costs of utility services in partially Owner-occupied facilities shall be prorated to best reflect the utility cost obligation of each party. Metering, square foot ratios, or other means may be used by TAMU Utilities to determine the Contractor's prorated utility cost obligation. When applicable to a specific project, prorated cost factors will be included in an attachment to Exhibit-B, Costs and Fees for Utility Services.
 - 2. If so stated in paragraph 1.07 D 1, the Owner may waive any utility service costs associated with new construction and renovation, when it has been determined by TAMU Utilities that utility consumption by a Contractor is either negligible, indeterminable from utility usage of ongoing Owner functions, or for other possible reasons not specified herein.
- D. There are no connection fees, for utility extensions required of a Contractor, for available existing utility services not requiring special construction costs to install. When metering is required the cost will be based on consumption of utilities, or a special fee associated with this specific project as noted in paragraph 1.07 C 1.
 - 1. There are no utility costs or fees being waived by the Owner in this contract. The Contractor is not exempt from any costs of special services that it requests TAMU Utilities to investigate. See paragraph 1.05 B, Application to Receive Utility Service.

- E. There are no connection fees for permanent new utility extensions or upgraded permanent services required in a contract for an existing or new facility.
- F. Payment of monthly costs of utility services used or consumed by the Contractor is the Contractors' responsibility and is subject to all payment provisions stated in this contract.
- G. When terminating utility services, the Contractor is responsible for submitting the completed form, Request for Utility Service Termination, Exhibit-C. The final billing for utilities will be prorated to the day that beneficial occupancy is deemed to have occurred by University Project Management Authority.
- H. A Contractor must apply for a transfer of account when terminating temporary utility services in lieu of permanent utility services. The Contractor shall use the form, Request for Utility Service Termination, submitted no later than 30 calendar days prior to a requested termination date.
- I. In many circumstances, the Owner will require that a Contractor terminate temporary utility services concurrent with activating permanent services.

1.08 METERING FOR PERMANENT UTILITY SERVICES

- A. Most new campus facilities and major renovations of existing facilities will include work scope for establishing electronic utility metering. Metering devices will be certified "revenue-quality", be of the type TAMU Utilities has standardized on, and will be connected to the campus building automation system or power monitoring system via campus Ethernet.
- B. Metering points in this project may include, but are not limited to, Electrical, Chilled Water flow and temperature difference, Heating Hot Water flow and temperature difference, Domestic Cold Water, Domestic Hot Water, and Steam. Together with the contract drawings, refer to Division 23 Mechanical, Division 26 Electrical, Division 27 Communications and other relevant divisions for meter specifications and installation instructions on all required utility metering, as well as system commissioning and project coordination.

1.09 CONSTRUCTION AIDS:

- A. Material and Personnel Hoists: The Contractor shall provide material hoists as required for normal use by all trades, without charge. The Contractor shall also provide a personnel hoist for the transportation of all workmen as required for normal use, without charge.
 - 1. Employ qualified, skilled operators for the material and personnel hoists.
 - 2. Provide all necessary guards, signals, safety devices, required for safe operation, and suitable runways from hoists to each floor level and roof.
 - 3. The construction and operation of the hoists shall conform to all applicable requirements for the American Standard Safety Code for Building, the "Manual of Accident Prevention in Construction" of the AGC, and shall be approved by the insurance underwriters.
- B. Temporary Stairs, Ladders, Scaffolds, Runways, and Similar Facilities:

1. Provide and maintain all temporary equipment and construction such as temporary stairs, ladders, ramps, scaffolds, hoists, runways, derricks, chutes, and similar facilities as necessary for the proper execution of the Work. Derricks, cranes, and similar facilities shall comply with local airport restrictions.
2. Provide temporary protective treads, handrails, and wall coverings at stairways.
3. Scaffolding shall be furnished, installed, maintained, and removed as necessary for proper execution of the Work and shall be erected on the side of the wall on which facing work occurs. Scaffolding shall not be built into any finish facing material.

1.10 BARRIERS AND ENCLOSURES:

- A. General: Construct temporary barricades, warning signs, hazard and warning lights, walks, passage-ways, and similar temporary barriers and enclosures that are necessary to protect persons and property from hazards or damage due to construction operations, and required by university, city, state or federal laws, ordinances or codes.
- B. Construction Fences: Contractor shall furnish and install construction fences and gates within the "limits of construction", prior to beginning of work so as maintain area free of unauthorized personnel and which includes Project working area and storage locations allocated by the Owner to the Contractor. Keep adjacent property free from disturbance, dust, and noise as much as feasible.
- C. Non-Movable Fences: Fencing and gates shall be minimum 6'-0" high, new material, chain link fabric tightly stretched between line posts (1-5/8" O.D. galvanized iron) at not more than 10 foot centers. Tree protection posts shall be on 8 foot centers. Posts in earthen areas shall be plumbed and aligned, and firmly anchored in the ground at least 24" deep. Corner and gate posts (2-3/4" O.D. galvanized iron) shall have line posts within 6' and braced using clamps at posts. Posts that are machine pounded must be cut off flush and level at top. Gates shall be substantially constructed of materials similar to fence, equipped with hinges of adequate size and strength for operation and to maintain the gate level. Provide security chain and padlock at each gate with 2 keys furnished to ODR. In sensitive and high visibility areas, and where noted on the Drawings, install redwood slats vertically in the fence fabric to reduce public view of unsightly areas. Fence posts in permanently paved and sidewalk areas shall be set in 4" thick concrete bases, 24" square or 30" round.
- D. Movable Fences: Fences that need to be moved frequently for access to the Site or to be movable tree protection shall be 6' high posts, using 5" non-climb wire fabric, 12.5 gauge galvanized wire, 2" wide x 4" high openings, attached to posts set in concrete within an old tire to prevent post bases from marring pavements and sidewalks.
- E. Tree and Plant Protection: Provide barricades, fences, and guards as necessary to prevent damage to existing trees and shrubs indicated to remain including, but not limited to, the following construction operations:
 1. Compaction of root area by equipment or material storage,
 2. Trunk damage by moving equipment, material storage, nailing or bolting,
 3. Strangling by tying ropes or guy wires to trunks or large branches,

4. Poisoning by pouring solvents, gas, paint and other toxic materials on or around trees and roots,
 5. Cutting roots by excavating, ditching and similar operations,
 6. Damaging branches by improper pruning; notify ODR for required pruning,
 7. Drought damage from failure to water or by cutting or changing normal drainage pattern past roots,
 8. Changes in soil pH factor by disposal of lime and other alkali based materials such as plaster, concrete, mortar and grout,
 9. Machine excavating within the drip line of trees; conduct all excavating within drip line by hand. Do not cut roots 1-1/2" in diameter and over.
- F. Tree Damage: When trees other than those indicated or approved for removal are destroyed, killed or badly damaged as a result of construction operations, the Contract Sum will be reduced by the amount determined from the following International Shade Tree Conference formula: $D \times D \times 0.7854 \times \28.00 , where D is the diameter of the trunk measure 12" above grade.
- G. Fence Maintenance and Removal: All fencing and gates shall be maintained deep, straight and level, having a neat and uniform appearance during the construction period and upon completion, before acceptance of the Work, shall be removed from the Site and post hole filled to original condition.
- H. Temporary Enclosures and Protection:
1. Provide temporary weather-tight enclosure at exterior walls for successive areas of the building as work progresses, as necessary to provide acceptable working conditions, provide weather protection for interior materials, allow for effective temporary heating, and to prevent entry of unauthorized persons.
 2. Temporary Partition and Ceiling Enclosures: Framing and sheet materials which comply with structural and fire rating requirements of applicable codes and standards.
 - a. Close joints between sheet materials, and seal edges and intersections with existing surfaces, to prevent penetration of dust or moisture.
 - b. Provide temporary doors with self-closing hardware and padlocks as required for security.
 - c. Provide removable portions of enclosures as necessary for work and for handling of materials.
 3. Protection of Installed Work: Provide protection for installed Work so that it will be without damage at time of acceptance by ODR. Control traffic to minimize damage. Provide protective coverings at walls, projections, jambs, sills and soffits of openings. Protect finish floors and stairs from traffic, movement of heavy objects, storage and similar construction operations. Prohibit traffic and storage on waterproofed and roofed surfaces, on lawn and landscaped areas.
 - a. Concrete, cement, mortar, grout, sludge, plaster and similar materials shall not be placed in or washed down storm and sanitary sewers, plumbing lines or fixtures.
 4. Protect improvements on Owner's and adjoining properties.
- I. Site: Unless otherwise specified or directed, carefully protect existing walks, lawns, other

buildings, and other work on Site, whether specifically indicated on the Drawings or not. Damaged areas of curbs, walks and paving will not be permitted to be patched; remove entire section between expansion joints in which the damage occurs and replace with construction to match existing adjacent work.

- J. The Contractor is responsible for damage to the Work and injury to persons due to failure of barriers and enclosure of work to adequately protect it; and wherever evidence is found of such damage, the Owner may order the Work so damaged to be immediately removed and replaced by the Contractor. All costs and expenses for such occurrences shall be the responsibility of the Contractor at no additional expense to Owner. The Contractor's responsibility for maintenance of barriers and enclosure work, shall not cease until the Project has been completed and is accepted by the Owner.

1.11 SECURITY:

- A. The Contractor shall provide a security program and facilities to protect the Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, and theft. Coordinate with Owner's security program. Project security within "limits of construction" is Contractor's responsibility.

1.12 PARKING, ACCESS ROADS AND TRAFFIC:

- A. Parking: Parking for workmen employed on the Site may be provided within construction limits or at a remote location, if needed, to the extent that space for that purpose may be available without interference with the activities related to performance of the Work. On campus parking, other than within construction limits, shall only be as approved by ODR. Contractor shall pay all associated parking fees.
 - 1. Reserved Parking: Allocate four (4) spaces convenient to the Project offices for use of the Owner and A/E.
- B. Provide temporary roads as required to bring vehicles onto the Site. Restore new paving used for construction operations to new condition prior to acceptance of Work by Owner.
 - 1. Restrict vehicles from doing unnecessary damage to the Site and any existing paving.
 - 2. Restore all new or existing improvements damaged by this Work to original condition, as acceptable to Owner or other parties having jurisdiction.
- C. Traffic Control: Prior to start of Work, examine construction vehicle routing, and establish safeguards and procedures necessary to carry out the Work. In addition, be responsible for and observe the following:
 - 1. Be responsible for controlling construction traffic within and adjacent to the Site.
 - 2. Provide all entrances, lifts and safeguards required or necessary to the progress of the Work, and effectively control such traffic to provide minimum hazard to the Work and all persons.
 - 3. Route all construction equipment, trucks, and similar vehicles on existing public streets to and from the Site as approved by the ODR or as indicated on the Drawings.

4. Construct and maintain temporary walks for pedestrians. Keep streets adjacent to the Site open to vehicular and pedestrian traffic.
5. Maintain constant access for police, fire and ambulance service.
6. Provide and maintain for proper control of traffic and safety:
 - a. All necessary barricades, suitable and sufficient lights, reflectors, and danger signals,
 - b. Warning and closure signs, directional, and detour signs,
 - c. All traffic control devices furnished and installed in compliance with the Texas Manual on Uniform Traffic Control Devices as prepared by the State Department of Highways and Public Transportation.
7. The Contractor shall provide on a 24 hour basis for all restricted and dangerous conditions existing on or adjacent to the Site:
 - a. For nighttime safety illuminate barricades, danger signals, warning signs and obstructions,
 - b. Keep warning lights burning from sunset until sunrise.

1.13 TEMPORARY CONTROLS:

- A. **Cleaning During Construction:** Contractor at all times shall keep the premises free from accumulation of waste materials and rubbish caused by operations for the Work. Provide a collection can at each area used for eating. Pick up garbage daily. Keep Project Site free of garbage, trash, vermin and rodent infestation. Contractor, by agreement, shall require each Subcontractor to collect and deposit waste and rubbish caused by Subcontractor operations at pre-designated location. Clean interior areas prior to start of finish Work. Maintain areas free of dust and other contaminants during finishing operations.
- B. **Noise Control:** In and around occupied areas, minimize use of noise producing equipment. Work with noise-producing is subject, at all times, to ODR's approval of entire procedure. Use only on a scheduled basis as agreed with ODR prior to start of Construction operations.
- C. **Water Control:** Provide methods to control surface water to prevent damage to Project, site of adjoining properties. Control fill, grade and ditch to direct surface drainage away from excavations, pits, tunnels and other construction areas. Direct drainage to proper runoff.
 1. Provide, operate and maintain hydraulic equipment of adequate capacity to control surface and water.
 2. Dispose of drainage water in a manner to prevent flooding, erosion or other damage to any portion of site or to adjoining areas.
 3. Refer to the appropriate section in Division 2 of these Specifications for TPDES requirements.
- D. **Pollution Control:**
 1. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by discharge of noxious or hazardous substances from construction operations.
 2. Provide equipment, personnel and perform emergency measures required to contain any spillages, and to remove contaminated soil or liquids. Excavate and dispose of

- contaminated earth off site and replace with suitable compacted fill and topsoil.
3. Take special measures to prevent harmful substances from entering public waters. Prevent disposal of wastes, effluents, chemicals or other such substances adjacent to streams or in sanitary or storm sewers.
 4. Provide systems for control of atmospheric pollutants. Prevent toxic concentrations of chemicals. Prevent harmful dispersal of pollutants into atmosphere.

E. Erosion Control:

1. Plan and execute construction and earthwork by methods sufficient to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
 - a. Hold areas of bare soil exposed at one time to minimum.
 - b. Provide temporary control measures such as berms, dikes, and drains.
2. Construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.
3. Periodically inspect earthwork to detect any evidence of start of erosion, apply corrective measures as required to control erosion.

- F. Dust Control: Provide positive methods and apply dust control materials to minimize raising dust from construction operations and provide positive means to prevent air-borne dust from dispersing into atmosphere.

1.14 PROJECT IDENTIFICATION AND SIGNS:

- A. Provide one construction sign shown on Contract Drawings and as specified below. No other signs may be installed anywhere on the Site (except delivery route signs deemed necessary by ODR), including signs advertising the sale of salvage.
1. Face Size: 4'-0" wide x 8'-0" high x 3/4" thick, located approximately 3'-0" above grade.
 2. Sign Faces: New 3/4" exterior grade medium density overlay plywood.
 3. Location of Sign, and Layout: By the A/E.
 4. Sign faces shall be painted a white background color. All lettering shall be accomplished by a professional sign painter and shall be in Helvetica Medium style, upper and lower case, in black color and shall include, but not be limited to the following information:
 - (1) Project Name.
 - (2) Architect's Name.
 - (3) General Contractor's Name.

1.15 FIELD OFFICES AND SHEDS:

- A. The Contractor shall provide its own field office and storage sheds on the Site and shall maintain until removal upon completion of the Work.
1. Provide weathertight construction office for Contractor with sufficient light, heating, air conditioning, ventilation, and insulated roof. General arrangement, construction,

and equipment for office shall be reviewed with A/E and approved by ODR prior to starting construction. Provide adequate tables, plan racks, desk chairs, file cabinets of sufficient capacity to accommodate a copy of submittals and correspondence concerning the Project, and non-pay telephone.

2. ODR Office: In a separate field office, provide a minimum of 672 sq. ft. with a minimum dimension of 12 feet for the exclusive use of the ODR and A/E. Minimum interior finish shall be 1/4" gum on fir plywood, good on one side for walls and ceiling, with vinyl composition tile floor. Walls, floor and ceiling shall be insulated with full thickness batt insulation. Exterior doors shall have locks with one key for each occupant. All exterior doors and windows shall also be secured with approved burglar type bars. General arrangement, construction and equipping of office must meet with the approval of the ODR. The office shall be equipped with the following:
 - a. Separate Direct Line Telephone: Contractor shall pay for installation, maintenance, removal and all charges for use of three (3) telephone lines including project related long distance calls. The telephone lines shall remain until the full completion of the Work and shall be removed when directed by ODR. These lines will be used for telephone/FAX and a computer line out. Contractor shall also arrange for and pay for an internet provider service for the exclusive use of the owner. Contractor shall provide a minimum of three (3) instruments which are capable of handling two lines each. Where available provide high speed internet service in lieu of one (1) standard phone line.
 - b. Heating, Ventilating and Cooling shall be accomplished through a central type unit that shall maintain 70 degrees F while heating and 75 degrees F while cooling. Maintenance and filter changes shall be by the Contractor.
 - c. Contractor shall provide a laser facsimile machine for the exclusive use of the ODR including service and printer cartridges.
 - d. Two (2) each office desks: 30" x 60" minimum size with swivel chairs.
 - e. Layout Counter: 30" x 60" minimum size with drafting stool.
 - f. Filing Cabinet: Two (2) four drawer legal size with lock.
 - g. Plan Rack: One plan rack to hold minimum of (12) 30" x 42" sets of drawings. Rack shall be equal to a Safco Mobile Stand SAF 5026 with plan clamps.
 - h. Lighting shall be of sufficient quantity to provide for proper office atmosphere.
 - i. Convenience Outlets: A minimum of two duplex convenience outlets per office.
 - j. Window: Operable windows minimum equal in size to 10% of the floor area, located to provide view to construction area.
 - k. Waste Baskets: Four (4).
 - l. Shelving: Six feet of 10" deep shelving.
 - m. Maintenance: Keep office weather-tight, warm, cool, comfortable, and swept clean and remove refuse twice weekly. Provide soap, paper towels, toilet paper.
 - n. Provide within Owner's Field Office, a toilet room with door and one (1) lavatory equipped with hot water and one (1) water closet.
 - o. Provide electric water cooler with bottled water and appropriate service.
 - p. Provide two (2) each 30 inch by 72 inch folding tables with ten (10) each folding chairs.
3. Provide and maintain suitable, substantial, weather-tight storage facilities of acceptable appearance in which to store materials which would be damaged by the

weather. Storage space shall be of sufficient size to hold all such materials required on Site at one time, and if the storage space is outside the building, it shall have floors raised at least 6" above the ground on heavy joists or sleepers. Provide fenced areas for storage of materials and workmen's parking of the sizes and of locations designated on the drawings. Should the Contractor require additional storage area beyond that indicated on the Site, contractor shall arrange for such storage facilities off-campus, at no additional cost to the Owner. Contractor may use areas within the immediate construction area for storage only with the approval of the ODR. However, such approval will not be given if such storage encumbers the working space, loads the structure prematurely, or exceeds the design live load for the specified area of the structure.

4. Building materials, Contractor's equipment and similar items necessary for prosecution of the Work may be stored on the premises, the placing and handling of same shall be such that they can be inspected at all times.
5. When any area in the building is used for a storeroom, shop or similar use, the Contractor shall be responsible for repairs, patching, and cleaning arising from such use. All such replacement costs and expenses shall be borne by contractor at no additional expense to Owner.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

Attachment A
Application to Receive Utility Services
Texas A&M University Physical Plant Department, Utilities Division

| | |
|-----------------------------------|--|
| Project Name | |
| Project # | |
| Building # (if applicable) | |
| Project Account # | |
| General Contractor | |
| Billing Address | |
| | |
| Contractor Contact Name | |
| Contractor Contact Phone # | |

Check each appropriate box. Indicate the quantity and date service is needed.

| | UTILITY SERVICE | QUANTITY | DATE NEEDED |
|--------------------------|-------------------------|----------|-------------|
| <input type="checkbox"/> | Electricity | | |
| <input type="checkbox"/> | Domestic Cold Water | | |
| <input type="checkbox"/> | Domestic Hot Water | | |
| <input type="checkbox"/> | Waste Water Treatment | | |
| <input type="checkbox"/> | Solid Waste & Recycling | | |
| <input type="checkbox"/> | Storm Drainage | | |
| <input type="checkbox"/> | Chilled Water | | |
| <input type="checkbox"/> | Heating Hot Water | | |
| <input type="checkbox"/> | Steam | | |
| <input type="checkbox"/> | Natural Gas | | |

Check appropriate box:

| | |
|--|---|
| <input type="checkbox"/> | Proceed without further reference to requestor |
| <input type="checkbox"/> | Provide estimate only |
| <input type="checkbox"/> | Approved for execution provided estimate does not exceed \$ _____ |
| TAMU Project Management Authority (name - please print) | |
| Signature | |
| Department | |
| Date | |

Fax completed form to: 979-458-2806.

Work Order # _____ Phase # _____ Date entered: _____

Attachment B **Utility Rates**

Utility Rates are subject to [change at the beginning of each fiscal year \(September 1\)](#). [Utility cost will be charged at the rate that is in effect for the period of consumption.](#)

Utility Rates are posted at the following link: <http://energy.tamu.edu/>

Attachment C
Request for Utility Service Transfer or Disconnect
Texas A&M University Physical Plant Department, Utilities Division

| | |
|-----------------------------------|--|
| Project Name | |
| Project # | |
| Building # (if applicable) | |
| Project Account # | |
| General Contractor | |
| Billing Address | |
| | |
| Contractor Contact Name | |
| Contractor Contact Phone # | |

Check each appropriate box. Indicate the date the transfer or disconnect is to occur.

| UTILITY SERVICE | Transfer | Disconnect | Date |
|-------------------------|-----------------|-------------------|-------------|
| Electricity | | | |
| Domestic Cold Water | | | |
| Domestic Hot Water | | | |
| Waste Water Treatment | | | |
| Solid Waste & Recycling | | | |
| Storm Drainage | | | |
| Chilled Water | | | |
| Heating Hot Water | | | |
| Steam | | | |
| Natural Gas | | | |

| | |
|--|--|
| TAMU Project Management Authority (name - please print) | |
| Signature | |
| Department | |
| Date | |

Fax completed form to: 979-458-2806.

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General Requirements.
- B. Manufacturer's Instructions
- C. Transportation and Handling.
- D. Storage and Protection.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 25 00 - Substitution Procedures.
- C. Section 01 31 00 - Project Management and Coordination.
- D. Section 01 33 00 - Submittal Procedures: List of Materials.
- E. Section 01 34 00 - Shop Drawings, Product Data and Samples.
- F. Section 01 50 00 - Temporary Facilities and Controls: Material Storage Facilities.
- G. Section 01 77 00 - Closeout Procedures.

1.03 GENERAL REQUIREMENTS:

- A. In addition to Uniform General and Supplementary Conditions, Article 8 (UGSC 8.1), Contractor shall use materials and equipment that are:
 - 1. New, unless otherwise specified, and that are of good quality, free from faults and defects, and in conformance with the requirements of the Contract Documents.
 - 2. Suitable for use and function intended.
 - 3. Corresponding in quality to related materials in the absence of a complete specification.
 - 4. Of quality appearance where exposed to view.
 - 5. Of one manufacturer or source for the same specific purpose, with uniform appearance and physical properties.
 - 6. Interchangeable and be the same, when required to be supplied in quantity.
 - 7. Free of name, trade mark, or other insignia which is intended to identify the manufacturer, vendor, or other source(s) which is surface applied or affixed to any manufactured articles, materials, and items of equipment in any public area or similar locations within the Project. Any manufactured articles, materials, and items of equipment which bears evidence that an insignia, name, or trade mark has been removed shall not be used. Code required labels, such as Underwriters Laboratory labels, and other identification required by the Contract Documents are accepted.

- B. Product Color, Texture, or Pattern Selection: No work requiring the A/E's review for color, texture and pattern selection shall be fabricated, delivered or installed prior to review and selection by the A/E.
1. Contractor shall select products of a named manufacturer that complies with the specified requirements and submit the full range of available colors, textures, patterns, including custom colors, textures and patterns for the A/E's selection. All subsequently approved products of other manufacturers are approved contingent upon availability of equivalent colors, textures, and patterns available to the A/E for selection.
 2. When "match existing color" is indicated or specified, Contractor shall, in addition to material and construction requirements specified elsewhere, match existing color, texture, and pattern in every respect, as approved by the A/E.
 3. When materials have a natural range of color, texture, and pattern such as natural stone, brick, tile, anodized aluminum finish and other exposed materials and finishes, the Contractor shall submit required number of sets of ranges of color, texture, and pattern, including representative naturally occurring defects as appropriate, for the A/E's review. All work fabricated and installed shall be within range of samples approved by the A/E. In addition, Contractor shall refer selection of raw materials containing defects within limits of the A/E's approved range of samples, to the A/E to provide distribution of such throughout required work so as to avoid patterns and concentrations of such defects.
- C. Source Limitations: To the fullest extent possible, provide products of the same generic kind, from a single source, for each item of the Work.
1. When specified products are available from only sources that do not or cannot produce an adequate quantity to complete Project requirements in a timely manner, consult with the A/E for a determination of what product qualities are most important before proceeding. The A/E will designate those qualities, such as visual, structural, durability, or compatibility, that are most important. When Architect's determination has been made, select products from those sources that produce products that possess the most important qualities, to fullest extent possible.
- D. Compatibility of Options: Where product options are permitted, select products that are compatible with other products to be incorporated into the Work, including products previously selected.

1.04 MANUFACTURER'S INSTRUCTIONS:

- A. Install products in accordance with manufacturer's printed instructions. Obtain and distribute copies of such instructions to installer, including one copy to the

A/E and one to the ODR. Maintain one set of complete instructions at the Site during installation and until completion.

- B. Manufactured articles, materials, and items of equipment shall be handled, stored, applied, installed, connected, erected, used, cleaned, adjusted, conditioned, and protected in accordance with manufacturer's printed instructions and specifications for the Project conditions indicated, within manufacturer's published limitations, and requirements specified.
- C. Should any manufactured articles, materials, and items of equipment be found to be damaged, deteriorated, or otherwise contrary to the requirements of the Contract Documents, remove and replace such damaged or deteriorated articles, materials, and items of equipment, no matter in what stage of completion and replace with new materials.
- D. Should Project conditions or specified requirements be in conflict with manufacturer's instructions, request written clarification from the A/E before proceeding. Do not proceed with work without clear instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.
- E. Keep a copy of material safety data sheets for all products used in the Work, at Contractor's field office.

1.05 TRANSPORTATION AND HANDLING (UGSC 3.3.4):

- A. Arrange deliveries of materials and products in accordance with Construction Progress Schedule.
- B. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
- C. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- D. Promptly inspect shipments to ensure that products comply with requirements of the Contract Documents and approved submittals, that quantities are correct, and products are undamaged.

1.06 STORAGE AND PROTECTION:

- A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products, including factory-finished items and similar work, in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions. Comply with applicable laws, ordinances and regulations for protective storage of potentially

dangerous materials.

- B. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- C. Store loose granular materials on solid surfaces in a well-drained area and prevent mixing with foreign matter.
- D. Arrange storage to provide access for inspection at all times. Periodically inspect to assure products are free from damage or deterioration, and are maintained under required conditions.
- E. At end of each day's work, cover new work likely to be damaged. Provide substantial coverings necessary to protect installed products from damage, traffic, and subsequent construction operations. Refer to Section 01 50 00 for additional requirements, including removal of temporary protections.
- F. Contractor shall provide inspection of Subcontractor's material for compliance with submittals on proper storage.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 72 50

FIELD ENGINEERING
(UGSC 6.1.5)

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Performance requirements.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 78 00 - Closeout Submittals.

1.03 PERFORMANCE REQUIREMENTS:

- A. General: Provide and pay for field engineering services including survey, layout, civil, structural or other licensed professional engineering services specified, or required to execute the Work.

PART 2 – PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 PREPARATION:

- A. Verify locations of survey control points prior to starting Work.
- B. Verify all dimensions and compare to existing conditions prior to laying out the Work. Promptly notify the A/E of discrepancies discovered. Extra compensation will not be allowed because of differences between actual measurements and indicated dimensions.

3.02 SURVEY AND LAYOUT REQUIREMENTS:

- A. Establish a minimum of two (2) permanent bench marks on the Site, referenced to data established by survey control points. Record locations, with horizontal and vertical data, on Project record documents. Data to be verified by licensed surveyor.
- B. Locate and protect control points prior to starting site work, and preserve all permanent reference points during construction.
 - 1. Make no changes or relocations without prior written notice by ODR.

2. Report to A/E and ODR when any reference point is lost or approval destroyed, or requires relocation because of necessary changes in grades or locations.
 3. Require surveyor to replace Project control points which may be lost or destroyed. Establish replacements based on original survey control.
 4. Maintain a complete, accurate log of all control and survey Work as it progresses.
- C. Establish adequate and clearly defined reference lines and levels required for execution of Work; locate and lay out, by instrumentation and similar appropriate means, controlling lines and levels required for the various trades.
- D. From time to time verify layouts by the same methods.
- E. Underground Obstructions:
1. Pipelines, existing underground installations and underground structures in vicinity of Work are diagrammatically shown on Drawings according to best information available. Accuracy of information is not warranted.
 2. Verify location of underground pipe lines, conduits and structures with Owner and by prospecting in advance of excavation.
 3. Repair damage to existing utilities made during construction process as part of Work to satisfaction of Owner.

3.03 SURVEY:

- A. On completion of foundation walls and major site improvements, prepare survey by licensed surveyor showing dimensions, locations, angles, and elevations of construction.

END OF SECTION

SECTION 01 73 50

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Submittals required.
- B. Materials required.
- C. Procedures for cutting and patching.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 25 00 - Substitutions Procedures.
- C. Section 01 31 00 - Project Management and Coordination.
- D. Section 01 60 00 - Product Requirements.
- E. Other Technical Sections:
 - 1. Cutting and patching required being performed incidental to Work of the Section.
 - 2. Advance notification to trades responsible for Work of other Sections
 - 3. Coordination of trades responsible for Work of other Sections.

1.03 SUBMITTALS:

- A. Submit written request sufficiently in advance to allow ODR and A/E time to adequately review and make a determination of approval of cutting, drilling, or alteration which affects:
 - 1. Work of Owner or any separate Contractor.
 - 2. Structural value or integrity of any element of Project.
 - 3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 - 4. Efficiency, operational life, maintenance, or safety of Project equipment elements.
 - 5. Visual qualities of sight-exposed elements.
 - 6. Damage to existing Work or utilities.
- B. Include in request:
 - 1. Identification of Project.
 - 2. Location and description of affected Work.
 - 3. Necessity for cutting, drilling, alteration, or excavation.
 - 4. Effect on Work of Owner or any separate Contractor, or on structural or

- weatherproof integrity of Project.
5. Description of proposed Work:
 - a. Scope of cutting, patching, alteration or excavation.
 - b. Trades who will perform the Work.
 - c. Products proposed to be used.
 - d. Extent of refinishing to be done.
 6. Alternative to cutting, drilling, patching, and excavation.
 7. Written permission of separate contractors who's work is affected.
 8. Date and time Work will be performed.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Provide materials and procedures required for original installation.
- B. For any change in materials, submit request for substitution under provision of Section 01 25 00 - Substitution Procedures.

PART 3 - EXECUTION

3.01 GENERAL:

- A. Field Conditions: Check and verify Contract Documents and field conditions before proceeding with Work. If there are any questions regarding these or other coordination questions, the Contractor is responsible for obtaining clarification from the A/E before proceeding with Work or related Work in question.
- B. Execute cutting, drilling, and patching, including excavation and fill as required to complete the Work, and to:
 1. Fit the several parts together, to integrate with other Work.
 2. Uncover Work to install ill-timed Work.
 3. Remove and replace defective and non-conforming Work.
 4. Remove samples of installed Work for testing.
 5. Provide openings in elements of Work for penetrations of mechanical and electrical work.
 6. Uncover Work to allow for A/E's and ODR's observation of Work which has been covered prior to observation by A/E and ODR.

3.02 INSPECTION:

- A. Inspection: Carefully examine the premises to determine the extent of Work and the condition under which it must be done, including elements subject to movement or damage during cutting, patching, excavating and backfilling. No extra payments will be allowed for claims for additional work that could have

been determined or anticipated by such inspection. After uncovering Work, inspect conditions affecting installation of new products.

- B. Beginning of cutting, drilling, or patching means acceptance of existing conditions.

3.03 PREPARATION:

- A. Preparation Prior to Cutting: Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.
- B. Protection: Provide barricades, coverings, fences, supports, and similar temporary protections necessary to protect persons and property from injury or damage as a result of Work of this Section. Confine operations to required limits and take reasonable precautions to protect remainder of property from damage.
- C. Dust Control: Control dust resulting from cutting and patching to prevent the spread of dust to adjacent occupied areas and to avoid creation of a nuisance in the adjacent surrounding area. Use of water will be permitted as indicated. Provide drop cloths or other suitable barriers to prevent dust from traveling to adjacent areas. Seal off return air registers or other mechanical systems to prevent dust from entering such systems.

3.04 PERFORMANCE:

- A. Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- B. Employ original installer to perform cutting and patching for weather-exposed, moisture-resistant elements, sight-exposed surfaces, and to preserve Owner's warranties and bonds for Work of this Contract and related work of other contracts.
- C. Cut rigid materials using masonry saw or core drill. Pneumatic tools are not allowed without prior written approval by the ODR.
- D. Restore Work which has been cut or removed using new products in accordance with requirements of Contract Documents.
- E. Fit and seal interior Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Fit and seal for watertightness all penetrations through exterior envelope and through slabs.
- F. At penetrations of fire-rated wall, ceiling, or floor construction, completely seal

all voids with fire stopping and sealant material, full thickness of the construction element to provide a smoke seal and penetration rating equivalent to adjacent rated construction. Refer to appropriate sections of Division 7 in these Specifications for requirements.

- G. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit as follows:
 - 1. Walls: From floor to ceiling and between the nearest corner. New gypsum board construction meeting existing construction in same plane shall be flush with no visible joint showing,
 - 2. Ceiling: The complete surface,
 - 3. Floor: The complete surface unless otherwise shown or unless a matching patch in applied finishes can be made acceptable to A/E and ODR,
 - 4. Openings: The entire unit including frame,
 - 5. Painted Cabinets: The entire painted surface,
 - 6. Transparent Finish Cabinets: Finish new surfaces to match existing,
 - 7. Base: Between the nearest corners.

- H. Excavation: Refer to appropriate sections of these Specifications.

- I. Damage: Restore accidental or careless damage to Work to a condition as good as or better than existed before Work was commenced and at no additional cost to the Owner.

END OF SECTION

SECTION 01 74 00

CLEANING AND WASTE MANAGEMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General requirements for cleaning.
- B. Materials for cleaning.
- C. Procedures for cleaning.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 33 00 - Submittal Procedures.
- C. Section 01 50 00 - Temporary Facilities and Controls.
- D. Section 01 77 00 - Closeout Procedures.

1.03 GENERAL REQUIREMENTS:

- A. General: In addition to Uniform General and Supplementary Conditions, Article 3 (UGSC 3.3.8), provide progress and final cleaning as specified in this section.
- B. Progress Cleaning: Keep premises and public properties free from accumulations of waste, debris and rubbish, caused by operations. Maintain Project in accord with State and local safety, health, and insurance standards.
- C. Final Cleaning: At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces of building and Project Site, including crawl spaces; leave Project clean and ready for occupancy.
- D. Final Inspection: Prior to final inspection, clean all surfaces and remove all debris from project.

PART 2 - PRODUCTS

2.01 CLEANING MATERIALS:

- A. Use materials which will not create hazards to health or property, and which will not damage surfaces.
- B. Use only materials and methods recommended by manufacturer of material being cleaned.

PART 3 - EXECUTION

3.01 CLEANING:

- A. In addition to removal of debris and cleaning specified in other sections, clean interior and exterior exposed-to-view surfaces affected by Work of this Contract.
- B. Hazards Control: Store volatile waste in covered metal containers and remove from premises daily. Prevent accumulation of wastes which create hazardous conditions. Provide adequate ventilation during use of volatile or noxious substances.
- C. Clean permanent filters of ventilating equipment and replace disposable filters when units have been operated during construction; in addition, clean ducts, blowers, and coils when units have been operated without filters during construction.
- D. Remove waste, debris, and surplus materials from site. Clean paving areas, walks, drives and streets in the vicinity of the building; remove mud, rubbish, waste, stains, spills, and foreign substances from paved areas and sweep clean. Immediately clean any mud tracked out of the construction area to adjacent drives and streets by vehicles and equipment.
- E. Keep the entire construction area clean and at least weekly conduct a general clean-up operation.
- F. Keep grass/weeds cut at all times within the limits of construction; maximum time interval in growing season is two weeks.
- G. Periodically inspect, tighten and realign construction/tree protection fencing.
- H. Do not burn or bury rubbish and waste materials on the Project site.
- I. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm, sanitary drains or into the soil.
- J. Do not dispose of rubbish and wastes into streams or waterways.
- K. Do not dispose of excess concrete on the Project Site or campus.
- L. Wet down rubbish and waste to subdue dust and prevent it from blowing.
- M. Provide on Site containers for collection of waste, debris and rubbish. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights. Do not fence, block, cover, and otherwise make inaccessible, for Owner's use, any waste containers located inside or outside

construction limits.

- N. Remove temporary protection and labels not required to remain.
- O. Just prior to painting and similar finishing operations, clean interior areas ready to receive finish, and continue cleaning as needed, until building is ready for Substantial Completion.
- P. Disposal: Remove waste materials, debris and rubbish from the Project Site and provide for legal disposal at a Texas Department of Health (TDH) permitted solid waste facility. In hauling material from the Project Site, Contractor shall prevent debris from dropping from vehicles and littering the campus or area streets and roads. Contractor shall promptly remove any debris which falls from vehicles.

3.02 FINAL CLEANING

- A. Employ experienced workmen or professional cleaners and perform cleaning in accordance with manufacturer's written recommendations, using products approved by the manufacturer for material being cleaned.
- B. Prior to final inspection and the Owner's acceptance of the Work, perform final cleaning of all areas of the building and Project Site, performing all operations specified in the various Sections of Project Specifications. Final cleaning operations include, but are not limited to:
 - 1. Remove waste, debris, and surplus materials of any nature from Site. Clean paving areas in the vicinity of the building; remove stains, spills, and foreign substances from paved areas and sweep paved areas clean and rake clean other surfaces of grounds,
 - 2. Broom cleaning of all exposed concrete floors,
 - 3. Cleaning all stonework,
 - 4. Cleaning all exposed painted and unpainted metals,
 - 5. Cleaning all architectural woodwork,
 - 6. Cleaning all doors and polish hardware; removing excess paint and stains,
 - 7. Cleaning all glass areas, exterior and interior,
 - 8. Cleaning all storefront framing and doors, and glazed wall system members, exterior and interior,
 - 9. Cleaning all walls and floors,
 - 10. Cleaning of resilient flooring, ready for waxing by campus personnel,
[Project Manager verify with campus]
 - 11. Vacuum all carpeted floors,
 - 12. Cleaning all toilet partitions, fixtures, and accessories,
 - 13. Cleaning all exposed surfaces of light fixtures, including removal of construction dust, paint overspray, finger prints, and similar soiling from light fixture bodies, reflectors, and both sides of light fixture lenses,
 - 14. Removing and disposing of all temporary protections,

15. Repair, patch and touch-up marred surfaces to match adjacent surfaces,
 16. Prior to Final Completion, inspect exposed interior and exterior surfaces and work areas to verify that entire work is clean.
- C. Clean finishes free of dust, stains, films, and other foreign substances.
- D. Clean transparent and glossy materials to a polished condition; remove foreign substances. Polish reflective surfaces to a clear shine.

END OF SECTION

SECTION 01 77 00

CLOSEOUT PROCEDURES
(UGSC 12.3)

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Instruction of using personnel.
- B. Submittals.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 32 00 - Construction Progress Documentation.
- C. Section 01 33 00 - Submittal Procedures.
- D. Section 01 50 00 - Temporary Facilities and Controls.
- E. Section 01 74 00 - Cleaning.
- F. Section 01 78 00 - Closeout Submittals

1.03 INSTRUCTION OF USING PERSONNEL:

- A. The Contractor will provide demonstrations; conduct training and familiarization sessions for physical plant/User personnel on the mechanical and electrical systems in the facility prior to Substantial Completion inspection. Arrangements for these instruction periods shall be made by the ODR. Operation and maintenance manuals must be available and used during this training period. Refer to Section 01 78 00 for requirements of operating and maintenance manuals.

1.04 SUBMITTALS:

- A. Refer to Section 01 29 00 - Payment Procedures for required administrative action and submittals which must precede or coincide with Contractor's final payment application. Contractor shall deliver these submittals to A/E for transmittal to Owner, properly executed, in one package, prior to the request for final payment.
- B. Final Completion (UGSC 12.1.5.3): Submit written request for Final Completion inspection and the following:
 - 1. Certification that Work is complete and Owner has full access and use of completed work, Contract Documents have been reviewed, and systems and equipment have been tested, are operational and User personnel have received proper instruction and training on equipment and systems.
 - 2. Copy of list of items to be completed or corrected from Substantial

- Completion Inspection, with each item initialed and showing date completed.
3. Evidence of compliance with requirements of governing authorities:
 - a. Certificates of occupancy.
 - b. Certificates of final inspection for elevator, plumbing, mechanical, fire protection, electrical, and other systems required by governing authorities.
 4. List of all Subcontractors and material suppliers and product description. Provide name, address, and complete phone number:
 - a. Product manufacturer.
 - b. Installer (Subcontractor).
 - c. Local representative.
 - d. Local source of supply for parts and replacement.
 5. Submit test/adjust/balance records; start-up performance reports, and other information relevant to Owner's occupancy.
 6. Clean-up: Refer to Section 01 74 00 for requirements.
 7. Deliver all special tools and keys in relation to project equipment and devices to ODR.
 8. Instruction Logs for Instruction of Owner's Operating Personnel: Refer to Section 01 78 00 for requirements.
 9. Warranties: Refer to Section 01 78 00 for requirements.
 10. Keys, Keying Schedule, and Change over of Locks: Refer to appropriate section in Division 8 of these Specifications for requirements.
 11. Spare Parts and Maintenance Material: Refer to appropriate Sections in this Specification for requirements.
 12. List of Contractor's incomplete work, recognized as exceptions to Owner's Certificate of Final Acceptance.
 13. Certificate of Insurance for Products and Completed Operations.
 14. Final Application for Payment.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Operating and maintenance manuals
- B. Maintenance instruction.
- C. Maintenance materials.
- D. Warranties.
- E. Project record documents.

1.02 RELATED SECTIONS:

- A. Uniform General and Supplementary Conditions, Article 13 - Warranty & Guarantee.
- B. Section 01 33 00 - Submittal Procedures.
- C. Section 01 34 00 - Shop Drawings, Product Data and Samples: Submittal schedule warranty requirements.
- D. Section 01 77 00 - Closeout Procedures.
- E. Individual Specification Sections: Special Project Warranties

1.03 OPERATING AND MAINTENANCE MANUALS (UGSC 12.3.2):

A. FORMAT:

1. Prepare prior to final inspections four (4) sets of operating and maintenance data, each containing data bound in commercial quality 3-ring binders with plastic covers. Minimum binder size 2". Also, provide two (2) digital copies on cd-rom of all operating and maintenance manuals in Adobe Acrobat format which are indexed and searchable.
2. Cover: Identify each volume, front cover and spine, with type or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS", name of Project, Project No., location, Contractor, date of Substantial Completion and Volume Number.
3. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Specification. Include Tab for each section number, systems and equipment number.
4. The work covered by these manuals will not be accepted nor will the Final Inspection and Acceptance be conducted until the ODR has received the manuals. The A/E will check for compliance with the specifications and furnish the approved copies to the ODR, who will make distribution. ***Payment will be withheld unless O&M Manuals submitted are in accordance with this specification.***

B. CONTENTS, EACH VOLUME:

1. Arrange typewritten table of contents for each volume, in systematic order:
2. A list of each product required to be included with name, address and telephone number of:
 - a. Subcontractor or installer.
 - b. Maintenance contractor, as appropriate.
 - c. Local source of supply for parts and replacement.
3. Identifying each product by product name and other identifying symbols.
4. Product Data:
 - a. Include only those sheets which are pertinent to specific product with product clearly identified.
 - b. Delete references to inapplicable information.
5. Drawings:
 - a. Supplement product data with drawings as necessary to clearly illustrate relations of component parts of equipment and systems and control and flow diagrams.
 - b. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
6. Written Text: As required to supplement product data for particular installation to provide logical sequence of instructions for each procedure.
7. Miscellaneous Data:
 - a. Furnish copy of each warranty, bond and service contract issued.
 - b. Furnish proper procedures in event of failure and instances which might affect validity of warranties or bonds.

C. MANUAL FOR MATERIALS AND FINISHES:

1. Architectural Products, Applied Materials, and Finishes:
 - a. Provide manufacturer's data giving full information on product:
 - (1). Catalog number, size and composition.
 - (2). Color and texture designations.
 - (3). Information required for re-ordering special manufactured products.
 - b. Provide instructions for care and maintenance including:
 - (1). Manufacturer's recommendation for types of cleaning agents and methods.
 - (2). Cautions against cleaning agents and methods which are detrimental to product.
 - (3). Recommended schedule for cleaning and maintenance.
 - c. Provide a summary listing of all exterior and interior colors.
2. Additional Requirements: Refer to respective Specification Sections.

D. MANUAL FOR EQUIPMENT AND SYSTEMS:

1. Each Type of Equipment and System:
 - a. Provide description of unit and component parts including:
 - (1). Function, normal operating characteristics and limiting conditions.
 - (2). Performance curves, engineering data and tests.
 - (3). Complete nomenclature and catalog number of replaceable parts.
 - (4). Dimensional drawing.
 - b. Operating Procedures: Include the following.
 - (1). Start-up, break-in, routine and normal operating instructions.
 - (2). Regulation, control, stopping, shut-down and emergency instructions.
 - (3). Summer and winter operating instructions.
 - (4). Special operating instructions.
 - c. Maintenance Procedures: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing and checking instructions.
 - d. Provide servicing and lubrication schedule including list of lubricants required.
 - e. Include manufacturer's printed operating and maintenance instructions.
 - f. Describe sequence of operation by control manufacturer.
 - g. Include original manufacturer's parts list, price lists, illustrations, assembly drawings and diagrams required for maintenance, predicted life of parts subject to wear and items recommended to be stocked as spare parts.
 - h. Include control diagrams by controls manufacturer.
 - i. Coordinate drawings and color coded piping diagrams.
 - j. Schedule valve tag numbers with location and function of each valve.
 - k. Include water treatment procedures and tests.
 - l. Include final balancing reports for mechanical systems.
(Only if included in Contractors WORK.)
2. Each Electric and Electronic System:
 - a. Provide description of system and component parts including:
 - (1). Function, normal operating characteristics and limiting conditions.
 - (2). Performance curves, engineering data and tests.
 - (3). Complete nomenclature and catalog number of replaceable parts.
 - b. Panelboard Circuit Directories: Provide electrical service characteristics, controls and communications.
 - c. Include color coded wiring diagrams.
 - d. Operating Procedures: Include start-up, break-in, and routine and

normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

e. Maintenance Procedures: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

f. Include manufacturer's printed operating and maintenance instructions.

g. Provide list of original manufacturer's spare parts, manufacturer's current prices and recommended quantities to be maintained in storage.

h. Electrical coordination study.

i. Special systems wiring diagrams.

3. Include warning of detrimental maintenance practices.

4. Prepare and include additional data when need for such data becomes apparent during instruction of Owner's personnel or as required under pertinent Specification Sections.

E. SUBMITTALS:

1. Submit completed manuals to A/E for review and transmittal to ODR thirty plus (30+) days prior to Substantial Completion Inspection.

2. Submittal of operating and maintenance manuals shall be prior to instruction of Owner's operating and maintenance personnel.

1.04 MAINTENANCE INSTRUCTION:

A. SUBMITTALS:

1. Submit preliminary copy of "Instruction of Owner's Operating and Maintenance Personnel" report for each system or item requiring instruction, on photocopy of form provided herein, at least 60 days prior to instruction date.

2. Submit fully completed forms upon completion of all instruction.

B. QUALITY ASSURANCE:

1. Instruction shall be done by personnel trained and experienced in maintenance of described products and operation of described equipment and systems, and familiar with requirements of this Section.

C. SCHEDULING:

1. Do not perform instruction until systems and equipment have been inspected and approved.

2. Complete all instruction prior to Substantial Completion.

D. INSTRUCTION OF OWNER'S PERSONNEL:

1. Instruct Owner's designated personnel in operation and maintenance of systems and equipment. Use Operating and Maintenance Data specified in this section as basis for instruction.
2. Furnish specialized tools required to operate and maintain systems and equipment for Owner's use.
3. Provide level of instruction commensurate with system or item requiring instruction. Some items may require multiple training sessions at different times due to Owner's 24 hours per day operation.
4. Explain contents and use of Operation and Maintenance Data.
5. Explain operating sequences as follows:
 - a. Show location and operation of switches, valves and other such devices used to start, stop and adjust systems.
 - b. Explain use of flow diagrams, operating sequence diagrams and other such devices.
 - c. Demonstrate operation through complete cycles and full range of operation through all modes, including testing and adjusting relevant to operation.
6. Explain use of control equipment, including temperature settings, switch modes, available adjustments, reading of gauges, and functions that must be serviced by factory-authorized representatives.
7. Explain trouble-shooting procedures; demonstrate problems which commonly occur, and their resolution, and note procedures which must be performed by factory authorized personnel.
8. Explain maintenance procedures and requirements, including items requiring periodic maintenance. Demonstrate preventive maintenance procedures and recommended maintenance intervals. Demonstrate other maintenance procedures not part of periodic maintenance program. Identify maintenance materials to be used.

1.05 MAINTENANCE MATERIALS

A. GENERAL:

1. Assemble spare parts and maintenance materials as required in individual Specification Sections. Deliver in clean packaging identified with manufacturer's name, trade name, stock number, size, color, and other similar information identifying products. Identify building and location in building where item is used or with what it is used. Include name, address and telephone number of local supplier.
2. Deliver to ODR, prior to Final Inspection, at a location within three (3) miles of Project Site as directed by ODR. Include a letter of transmittal with delivery with a copy to A/E listing materials provided.

1.06 WARRANTIES

A. WARRANTY SUBMITTAL (UGSC 13.1 & 13.5):

1. Warranty Format: Assemble warranties executed by respective manufacturers, suppliers, subcontractors and Contractor as follows:
 - a. Size: 8-1/2" x 11". Punch sheets for 3-ring binder; fold larger sheets to fit into durable binders.
 - b. Cover: Identify each packet with type or printed title "WARRANTIES". List title of Project and name of Contractor.
 - c. Table of Contents: Neatly typed, using table of contents of Project Specification as format.
 - d. Procedures to be followed in case of failure.
 - e. Quantity: Provide two (2) sets.
2. Warranty Forms: Except as otherwise specified, Contractor shall execute in duplicate on Contractor's letterhead, the Project Warranty for General Construction and special Warranties required by various Specification Sections, on the warranty forms which follow at end of this Section.
3. Warranty Effective Date:
 - a. For portions of Work accepted by Owner prior to Final Completion: Date of Substantial Completion and Early Occupancy.
 - b. For portions of Work accepted by Owner at Final Completion: Date of Substantial Completion or Final Completion whichever occurs sooner.

B. PREPARATION:

1. Obtain warranties and guarantees, executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten (10) days after completion of the applicable item or work. Except for items put into service with Owner's permission, warranty begins with date of Substantial Completion in accordance with Uniform General and Supplementary Conditions, Article 13.
2. Verify that documents comply with requirements of Contract Documents, are in form approved by Owner, contain full information. As a minimum, each warranty shall contain:
 - a. Name and location of Project.
 - b. Name and address of Contractor.
 - c. Product or work item.
 - d. Scope of warranty.
 - e. Date of beginning and duration of correction period for warranty.
3. Retain warranties until time specified for submittal.

C. TIME OF SUBMITTALS:

1. For equipment or component parts of equipment put into service with Owner's permission, submit documents within ten (10) days after acceptance.
2. Make other submittals within ten (10) days after Date of Substantial Completion, prior to Final Application for Payment.

D. SCHEDULE OF SUBMITTALS:

1. Refer to Sections 01 33 00 and 01 34 00 for Schedule of Submittals.

E. WARRANTY ADMINISTRATION

1. A representative of the User (usually the Physical Plant Director) will be the Owner's point of contact for all warranty work. When disagreements develop between the Warranty Administrator and the Warrantor, the Director of Project Delivery, FPC will act for the User.

1.07 PROJECT RECORD DOCUMENTS (UGSC 6.2)

A. GENERAL:

1. Maintain at the Site for the Owner one record copy of:
 - a. Drawings,
 - b. Specifications,
 - c. Addenda,
 - d. Change Orders and other modifications to the Contract,
 - e. A/E's field orders and other written instruction,
 - f. Approved shop drawings, product data, and samples,
 - g. Field test records,
 - h. Other records required throughout construction by ODR.
2. Maintenance of Record Documents and Samples:
 - a. Store documents and samples in Contractor's field office apart from documents used for construction. Provide files and racks for storage of documents. Provide locked cabinet or secure storage space for samples.
 - b. File documents and samples in accordance with Drawing Index and Specification Table of Contents.
 - c. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
 - d. Make documents and samples available at all times for inspection by A/E and ODR.
 - e. Record Prints will be reviewed monthly by the ODR and A/E. This will be a requirement for issuance of a Certificate for Payment.

B. RECORDING:

1. Label each document and each sheet of the record drawing set as constructed, "As Constructed" in stamped or printed letters (per UGSC 6.2.2).
2. Record information concurrently with construction progress. Make entries within 24 hours after receipt of information. Do not cover-up items required to be shown on Project Record Documents until recorded.
3. Utilize skilled draftspersons to make neat legible notations on record documents to record actual construction as follows:
 - a. Location of underground utilities and appurtenances covered by

construction, referenced by an elevation and dimension to visible and accessible features of structure.

b. Location of internal utilities and appurtenances covered by construction, referenced by elevation and dimension to visible and accessible features of structure.

c. Indicate field changes of dimension and detail, changes made by field order or Change Order, and details not on Contract Drawings.

d. Record actual CFM rating in each space on Mechanical Drawings.

e. In Specifications and Addenda, record manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed, changes made by Change Order, approved substitution, or other modification, and other matters not originally specified.

4. Entries: Clearly describe change by note and by graphic line, as required. Date all entries. Call attention to entry by "cloud" around area or areas affected. In event of overlapping changes, use different color for each change.

5. ODR and A/E will review Record Set monthly. If documents are not being maintained concurrently with construction progress, Owner may withhold progress payments until documents are made current.

C. SUBMITTAL:

1. Prior to Final inspection and as a prerequisite to Final Payment, submit Record Document drawings, including mechanical, electrical and plumbing installations, and other installations as specified in Contract Specifications, to A/E for permanent Project File.

2. Documents shall be submitted at one time with transmittal letter containing date, Project title, Contractor's name and address, itemized list of documents, and signature of Contractor. The Contractor's signature acknowledges that the documents have been reviewed and that they represent a true and accurate record of the work installed.

PART 2 – PRODUCTS - NOT USED

PART 3 – EXECUTION - NOT USED

END OF SECTION

INSTRUCTION OF OWNER'S OPERATING PERSONNEL

PROJECT: _____

Project No. _____
Contract No. _____

SYSTEM OR EQUIPMENT: _____

PRELIMINARY INFORMATION:

A. To be completed by Contractor:

1. Proposed dates of instruction: _____ to _____
2. Representative performing instruction: _____
3. Number of hours required: _____

B. To be completed by Owner:

1. Owner's personnel to be instructed:

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

INSTRUCTION LOG:

| Date | No. of Hours | Materials Covered | Instructor's Initials | Owner's Rep. Initials | Comments |
|------|--------------|-------------------|-----------------------|-----------------------|----------|
| | | | | | |
| | | | | | |

Total Hours: _____ Date Instruction Completed: _____

Owner's Representative: _____

Instructor: _____

PROJECT WARRANTY FOR GENERAL CONSTRUCTION

WHEREAS, _____(Contractor),

Address _____

Telephone () _____ has performed general construction work on the following project:

Contract No. _____ Project No. _____

For _____(Owner),

Address _____, and,

WHEREAS, Contractor has agreed to warrant said Work to be new, unless otherwise specified in the Contract Documents, and that all Work is of good quality, free from faults and defects, and in accordance with the Contract Documents.

NOW THEREFORE, Contractor hereby warrants said Work in accordance with terms hereof, complying with terms of Contract with Owner dated _____, 20_____, that:

Contractor agrees to repair or replace to the satisfaction of the Owner all Work that may prove defective in workmanship or materials together with all other Work which may be damaged or displaced in so doing, except for abuse, modifications not executed by Contractor, insufficient maintenance, improper operation, or normal wear and tear under normal usage.

All repairs or replacements shall have a correction period for such Work equal to the original correction period as herein stated, dated from the final acceptance of repairs or replacement.

CORRECTION PERIOD FOR THE WORK: STARTING _____, TERMINATING _____.

In the event of our failure to comply with the above mentioned conditions within a reasonable time after being notified in writing, we hereby authorize the Owner to proceed to have defects repaired and made good at our expense, and we will pay the costs and charges therefore immediately upon demand.

IN WITNESS THEREOF, this instrument has been duly executed this __ day of _____, 20_____, for Contractor by _____

(Signature)

_____ as its _____.
(Typed Name) (Title)

SPECIAL WARRANTY FOR _____

WHEREAS, _____(Contractor),

Address _____

Telephone () _____ has performed _____

work on the following project: _____

Contract No. _____ Project No. _____

For _____(Owner),

Address _____, and,

WHEREAS, Contractor has agreed to warrant said Work to be new, unless otherwise specified in the Contract Documents, and that all Work is of good quality, free from faults and defects, and in accordance with the Contract Documents.

NOW THEREFORE, Contractor hereby warrants said Work in accordance with terms hereof, complying with terms of Contract with Owner dated _____, 20____, that:

Contractor agrees to repair or replace to the satisfaction of the Owner all Work that may prove defective in workmanship or materials together with all other Work which may be damaged or displaced in so doing, except for abuse, modifications not executed by Contractor, insufficient maintenance, improper operation, or normal wear and tear under normal usage.

All repairs or replacements shall have a correction period for such Work equal to the original correction period as herein stated, dated from the final acceptance of repairs or replacement.

CORRECTION PERIOD FOR THE WORK: STARTING _____, TERMINATING _____.

In the event of our failure to comply with the above mentioned conditions within a reasonable time after being notified in writing, we agree to hereby authorize the Owner to proceed to have defects repaired and made good at our expense, and we will pay costs and charges therefore immediately upon demand.

IN WITNESS THEREOF, this instrument has been duly executed this ___ day of _____, 20__

for Contractor by _____
(Signature)

_____ as its _____
_____.
(Typed Name) (Title)

And has been countersigned in accordance with terms and conditions, for

Installer by: _____
(Signature) (Typed Name)

as its _____.
(Title)

Name of Firm _____

Address _____

**Section 01 78 20 Construction Operations Building
Information Exchange (COBie)
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Section 01 78 20

Construction Operations Building Information Exchange (COBie)

Part 1 - General

1.01. References

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

A. International Standards Organization

1. ISO/PAS 16739: Industry Foundation Classes
2. buildingSMART
3. FM Handover MVD: Facility Management Handover Model View Definition

B. buildingSMART alliance

1. COBie2: Construction-Operations Building information exchange (ver. 2)
2. SPie: Specifiers' Properties information exchange

C. Whole Building Design Guide

1. Product Guide Listing of Required SPie Product Properties

D. COBie2 Checker

1. bimServices: COBie checker (http://www.aec3.com/6/6_04.htm)

1.02. Submission of Building Information

A. The consultant/vendor shall provide all building information submittals required elsewhere in the contract using the COBie2 format. This information includes but is not limited to:

1. A depiction of the spatial and system organization of the facility,
2. All scheduled, installed, or tagged materials, products, and equipment, and
3. Operations and maintenance information.

B. The consultant/vendor is responsible for the full aggregation, coordination, and input of such information that is provided by designers, design consultants, contractors, subcontractors, suppliers, commissioning agents, and/or manufacturer's as is applicable to the specific type of deliverable to be formatted using this COBie2 specification.

C. Submit in accordance with requirements outlined within this section as well as the following:

1. The Texas A&M University System Uniform and Supplementary Conditions per project manual
2. Section 01 00 00 Job Requirements per project manual
3. Section 01 33 00 Submittal Procedures per project manual
4. The Texas A&M University System Design Guidelines

D. Package Quality

1. Two (2) paper copies of the electronic COBie2 data set shall be provided.
 - a. This copy shall include a tab for the COBie2 printed worksheets and separate tabs for each reference documented.
 - b. The materials shall be provided in three ring binders.
 - c. The binders shall be labeled on the cover, spine, and first page with the following information:
 - i. Project
 - ii. Project location
 - iii. Project number
 - iv. A/E company
 - v. Contractor company
 - vi. Commissioning agent company
 - vii. Title of submission
 - viii. Contact information for the office who produced the information (if different from that above).
2. Three (3) electronic copies of the electronic COBie2 data set shall be provided.
 - a. This copy shall include the MS Excel file, as well as PDFs of the Excel spreadsheets and of all the associated submittals referenced in the COBie data set.
 - b. The materials shall be provided on the appropriate type of media as defined in this document.
 - c. The media shall be labeled on the cover and on the media with the following information:
 - i. Project
 - ii. Project location
 - iii. Project number
 - iv. A/E company
 - v. Contractor company
 - vi. Commissioning agent company
 - vii. Title of submission
 - viii. Contact information for the office who produced the information (if different from that above)
 - d. Provide a Table of Contents insert for the media cover.
3. The technology used for the data transmission shall be selected to ensure that the data is provided on one single "disk" or "drive."
 - a. The contractor shall provide data on either disk-based (CD or DVD) or portable hard drive media.

- b. If disk-based media is provided, a printed label on the data disk shall list the following information:
 - i. Name of the project
 - ii. Project location
 - iii. Project number
 - iv. A/E company
 - v. Contractor company
 - vi. Title of submission
 - vii. To ensure that any problems with the data or media can be easily resolved the label shall also include the name and contact information of the individual who produced the final data disk.
4. If drive-based media is provided, the drive shall be labeled in the same manner as disk based media.

E. Package Content

1. While the COBie2 specification provides a data model and associated software implementation covering the entire facility life-cycle
2. Individual COBie2 deliverables for a given project will be limited according to the following requirements:
 - a. COBie2 files may only refer to a single facility or building.
 - b. If more than one facility or building is being constructed as part of the same contract, the contractor shall provide a separate COBie2 file for each facility using the building asset number as an identifier.
 - c. COBie2 files will only be required to provide that portion of the facility or building's life-cycle information as specified in the specification below.
 - d. COBie2 files are expected to refer to linked documents.
 - i. All COBie2 submissions must provide copies of all linked documents in, at a minimum, Portable Document Format (PDF).
 - ii. All image files shall be provided in "jpg" format as well as PDF.
 - iii. Design software deliverables, when different than those produced by the A/E or CM, must be provided in native file format as well as IFC format.
3. A PDF file containing a COBie2 compliance checking report indicating that no internal consistence errors have been identified in the COBie2 file and that the file is of "adequate" or better quality.

F. Changes to Submittals

1. Manufacturer-originated changes or revisions to COBie2 data shall be furnished by the Contractor if a component of an item is so affected subsequent to acceptance of COBie2 data.

2. Changes, additions, or revisions required by the Contracting Officer for final acceptance of submitted data, shall be submitted by the Contractor within 30 calendar days of the notification of this change requirement.
3. Changes due to Cx (commissioning) and mechanical system testing and balancing reports shall be incorporated into the COBie data set.

G. Review and Approval

1. The vendor/consultant shall verify compliance of the COBie2 file using either manual methods and/or referenced COBie2 checking software. The use of COBie2 compliant software and/or automated checking software does not eliminate the possibility that failure to follow software system instructions may provide incorrect COBie2 deliverables.
2. The vendor/consultant shall check all COBie2 files prior to submission, regardless of the source of those files. The vendor/consultant shall submit a brief report with each COBie2 deliverable indicating steps taken to verify compliance with the COBie2 format.
3. The vendor/consultant is responsible to correct all errors found in the COBie2 file regardless of the source of those errors. Submit corrected COBie2 files within fifteen (15) days of the rejection of a COBie2 submittal.

1.03. Information Types Required

- A. Unique identifiers are required (email and name) on all records in all worksheets, except Attributes and Coordinates where the name and applicable named object taken together shall be unique.
- B. To ensure compatibility between COBie2 information and design information the vendor/consultant shall ensure that unique COBie2 names are provided.
- C. If unique names must be added or modified for COBie2 compliance, the vendor/consultant shall update the design documents to reflect these unique names.
- D. Unique identifies shall not contain commas, nor non-printing characters.
- E. Contact identifiers shall be valid email addresses.
- F. All internal references must be valid.
- G. All references to external documents must be complete.
- H. All required fields shall be provided. Those fields identified as required for the purpose of correctly transmitting the COBie2 file, that are not required as part of a specific project deliverable, shall contain the text "n/a".
- I. COBie Data Collection**
 1. The vendor/consultant shall submit a COBie2 file containing, at a minimum, the following worksheets.
 - a. Contact Worksheet.

- i. The Texas A&M University System. Provide, at a minimum, contact information for each of the following personnel. Provide additional worksheet rows for any additional key personnel.
 1. Area Manager
 2. Architectural Project Manager
 3. Construction Phase Project Manager
 4. Inspectors
 5. Engineers
- ii. System Member. Provide, at a minimum, contact information for each of the following personnel. Provide additional worksheet rows for any additional key personnel.
 1. Project Representative
 2. Any other key personnel
- iii. Architect contact information. Provide, at a minimum, contact information for each of the following personnel. Provide additional worksheet rows for any additional key personnel.
 1. Principal in Charge
 2. Project Manager
 3. Project Architect
 4. Construction Phase Administrator (if different from above)
- iv. Engineer/consultant contact information. Provide, at a minimum, contact information for each of the following engineers: Surveyor, Structural, Civil (if used), Mechanical, Electrical, Plumbing, Landscape Architect (if used), and any specialty consultant. Provide, at a minimum, contact information for each of the following personnel within each organization. Provide additional worksheet rows for any additional key personnel.
 1. Principal in Charge
 2. Project Manager
 3. Project Engineer
 4. Construction Phase Administrator (if different from above)
 5. Construction Phase Inspectors (if different from above)
- v. Provide contact information for the Commissioning Agent. Provide, at a minimum, contact information for each of the following personnel. Provide additional worksheet rows for any additional key personnel.
 1. Principal in Charge
 2. Project Manager
 3. Project Engineer

- vi. CM/Contractor contact information. Provide, at a minimum, contact information for each of the following personnel. Provide additional worksheet rows for any additional key personnel.
 - 1. Project Executive
 - 2. Project Manager
 - 3. Superintendant
 - 4. Project Engineer
- vii. Subcontractor Contact Information. Provide, at a minimum, contact information for each of the following personnel for each subcontractor providing specific submittal documents. Provide additional worksheet rows for any additional key personnel.
 - 1. Ensure that the corresponding subcontractor is listed as the contact for each submittal package.
 - 2. Project Executive
 - 3. Project Manager
 - 4. Project Foreman
- viii. Manufacturer Contact Information.
 - 1. Provide additional Contact Worksheet rows for the manufacturers of all approved submittals.
 - 2. Ensure this contact information is referenced in the Manufacturer column of the Type Worksheet.
- ix. Parts and Warranty Contacts. Contact information for all replacement parts companies and warranty guarantors shall be listed in the Contact worksheet.
- b. Facility Worksheet.
 - i. Only one (1) record shall be provided per file.
 - ii. If the contractor is delivering COBie2 data on multiple buildings, provide one file for each building using the building asset number as an identifier.
- c. Floor Worksheet.
 - i. Provide one record for each named floor.
 - ii. At a minimum buildings must include a minimum of the following:
 - 1. One (1) record for the roof
 - 2. One (1) record for the site
 - 3. One (1) record for the first floor
- d. Space Worksheet.
 - i. Provide one record for each named space.
 - ii. All spaces must be classified by function.
 - iii. Spaces with distinct functional areas may be subdivided.

- iv. The following minimum set of attributes must be shall be provide for each space:
 - 1. Useable ceiling height
 - 2. Gross area
 - 3. Net area
- v. Room Tag. If the contractor has installed room number signage in the building that differs from that listed on the design drawings, then the contractor shall provide the room signage designation.
- e. Type Worksheet.
 - i. One record is required for each type of scheduled architectural element listed in the design. Examples of such elements include, but are not limited to: doors and windows.
 - ii. One record is required for each type of scheduled material, product, or equipment element listed in the design. All types of scheduled architectural, mechanical, electrical, and plumbing items shall be included.
 - iii. Fixed Assets. The contractor shall list the direct cost of replacement and expected service life, as provided from the manufacturer, for all assets identified as fixed assets under the Type worksheet.
 - iv. Provide the following:
 - 1. Manufacturer
 - 2. Model Number
 - 3. Warranty information
 - v. Equipment Assets. The contractor shall identify the replacement cost of each type of material, product, and equipment listed.
 - vi. Products and Equipment Attributes. The contractor shall confirm that manufacturer's product data attributes are referenced all Type and Component Attributes.
- f. Component Worksheet.
 - i. One record is required for each individual component named in architectural schedules as listed in the design. Examples of such components include, but are not limited to: doors and windows.
 - ii. One record is required for each individual component named in all design schedules listed in plans and specifications.
 - iii. Component records for interior doors and windows shall be identified as being in two spaces. Component records for exterior doors and windows shall be identified as being in a single space.

- iv. Manufacturer Information in Component Worksheet. Information on the worksheet related to Manufacturer, Model Number, and warranty information.
- v. Installed Material, Products, and Equipment. For all installed material, products, and equipment identified in the Component Worksheet the contractor shall:
 - 1. Verify the location of the item
 - 2. Provide serial number, the item has a manufacturer's name plate
 - 3. Provide a tag number if the item has been tagged during the construction process
 - 4. Identify installation date.
- vi. Bar Codes. The code numbers of all Bar Coded items shall be included in the Component Worksheet.
- vii. Products and Equipment Attributes. The contractor shall confirm that manufacturer's product data attributes are referenced all Type and Component Attributes.
- g. Attribute Worksheet.
 - i. The following minimum set of attributes must be shall be provide for each space:
 - 1. Floor finish
 - 2. Wall finish
 - 3. Ceiling finish
 - ii. Doors and windows shall be identified by a minimum of one property, "IsExternal" to identify both internal and external spaces.
 - iii. The minimum set of properties required for all type worksheet rows shall be the properties found in the Specifiers' Properties information exchange (SPie) specification. contractors shall refer to the Product Guide of the Whole Building Design Guide to identify the minimum SPie properties that must appear for each row of product Types.
 - iv. Attribute Worksheet. The minimum set of properties required for all installed products shall be the properties found in the Specifiers' Properties information exchange (SPie) specification. The Contractor shall refer to the Product Guide of the Whole Building Design Guide to identify the minimum SPie properties that must appear for each row of product Types. Designer provided SPie data must be updated during this deliverable to reflect installed product properties.
 - v. One record is required for each type of scheduled material, product, or equipment element listed in the design. All types of scheduled architectural, mechanical, electrical, and plumbing items shall be included.

- vi. Warranty Information. In COBie2 manufacturer parts and labor warranties are conferred against product types. If warranty terms for individual components differ from the warranty of the Type, then the contactor shall include Attribute records for all warranty data properties for individual components.
- h. Connection Worksheet.
 - i. The contractor shall identify the logical connections between all the following system components:
 - 1. Mechanical
 - 2. Electrical
 - 3. Plumbing
 - ii. A minimum of one occurrence of all such Components in the Connection worksheet shall be required.
- i. Document Worksheet.
 - i. The contractor shall provide an electronic version of the construction submittal register in the Document worksheet.
 - 1. Reflect how the contractor is to provide the submittals.
 - 2. All documents required to be provided by the construction contractor shall be identified by setting the “Stage” of the submittal to “Requirement.”
 - 3. Submittals remaining to be Approved. All submittals not yet approved will remain listed in the Documents worksheet. These submittals shall be identified by setting the “Stage” of the submittal to “Required.”
 - ii. Approved Submittals.
 - 1. All approved electronic submittal files shall be linked to the Document worksheet.
 - 2. Approved documents shall be identified by setting the “Stage” of the submittal to “Approved.”
 - 3. The contractor shall provide an electronic copy of all approved submittals in formats as specified previously in this specification.
 - iii. Final Approved Submittals and Documents. The contractor shall verify that the following literature has been provided as linked documents referenced in the COBie2 Documents Worksheet:
 - 1. Manufacturer literature
 - 2. Shop drawings
 - 3. Any other submittal documents
 - iv. Replacement Parts Diagrams. If the manufacturer provides replacement parts information in document format, the contractor shall identify the document in

the Document worksheet and shall use the worksheet to identify the associated product type. (See also Spare Worksheet.)

- j. Spare Worksheet.
 - i. Detailed Parts Set. If the manufacturer provides an electronic catalog of replacement parts those parts may be individually identified within the optional “Set Number” and “Part Number” columns of the Spare worksheet. (See also Document Worksheet.)
- k. Job Worksheet. The contractor shall provide the following plans for individual components, types of components, and systems in the Job worksheet.
 - i. Operating Instructions:
 - 1. The contractor shall enter the operating instructions in the COBie2 Jobs worksheet.
 - 2. Where needed, the contractor shall extract operating plans from the documentation provided by manufacturers’ literature.
 - 3. Jobs for specific equipment and job type may be listed in either as series of steps using Prior column, listed in paragraph format in the Description column.
 - 4. The following types of information shall be provided in these plans:
 - a. Operator Prestart. Include procedures required to install, set up, and prepare each system for use.
 - b. Startup, Shutdown, and Post-Shutdown Procedures. Provide narrative description for Startup, Shutdown and Post-shutdown operating procedures including the control sequence for each procedure.
 - c. Normal Operations. Provide narrative description of Normal Operating Procedures. Include Control Diagrams with data to explain operation and control of systems and specific equipment.
 - d. Operator Service Requirements. Include instructions for services to be performed by the operator such as lubrication, adjustment, calibrations, inspection, and recording gage readings.
 - e. Operating Instructions. Includes specific instructions, procedures, and illustrations for operation of the installed Components and features of each Type and System.
 - 5. Preventive Maintenance.
 - a. Include the following information for preventive and scheduled maintenance to minimize corrective maintenance and repair for the installed model and features of each system.

- b. Include potential environmental and indoor air quality impacts of recommended maintenance procedures and materials.
 - c. The contractor shall enter the Preventative Maintenance Schedules in the COBie2 Jobs worksheet.
 - d. Where needed, the contractor shall extract these schedules from manufacturer's literature.
 - e. Jobs for specific equipment and job type may be listed in either as series of steps using Prior column, listed in paragraph format in the Description column.
6. Emergency Operations.
- a. Include Emergency Procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment.
 - b. Include Emergency Shutdown Instructions for fire, explosion, spills, or other foreseeable contingencies.
 - c. Provide guidance and procedures for emergency operation of all utility systems including required valve positions, valve locations and zones or portions of systems controlled.
 - d. Where needed, the contractor shall extract these emergency operations plans from manufacturers' literature.
 - e. Jobs for specific equipment and job type may be listed in either as series of steps using Prior column, listed in paragraph format in the Description column.
7. Troubleshooting Instructions.
- a. Include Troubleshooting Instructions to allow permit the expected failure modes of building service systems.
 - b. The contractor shall include Troubleshooting Instructions for the following minimum set of systems:
 - i. Alarm Systems
 - ii. Conveying Systems
 - iii. Cooling Systems
 - iv. Elevator Systems
 - v. Damping Systems
 - vi. Emergency Power Generation Systems
 - vii. Fire Suppression Systems
 - viii. Heating Systems
 - ix. Ventilation Systems.

- c. Where needed, the contractor shall extract the Troubleshooting Instructions from manufacturer's literature.
 - d. Jobs for specific equipment and job type may be listed in either as series of steps using Prior column, listed in paragraph format in the Description column.
8. Safety Instructions.
 - a. Include Specific Safety Instructions that describe the procedures needed to overcome hazards associated with any of the equipment or systems in the facility.
 - b. Where needed, the contractor shall extract the Safety Instructions from manufacturer's literature.
 - c. Jobs for specific equipment and job type may be listed in either as series of steps using Prior column, listed in paragraph format in the Description column.
9. Coordinates. The contractor shall update the space coordinates to reflect as-built conditions.

Program of Requirements

Joint Library Facility with The University of Texas

at

Texas A&M University
Riverside Campus
Bryan, Texas



Project No. 02-3089
15 February 2011

Facilities Planning and Construction Department
The Texas A&M University System
College Station, Texas

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Program of Requirements Approval

Approved:

Texas A&M University

Thomas Taylor
Interim Vice President for Administration

Lallah Howard
Executive Associate Vice President for
Administration

Charles Gilreath
Interim Dean Libraries, User Coordinator

R. Bowen Loftin
President

Concur:

The Texas A&M University System

Dan Kennedy
Director of Project Planning

Russ Wallace
Director of Project Delivery

Vergel Gay
Chief Facilities Planning and Construction Officer

Date

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The Texas A&M University System**

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User Justification for Project

The construction of the Joint Library Facility, which would be used by the libraries of members of The University of Texas System and The Texas A&M University System, will help alleviate space pressures for libraries on the campuses of both university systems. The University of Texas at Austin and Texas A&M University recently completed an expansion of a deep-storage facility on the Pickle Research Campus in Austin. This facility will hold a total of two million volumes in an environment capable of preserving materials housed there indefinitely. Such a level of care is important for many categories of materials, but it is not necessary for other categories of library resources that need to be preserved in anticipation of digital version that will ultimately supplant the printed volumes. The facility being proposed at the Riverside campus would address the need for this intermediate storage environment.

Space for books in university libraries is reaching capacity. Many of the books are kept for research purposes and are infrequently used. Adding stack space on campus is very expensive and not necessarily a wise use of university land or monies. The idea of creating a joint use library storage facility is a viable solution. This new joint use facility would be located on the Riverside Campus of Texas A&M University. Land has already been set aside for the project. Moving books to the joint library facility would allow space in the library to be reallocated for other uses. The joint library facility would also provide space for the digitization and distribution of research material.

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Project Scope

Site Location

The proposed location of the project is at the open area across Warehouse Rd from warehouse 8524 on the Riverside Campus of Texas A&M University in Bryan, Texas. The exact location of the project will be decided prior to the beginning of the project. See the attached map of the Riverside Campus for the location of the land that has been set aside for library use on the campus.

Design Criteria

The project A/E team is responsible for the design as requested for this project.

The Program of Requirements (POR) is intended only to establish basic design criteria. This POR does not include all User requirements that may be identified in the project during the design process. It is intended only to establish basic design criteria. Further, it is to be used in conjunction with the Facility Planning and Construction Department's (FP&C) Facilities Design Guidelines manual and the Agreement for A/E Services to establish the responsibilities of the project A/E team. The Facilities Design Guidelines provide general criteria, design processes, and general requirements applicable to Texas A&M University System construction projects. The design team shall make professional evaluations of design problems and issues related to this project, analyze the advantages and disadvantages of each, evaluate, and recommend solutions to the design issues during the design process.

It is emphasized that the project A/E team is responsible to the Chief Facilities Planning and Construction Officer for performing any needed detailed studies using sound architectural and engineering principles required to establish the most functional, economical, and efficient use of materials, the site, and construction methods in order to provide the requested facilities within an approved budget during the design phases. Although certain construction systems may be described in the POR, the project A/E team is expected to consider optional systems to obtain maximum economy and adaptability to the requirements of the project.

The listing of improvements in the Requested Improvements is not intended as a dictation of the final and best configuration. The project A/E team is charged with the responsibility of establishing the final locations, configuration, and layout taking into consideration site conditions and requirements established in this program.

All construction in this project shall meet all applicable codes and standards including NFPA Life Safety Codes and Texas Accessibility Standards.

The Project Budget Amount is \$7,000,000. The Project Budget Amount includes an Amount Available for Construction Contract (AACC) of \$5,478,000. (See attached Estimated Project Budget.)

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Project Team

General

This Program of Requirements (POR), or Program, identifies the elements to be included in the proposed Joint Library Facility, located at Texas A&M University Riverside Campus in Bryan, Texas.

The POR is intended only to establish basic design criteria. The work tasks and criteria included in the Project Scope portion of this POR identify the basic functions necessary for this facility. The Project Architect/Engineer (A/E) shall assemble a team with all areas of expertise required to successfully design this project. The Project A/E is responsible for verification of the validity of assumptions and requirements established by the POR as part of the basic services provided.

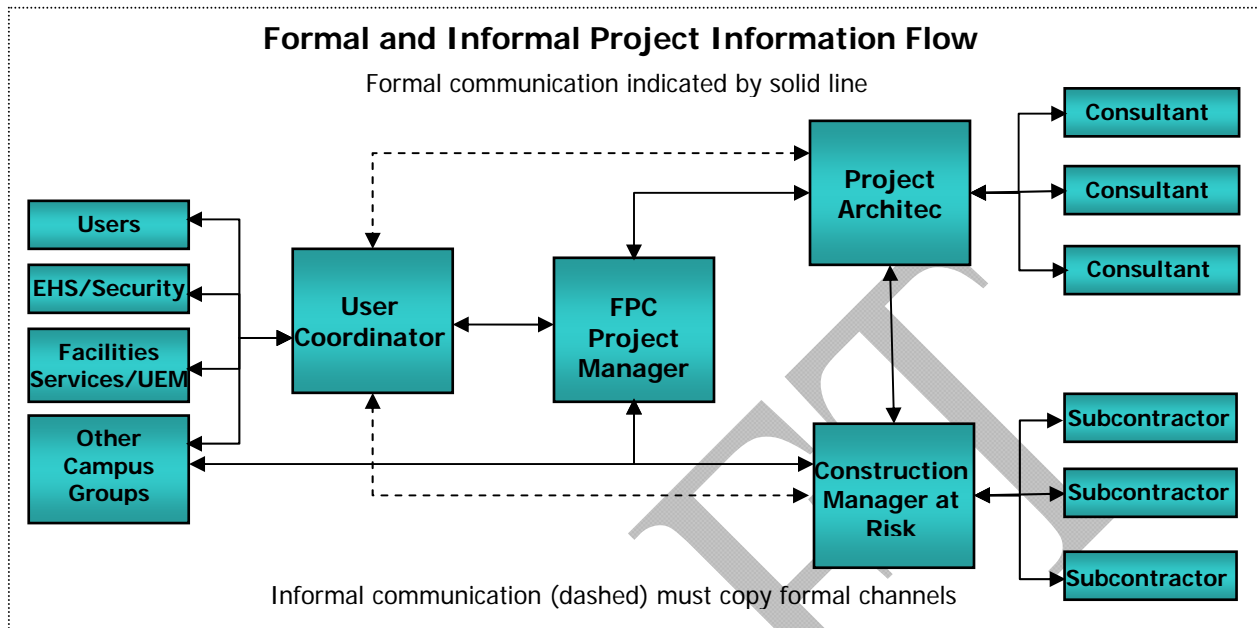
The Project A/E team assembled for this project must include registered firms and licensed individuals in the State of Texas knowledgeable and experienced in the architectural design, structural, electrical, civil, surveying, geotechnical, mechanical, plumbing, library planning or library storage, applicable codes and standards, and cost estimating disciplines associated with the design of the Joint Library Facility project. In addition, the team must include any other areas of expertise required for the successful design of this project.

Coordination

Mr. Alex Araujo, Area Manager-Project Controls, The Texas A&M University System, Telephone (979) 458-7023, Fax (979) 458-7020, Email: alex.araujo@tam.u.edu is the Facilities Planning and Construction, Project Manager and will manage the total project development effort.

Mr. Charles Gilreath, Interim Dean Libraries, Texas A&M University, telephone (979) 845-4496; Email: charles-gilreath@tam.u.edu has been appointed the User Coordinator for this project. Mr. Gilreath or his designated representative will be responsible for serving as contact and representative between the using personnel and the project team for operational information necessary for the project.

Project Information Flow



The selected team is responsible to the Chief Facilities Planning and Construction Officer. The Project A/E is expected to provide leadership of all design meetings and provide minutes of meetings within five (5) working days.

The Project A/E shall perform all engineering analyses and make recommendations concerning existing utility adequacy, structural, mechanical, electrical, and any special systems required for the proper design and function of this project as appropriate.

The A/E's services shall include field investigations, site surveying, geotechnical investigation, record document research, preparation of plans and specifications, cost estimates, and certain construction phase services. As directed by the Owner, the A/E shall provide PowerPoint presentation material for use in obtaining required project approvals including, possibly, a visualization "fly around" of the proposed improvements.

Team members are expected to meet with the Users as necessary to determine all project requirements including sequencing and phasing. Each consultant shall provide solutions to all routine considerations and work through the Project A/E and FP&C Project Manager on any unusual design requirements. All team members are expected to be involved the entire duration of the project and be present at all meetings and reviews.

The Design Team shall consult with FP&C and the User to determine all criteria and evaluate, study, and recommend as required the most functional and economical materials selections, layout of systems, and improvements for the project in compliance of the latest versions of the various applicable codes and standards.

The Project A/E shall consult with FP&C, the User and CMAR to develop a feasible construction schedule and sequencing plan, as well as prepare contract documents that reflect the needs of the User. It will be necessary to coordinate this project with other ongoing construction projects in the area, if any.

The Project A/E is expected to develop final drawings and specifications for the Construction Manager at Risk (CMAR) delivery process. Multiple separate construction packages may be required to enhance the overall development and delivery of this project or to meet sequencing and budgetary constraints. These documents shall be complete with all design disciplines fully coordinated prior to submittal for Construction Document review. The Project A/E shall use the latest versions of applicable codes and standards in the design of this project and assemble and submit all necessary documentation concerning this project to City, State and Federal agencies as required.

The Project A/E shall provide written reports during the design phase to demonstrate an adequate investigation of various technical issues as required in the Design Process section of the FP&C *Facility Design Guidelines*.

The Project A/E shall engage an independent cost estimating consultant to provide cost estimates at the completion of Schematic Design, Design Development, 50%, and 100% Construction Document review. The cost consultant and CMAR shall work together to reconcile cost estimates at each milestone phase.

The Project A/E and CMAR are expected to present and discuss the anticipated construction costs at each presentation phase. The Project A/E is responsible to develop the Project within the available budget. See the General Requirements section of the FP&C *Facility Design Guidelines*.

The Project A/E shall be involved in the administration of the construction contract. (Refer to the Design Process section of the FP&C *Facility Design Guidelines* and to the A/E contract).

For information on Project milestone requirements and Project administration procedures and submittal requirements refer to the FP&C *Facility Design Guidelines*.

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Codes and Standards

Comply with all state and Federal laws applicable to construction. Local municipal building codes are not applicable to construction on State of Texas properties, which includes all properties owned by The Texas A&M University System and its member universities. However, the Project A/E and the FP&C Project Manager shall cooperate with municipalities when tying into local utilities.

Codes and regulations (Latest Revisions) to be used in the design of projects:

- Life Safety Code, NFPA 101, 2009 edition, and all referenced codes
- International Building Code, 2009 edition, International Code Council, Inc., (for all items not covered by Life Safety Code)
- Other applicable National Fire Codes, NFPA.
- State Energy Conservation Design Standard (ASHRAE 90.1-2004 Energy Standard)
- State Energy Conservation Office (SECO) Suggested Water Efficiency Guidelines for Buildings and Equipment at Texas State Facilities
- Other applicable ASHRAE Standards
- International Plumbing Code and International Mechanical Code, 2009 edition, International Code Council, Inc.
- Building Service Piping, ASME/ANSI B31.9
- Applicable ANSI, ASTM and ASME codes and standards
- Applicable OSHA, EPA and Texas Commission on Environmental Quality (TCEQ) regulations
- Texas Accessibility Standards (TAS), Texas Department of Licensing and Regulations, Architectural Barriers Act, Ch. 469, Government Code
- Americans with Disabilities Act, Public Law 101-336, enacted July 26, 1990
- Safety Code for Elevators and Escalators, ASME A17.1 & A17.3
- TIA/EIA Standards
- FM Global Standards for Roof Systems and Fire Protection Systems

The Project A/E is required to submit sealed documents for an accessibility review. The required review shall be accomplished by a Registered Accessibility Specialist (RAS) located near the project site. The same RAS shall be utilized for the plan review and the post construction inspection. The cost of the review and inspection shall be borne by the Owner.

The A/E will be required to secure permits from state and federal government agencies when necessary, such as Texas Department of Highways and Public Transportation, Health Department, etc. The cost of any permits will be borne by the Owner.

The Project A/E will complete and submit the Energy Conservation Design Standard Certification Statement and compliance forms required by ASHRAE 90.1-2004 as part of the required Energy Report to the State Energy Conservation Office.

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Project Requirements

Planning Concept

The Libraries Department has entered into an agreement with The University of Texas to build the Joint Library Facility on the Riverside campus of Texas A&M University. The proposed project will provide off campus storage for the libraries of both systems thereby freeing up space to be allocated for other uses. The site is located at the open area across Warehouse Rd from warehouse 8524 on the Riverside campus in Bryan Texas.

The proposed project will consist of a facility between 25,000 sq ft and 30,000 sq ft providing enough storage for approximately 1,000,000 books. The facility shall also house the associated staff area. The design shall incorporate a plan for two more expansions of similar size to increase the volume of storage area.

This facility shall be designed as an entity harmonious with the architectural design elements set forth in the Texas A&M University Campus Master Plan and other facilities existing on the Riverside Campus.

While certain functional solutions are suggested by this Program, the Project A/E will analyze the space relationships, evaluate alternative solutions, and develop these into conceptual presentations with recommendations as to those solutions that provide advantageous operational features. It is expected that the Project A/E shall meet with the User Coordinators and representatives of the department and other university staff in conferences to formulate these relationships and provide space for required equipment and safety measures.

Civil/Site Development

The Civil/Site development work of this project shall be designed in coordination with any work planned or taking place around the project site.

Site development will consist of roads, service drives, emergency access paths, handicapped accessibility routes and parking, parking, site lighting, screened area for refuse collection, sidewalks, utilities required for the facility to operate, landscaping, and irrigation work. Irrigation design will include site irrigation, sleeves under paved area, controls, and other provisions.

Provide broom finish for exterior concrete walks to be provided in this project in accordance with walkway finish patterns coordinated with the Owner.

Screen any service areas from future surrounding buildings, the main entrance and other surrounding areas of the building that may be disturbed by activities and appearance of the service areas. Screening may be by placement, orientation and/or screening walls of materials complementary to the basic materials of this building and the Campus Development Plan.

Site areas that are disturbed during construction should receive grass cover to maintain campus unity and aesthetic quality. Grass in the Contractor storage area shall be maintained and the area shall be kept free of litter. Runoff and erosion shall be controlled in accordance with the Storm Water Pollution Prevention Plan (SWPPP).

The site shall be graded to provide positive, storm water drainage away from improvements to new/existing storm water systems or natural drainage ways of adequate capacity. Capacities of receiving drainage systems shall be verified by the Project A/E. Propose economical alternatives if adequate capacity is not existing.

The Project A/E is expected to provide full surveying and geotechnical services. Coordinate with City, developer, and utility companies to obtain plans and data on roads, utilities and other improvements being installed to provide service and access to the campus.

The Project A/E is expected to consider the adequacy of existing utilities for campus service. Facilities Planning and Construction and Texas A&M University must review and concur with each service connection location.

The Project A/E is expected to develop a SWPPP (and associated specifications and instructions to the Contractor) as required for compliance with the Texas Commission on Environmental Quality's (TCEQ) Texas Pollution Discharge Elimination System (TPDES) to protect existing streets and storm drainage systems and natural drainage ways from construction runoff.

Architectural

General Considerations

The architectural design for the Joint Library Facility shall comply with The Texas A&M University System's architectural standards as defined in the FP&C *Facility Design Guidelines* and the Texas A&M University Riverside Campus Master Plan.

Slopes for roof drainage shall be provided by the structural framing and not by the roof system. The roof system must provide insulating value in accordance with state energy conservation guidelines. Special equipment must be orderly and be architecturally screened to eliminate roof top clutter. All roof top equipment must be indicated on the architectural roof plan.

The roof system shall be a long lasting, durable, and functional system designed to provide insulating value in accordance with energy conservation guidelines contained in the "Design Standard for New State Buildings." The roof system shall conform to the architectural guidelines as outlined by the Master Plan and shall help to reinforce the architectural identity of the campus.

Interior materials shall be as identified in the *Requested Facilities* section of this POR. The materials and methods of construction employed should be proven in terms of durability, requiring only routine maintenance as regularly performed by the University Facilities Services. Care should be taken to protect walls and partitions from damage by carts used for transporting books. Materials should be selected as appropriate to the building function, and be coordinated with the materials defined in the Campus Development Plan and the FP&C Design Guidelines. Corner guards should be used for most exposed corners and wall guards if subjected to carts and other abuse. Custodial care and ease of repair and replacement must also be factors affecting material selection. Materials used in high visibility areas should be designed to create a lasting impression while maintaining a balance with sustainability and functionality.

Provide adequate men's and women's restroom facilities with vestibule entries sized and located according to anticipated building usage.

The facility shall be designed to be vermin and rodent proof.

Recycling Area: Provide approximately 100 NSF area for staging of items to be recycled. Determine with User and/or campus entities for specific requirements of the room in terms of storage bins, etc. This space shall be located on the first floor level near the service entrance and loading area. Coordinate with the local Facilities Services for details on campus recycling program.

Office and Support Space Criteria

The minimum office net width shall be no less than 10 ft.

| Title or Equivalent Title | Net/Assignable SF |
|--|--------------------------|
| Head of Institution | As Required |
| Vice Presidents, Deans | 240 max |
| Associate Deans, Academic Directors | 180 max |
| Department Heads | 180 max |
| Assistant Deans, Associate Directors | 160 max |
| Faculty and Professional Staff | 140 max |
| Office and Related Support Space | |
| Departmental Office Activity Secretaries, Technicians, Administrative Assistants with single (individual) office occupancy | 120 |
| Group Support Activity (Pool) Per position for multiple office occupancy | 70/person |

| | |
|--|-----------|
| Reception (waiting areas) | 20/person |
| Graduate Teaching Assistants/Students (multiple occupancy) | 60/person |
| Conference Space 20 SF assignable space per full time equivalent (FTE) | 180 min |

Acoustical Quality

Project Architect/Engineer is expected to consider acoustic design principles where mechanical or other noise might interfere with building function, users' comfort or staff office functions, or where acoustic isolation is otherwise warranted. Noise criteria and acceptable levels are listed in the FP&C *Facility Design Guidelines*.

Analyze each space or room for the purpose of insuring acoustical quality and vibration control.

The A/E is charged with achieving a good educational environment in his design product to include educational spaces, offices, and corridors. Noise Criteria (NC) figures for different spaces should be as follows: (Based on ASHRAE Handbook Systems)

| <u>Space</u> | <u>Criteria</u> |
|---------------------|-----------------|
| Offices | NC-35 |
| Executive Offices | NC-30 |
| Lecture Rooms | NC-30 |
| Major Lecture Halls | NC-30 |
| Auditoriums | NC-30 |
| Corridors | NC-45 |
| Classrooms | NC-35 |
| Laboratories | NC-40 |
| Libraries | NC-30 |

Acoustical performance of general usage partitions should be equal to or greater than the following Sound Transmission Class (STC) ratings: (Based on Uniform Building Code 1982 and U.S. Dept. of HUD requirements)

| <u>Partitions dividing:</u> | <u>Criteria</u> |
|-----------------------------|-----------------|
| General Offices | STC-40 |
| Executive Offices | STC-50 |
| Classrooms | STC-50 |
| Lecture Rooms | STC-55 |

Some partitions may require greater acoustical performance to achieve a given NC in a space depending on specific situations, for example, a partition separating a mechanical room and lecture room.

Mechanical, Electrical, and Telecommunications Rooms

Provide adequate floor space and ventilation as required for mechanical, interior electrical, and telephone equipment. Ensure adequate space and appropriate placement of equipment and access doors and panels to facilitate ease of maintenance and servicing.

In mechanical rooms, slope entire floor 1/16" per foot minimum uniformly to floor drains. Insulate rooms for sound reverberation and transmission. Mechanical and electrical rooms shall be keyed for maintenance master key only. Telephone rooms shall be keyed for service by the telephone company and designated maintenance supervisors only.

Electrical and telecommunications rooms *shall be vertically stacked* and shall not be located adjacent to stairwells or restrooms. No mechanical ductwork or any means of liquid conveyance shall be allowed through either room. Provide a minimum of one telecommunications/data room with a minimum interior width of eight feet per floor.

Telecommunications rooms shall be located away from mechanical rooms to minimize interference with main ducts. The A/E shall provide a one-quarter inch scale plan drawing of this project's MDF telecom room with the Design Development submittal.

Equipment

Equipment as discussed in this Program falls into two groups: 1) Movable; and 2) Fixed. Purchase of, utilities for, and installation of this equipment shall be as follows unless specifically noted otherwise in the *Requested Facilities* section of this POR:

New Movable equipment is equipment not built into the building. This equipment will be purchased and installed by the Owner separate from the building construction contract. Utilities for known movable equipment are to be included in the building design.

Existing Movable equipment is equipment not built into the building which is currently in use by the Owner and to be reused/reinstalled. Utilities for the identified existing equipment are to be included in the building construction contract. The equipment will be moved/reinstalled by the Owner separate from the building construction contract.

New Fixed equipment is equipment built into the building and is listed under "Special Requirements" of each applicable space listed in the *Requested Facilities* section of this POR. Fixed equipment shall be purchased and installed, and utilities shall be provided for in the building construction contract unless noted otherwise in *Requested Facilities*.

Existing Fixed equipment is equipment built into the building and is listed under "Special Requirements" of each applicable space listed in the *Requested Facilities* section of this POR. Existing fixed equipment

to be reused shall be removed and reinstalled, and utilities shall be provided for in the building construction contract unless noted otherwise in *Requested Facilities*.

Moveable Furnishings

New movable furniture will be purchased by the Owner from a lump sum budget line item identified in the Owner's Estimated Project Budget. An Interior Designer from Facilities Planning and Construction (FP&C) will manage the team interior designer who will make furnishings selections from information gathered from the User Coordinator. Furnishings design, colors, and materials will be selected and coordinated with the building design by the team Interior Designer in coordination with the FP&C Interior Designer, including tack/marker boards less than 72" wide.

The Project A/E shall design the various spaces to adequately accommodate movable furniture providing suggested layouts to the FP&C Area Manager at time of Design Development submittal.

Throughout the design of the project, the team Interior Designer will provide suggestions and comments concerning interior arrangements and materials and location of power and communication utilities to conform to anticipated interior furnishings arrangements. Consequently, the team Interior Designer will require background plans and updates in an electronic format. The team Interior Designer will also coordinate and assist with any art works to be placed in the building.

Fixed Furnishings

New fixed furniture shall be purchased by the CMAR as part of the construction budget documented in the Owner's Estimated Project Budget. Fixed Furnishing, for the purpose of this project, shall include the proposed book stacks. The project A/E shall be responsible for reviewing various stacking methods, including but not limited to, high density storage and fixed shelving. The Project A/E shall recommend an appropriate system and then design and document the proposed stacking system as well as the required structural design to accommodate the stacking system.

Audio-Visual Equipment

Certain spaces listed in the *Requested Facilities* section of this POR require audio-visual equipment. This equipment will be provided and installed by the User after completion of this contract. This contract will provide the necessary power and signal conduit and wiring, outlets, raceways and other built-in items that must be installed as the facility is constructed.

The User is encouraged to contract with the A-V consultant on the Project A/E's team for selecting and specifying the equipment to be purchased and coordinating the installation with existing equipment that will be used.

Mechanical/HVAC and Plumbing

The Joint Library Facility shall be designed with the end user in mind, keeping health, safety and comfort as top priorities.

This project will consist providing new MEP systems to support the new facility. The project A/E shall investigate various options to provide MEP systems for the project. The project A/E shall design and document the agreed upon solution for the project.

Sustainable Design

New structures at Texas A&M shall be designed to meet the Leadership in Engineering and Environmental Design (LEED®) Silver requirements. Certification will not be sought for this project. The design team will endeavor to meet or exceed the minimum requirements identified in ASHRAE 90.1

Mechanical

Standards and Codes

The project shall adhere to applicable requirements of the latest issues of the following codes, standards, and guidelines. Where conflicts might exist, the more stringent requirements will dictate minimum criteria.

- The Texas A&M University System Facility Design Guidelines (January 2011)
- International Mechanical Code, 2006 edition
- State Energy Conservation Design Standards (ASHRAE 90.1-2004 Energy Standard)
- Other applicable ASHRAE Standards

Systems

The HVAC systems shall utilize DX roof top heat pump units of the highest available energy efficiencies the budget can support. Where available, equipment will be Heat Pump type systems with minimum supplemental electric heat for heat pump seasonal offset. Where available, the roof top units outside air will be modulated to allow for Demand Control ventilation driven by the CO2 level in the space.

The A/E team shall investigate various options for the mechanical system. The A/E shall present the options and make a recommendation of which system is best suited to the facility.

Electrical

Standards and Codes

The project shall adhere to applicable requirements of the latest issues of the following codes, standards, and guidelines. Where conflicts might exist, the more stringent requirements will dictate minimum criteria.

- National Electrical Code 2011 (NEC)
- National Electrical Safety Code 2007 (NESC)
- National Fire Protection Association (NFPA)
- Illumination Engineering Society of North America (IESNA)
- American National Standards Institute (ANSI)
- National Electrical Manufacturers Association (NEMA)
- Institute of Electrical and Electronic Engineers (IEEE)
- Insulated Cable Engineers Association (ICEA)
- Underwriters Laboratories (UL)
- Occupational Safety and Health Administration (OSHA)

Service and Distribution

The project A/E shall design and document the electrical service required for the project in coordination with the local utility company and the appropriate Texas A&M staff.

Grounding and Bonding

System grounding and equipment bonding systems shall be provided per NEC requirements. All systems shall be bonded together for continuity. Insulated copper grounding conductors shall be provided for all feeders and branch circuits.

Lighting Protection

Lightning Protection shall be provided per Appendix L of NFPA 780. Specification for UL Lightning Protection Inspection Certificate (replaces the UL Master Label) shall be provided by the contractor.

Lighting Systems

General

High efficiency fluorescent lighting shall be employed in most interior spaces. In common assembly areas the use of high output fluorescent fixtures (T5HO) will be considered for efficiency. A variety of fixture types will be used to distribute light in a controlled way that will be efficient, flexible and will compliment the architecture in their respective spaces.

High efficiency electronic ballasts shall be used. Fluorescent lamps shall have a high color-rendering index and a color temperature as determined during the next design phase. Decisions on specific lamp types will be finalized based on input from the Owner and engineering judgment. Fixtures shall be selected to utilize standard lamp types. Lamps will meet the requirements for classification as non-hazardous waste when subjected to the Toxic Characteristic Leaching Procedure (TCLP) prescribed by the Environmental Protection Agency. The use of unique and expensive lamp types shall be avoided.

We will be using the latest edition of the (Illuminating Engineering Society of North America) IESNA Lighting Handbook for determining horizontal and vertical luminance levels.

Lighting concepts will be fully developed with the architect during the next design phase. Some preliminary concepts are described below based on area types. These are ideas for consideration in lieu of specific layouts.

General Lighting Concepts

Fixture types and geometric layout patterns shall be selected to compliment room shapes and features.

Task lighting and display lighting shall be utilized to handle specific lighting tasks. Specific applications and control schemes will be developed with the architect during the next design phase.

Exit signs shall be LED type with battery backup.

Specific Lighting Concepts

- **Book Stacks:** Linear direct/indirect fluorescent lighting developed for low ambient lighting and switched office type ambient area lighting to be used while pulling and shelving books in specific zones.
- **Restrooms/Offices:** Fixtures shall be selected to illuminate the volume of the space with direct and indirect components to provide increased depth perception and better visual recognition of faces and objects.
- **Site Parking:** Site Lighting shall be furnished in accordance with the IES Lighting Handbook, 9th edition, and the current State regulations. The exterior lighting shall be composed of 20 foot poles with single light fixture configurations.

Power Systems

1. Steel, set-screw type conduit fittings shall be used. Fittings shall have insulated throats.

2. Panel feeder conduits shall be run in intermediate or rigid metal conduit. All other conduits shall be electrical metallic conduits (EMT).
3. PVC conduit shall be used for branch circuits below floor slab to exterior bearing walls and outdoors below grade for parking, walkway, or security lighting.
4. Exterior electrical distribution shall be installed in PVC conduit direct buried or in reinforced concrete duct bank where specified.
5. Conduits shall be placed 18 inches apart where running in parallel and kept clear of other underground utilities.

All Levels

Duplex receptacles shall be provided in on all levels and areas. Receptacles shall, insofar as practical, be spaced equally distributed in all areas. All receptacles shall be 20A/120V duplex type. All restrooms and other areas close to a sink shall have GFCI receptacles. All exterior receptacles shall be GFI receptacles with weather proof cover. Receptacle in all other areas shall be determined during design.

Lighting in public areas shall be controlled by lighting control panel. Occupancy sensors shall be provided in restrooms and in office areas. Electrical and mechanical rooms and janitor spaces shall have wall mount toggle switches.

Plumbing

Standards and Codes

The project shall adhere to applicable requirements of the latest issues of the following codes, standards, and guidelines. Where conflicts might exist, the more stringent requirements will dictate minimum criteria.

- The Texas A&M University System Facility Design Guidelines (June 2008) (where applicable)
- International Plumbing Code, 2006 edition
- State Energy Conservation office (SECO) Suggested Water Efficiency Guidelines for Buildings and Equipment at Texas State Facilities.

Systems

The Plumbing systems shall utilize low flow fixtures.

Toilets shall be low flow, dual flush (1.1/1.6 GPF) wall hung fixtures that are supported from concealed chair carriers.

Urinals shall be low flow (0.125 GPF) wall hung fixtures with concealed support

assemblies.

Lavatories in the public restrooms shall utilize low flow (0.25 GPA) tempered water metered faucets. In other areas lavatories and sink faucets shall utilize flow restriction devices to minimize water consumption.

Fire Alarm System

An electrically operated, electrically supervised addressable fire alarm system shall be provided in accordance with the International Fire Code requirements for Group I occupancies. The system shall comply with the applicable provisions of the current NFPA Standard 72 National Fire Alarm Code, local building codes, and meet all requirements by Underwriters Laboratories Inc. and/or the Factory Mutual System. The system shall operate as a low voltage, general evacuation fire alarm system.

Alarms shall be annunciated at the fire alarm control panel located in the main entry.

Manual pull stations shall be provided at every exit from every level and additional pull stations shall be provided as required to ensure the travel distance to the nearest pull station does not exceed 200 feet.

Both audible and visual alarms shall be provided throughout the building to meet Code requirements and City of College Station requirements. Audio-visual horn/strobe units with combination horn and flashing alarm strobe shall be used. The latest ADA requirements allow the use of ceiling mounted horn/strobes. It is anticipated that these will be utilized where appropriate to lower installation costs.

Smoke detectors shall be installed in mechanical return air ducts in accordance with International Mechanical Code (IMC) requirements and will shut down air handling units upon alarm.

The facility shall be equipped throughout with an automatic fire detection system. This system shall include an approved automatic smoke detection system installed throughout ground, concourse and press/suite level rooms and meeting areas, including contiguous day rooms, group activity spaces and other common spaces normally accessible to visitors.

Smoke detectors shall be installed in corridors and spaces open to corridors.

Fire Protection System

Standards and Codes

The project will adhere to applicable requirements of the latest issues of the following codes, standards, and guidelines. Where conflicts might exist, the more stringent

requirements will dictate minimum criteria.

- The Texas A&M University System Facility Design Guidelines
- NFPA 13: Standard for the Installation of Sprinkler Systems, 2010 Edition
- NFPA 14: Standard for the Installation of Standpipes and Hose Systems, 2010 Edition

System

Combined Standpipe and Sprinkler System: Fire-suppression system with both standpipe and sprinkler systems. Sprinkler system is supplied from standpipe system.

Automatic Wet-Type, Class III Standpipe System: Includes NPS 1-1/2 hose stations and NPS 2 1/2 hose connections. Has open water-supply valve with pressure maintained and is capable of supplying water demand.

Wet-Pipe Sprinkler System: Automatic sprinklers are attached to piping containing water and that is connected to water supply. Water discharges immediately from sprinklers when they are opened. Sprinklers open when heat melts fusible link or destroys frangible device. Fire hose connections shall be included if indicated.

Performance Requirements

Standard Piping System Component Working Pressure: Listed for at least 175 psig.

Fire-suppression standpipe system design shall be approved by authorities having jurisdiction.

Minimum residual pressure at each hose-connection outlet is the following:

- NPS 1-1/2 Hose Connections: 65 psig.
- NPS 2-1/2 Hose Connections: 65 psig.

Unless otherwise indicated, the following is maximum residual pressure at required flow at each hose-connection outlet:

- NPS 1-1/2 Hose Connections: 100 psig.
- NPS 2-1/2 Hose Connections: 100 psig.

Fire-suppression sprinkler system design shall be approved by authorities having jurisdiction.

Margin of Safety for Available Water Flow and Pressure: 10 percent, including losses through water-service piping, valves and backflow preventers.

Sprinkler Occupancy Hazard Classifications: Light Hazard

Minimum Density for Automatic-Sprinkler Piping Design: Light-Hazard Occupancy: 0.10
gpm over 1500-sq. ft. area

Maximum Protection Area per Sprinkler:

- Office Spaces: 120 sq. ft.
- Storage Areas: 130 sq. ft.
- Mechanical Equipment Rooms: 130 sq. ft.
- Electrical Equipment Rooms: 130 sq. ft.
- Other Areas: According to NFPA 13 recommendations, unless otherwise indicated.

Total Combined Hose-Stream Demand Requirement: According to NFPA 13, unless otherwise indicated:

Light-Hazard Occupancies: 100 gpm for 30 minutes.

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Summary of Requested Facilities

The main portion of the building shall be made up of the book stack area. The area shall be designed to hold approximately 1,000,000 books. The stacks area will be accessed only by staff to pull or put up books. Various methods of book storage shall be investigated by the A/E which will propose a method of storing books which is both flexible and fits in the project budget. Care should be taken to allow for moving to a more efficient way of storing the books in the future which may not be in the project budget now. The stack space shall be designed to link to future additions to the building where more books may be stored in a similar fashion. Interior architectural finishes for the facility shall be of standard office type.

Mechanical and electrical rooms shall be provided with sufficient space to house the equipment necessary to support the building. If and when the building is expanded in the future the additions will be required to have mechanical and electrical rooms to support themselves. Care should be taken in locating the mechanical and electrical rooms so that if a direct connection to these spaces is needed in the expansions it may be easily provided.

The balance of the space in the project shall be made up by the staff area. The staff will be made up of approximately 3 to 4 people. The staff area will be made up of a lobby/vestibule area, separated from the staff area and the stack area. The staff area shall also include a work area with desks and tables at which the staff may work. Also required in this area is a supervisor's office as well as a work and storage areas. The ancillary spaces required for the building shall also be located in the staff area such as toilets, break area, and janitorial closet. Equipment required for the staff break area includes a microwave oven, ice maker, coffee maker, and refrigerator.

Outside of the building provide adequate parking for the facility. Visitors are not encouraged at the facility but may occasionally come by. Provide a loading/unloading area directly adjacent to the facility. This area does not need special equipment but should be adjacent to a wide door which opens up to the staff area via a vestibule where large shipments of books may be brought in or sent out.

The facility is not intended for deep storage of books or the storage of rare and expensive books. Therefore, the mechanical and electrical systems do not require redundancy or a very precisely controlled environment. The building should be well sealed and provide protection from pests. The temperature should be maintained at approximately 68 F. the humidity range should be between 65-70%. A wet type fire protection system is acceptable for this facility. A security system shall be provided to meet campus standards for new construction. The staff area should have an ambient light level similar to that of office space. The stack area should have a switching system whereby minimal ambient lighting is provided so that one may easily navigate the stack area. The switching system should allow for increased lighting levels in specific zones so that staff may work in specific areas pulling or putting up books.

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Proposed Facility Program

| Name of Space | Number | Area | Total Area | Notes |
|---------------------------|--------|--------|---------------|-------|
| Assignable Space | | | | |
| Staff Area | 1 | 1,500 | 1,500 | |
| Supervisor | 1 | 150 | 150 | |
| Supply | 1 | 300 | 300 | |
| Break | 1 | 300 | 300 | |
| Lobby/Waiting | 1 | 100 | 100 | |
| Work | 1 | 750 | 750 | |
| Book Stack Area | 1 | 25,000 | 25,000 | |
| Sub Total | | | 28,100 | |
| Unassignable Space | | | | |
| Electrical | 1 | 150 | 150 | |
| Mechanical | 1 | 1,500 | 1,500 | |
| Communications Closet | 1 | 50 | 50 | |
| Toilet | 2 | 50 | 100 | |
| Custodial | 1 | 80 | 80 | |
| Maintenance Service Area | 1 | 50 | 50 | |
| Sub Total | | | 1,930 | |
| Total | | | 30,030 | |

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Estimated Project Budget

The Project A/E is accountable to the Chief Facilities Planning and Construction Officer for implementation of sound architectural, engineering and construction principals in obtaining the most economical and feasible facility possible. It is emphasized that, although certain construction systems may be described in this POR as a basis of this estimate, the POR is only a guide for this purpose. The Project A/E is expected to consider optional systems to obtain maximum economy and adaptability to the requirements of this project.

| | | |
|----|---|--------------------|
| 1. | Amount Available for Construction Contract (Includes Shelving Stacks) | \$5,477,920 |
| 2. | Other Project Costs | <u>1,522,080</u> |
| 3. | Total Project Budget | <u>\$7,000,000</u> |

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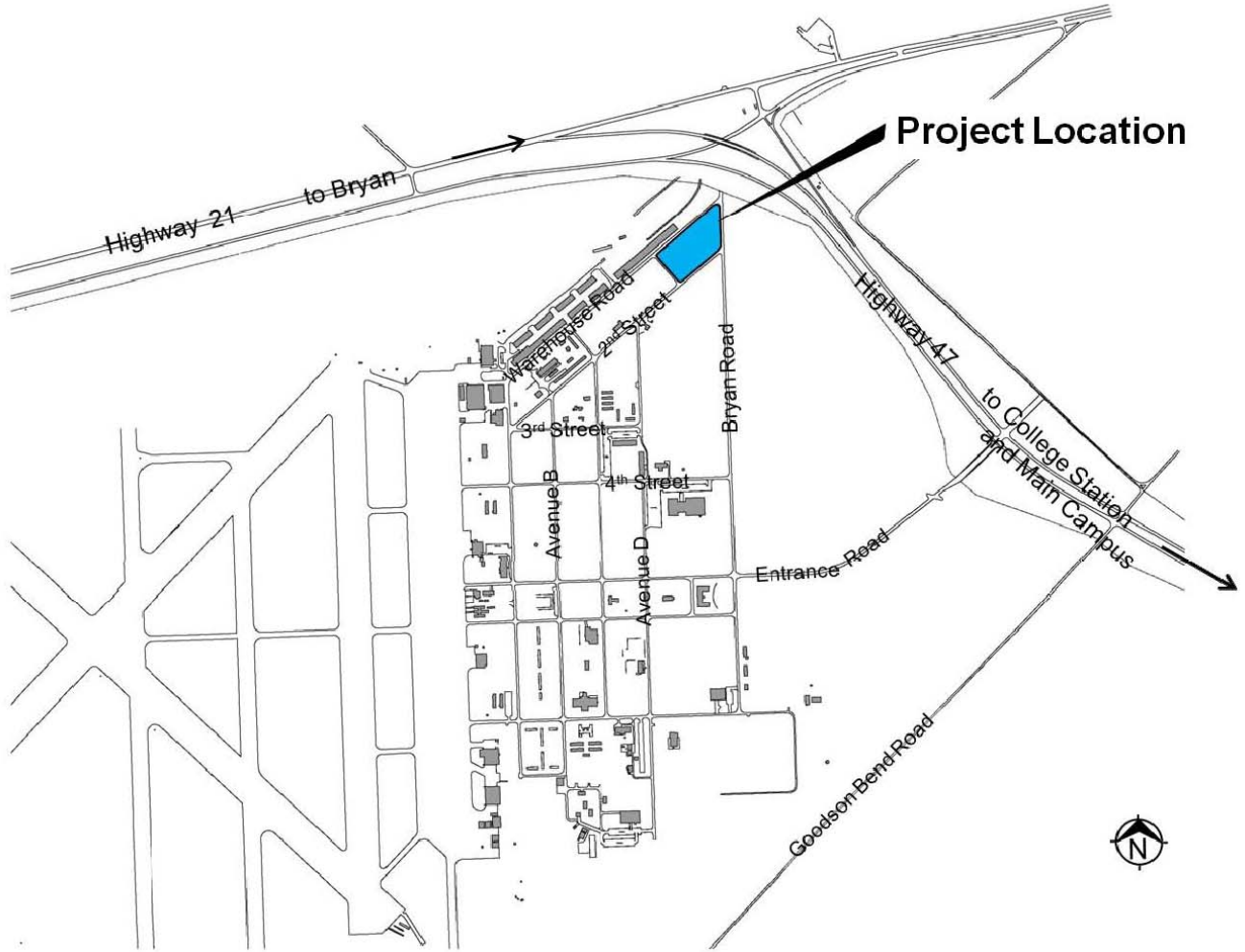
Proposed Project Schedule

| Activity | Duration (Work Days) | Duration (Calendar Days) | Start Date | End Date |
|-----------------------------------|----------------------------|--------------------------------|------------------|------------------|
| Advertise for A/E | 17 | 23 | 2/14/2011 | 3/8/2011 |
| Review A/E Submissions | 6 | 8 | 3/9/2011 | 3/16/2011 |
| Interview A/Es | 2 | 2 | 3/24/2011 | 3/25/2011 |
| Advertise for CMaR | 17 | 23 | 3/21/2011 | 4/12/2011 |
| Review CMaR Submissions | 3 | 8 | 4/13/2011 | 4/20/2011 |
| Interview CMaRs | 2 | 2 | 4/28/2011 | 4/29/2011 |
| Submit/Review A/E Recommendation | 15 | 19 | 3/28/2011 | 4/15/2011 |
| Submit/Review CMaR Recommendation | 15 | 19 | 5/2/2011 | 5/20/2011 |
| Execute A/E Contracts | 1 | 1 | 4/15/2011 | 4/15/2011 |
| Execute CMaR Contracts | 1 | 1 | 5/20/2011 | 5/20/2011 |
| Schematic Design | 30 | 40 | 4/18/2011 | 5/27/2011 |
| Review Schematic Design | 10 | 12 | 5/30/2011 | 6/10/2011 |
| Design Development | 25 | 33 | 6/13/2011 | 7/15/2011 |
| Review Design Development | 10 | 12 | 7/18/2011 | 7/29/2011 |
| Review GMP | 5 | 5 | 8/8/2011 | 8/12/2011 |
| Agenda Due to Board of Regents | 1 | 1 | 8/12/2011 | 8/12/2011 |
| Board of Regents Meeting | 2 | 2 | 9/22/2011 | 9/23/2011 |
| Contract Documents | 50 | 68 | 8/1/2011 | 10/7/2011 |
| Review Contract Documents | 10 | 12 | 10/10/2011 | 10/21/2011 |
| Construction Mobilization | 5 | 5 | 10/24/2011 | 10/28/2011 |
| Construction | 195 | 272 | 10/30/2011 | 7/27/2012 |
| Substantial Completion | 5 | 5 | 7/30/2011 | 8/3/2011 |
| Summary | 427 | 453 | 2/28/2011 | 5/25/2012 |

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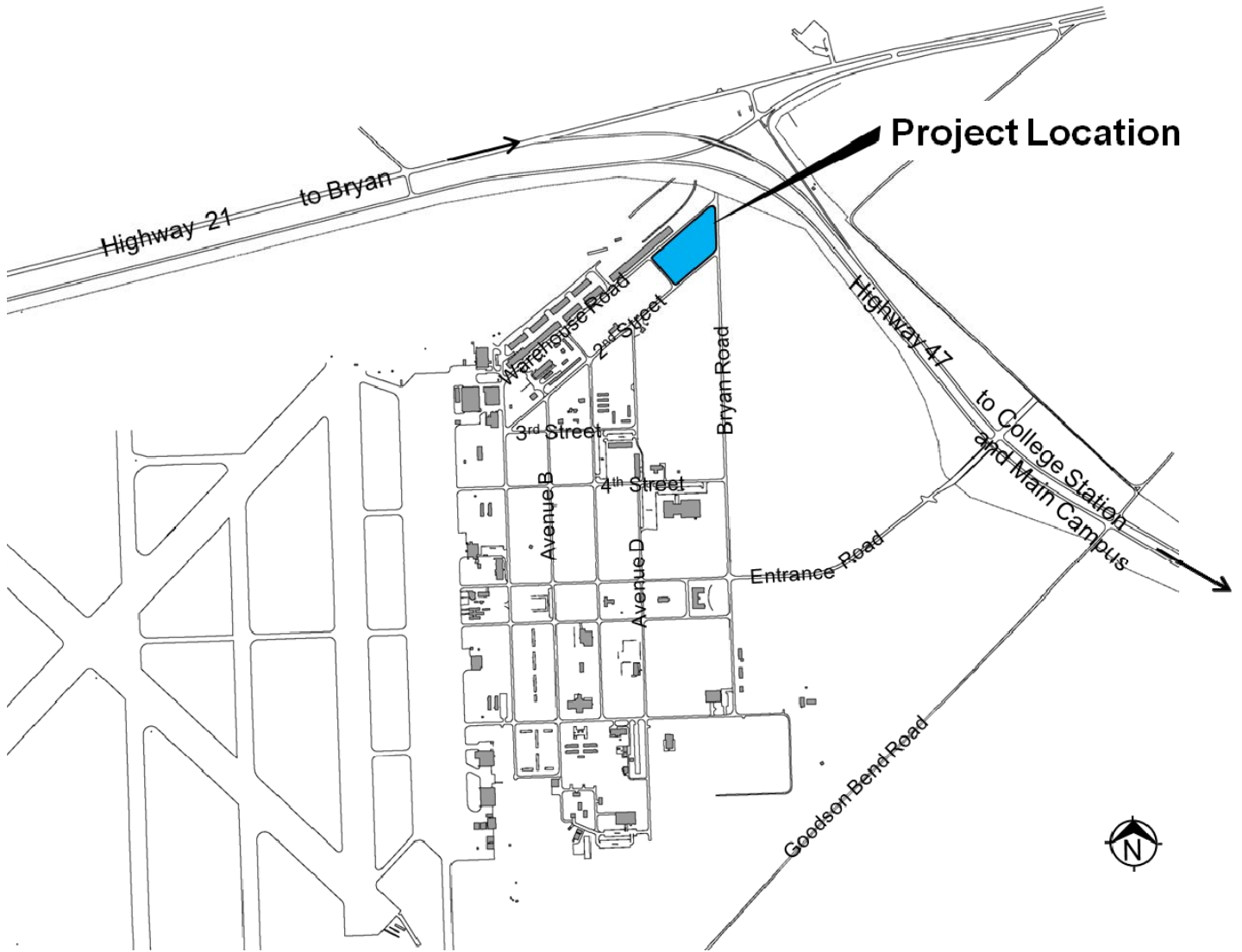
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Proposed Location Map



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Joint Library Facility with The University of Texas

Texas A&M University
Riverside Campus Bryan, Texas

Project No. 2-3089