

**AGREEMENT FOR
CONSTRUCTION MANAGER-AT-RISK
BETWEEN
THE UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER
AND**

**South Campus Research Building 3
Vivarium and Level 2, 3, 4 & 5 Buildout-Phase 3**

MD ANDERSON AGREEMENT No. _____

This Agreement is made as of _____, 2011 (the "Effective Date"), by and between

The Owner: The University of Texas MD Anderson Cancer Center
c/o Capital Planning and Management
6900 Fannin, Suite 1010
Houston, Texas 77030

and Construction Manager: _____

for the Project: South Campus Research Building 3, Vivarium and Level 2, 3, 4 & 5 Buildout

CPM Project Number: 04-0042

UGC Version: 2005

Project Architect: Philo Wilke Partnership
11275 S Sam Houston Pkwy, Suite 200
Houston, TX 77031

The Owner and the Construction Manager agree as follows:

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ARTICLE 1 SCOPE OF WORK

The Construction Manager has overall responsibility for and shall provide complete Pre-Construction Phase and Construction Phase Services 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 Owner's requirements and the terms of the Contract Documents.

ARTICLE 2 CONTRACT DOCUMENTS

2.1 The Contract Documents consist of:

- a. This Agreement and all exhibits and attachments listed, contained or referenced in this Agreement;
- b. The Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts for the Owner ("UGC");
- c. Special Conditions and Owner's Specifications;
- d. All Addenda issued prior to the Effective Date of this Agreement;
- e. The Guaranteed Maximum Price Proposal when accepted by the Owner and executed by the parties;
- f. All Change Orders issued after the Effective Date of this Agreement;
- g. The Drawings, Specifications, details and other documents developed by Project Architect to describe the Project and accepted by Owner;
- h. The Drawings and Specifications developed or prepared by Owner's other consultants, if any, and accepted by the Owner; and
- i. The HUB Subcontracting plan submitted by the Construction Manager in response to the Request for Proposals issued by the Owner for this Project.

2.2 The Contract Documents form the entire and integrated Contract between Owner and Construction Manager and supersede all prior negotiations, representations or agreements, written or oral.

2.3 The term "Construction Manager" shall be interchangeable with the terms "Contractor" and "General Contractor" or other similar terms as appropriate in the Contract Documents.

ARTICLE 3 DEFINITIONS

The terms, words and phrases used in the Contract Documents shall have the meanings given in the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts and as follows.

3.1 "**Construction Cost Limitation**" (CCL) means the maximum monetary amount payable to the Construction Manager for all Construction Phase services, materials, labor and other work required for completion of the Work in accordance with the Contract Documents. The CCL includes, without limitation, the General Conditions Costs, the Cost of the Work, the Construction Phase Fee and the Construction Manager's Contingency. The CCL may be adjusted by the parties for changes in the scope of the Project before or after acceptance of the Guaranteed Maximum Price Proposal. The CCL does not include the Construction Manager's Pre-Construction Phase Fee, or Owner's Construction Contingency or Owner's Special Cash Allowance.

3.2 "**Construction Documents**" means, collectively, the UGCs, Owner's Special Conditions and Specifications, the Drawings, Specifications, details, Change Orders and other documents prepared by the

Project Architect, its consultants and by the Owner's other 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 the Owner.

3.3 **“Construction Phase Services”** means the coordination, implementation and execution of the Work required by the Contract Documents.

3.4 **“Contract Sum”** means the total amount of all compensation payable to the Construction Manager for the Project and shall not exceed the sum total amount of the Pre-Construction Phase Fee plus the Guaranteed Maximum Price Proposal accepted by the parties, subject to adjustment for Additional Services or Change Orders. Any costs that exceed the Contract Sum shall be borne solely by Construction Manager without reimbursement by Owner.

3.5 **“Direct Construction Cost”** means the sum of the amounts that the Construction Manager actually and necessarily incurs for General Conditions Costs, Cost of the Work and Construction Manager's Contingency during the Construction Phase as allowed by this Agreement. Direct Construction Cost does not include Pre-Construction Phase Fees or Construction Phase Fees.

3.6 **“Estimated Construction Cost”** (ECC) means the amount calculated by the Construction Manager for the total cost of all elements of the project including, without limitation, all alternates, allowances and contingencies, designed and specified by the Project Architect or reasonably inferable as a usual and customary component of the project or otherwise necessary for complete installation and operation of the project. The Estimated Construction Cost shall include, at current market rates with a reasonable allowance for overhead, profit and price escalation, the cost of labor and materials furnished by the Construction Manager and any equipment which has been shown in the plans, specified, and specially provided for by the Project Architect. The ECC shall include and consider the cost of labor and materials necessary for installation of Owner furnished equipment. The ECC does not include Construction Manager's Pre-Construction Phase Fee, the Owner's Construction Contingency, the Owner's Special Cash Allowance, Project Architect Fees, cost of the land, rights-of-way, or any other costs that are the direct responsibility of the Owner.

3.7 **“Guaranteed Maximum Price”** or **“GMP”** means the amount proposed by the Construction Manager and accepted by the Owner as the maximum cost to the Owner for construction of the Work in accordance with the Contract Documents. The GMP includes Construction Manager's Construction Phase Fee, the General Conditions Costs, the Cost of the Work, Construction Manager's Construction Contingency amount, and the Owner's Construction Contingency amount and Owner's Special Cash Allowance.

3.8 **“General Conditions Cost”** means costs incurred and minor work performed by the Construction Manager without the need for competitive bids/proposals as allowed under Texas Education Code section 51.782(i), as amended. The allowable General Conditions items are further described and limited by attached exhibit.

3.9 **“Monthly Salary Rate”** means the amount agreed to by the Owner that can be used on Applications for Payment throughout the Construction Phase to account for the services of Construction Manager'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 the Owner in advance of any Application for Payment for that person. The Monthly Salary Rate is for convenience only and any payments made for Construction Manager's personnel are subject to audit to determine the actual cost of the wages and allowable employer contributions incurred by the Construction Manager for services performed for the Project.

3.10 “**Owner’s Specifications**” means the construction and contract administration requirements and standards detailed in the Owner’s Specifications exhibit attached to this Agreement.

3.11 “**Pre-Construction Phase Services**” means the participation, documentation and execution of the Construction Manager’s Pre-Construction Phase deliverables as required by the Contract Documents.

3.12 “**Preliminary Project Cost**” (PPC) means the total estimated cost of the entire Project, including design, construction, and other associated costs and services that is established by the Owner prior to the commencement of design.

3.13 “**Project Architect**” means the professional architect or engineer employed by the Owner as architect or engineer of record for the Project and its consultants.

3.14 “**Project Team**” means the Owner, Construction Manager, Project Architect and its consultants, any separate contractors employed by Owner, and other consultants employed for the purpose of programming, design, and construction of the Project. The members of the Project Team will be designated by Owner and may be modified from time to time by Owner.

3.15 “**Subcontractor**” means a person or entity who has an agreement with the Construction Manager to perform any portion of the Work. The term Subcontractor does not include the Project Architect or any person or entity hired directly by the Owner.

3.16 “**Total Project Cost**” (TPC) means the total budget established for the Project by the Board of Regents or the Chancellor of The University of Texas System or the Owner at the end of the design development phase (subject to subsequent modification by Owner). The TPC includes, but is not limited to, Construction Manager’s Pre-Construction Fee, Guaranteed Maximum Price Proposal(s), Project Architect and other professional service fees, and other miscellaneous Project costs.

3.17 “**Work**” means the provision of all services, labor, materials, supplies, and equipment that are required of the Construction Manager to complete the Project in strict accordance with the requirements of the Contract and the Construction Documents. Work includes, but is not limited to, the Pre-Construction Phase Services, the GMP proposal, the Construction Phase Services, additional work required by Change Orders, and any other work reasonably inferable from the Construction Documents. 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.

3.18 “**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 for individual persons must be reasonable and customary for their industry and must be approved in writing by the Owner in advance of any Application for Payment for that person. Any payments made for Construction Manager’s personnel are subject to audit to determine the actual cost of the wages and allowable employer contributions incurred by the Construction Manager for services performed for the Project.

ARTICLE 4 CONSTRUCTION MANAGER’S GENERAL RESPONSIBILITIES

4.1 Construction Manager shall perform all services specifically allocated to it by the Contract Documents as well as those services reasonably inferable from the Construction Documents as necessary for completion of the Work and the Project and provides the Owner with a completely functional

building. Construction Manager agrees to perform these services using its best efforts, skills, judgments and abilities.

4.2 Construction Manager shall cooperate with the Project Architect and endeavor to further the interests of the Owner and the Project. Construction Manager 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 the Owner and in accordance with the Project Schedule.

4.3 Construction Manager shall designate a representative authorized to act on the Construction Manager's behalf with respect to the Project.

4.4 Construction Manager 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, upon owner's approval, implement such procedures.

4.5 Construction Manager shall establish and maintain a numbering and tracking system for all Project records, including changes, requests for information, submittals, and supplementary instructions and shall provide updated records at each Owner's meeting and when requested.

4.6 Fast Track/Multiple Completion Times. If the Owner elects to "fast-track" or develop the Project in multiple stages, Construction Manager 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 Construction Cost Limitation, at Owner's discretion.

4.7 Attend and participate in Owner's "Partnering" Program for all phases of the Project.

4.8 Construction Manager shall identify to the Owner the employees and other personnel that it will assign to the Project and provide the Monthly Salary Rate for each of them. Construction Manager shall also identify any consultants that will be performing services for the Project. After execution of this Agreement by the Owner, Construction Manager shall not remove or replace the persons or entities assigned to the Project except with the Owner's written consent, which consent shall not be unreasonably withheld. Construction Manager shall not assign to the Project or contract with any person or entity to which Owner has a reasonable objection. Construction Manager shall promptly remove any employee that Owner determines, at Owner's sole discretion, to be unacceptable. Construction Manager shall provide an acceptable replacement within ten (10) business days. Construction Manager shall promptly update the list of persons and consultants if they change during the course of the Project.

4.9 The Owner's Policy on the Utilization of Historically Underutilized Businesses ("Policy") is described in an attached exhibit. Construction Manager, as a provision of the Agreement, must comply with the requirements of the Policy and adhere to the HUB Subcontracting Plans submitted for Pre-Construction Phase and Construction Phase Services. No changes to the HUB Subcontracting Plans can be made by the Construction Manager without the written approval of Owner in accordance with the Policy.

ARTICLE 5 PRE-CONSTRUCTION PHASE SERVICES

The Pre-Construction Phase shall be deemed to commence upon the date specified in a 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. Construction Manager is not entitled to reimbursement for any costs incurred for Pre-Construction Phase Services performed before issuance of the Notice to Proceed. Pre-Construction Phase Services may overlap

Construction Phase Services. The Construction Manager shall perform the following Pre-Construction Phase Services.

5.1 General Coordination

5.1.1 The Construction Manager's Pre-construction Phase Services team shall attend Project Team meetings with the Owner, the Owner's representatives, and the Project Architect at regularly scheduled intervals throughout the Pre-Construction Phase. Frequent Project Team meetings are anticipated prior to the Owner's acceptance of the GMP and during completion of the Construction Documents.

5.1.2 Provide a preliminary evaluation of the Owner's Design Criteria and the Construction Cost Limitation, 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 insure 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 Project Facility Program 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 the Construction Manager 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 Project Schedule (as defined below) and the CCL.

5.1.7 Assist the Owner in selecting and directing the services of surveyors, soils engineers, existing facility surveys, testing and balancing, commissioning, environmental surveys or other special consultants hired by the 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.

5.2 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 in accordance with the requirements of the attached exhibit. 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 the Construction Manager’s opinion, may negatively impact construction of the Project. The Constructability Report shall address the overall coordination of Project Drawings, Specifications, and details and identify discrepancies that may generate Change Orders or claims once Project construction commences. The Constructability Report shall be updated at least monthly 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 Drawings and Specifications for the Project. The decision tracking system shall be in a format approved by the Owner and updated at least monthly during the Pre-Construction Phase.

5.3 Scheduling

5.3.1 Develop a critical path method schedule (“CPM Schedule”) for Project Team review and the Owner’s approval, that coordinates and integrates activities on the Project, including the Construction Manager’s services, the Project Architect’s design services, commissioning, the work of other consultants and suppliers, and the Owner’s activities with the anticipated construction schedules for other contractors. The CPM Schedule must identify all major milestones through Project Final Completion. The CPM Schedule shall be created and maintained in accordance with the Owner’s Specifications using the Owner specified format and software.

5.3.2 The Construction Manager shall update the CPM Schedule throughout the Pre-Construction and Construction Phases as described in the Owner’s Specifications.

5.3.3 The CPM Schedule shall include other detailed schedule activities as directed by the 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 The Construction Manager is responsible for preparing and updating all procurement and construction cost estimates and distributing them to the Project Team throughout the duration of the Project.

5.4.2 Provide Estimated Construction Cost (ECC) reports at the required stages of completion of the schematic design, design development, and construction documents phases of the Project as required in Article 25. The Estimated Construction Cost 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 current Construction Specifications Institute Division format for each portion of the Work.

5.4.3 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 the Construction Manager has reason to believe that the most current ECC will exceed the Construction Cost Limitation (CCL) or not meet Schedule requirements and recommend reasonable strategies for bringing the Project in line with the CCL and the Schedule.

5.4.4 Construction Manager 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 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 CCL, the Owner and Construction Manager shall negotiate changes to the Project requirements or the CCL as required.

5.5 Coordination of Design and Construction Contract Documents

5.5.1 Review all Drawings, Specifications, and other Construction Documents as they are developed by the Project Architect during the schematic design, design development, and construction documents design phases of the Project.

5.5.2 Consult with Owner, Project Architect, and Owner's consultants 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 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 CCL.

5.5.5 Review the Construction Documents for compliance with all applicable laws, rules and regulations and with Owner and University of Texas System requirements.

5.6 Construction Planning and Bid Package Strategy

5.6.1 Identify equipment or material requiring extended delivery times and advise Owner on expedited procurement of those items. Advise Owner and Project Architect 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 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 the 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, the Owner's goals for HUB contractor participation, and other constraints.

5.6.3 Review the 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 the Project Architect that addresses the entire scope of Work for each phase and stage of the Project. In developing the bid/proposal package strategy, the Construction Manager shall identify all bid/proposal packages on which the Construction Manager intends to submit a self-performance bid/proposal. The bid/proposal package strategy shall be reviewed with the Owner on a regular basis and revised throughout the buyout of the Project so as to best promote the interests of the Project and the Owner.

5.6.5 Assist the Owner, the Project Architect, Owner's other consultants, and the Owner's separate contractors in obtaining all applicable 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 the 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 the Owner for the Project.

5.6.7 Advise Owner of any tests to be performed, and assist Owner in selecting testing laboratories and consultants, without assuming direct responsibility for the work of such laboratories and consultants.

5.6.8 Construction Manager shall review the Construction Documents to ensure that they contain adequate provision for 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 Work.

5.6.9 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 adverse effects of labor shortages.

5.6.10 Furniture, Fixtures and Equipment. Consult with and make recommendations to the Owner on the acquisition schedule for fixtures, furniture and equipment, and coordinate with the Owner as may be required to meet the Schedule.

5.7 Obtaining Offers for the Work

5.7.1 In accordance with *Texas Education Code* section 51.782, as amended, Construction Manager shall publicly advertise and solicit competitive lump sum bids or competitive lump sum proposals from trade contractors or Subcontractors for the performance of all major elements of the Work other than the minor work that may be included in General Conditions. Subcontracts awarded on the basis of competitive bids shall be awarded to the lowest responsible bidder. For subcontracts awarded on the basis of competitive sealed proposals, criteria for determining the proposals that provide the best value to the Owner shall be established by the Project Team and included in the request for proposals. The Construction Manager shall notify the Owner in advance in writing of the date it will receive the bids and proposals.

5.7.2 Schedule and conduct pre-submittal conferences with interested offerors, Subcontractors, material suppliers, and equipment suppliers, and record minutes of the conferences.

5.7.3 Construction Manager and Owner shall review all trade contractor or Subcontractor offers in a manner that does not disclose the contents of any bid or proposal to persons outside of the Project Team during the selection process. Based on the selection criteria included in the

requests for bids or requests for proposals, Construction Manager shall recommend to the Owner the bid submitted by the lowest responsible bidder if soliciting competitive bids, or the proposal that provides the best value for the Project if soliciting competitive proposals. Upon Owner's concurrence in the recommendation, Construction Manager may negotiate the terms of the subcontract with the apparent lowest responsible bidder or best value offeror.

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 Associate Vice President, Capital Planning and Management. Upon Owner's concurrence in the final terms of the subcontract, Construction Manager shall enter into a written subcontract for the subcontract work and provide a copy to the Owner. All offers 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 Construction Manager reviews, evaluates, and recommends to Owner an offer from a trade contractor or Subcontractor, but Owner requires another offer to be accepted, Owner shall compensate Construction Manager by a change in price, time, or Guaranteed Maximum Price for any additional cost and risk that Construction Manager incurs because of Owner's requirement that the other offer be accepted.

5.7.6 Construction Manager may seek to self-perform portions of the Work identified for self-performance in the procurement package strategy. The Construction Manager must submit an offer for the self-performance work in the same manner as all other trade contractors or Subcontractors. The Owner will determine whether the Construction Manager's offer provides the best value for Owner, which determination is final. Construction Manager must perform approved self-performance work in accordance with the same terms and conditions as its other Subcontractors. For payment purposes, the Construction Manager shall account for self-performance work in the same manner as it does all other subcontract costs.

5.7.7 Construction Manager shall identify every Subcontractor it intends to use on the Project, including Subcontractors used for self-performed work, to the Owner in writing at least ten (10) days before entering into any subcontract. Construction Manager shall not use any Subcontractor to which Owner has a reasonable objection. Construction Manager shall not be required to subcontract with any Subcontractor to which it has reasonable objection. Following Owner 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 section or defaults in the performance of its work, the Construction Manager may, in consultation with the Owner and without further advertising, fulfill the subcontract requirements itself or select a replacement trade contractor or subcontractor to do so.

5.8 Safety

5.8.1 In accordance with Owner's Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts, Construction Manager is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. 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 and with the requirements of an Owner controlled insurance program, if any, and with Owner's safety program.

5.8.2 Construction Manager shall provide recommendations and information to Owner and Project Architect regarding the assignment of responsibilities for safety precautions and programs, temporary Project facilities, and equipment, materials, and services for common use of the Subcontractors. Construction Manager shall verify that appropriate safety provisions are included in the Construction Documents. The existence or creation of any Owner controlled insurance program in connection with the Work shall not lessen or reduce the Construction Manager's safety responsibilities.

ARTICLE 6 PRE-CONSTRUCTION PHASE FEE

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

6.2 Except as specifically allowed in paragraph 6.4, the Construction Manager 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.

6.3 Costs associated with the following items are specifically, but not exclusively, 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.

6.4 If the scope of the Pre-Construction Phase Services is changed materially, the Pre-Construction Phase Fee may be equitably adjusted. If the CCL is changed materially, due to a change in the project scope, before acceptance of the GMP Proposal, the Pre-Construction Phase Fee may be equitably adjusted solely at the discretion of the Owner in proportion to the change in the CCL. There shall be no adjustments in the Pre-Construction Phase Fee following acceptance of the GMP Proposal.

6.5 For Additional Pre-Construction Phase Services that are approved in advance and in writing by the Owner, Construction Manager shall be entitled to additional compensation computed as a:

- 6.5.1 A pre-established lump sum amount; or
- 6.5.2 The hourly cost of Construction Manager's employee's or consultants who actually perform the Additional Services based on the employee's Worker Wage Rate or prorated Monthly Salary Rate plus the actual cost of allowable expenses incurred in the performance of the Additional Services plus an overhead and profit markup of ten percent (10%) of the total cost; or
- 6.5.3 As otherwise agreed to by the parties in advance of performing the Additional Pre-Construction Phase Services.

ARTICLE 7 GUARANTEED MAXIMUM PRICE PROPOSAL

7.1 When the Parties agree that the design of the Project is sufficiently developed and documented to allow detailed pricing of its construction, Construction Manager shall prepare and submit a Guaranteed

Maximum Price (“GMP”) Proposal to Owner. The GMP Proposal must be prepared in accordance with the guidelines and delivered in the format specified by Owner in the attached exhibits. Owner, at its sole option and discretion, may specify different requirements for the GMP Proposal. Construction Manager shall not withdraw its Guaranteed Maximum Price Proposal for ninety (90) days following submission to the Owner.

7.2 In developing the GMP Proposal, the Construction Manager shall coordinate efforts with the Project Architect to identify qualifications, clarifications, assumptions, exclusions, value engineering and any other factors relevant to establishment of a GMP. The Construction Manager shall review development of the GMP Proposal with the 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 the Construction Manager in the GMP and the monetary amounts attributable to them. The GMP Proposal shall include, without limitation, a breakdown of Construction Manager’s estimated General Conditions Costs and estimated Costs of the Work organized by trade; contingency amounts; the Construction Phase Fee; and the proposed Contract Time, including dates for Notice to Proceed, Substantial Completion and Final Completion.

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 may include a Construction Manager’s Contingency amount as allowed under Cost of the Work.

7.6 Included with its GMP Proposal, Construction Manager shall provide two 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 Guaranteed Maximum Price. 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 of material and/or workmanship shall prevail over all other interpretations.

7.8 In submitting the GMP Proposal, the Construction Manager represents that it will provide every item, system or element of Work that is identified, shown or specified in the GMP Proposal or the supporting documents, along with all necessary or ancillary materials and equipment for their complete operating installation, unless specifically excepted by the Owner. Upon Owner’s acceptance of the GMP Proposal, the Construction Manager shall not be entitled to any increase in the Guaranteed Maximum Price 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 the Owner in writing and specifically accepted by the Owner. In the event of a conflict between any term of the GMP Proposal that was not clearly and conspicuously identified and approved by the 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 Construction Manager. Upon acceptance by the Owner of the GMP Proposal in writing, both parties shall execute the GMP Proposal and the terms of the GMP Proposal, including the Guaranteed Maximum Price and the supporting documents, shall become part of the Contract between the Owner and the Construction Manager. If the Owner rejects the GMP Proposal or the parties are unable or unwilling to agree on a GMP, the Owner may terminate this Agreement.

7.11 Following Owner acceptance of the GMP Proposal, Construction Manager 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, the Construction Manager and the Project Architect shall jointly deliver a monthly status report to the 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. The monthly status report shall also include an updated start-to-finish project schedule that encompasses the Project Architect's activities, the Contractor's activities, and the Owner's commissioning and occupancy activities, short-term schedules, and production rates for key elements of the Project as determined by the Owner.

7.12 The Construction Manager 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 the Construction Manager has received bids or proposals from trade contractors or Subcontractors for the performance of all major elements of the Work. In proposing a lump sum amount, the Construction Manager 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, the General Contractor must provide the following information:

- a. The stage of completion of the Project;
- b. The trade packages that have been completely bought out;
- c. The trade packages remaining that have not been bought out;
- d. A complete line item breakdown of the calculations used to establish a lump sum amount based on the GMP Schedule of Values;
- e. An accounting of all savings amounts that are to be returned to the Owner as part of the lump sum calculation; and
- f. Any other Project information requested by the Owner.

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

ARTICLE 8

CONSTRUCTION PHASE SERVICES

The Construction Phase shall be deemed to commence upon the date specified in a signed 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. Construction Manager shall not incur any Subcontractor costs for construction of the Work prior to issuance by Owner of written authorization to commence such Work. The Construction Manager shall perform the following Construction Phase Services.

8.1 Construct the Work in strict accordance with the Construction Documents and as required by the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts and Owner's Specifications within the time required by the Project 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 the Owner's primary contact during the Construction Phase and shall be available as required for the benefit of the Project and the Owner. The designated representative shall be authorized to act on behalf of and bind the Construction Manager in all matters related to Construction Phase Services including, but not limited to, execution of Change Orders and Applications for Payment.

8.4 Attend Owner's 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 Owner's regularly scheduled Project progress meetings, Construction Manager shall schedule, direct and attend interim progress meetings with other members of the Project Team as required to maintain Project progress. Construction Manager 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 Standard Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts, 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 Project Architect 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. The Construction Manager shall keep the Owner informed of the progress and quality of the Work.

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

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. The Construction Manager shall be responsible for correcting Work that does not comply with the Construction Documents at its sole expense without cost to the Owner.

8.13 In accordance with the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts regarding Record Documents and the Owner's Project Closeout Specification, the Construction Manager 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 "As Built" conditions of the completed Work.

ARTICLE 9 OWNER'S RESPONSIBILITIES

9.1 The Owner will designate a Project Architect for the Project.

9.2 The Owner will provide the Preliminary Project Cost and general schedule for the Project. The PPC will include the Construction Cost Limitation, contingencies for changes in the Work during construction, and other costs that are the responsibility of the Owner. The general schedule will set forth the Owner's plan for milestone dates and completion of the Project.

9.3 The Owner will identify a person as its Owner Designated Representative ("ODR") who is authorized to act in the Owner's behalf with respect to the Project. The Owner's Designated Representative shall examine the documents submitted by the Construction Manager and shall render decisions on behalf of the Owner.

9.4 The Owner will identify a person as its Owner Designated Representative authorized to administer this Agreement on behalf of the Owner, including final determination of fees and costs earned by the Construction Manager and equitable backcharges against the Construction Manager.

9.5 The Owner, at Owner's cost, will secure the services of surveyors, soils engineers, existing facility surveys, testing and balancing, commissioning, environmental surveys or other special consultants to develop such additional information as may be necessary for the design or construction of the Project.

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

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

9.8 The 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 the Construction Manager's services and of the Work.

9.9 The 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

Construction Manager's responsibility for the Work. Construction Manager is fully and solely responsible for constructing the Project in strict accordance with the Construction Documents.

9.10 Owner shall have the right to reject any defective Work on the Project. Should Construction Manager 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 Construction Manager on demand.

9.11 Owner shall furnish to the Construction Manager the number of Construction Document sets as required by this Agreement.

ARTICLE 10 OWNERSHIP AND USE OF DOCUMENTS

10.1 Drawings, specifications and other documents prepared by the Project Architect, its consultants, or other consultants retained by the Owner for the Project that describe the Work to be executed by the Construction Manager (the "Construction Documents") are instruments of service and shall remain the property of their authors whether the Project for which they are made is executed or not. The Construction Manager 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. The Construction Manager and its Subcontractors are authorized to reproduce and use portions of the Construction Documents as necessary and appropriate for the execution of the Work. The Construction Manager and its Subcontractors shall not use the Construction Documents on any other projects.

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

ARTICLE 11 TIME

11.1 TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THIS AGREEMENT.

11.2 Unless otherwise approved, the Owner and the Construction Manager shall perform their respective obligations under the Contract as expeditiously as is consistent with reasonable skill and care and the orderly progress of the Work.

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

ARTICLE 12 PAYMENTS

12.1 General Requirements

12.1.1 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 the Owner. At all times, the estimated cost of performing the uncompleted and

unpaid portion of the Work, including Construction Manager's overhead and profit, shall not exceed the unpaid balance of the Guaranteed Maximum Price, less retainage on Work previously completed.

12.1.2 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. Expense of transportation and overnight living expenses in connection with out-of-state travel approved in advance in writing by the Owner and directly associated with the Project will be reimbursed per the Owners Current Employee's Travel Policy, which is attached to this Agreement as Rider 107.

12.1.2.1 Unless expressly directed, and approved in advance, by the Owner, transportation (including mileage and parking expenses) and living expenses incurred within the State of Texas will not be subject to reimbursement.

12.1.2.2 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. Owner shall not pay a mark-up on reimbursables. Construction Manager shall submit receipts for all reimbursable expenses along with any reimbursement request.

12.1.3 Retainage as specified in the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts will be withheld from the entire amount approved in an Application for Payment including the Cost of the Work, General Conditions, and the Construction Manager's Construction Phase Fee. Retainage will not be withheld from payments for Pre-Construction Phase Services.

12.1.4 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. Construction Manager 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.

12.1.5 This Agreement is subject to the assessment of liquidated damages against Construction Manager. 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 Construction Manager.

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

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

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

12.1.7.2 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;

12.1.7.3 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;

12.1.7.4 Construction Manager 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 Construction Manager;

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

12.1.7.6 Construction Manager has persistently failed to complete the Work in accordance with the CPM Schedule requirements or if Owner, in its good faith judgment, determines that the remaining Work will not be completed within the contract time;

12.1.7.7 Construction Manager 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

12.1.7.8 Construction Manager fails to obtain, maintain or renew insurance coverage as required by the Agreement.

12.1.8 No partial payment made by the 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 the Owner shall constitute, or be construed to constitute, a release of Construction Manager from any of its obligations or liabilities with respect to the Work.

12.1.9 Owner shall have the right to verify and audit the details of Construction Manager's billings, certificates, accountings, cost data, and statements, either before or after payment, by (1) inspecting the books and records of Construction Manager during normal business hours; (2) examining any reports with respect to this Project; (3) interviewing Construction Manager's employees; (4) visiting the Project site; and (5) any other reasonable action. Construction Manager'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.

12.2 Pre-Construction Phase Payments

12.2.1 Payments for Pre-Construction Phase Services shall be made monthly based on the percentage completion of the Construction Manager's required services for each stage of development of the Construction Documents and the procurement of Subcontractor bids and proposals in accordance with the following schedule:

Pre Design Phase (Program)	0%
Schematic Design Stage	10%

Design Development Stage	20%
GMP Development Stage	25%
Construction Documents Stage	40%
Subcontractor Bid and Proposal Stage	05%

12.2.2. All payment requests for Pre-Construction Phase Services shall be submitted on an Application for Payment and Schedule of Values approved by the Owner and include all required attachments identifying payments to Historically Underutilized Businesses and to all Subcontractors.

12.3 Construction Phase Payments

12.3.1 Payments for Construction Phase Services shall be made as provided for in the Uniform General and Supplementary General Conditions for The University of Texas Building Construction Contracts and the Owner's Specifications. All payment requests shall be submitted on an Application for Payment with a schedule of values approved by the Owner 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 the Construction Manager's Application for Payment. Failure to submit "HUB Progress Assessment Report Documentations of Subcontracted Work" form with each Application for Payment Application will cause rejection of the application by the Owner and its return to the Construction Manager. Commissioning activities for the Construction Manager and Subcontractors shall be a deliverable item identified on the schedule of values and broken out sufficiently to allow for monthly review of progress by the owner.

12.3.2 The Construction Manager's Construction Phase Fee shall be shown as a separate line item on the Schedule of Values. Payment of the Construction Manager'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.

12.3.3 For General Conditions Costs, Construction Manager's Application for Payment shall 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 the 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.

12.3.4 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.

12.3.5 Construction Manager'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 surety to release of final payment; and an affidavit that, to the best of Construction Manager information, knowledge and belief, the release includes and covers all materials and services over which Construction Manager 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, Construction Manager 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, Construction Manager shall reimburse Owner for all damages and costs Owner may incur in discharging such lien, including all costs or court and reasonable attorneys' fees, and Owner shall retain all other remedies available to it at law and in equity.

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

12.3.7 Nothing contained herein shall require the Owner to pay the Construction Manager an aggregate amount for Construction Phase Services that exceeds the Guaranteed Maximum Price or to make any payment if, in the Owner's belief, the cost to complete the Work would exceed the Guaranteed Maximum Price less previous payments to Construction Manager. The total amount of all Construction Phase payments to the Construction Manager shall not exceed the actual verified Direct Construction Cost for the Project plus the Construction Manager's Construction Phase Fee.

12.3.8 The acceptance by Construction Manager or Construction Manager'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 Construction Manager, 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 Construction Manager as unsettled at the time of the Request for Final Payment.

ARTICLE 13 DIRECT CONSTRUCTION COST

Direct Construction Cost is defined in paragraph 3.5 and means the sum of the amounts that the Construction Manager actually and necessarily incurs constructing the Work 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 Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts to adjustments in "cost" or "costs" mean the Direct Construction Cost.

13.1 General Conditions Costs

Construction Manager 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 the Owner through Substantial Completion of the Project plus thirty (30) calendar days. Construction Manager is not entitled to reimbursement for General Conditions Costs incurred before receipt of the Notice to Proceed. General Conditions Costs incurred after Substantial Completion must be approved in advance by the Owner.

Allowable General Conditions items are identified below and by attached exhibit. 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 the exhibit will not be allowed as a General Condition costs.

13.1.1 Personnel Costs. The actual Worker Wage Rate for Construction Manager's hourly employees and the Monthly Salary Rate of Construction Manager's salaried personnel who are identified to the Owner in advance and in writing but only for the time actually stationed at the Project site with the 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 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 Construction Manager for services performed for the Project.

13.1.2 Costs of long-distance telephone calls, telegrams, postage, package delivery and courier service, hardwired telephone service, and reasonable expenses of Construction Manager's jobsite office if incurred at the Project site and directly and solely in support of the Work.

13.1.3 Costs of materials, supplies, temporary facilities, equipment, and hand tools (except those customarily owned by construction workers), supplied to the Project site by Construction Manager, 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.

13.1.4 Rental charges for temporary facilities, equipment, and hand tools (except those customarily owned by construction workers), supplied to the Project site by Construction Manager, 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 the Construction Manager, the rental rate, including freight and delivery costs and all operating expenses except labor, shall be approved in advance by the Owner and shall be in accordance with the "Rental Rate Blue Book for Construction Mobilization Costs" published by Primedia, latest edition, but no higher than the prevailing competitive rates for rental of similar equipment in the Project vicinity.

13.1.5 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, Construction Manager shall purchase the equipment and turn it over to Owner upon final completion of the Work or, at Owner's option, credit the Owner with the fair market resale value of the item.

13.1.6 Permit and inspection fees that are not subject to exemption.

13.1.7 Premiums for insurance and bonds to the extent directly attributable to this Project.

13.1.8 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.

13.2 Cost of the Work

Construction Manager 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. Construction Manager 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:

13.2.1 Costs of materials and equipment purchased directly by the Construction Manager 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 Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts.

13.2.2 Costs of site debris removal and disposal in accordance with all applicable laws and regulations if not otherwise included in General Conditions.

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

13.2.4 Payments earned by Construction Manager 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 the Owner.

13.2.5 Testing fees pursuant to the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts.

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

13.3 Construction Manager's Contingency

13.3.1 The Guaranteed Maximum Price Proposal may include a Construction Manager'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.

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

13.3.3 The Construction Manager's Contingency is specifically not to be used for Contractor rework, unforeseen conditions, cost increases caused by lack of coordination or communication with the Project Architect or trade Subcontractors, or to correct errors or omissions in the Construction Documents.

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

ARTICLE 14 CONSTRUCTION PHASE FEE

The Construction Manager's Construction Phase Fee is the maximum amount payable to the Construction Manager for any cost or profit expectation incurred in the performance of the Work that is not specifically identified as being eligible for reimbursement by the Owner elsewhere in the Agreement. References in the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts to Construction Manager's "overhead" and "profit" mean the Construction Manager's Construction Phase Fee. The Construction Phase Fee includes, but is not limited to, the following items.

14.1 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 the Construction Manager

14.2 Salaries of Construction Manager'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.

14.3 Any and all overhead, labor or general expenses of any kind unless specifically allowed under General Conditions. These costs include, but are not limited to: costs for the purchase, lease, rental, allowance or maintenance of vehicles, radios/communication equipment, jobsite computers, copiers and other business equipment, specialized telephone systems and cellular/digital phones; trade or professional association dues; costs for hiring and/or relocation of any of the Construction Manager's personnel; and travel, per diem and subsistence expense of Construction Manager, its officers or employees except as specifically allowed under General Conditions.

14.4 Any financial costs incurred by the Construction Manager 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.

14.5 Any legal, accounting, professional or other similar costs incurred by the Construction Manager, 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.

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

14.7 Any cost arising out of a breach of this Contract or the fault, failure or negligence of Construction Manager, 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 CPM Schedule milestones; costs arising from Construction Manager'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.

14.8 The cost of any and all insurance deductibles payable by the Construction Manager and costs due to the failure of Construction Manager or any Subcontractor to procure and maintain insurance as and to the extent required by the Contract Documents.

14.9 Any and all costs that would cause the Guaranteed Maximum Price, minus the amounts allocated in the GMP for Owner's Contingency and Owner's Special Cash Allowance, to be exceeded.

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

ARTICLE 15 CONTRACT SAVINGS, ALLOWANCES, REBATES & REFUNDS

15.1 If the allowable, final, verified, audited amount of the cost of General Conditions, Cost of the Work, allowance items and Construction Manager'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 the Owner as savings and the final contract amount shall be adjusted accordingly. When buyout of the Project is at least 85% complete, the Owner may recognize any savings achieved to that point by issuing a deductive change order for the saved amount.

15.2 Items to be provided for through Owner's Special Cash Allowances shall be clearly identified in the Construction Documents and the Guaranteed Maximum Price proposal. The Cost of the Work included in the allowances shall be determined in accordance with the Uniform General and Supplementary General Conditions for The University of Texas Building Construction Contracts. Any claim by the Construction Manager for an adjustment to an allowance amount included in the Guaranteed Maximum Price based on the cost of allowance work shall be made within a reasonable time after the issuance of the Construction Documents for the allowance items. The Construction Manager shall not be entitled to any increase in its Construction Phase Fee for increases to allowance amounts that were initially based on estimates provided by the Construction Manager. Owner shall be entitled to retain 100% of the balance of any unused allowance amount.

15.3 The 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 the Construction Manager:

15.3.1 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 the Owner. Upon completion of the Work or when no longer required, Construction Manager shall either credit the Owner for the fair market value (as approved by the Owner) for all surplus tools, construction equipment and materials retained by the Construction Manager 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 the Owner's account.

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

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

15.3.4 Deposits made by Owner and forfeited due to the fault of the Construction Manager.

15.3.5 Balances remaining on any Allowances, the Construction Manager's Contingency, or any other identified contract savings.

15.4 Owner shall be entitled to recover any savings realized between the Guaranteed Maximum Price and the buyout price for subcontracting work, provided however, that Construction Manager may use such savings to offset other buyout packages that exceed the amounts identified in the initial Guaranteed

Maximum Price, so long as the total Cost of Work proposed in the Guaranteed Maximum Price does not increase.

15.5 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 16 PRE-EXISTING CONDITIONS & DESIGN ERRORS AND OMISSIONS

16.1 The Construction Manager 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. Construction Manager's investigation was instrumental in preparing its Guaranteed Maximum Price Proposal for the Work. Construction Manager 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 Construction Manager discovered or, in the exercise of reasonable care, should have discovered in Construction Manager's investigation.

16.2 The Construction Manager acknowledges that as part of its Pre-Construction Phase Services it shall participate in the development and review of the Construction Documents. Construction Manager'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 Construction Manager shall review the drawings, specifications and other Construction Documents and notify the Owner of any errors, omissions or discrepancies in the documents of which it is aware. Construction Manager 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 Construction Manager discovered or, in the exercise of reasonable care, should have discovered in Construction Manager's Pre-Construction Phase design review process that Construction Manager did not bring to the attention of the Owner and the Project Architect in a timely manner.

ARTICLE 17 BONDS AND INSURANCE

17.1 Within ten (10) days of the date that the Construction Manager executes this Agreement, Construction Manager shall provide a security bond on a form provided by the Owner in the amount of 5% of the Construction Cost Limitation. The surety for a security bond shall meet the same requirements as set forth for payment and performance bonds. Construction Manager shall not begin a construction phase of the Work until Construction Manager has submitted and Owner has accepted payment and performance bonds for that construction phase of the Work.

17.2 When Construction Manager executes and submits a Guaranteed Maximum Price Proposal to Owner, Construction Manager shall provide payment and performance bonds on forms prescribed by Owner and in accordance with the requirements set forth in the Uniform General and Supplementary General Conditions for The University of Texas Building Construction Contracts. The penal sum of the payment and performance bonds shall be equal to the Guaranteed Maximum Price. If construction is phased or staged with different Guaranteed Maximum Prices established at different times, the penal sum of the payment and performance 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 In the event that Owner implements an Owner Controlled Insurance Program (OCIP), the Construction Manager will be required to provide the following insurance coverages:

17.3.1 Pre-Construction Phase: Provide those coverages specified below for the Pre-Construction Phase. OCIP does not provide coverages during the Pre-Construction Phase.

17.3.2 Construction Phase: Provide Automobile Liability, Owner's Protective Liability and Builder's Risk, as set forth in the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts.

17.3.3 Refer to the Owner's Project Insurance specification for a complete listing of coverages provided by OCIP.

17.4 The Construction Manager shall not commence work under the Agreement until it has obtained all required insurance and until evidence of the required insurance has been reviewed and approved by the Owner. Owner's review of the insurance shall not relieve nor decrease the liability of the Construction Manager. Prior to commencing any work under this Agreement, Construction Manager shall provide evidence of the following insurance coverages:

17.4.1 Pre-Construction Phase: Employer's Liability, Workers' Compensation, Comprehensive General Liability and Comprehensive Automobile Liability in the amounts as set forth in the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts.

17.4.2 Construction Phase: In addition to the coverages required during the Pre-Construction Phase, Builder's Risk in the amounts as set forth in the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts.

17.4.3 Prior to commencing any construction work, Construction Manager shall provide evidence of Builder's Risk coverage as set forth in the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts, which coverage shall remain in full force and effect throughout the term of the Project and shall be increased as necessary for each separate bid or proposal package, phase, change order, or Stage of construction prior to the commencement of construction for that package, phase, or Stage.

17.4.4 Construction Manager shall include required insurance information in trade packages and indicate on bid and proposal forms the insurance that bidders and proposers are to include in their base bids or proposals.

17.5 The Construction Manager shall not cause or allow any of its required insurance to be canceled nor permit any insurance to lapse during the term of the Agreement or as required in the Agreement. If the Construction Manager fails to obtain, maintain or renew any insurance required by the Agreement, the Owner may obtain insurance coverage directly and recover the cost of that insurance from the Construction Manager.

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

17.7 The 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 the Construction Manager and not covered by insurance shall be paid by the Construction Manager.

17.8 The cost of premiums for any additional insurance coverage desired by the Construction Manager in excess of that required by this Agreement, the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts, or the Contract Documents shall be borne solely by the Construction Manager out of its fees and not included in the GMP Proposal as a Direct Construction Cost.

17.9 OCIP Insured Projects.

17.9.1 In the event that the Owner implements an Owner Controlled Insurance Program (OCIP) for the Project, the Construction Manager shall provide the required Pre-Construction Phase insurance for the Project and additional Construction Phase insurance coverages as required by the OCIP specification.

17.9.2 Construction Manager's GMP Proposal shall exclude the cost of premiums for insurance coverage provided through the OCIP. The GMP Proposal shall only include the cost of premiums of all other insurance required by the Contract Documents.

17.9.3 The cost of premiums for any additional insurance coverage desired by the Construction Manager in excess of that required by this Agreement, the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts, or the Contract Documents shall be borne solely by the Construction Manager out of its fees and not included in the GMP Proposal as a Direct Construction Cost.

17.9.4 Construction Manager shall include required OCIP insurance information in trade packages and indicate on bid and proposal forms the insurance that bidders and proposers are to include and exclude in their base bids and proposals.

17.9.5 During construction, Owner may audit the Construction Manager's and Subcontractors' labor hours and certified payroll reports to determine actual insurance costs.

ARTICLE 18 DISPUTE RESOLUTION

All disputes against the Owner that arise from this Agreement or the Project shall be resolved in accordance with the procedures and limitations of *Texas Government Code* Chapter 2260 and Article XXVI of the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts. The Owner designates the Vice-President, Operations and Facilities as its officer for examining, negotiating and resolving claims and counterclaims under Chapter 2260.

ARTICLE 19 PROJECT TERMINATION AND SUSPENSION

19.1 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 breach is not cured or an acceptable plan to cure the breach is not established within the fifteen (15) day period.

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

19.3 This Agreement may be terminated by the Owner at the GMP Proposal stage upon at least three (3) days written notice to the Construction Manager in the event that the parties are unable or unwilling to agree on a GMP Proposal.

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

19.5 Termination of this Agreement shall not relieve Construction Manager or any of its employees, subcontractors, or consultants of liability for violations of this Agreement or for any act or omission, or negligence, of Construction Manager related to the Project. In the event of a termination, Construction Manager hereby consents to employment by Owner of a substitute Construction Manager to complete the services under this Agreement.

19.6 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.

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

ARTICLE 20 INDEMNITY

20.1 SEE ARTICLE 3 OF THE UNIFORM GENERAL AND SUPPLEMENTARY GENERAL CONDITIONS FOR THE UNIVERSITY OF TEXAS SYSTEM BUILDING CONSTRUCTION CONTRACTS FOR CONSTRUCTION MANAGER'S GENERAL INDEMNIFICATION OBLIGATIONS.

20.2 CONSTRUCTION MANAGER SHALL PROTECT AND INDEMNIFY THE 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 THE CONSTRUCTION MANAGER OR THE USE BY CONSTRUCTION MANAGER, OR BY OWNER AT THE DIRECTION OF CONSTRUCTION MANAGER, OF ANY ARTICLE OR MATERIAL. UPON BECOMING AWARE OF A SUIT OR THREAT OF SUIT FOR PATENT OR COPYRIGHT INFRINGEMENT, OWNER SHALL PROMPTLY NOTIFY CONSTRUCTION MANAGER AND CONSTRUCTION MANAGER SHALL BE GIVEN FULL OPPORTUNITY TO NEGOTIATE A SETTLEMENT. CONSTRUCTION MANAGER DOES NOT WARRANT AGAINST INFRINGEMENT BY REASON OF OWNER'S OR PROJECT ARCHITECT'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 CONSTRUCTION MANAGER AND PARTIES SHALL BE ENTITLED, IN CONNECTION WITH ANY SUCH LITIGATION, TO BE REPRESENTED BY COUNSEL AT THEIR OWN EXPENSE.

20.3 The indemnities contained herein shall survive the termination of this Agreement for any reason whatsoever.

ARTICLE 21 SPECIAL WARRANTIES

21.1 Notwithstanding anything to the contrary contained in this Agreement, Owner and Construction Manager agree and acknowledge that Owner is entering into this Agreement in reliance on Construction Manager's represented expertise and ability to provide construction management services. Construction Manager 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.

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

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

21.4 The Construction Manager represents and agrees that all persons connected with the Construction Manager 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 registration is required.

21.5 The Construction Manager 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 the Construction Manager (by the 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.

21.6 The Construction Manager 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.

21.7 Construction Manager 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.

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

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

ARTICLE 22 CERTIFICATION OF NO ASBESTOS CONTAINING MATERIALS OR WORK

22.1 The Construction Manager 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.

22.2 The Construction Manager shall insure that Texas Department of Health 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.

22.3 The Construction Manager shall provide at Substantial Completion, a notarized affidavit to the Owner and the Architect stating that no asbestos containing materials or work was provided, installed, furnished or added to the Project.

22.4 The Construction Manager shall take whatever measures he deems necessary to insure that all employees, suppliers, fabricators, materialmen, subcontractors, or their assigns, comply with this requirement.

22.5 All materials used on this Project shall be certified as non Asbestos Containing Building Materials (ACBM). The Construction Manager shall insure compliance with the following acts from all of his subcontractors and assigns:

22.5.1 Asbestos Hazard Emergency Response Act (AHERA—40 CFR 763-99 (7));

22.5.2 National Emission Standards for Hazardous Air Pollutants (NESHAP—EPA 40 CFR 61, National Emission Standard for Asbestos;

22.5.3 Texas Asbestos Health Protection Rules (TAHRP—Tex. Admin. Code Title 25, Part 1, Ch. 295C, Asbestos Health Protection

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

22.7 The Construction Manager shall provide, in hard copy and electronic form, all necessary material safety data sheets (MSDS) of all products used in the construction of the Project to the Texas Department of Health licensed inspector or Project Architect or Engineer who will compile the information from the MSDS and, finding no asbestos in any of the product, make a certification statement.

22.8 At Final Completion the Construction Manager shall provide a notarized certification statement per TAC Title 25 Part 1, Ch. 295.34, par. c.1 that no ACBM was used during construction of the Project.

ARTICLE 23 MISCELLANEOUS PROVISIONS

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

23.2 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 the Owner or the Owner's authorized representative on reasonable notice.

23.3 *Texas Family Code* Child Support Certification. Pursuant to Section 231.006, *Texas Family Code*, Construction Manager certifies that it is not ineligible to receive the award of or payments under this Agreement and acknowledges that this Agreement may be terminated and payment may be withheld if this certification is inaccurate.

23.4 Eligibility Certification. Pursuant to Section 2155.004, *Texas Government Code*, Construction Manager certifies that the individual or business entity named in this Agreement is not ineligible to receive

the award of or payments under this Agreement and acknowledges that this Agreement may be terminated and payment withheld if this certification is inaccurate.

23.5 Franchise Tax Certification. A corporate or limited liability company Construction Manager certifies that it is not currently delinquent in the payment of any Franchise Taxes due under Chapter 171 of the *Texas Tax Code*, or that the corporation or limited liability company is exempt from the payment of such taxes, or that the corporation or limited liability company is an out-of-state corporation or limited liability company that is not subject to the Texas Franchise Tax, whichever is applicable.

23.6 Payment of Debt or Delinquency to the State. Pursuant to Sections 2107.008 and 2252.903, *Texas Government Code*, Construction Manager agrees that any payments owing to Construction Manager under this Agreement may be applied directly toward any debt or delinquency that Construction Manager 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.

23.7 Entire Agreement; Modifications. This Agreement supersedes all prior agreements, written or oral, between Construction Manager 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 Construction Manager 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 and all of the rights and obligations of the parties and all of the terms and conditions shall be construed, interpreted and applied in accordance with and governed by and enforced under the laws of the State of Texas without reference to its conflicts of law provisions. The county where the Project is located shall be the sole place of venue for any legal action arising from or related to this Agreement or the Project in which the Owner is a party.

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 the 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 Appointment. Owner hereby expressly reserves the right from time to time to designate by notice to Construction Manager a representative(s) to act partially or wholly for Owner in connection with the

performance of Owner's obligations. Construction Manager shall act only upon instructions from the designated representative(s) unless otherwise specifically notified to the contrary.

23.13 Records. Records of Construction Manager'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 Construction Manager in writing.

23.14 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 the Construction Manager 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.

23.15 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.

23.16 Illegal Dumping. The Construction Manager 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.

23.17 By signature hereon, Construction Manager certifies that no member of the Board of Regents of The University of Texas System, or Executive Officers, including component institutions, has a financial interest, directly or indirectly, in the transaction that is the subject of this contract.

23.18 Ethics Matters; No Financial Interest. Contractor and its employees, agents, representatives and subcontractors have read and understand University's Conflicts of Interest Policy available at <http://www.utsystem.edu/policy/policies/int160.html>, University's Standards of Conduct Guide available at <http://www.utsystem.edu/systemcompliance/>, and applicable state ethics laws and rules available at www.utsystem.edu/ogc/ethics. Neither Contractor nor its employees, agents, representatives or subcontractors will assist or cause University employees to violate University's Conflicts of Interest Policy, provisions described by University's Standards of Conduct Guide, or applicable state ethics laws or rules. Contractor represents and warrants that no member of the Board has a direct or indirect financial interest in the transaction that is the subject of this Agreement.

ARTICLE 24 COMPENSATION

24.1 Construction Cost Limitation

24.1.1 The anticipated Construction Cost Limitation for the Project at the time this Agreement was executed is:

THIRTY MILLION DOLLARS AND NO/100 (\$30,000,000.00)

24.2.2 Refer to Article 12.2.1 for the percentages of each stage of work within the Pre-Construction Phase Fee for payment purposes. The Owner may elect, at its option, to stage or

“fast-track” portions of the work. If Owner elects to implement the Project in multiple stages, the Construction Manager shall allocate the Pre-Construction Phase Fee across all stages of the Project pursuant to the schedule set forth in Article 12.2.1, unless the Owner and Construction Manager agree otherwise.

24.2 Pre-Construction Phase Fee

24.2.1 For Pre-Construction Phase Services, Owner shall pay Construction Manager a Pre-Construction Phase Fee in the total stipulated amount of:

_____ Dollars (\$_____).

24.3 Construction Phase Fee

24.3.1 For Construction Phase Services, Owner shall pay Construction Manager a stipulated Construction Phase Fee equal to _____ percent (____%) of the Construction Cost Limitation for the Project.

24.3.2 Based on the anticipated CCL established at the time of this Agreement, the Construction Phase Fee would be the total stipulated amount of:

_____ Dollars (\$_____).

24.3.3 If the Owner agrees to an increase in the Guaranteed Maximum Price during the Construction Phase, the Construction Phase Fee shall be equitably adjusted by applying the percentage established in paragraph 24.3.1 to the amount of the increase in the Guaranteed Maximum Price, provided however, if the increase in the Guaranteed Maximum Price is less than five percent of the Guaranteed Maximum Price, then Construction Manager shall not be entitled to any increase in the Construction Manager’s Construction Phase Fee.

24.3.4 The percentage rate established in paragraph 24.3.1 of this Agreement for calculation of the Construction Phase Fee cannot be increased except with the express written approval of the Associate Vice President, Capital Planning and Management.

24.3.5 If the Owner agrees to any increases in the Construction Cost Limitation during the Construction Phase without increasing the Guaranteed Maximum Price (for example, change orders funded by Owner’s Special Cash Allowance or Owner’s Construction Contingency) the Construction Manager’s fee for these increases shall be calculated accordance with the provisions of the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts for Change Orders.

24.4 Limitation on General Condition Costs

24.4.1 The maximum allowable amount of General Conditions Costs payable to the Construction Manager during the Construction Phase of the Project shall not exceed _____percent (____%) of the Construction Cost Limitation Price for the Project.

24.4.2 Based on the anticipated CCL established at the time of this Agreement, the maximum allowable amount of General Conditions Costs would be the total amount of:

_____. Dollars (\$_____).

24.4.3 If the Owner agrees to an increase in the Guaranteed Maximum Price during the Construction Phase the maximum allowable amount of General Conditions Costs shall be equitably adjusted by applying the percentage established in paragraph 24.4.1 to the amount of the increase in the Guaranteed Maximum Price.

24.4.4 The percentage rate established in paragraph 24.4.1 of this Agreement for calculation of the maximum allowable amount of General Conditions Costs cannot be increased except with the express written approval of the Associate Vice President, Capital Planning and Management.

24.4.5 If the Owner agrees to any increases in the Construction Cost Limitation during the Construction Phase without increasing the Guaranteed Maximum Price (for example, change orders funded by Owner's Special Cash Allowance or Owner's Construction Contingency) the allowable General Conditions Costs for these increases shall be calculated accordance with the provisions of the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts for Change Orders.

ARTICLE 25 OTHER TERMS AND CONDITIONS

25.1 Time of Completion

25.1.1 The anticipated date for achieving Substantial Completion of the Project at the time this Agreement was executed is:

April 22, 2013.

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

25.1.3 The Construction Manager shall achieve Substantial Completion of the Work and Final Completion of the Work on or before the dates agreed to in the Guaranteed Maximum Price Proposal, subject to time extensions granted by Change Order.

25.1.4 THE TIMES SET FORTH FOR COMPLETION OF THE WORK IN THE NOTICE TO PROCEED WITH CONSTRUCTION AND THE GUARANTEED MAXIMUM PRICE PROPOSAL ARE AN ESSENTIAL ELEMENT OF THE AGREEMENT. The Owner may elect, at its option, to stage or "fast-track" portions of the work. The Owner shall issue a separate Notice to Proceed or Change Order for each such stage and each such stage shall have a separate substantial completion date and a separate liquidated damages amount.

25.2 Liquidated Damages

25.2.1 For each consecutive calendar day after the Substantial Completion Date that the Work is not substantially completed, the Owner may deduct the amount of:

ONE THOUSAND FIVE HUNDRED DOLLARS AND NO/100 (\$1,500.00)

from any money due or that becomes due the Construction Manager, not as a penalty but as liquidated damages representing the parties' estimate at the time of contract execution of the damages that the Owner will sustain for late completion.

25.2.2 The parties stipulate and agree that calculating Owner's actual damages for late completion of the Project would be impractical, unduly burdensome, and cause unnecessary delay and that the amount of daily liquidated damages set forth is reasonable.

25.3 Estimated Construction Cost Reports

Construction Manager shall prepare and update an Estimated Construction Cost report as required by Article 5.4 at the fifty percent (50%) and the ninety-five percent (95%) completion stages during the schematic, design development and construction documents phases of the Pre-Construction Services.

25.4 Notices

Notices of claims or disputes or other legal notices required by this Agreement shall be sent to the following persons at the indicated locations.

If to Owner: Dwain Morris
Vice President and Chief Financial Officer
1515 Holcombe Blvd., Unit 0050
Houston, TX 77030

With Copies to: William E. Bailey, J.D., C.P.A.
Director, Capital Contracts & Financial Management
Capital Planning & Management
6900 Fannin, Suite 1010
Houston, Texas 77030

If to Construction Manager: _____

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

Original Invoices must be submitted to:

MD Anderson Cancer Center
Accounts Payable – Box 199
P. O. Box 301401
Houston, TX 77230-1401

email: mdaccap@mdanderson.org

25.5 Party Representatives

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

Susan Lipka
Associate Vice President, Capital Planning and Management
1515 Holcombe Blvd., Box 703
Houston, TX 77030

25.5.2 The Construction Manager's designated representative authorized to act on the Construction Manager's behalf and bind the Construction Manager with respect to the Project is:

25.5.3 The parties may make reasonable changes in their designated representatives upon advance written notice to the other party and in accordance with Paragraph 4.8.

25.6 Construction Document Sets

The Project Architect shall coordinate the printing, binding and distribution of the initial issuance of all construction documents to all Subcontractor proposers requesting documents in order to provide proposals to the Construction Manager. A minimum of twenty-five (25) sets will be furnished at the expense of the Owner. The Construction Manager shall utilize all construction documents returned to the Project Architect from the Subcontractor proposers.

25.7 OCIP Insured Project

The Owner has elected to implement an Owner Controlled Insurance Program (OCIP) for this Project. Refer to Article 17 for specific coverages required.

25.8 As-built Telecommunication Drawings and Telecommunication Port Log.

The Construction Manager shall provide the Owner, at between one month and three months prior to Substantial Completion, with a complete set of the as-built Telecommunication Drawings and Telecommunication Port Log for the Owner's use in coordinating selection and procurement of telephone/data equipment.

25.9 Interim Record Drawings and Specifications

As a requirement for acceptance of Substantial Completion, Construction Manager shall reproduce two (2) copies of the current As-Built Drawings and Specifications maintained at the job site and provide these copies to the Owner. These documents shall be labeled "Interim Record Drawings and Specifications", and are required to assist the Owner in the operation of the facility until Final Completion is accomplished and the final As-Built Drawings and Specifications are provided to the Project Architect to prepare the final "Record Drawings" and "Record Specifications".

25.11 List of Exhibits

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

- Exhibit A - Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts
- Exhibit B - Owner's Specifications
- Exhibit C - Allowable General Conditions Line Items
- Exhibit D - Guaranteed Maximum Price Proposal Form
 - Attachment 1 to Exhibit D - Guidelines for the Preparation of the GMP
 - Attachment 2 to Exhibit D - Payment and Performance Bonds
- Exhibit E - Security Bond
- Exhibit F - Construction Manager's Personnel and Monthly Salary Rate
- Exhibit G - Constructability Implementation Program
- Exhibit H - Policy on Utilization, Historically Underutilized Businesses
- Exhibit I - HUB Subcontracting Plan for Pre-Construction Phase Services
- Exhibit J - Additional Services Proposal
- Exhibit K - Sales Tax Exemption Form
- Exhibit L - Rider 1 to the Agreement
- Exhibit M - Rider 105 - Contractor Affirmations
- Exhibit N - Rider 106 - Premises Rules
- Exhibit O - Rider 107 - Travel Policy
- Exhibit P - Execution of Offer
- Exhibit Q - Rider 117 - Institutional Policies

BY SIGNING BELOW, the Construction Manager has executed and bound itself to this Agreement as of the day and year first above written. The Agreement shall become effective only upon the execution of the Agreement by both parties. Change orders, additional services, amendments, modifications, deletions or other changes to the Agreement, if any, shall become effective only upon the issuance of a signed Notice to proceed by Owner to the Construction Manager. Subsequent to the issuance of a signed Notice to Proceed, Owner will issue a Purchase Order Revision reflecting the changes in scope, additional services, amendments, modifications, deletions or other changes to the Agreement. Contractor must receive the Purchase Order Revision prior to Contractor submitting invoice for payment for the associated Agreement change.

(SEAL)

[Contractor's Name]

ATTEST:

By: _____
(original signature)

(name and title typed)

By: _____
(original signature)

(name and title typed)

Date: _____

CONTENT APPROVED:

THE UNIVERSITY OF TEXAS
MD ANDERSON CANCER CENTER
(Owner)

Office of Vice President
Operations and Facilities Management

By: _____
(original signature)

By: _____
(original signature)

Name: William A. Daigneau
Title: Vice President, Operations and Facilities

Name: Dwain Morris
Title: Vice President and Chief Financial Officer

Date: _____

Date: _____

EXHIBIT A

**UNIFORM GENERAL AND SUPPLEMENTARY GENERAL CONDITIONS FOR THE
UNIVERSITY OF TEXAS SYSTEM BUILDING CONSTRUCTION CONTRACTS**

EXHIBIT B

OWNER'S SPECIFICATIONS

1. Section 00 25 00 Owner's Special Conditions
2. Section 00 25 00A – Attachment "A" Minimum Wage Rate Determination
3. Not Used
4. Section 00 73 16 Project Insurance (OCIP)
5. Section 01 31 00 Project Administration
6. Section 01 32 00 Project Planning and Scheduling
7. Section 01 35 16 Alteration Project Procedures
8. Section 01 35 23 Project Safety
9. Section 01 35 25 Owner Safety Requirements
10. Not Used
11. Not Used
12. Not Used
13. Section 01 45 00 Project Quality Control
14. Not Used
15. Not Used
16. Section 01 77 00 Project Closeout Requirements
17. Section 01 91 00 General Commissioning Requirements
18. Not Used
19. Not Used

SECTION 00 25 00 – OWNER’S SPECIAL CONDITIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.
- C. The Contractor's attention is specifically directed, but not limited, to the Uniform General and Supplementary General Conditions for University of Texas System Building Construction Contracts (UGC) for other requirements.
- D. Attachment "A" (To Owner's Special Conditions) – Minimum Wage Rate Determination. Pursuant to the UGC, the attached schedule identifies the Prevailing Wage Rate determination as applicable to the Project location.
- E. Attachment "B" (To Owner's Special Conditions) - Project Sign Layout.

1.02 SUMMARY

- A. Terms and conditions set forth in this document are for the Contractor only, and are valid regardless of the project delivery method. For Construction Manager at Risk or Design/Build, the final version of the document shall be confirmed by the Owner, and included by the Construction Manager or Design/Build Contractor in the Guaranteed Maximum Price Proposal. For projects for which the construction phase is divided into multiple stages, these Owner's Special Conditions shall be reviewed, updated as warranted, and resubmitted with GMP Proposal associated with that stage of the construction work.

1.03 REFERENCE STANDARDS

- A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.
- B. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.
- C. All materials, installation and workmanship shall comply with all applicable requirements and standards.
 - 1. Texas Medical Center Architectural Standards and Texas Medical Center Stormwater Management Design Guidelines are applicable to all Projects located within the Texas Medical Center.
 - 2. Owner's underwriter requirements are applicable to all Projects.

1.04 DEFINITIONS

- A. The term "Owner's Project Manager" as used throughout the Contract Documents means an individual authorized by the Owner to administer the Project.

- B. Outage - A temporary disruption of normal operation or use of utilities, sidewalks, parking areas, driveways or facility access.
- C. Planned Utility Outage - An event that can be foreseen and has a plan of action in place to accomplish specific tasks during a utility outage.
- D. Utility - Any service provided by an outside source or manufactured in house (gas, water, electricity, fire suppression water, telecommunications, data systems, building automation systems, fire alarm systems, etc.) which facilitates building operations.
- E. The terms "outage" and "shutdown" are used interchangeably throughout the Contract Documents.
- F. Work Day - A day in which work is planned, excluding weekends and holidays.
- G. The terms "work day" and "business day" are used interchangeably throughout the Contract Documents.
- H. Normal working hours are considered as work being performed between 6:00 A.M. and 6:00 P.M. Monday through Friday, excluding holidays.
- I. The terms "normal hours" and "regular hours" are used interchangeably throughout the Contract Documents.
- J. Weather Day – A "weather day" is a day on which the Contractor's current schedule indicates Work is to be done, and on which inclement weather occurs and resultant site conditions or inaccessibility to the site prevent the Contractor from performing five hours of Work associated with the Project's critical activities during normal working hours.

1.05 OWNER'S RIGHT OF OCCUPANCY

- A. 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 Owner's Project Manager will notify the Contractor in writing and identify responsibilities for security, maintenance, and insurance.
- B. 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.
- C. 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.
- D. Contractor shall follow the Planned Utility Outage Procedure specified within this section when performing Work affecting any occupied facility.

1.06 MINIMUM WAGE RATE DETERMINATION

- A. The Contractor shall comply with all requirements of Texas Government Code Chapter 2258, Prevailing Wage Rates.

- B. Wage rates identified in Attachment "A" (To Owner's Special Conditions) are titled "Prevailing Wage Determination, Houston-Galveston Area", dated December 31, 2009. [EXCEPTION: Job Order Contracts – The relevant wage rates identified in Attachment "A" as part of the UGC JOC Program is titled "Prevailing Wage Determination, Harris-Galveston Counties, Galveston, Houston, and MD Anderson", dated 09/01/2003].
- C. The Owner may verify wage rate compliance in the field by interviewing workers. The Contractor shall assist the Construction Inspector (CI) with this task, including providing translation for non-English speaking workers.

1.07 WEATHER DAYS

- A. Weather days are excusable delays. When weather conditions at the site prevent work from proceeding, immediately notify the Owner's Project Manager for confirmation of the conditions. At the end of each calendar month, submit to the Owner's Project Manager a list of Weather Days occurring in that month along with documentation of the impact on critical activities. Based on confirmation by the Owner's Project Manager, any time extension granted will be issued by Change Order. If the Contractor and Owner cannot agree on the time extension, the Owner may issue a Unilateral Change Order for fair and reasonable time extension.

1.08 SEPARATE CONTRACTS

- A. As provided in the UGC, the Owner may award other contracts for other portions of the Project.

PART 2 - PRODUCTS

2.01 GENERAL

- A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.

2.02 OWNER'S SPECIAL CASH ALLOWANCES

- A. A total Owner's Special Cash Allowance of \$0 shall be included in the Contractor's base proposal amount, to cover expenses identified below. The Contractor shall confirm the costs and inform the Owner at least thirty (30) calendar days prior to purchase or payment. The Contractor shall be reimbursed through a reduction in the scheduled Owner's Special Cash Allowance amount.
 - 1. The Owner is exempt from paying for permits and fees to local government entities related to work on the Owner's property. There shall be no building permit required, no platting fees, and no local government inspection fees for permanent work on the Owner's property. The Owner is not exempt from permit(s) and fee(s) requirements for work in public rights of way or outside the boundaries of the Owner's property.

2.03 BUILDERS RISK ENDORSEMENTS

- A. For Coverage of Existing Building Structures:

1. Contractor shall include an endorsement on the Builders Risk Insurance policy to provide coverage for the existing building structure(s), including its/their contents, as described below. Coverage shall be in the amount equal to either \$5 million or the estimated replacement value of the existing building structure and its contents, whichever is less.
2. The purpose of this coverage is to fund the \$5 million deductible under the Owner's existing property insurance policy which addresses the risk and possible cost of claims to repair damage to existing structure(s) (this purpose should be explained to the Builders Risk Insurance carrier when requesting the quote). The existing building structure(s) to be covered is the **SCRB 3** building, and its estimated building replacement value is **\$72,000,000**. Its estimated contents value is **\$30,000,000**.

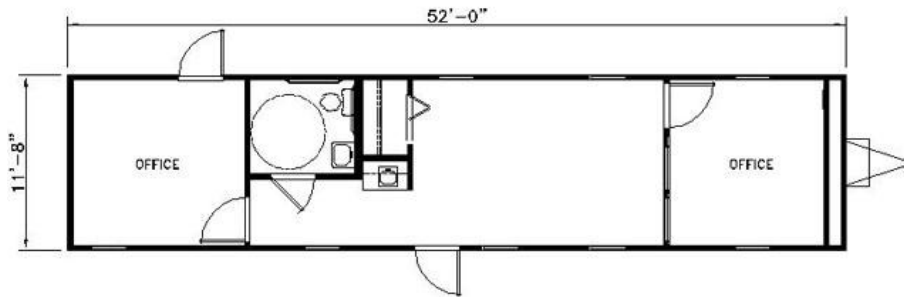
B. Soft Costs, Loss of Rents, Gross Earnings:

1. Contractor shall provide an alternate price to include an endorsement on the Builders Risk Insurance policy to provide the following additional coverage:
 - a. Period of Indemnity [ENTER 365 DAYS OR TIME PERIOD ON THE WORKSHEET]
 - b. Maximum Deductible: 14 Calendar Days
 - c. Maximum Deductible: 30 Calendar Days

2.04 TEMPORARY FIELD OFFICE STRUCTURES, FURNISHINGS AND EQUIPMENT

- A. The Contractor shall coordinate and direct the Work of the Project from the Site.
- B. The Contractor shall provide and maintain at least one (1) temporary field office that is adequately staffed, furnished, and equipped.
- C. All arrangements for temporary field offices shall be as agreed upon with the Owner's Project Manager. Costs for temporary field office(s) shall be included in the Contractor's Schedule of Values Breakdown and included with the Contractor's regular monthly Progress Payment.
- D. Temporary field office(s) shall be secure, weather-tight, well-lighted, air-conditioned, heated, and shall include provisions for telephones, copier, facsimile machines, internet connection services, conference area(s), functioning toilet facilities, and maintenance of all Project files.
 1. The Contractor shall provide weekly janitorial services for all temporary field office(s) including, but not limited to, supplying and servicing of toilet facilities.
- E. Temporary field office(s) shall have adequate and safe entries, including steps with railings and landings or stoops as required, and shall provide hard surface walkways to connect the field office structures to one another and to site entry or exit.
- F. Conference areas shall include at least one (1) primary area suitable for up to fifteen (15) persons to participate in Project progress and coordination meetings. The walls of this conference area are to serve as display surfaces for maintaining current prints of Project schedules and work placement plans.
- G. The Contractor shall provide and maintain temporary field office(s) until Final Completion and shall remove temporary field office(s) only after obtaining concurrence from the Owner.

- H. The Contractor shall provide field office(s) and storage shed/trailer accommodations as necessary for the major Subcontractor(s) to adequately perform their respective work.
- I. All storage sheds/trailers shall be secure and weather-tight for the storage of tools and all materials, which may be damaged by the weather. All storage-shed floors shall be raised at least six inches above finished grade.
- J. Temporary field office layout is as follows:



2.05 TOILET FACILITIES

- A. In addition to toilet facilities required within construction trailers, Contractor shall provide toilet facilities for workers at the Site, shall post notices, and take such precautions as may be necessary. Refer to Section 01 35 23 - Project Safety, for additional requirements.
- B. Contractor shall provide toilet facilities from Notice to Proceed until Final Completion that comply with OSHA regulations and as required herein. Toilet facilities shall comply with all applicable State and local regulations. Quantity, type, and location of facilities shall be subject to acceptance by Owner.
- C. Contractor shall service, clean, and sanitize toilet facilities at least daily and as frequently as necessary to maintain them in a safe, clean, and sanitary condition. Contractor shall maintain at the Site, a record of the servicing, cleaning, and sanitizing of the facilities for the duration of the Project.
- D. The use of toilet facilities installed under this Project and/or existing campus facilities is not allowed unless prior written approval has been obtained from Owner.
 - 1. If Owner authorizes the use of specific campus toilet facilities, Contractor shall assure all persons employed on the Project use only authorized toilet facilities. Contractor shall post notices and take such precautions as may be necessary to assure compliance.
- E. Toilet Facilities: Portable field toilet facilities shall conform to ANSI Z4.3 and shall comply with the following:
 - 1. There shall be a toilet paper holder and an adequate supply of toilet paper. If the facility is intended for use by female workers, there shall be a disposal receptacle for sanitary napkins.
 - 2. The toilet facility shall afford the user privacy and protection from weather and from falling objects.

3. There shall be a self-closing door that can be locked from inside the toilet facility.
 4. The toilet facility shall be illuminated by natural or artificial light and adequately ventilated.
 5. A sign shall indicate if the toilet facility is intended for use by males only or by females only.
 6. Toilet facilities shall be located so as to be conveniently accessible to employees working on the Site, but not so close to the Work location as to cause a nuisance to those employees or any adjacent areas.
- F. Where the Project extends over multiple floor levels, toilet facilities shall be located at least at each fifth floor so that workers do not have to walk more than two floors to reach the facilities.

2.06 PROJECT FENCING

- A. The Contractor and Subcontractors shall confine their activities to the Site and in no way obstruct any other part of the campus or utilize any campus facilities for any purpose.
1. Upon mobilization, the Contractor shall build a substantial wire mesh fence (or other type fence) as directed by Owner, at least six (6) feet high as shown on the site plan, completely surrounding the Site. Posts shall be placed not more than eight (8) feet apart and securely set in the ground. Wire mesh shall be tightly stretched over the supports.
 2. The Site fencing shall include emergency service and trucking gates in locations shown on the site plan. The gates shall be hung with heavy strap hinges and hasps for locking. Contractor shall properly maintain fences and gates shall be properly maintained until Substantial Completion, and only removed with concurrence from the Owner.

2.07 PROJECT COMMUNICATIONS PLAN

- A. Depending upon the project, the Owner may develop a Project Communications Plan to inform the Owner's faculty, employees, patients, visitors, and others concerning construction activities affecting them. Contractor shall participate and support this effort as required by Owner. Typical support by Contractor may include attendance at communications meetings, preparation of graphic and narrative construction impact updates, and the furnishing of targeted signage.

2.08 PROJECT SIGNAGE

- A. For new construction, the Contractor shall provide signage in accordance with the Project Communications Plan and construct and erect one (1) Project sign on the Site in a location designated by the Owner. The sign shall be constructed as instructed by the Owner. Refer to Attachment "B" (To Owner's Special Conditions).
- B. The Contractor shall submit a one-quarter-scale shop drawing of the sign, including all lettering, to the Owner for approval prior to installation. The sign shall remain the property of the Owner, and upon Final Completion, the Contractor shall remove the sign and deliver it to a location designated by the Owner.
- C. For renovation projects, signage shall be in accordance with the Project Communications Plan or as directed by the Owner.

- D. All hazard warning signage shall be OSHA 29 CFR Part 1926 compliant. All signs shall be prominently displayed at all entrances to the Site. Postings must be constructed of a durable material that will resist wear and damage.
- E. Additional Contractor or Subcontractor signs or advertisements shall not be erected without the Owner's written approval.

2.09 TEMPORARY WATER

- A. The Contractor shall provide temporary lines for all water required during the Project and shall make arrangements with the Owner's Administrative Facilities and Campus Operations Department for water service. This shall include all means of conveying and the necessary metering devices. In lieu of temporary connections, with the Owner's approval, the Contractor may make permanent connections and such may serve for the construction period.
- B. In the event water is not available at the Site from the Owner's existing distribution system, the Contractor shall negotiate with the local distributor for water and pay all fees and rates required by the local water utility.

2.10 TEMPORARY POWER AND LIGHTING

- A. The Contractor shall make arrangements with the Owner or the local utility company for temporary construction power. If power is available only through the Owner's system, the Contractor shall make arrangements for and provide metering equipment. The Contractor may energize the permanent power system in the building only when approved by the Owner.
- B. The Contractor shall provide adequate lighting about the Site for security, inspections of excavations, night shift work should such occur, and shall also provide adequate temporary interior lighting throughout the building enclosure to facilitate quality workmanship and appropriate inspection conditions.
- C. Contractor shall ensure, and shall use emergency power equipment and connections if necessary to ensure, adequate lighting for egress and life safety.

2.11 TEMPORARY MECHANICAL SERVICES

- A. If temporary heating, cooling, ventilation or humidity control equipment is required for protection of the Work or for implementation of indoor air quality measures, the Contractor shall provide Owner-approved equipment and proper operation such that no Work shall be damaged or life safety compromised.
- B. All equipment and filters shall be maintained in good operation and all filters and controls shall be changed as a result of damage or expiration to ensure acceptable air quality. If necessary, all equipment must have current certifications.
- C. After the permanent mechanical equipment has been installed and connected to the local chilled water and steam distribution systems, the equipment may be operated by the Contractor to heat or cool the building if acceptable to the Owner. Contractor must flush and clean all new mechanical piping systems before connecting to local systems.

- D. During operation of the mechanical equipment, prior to achieving Substantial Completion, the Contractor shall keep the mechanical equipment in good operating condition, properly maintained, including cleaning and changing of all filters. New, non-construction filters shall be installed prior to the Owner's acceptance of the mechanical equipment. The warranty period shall start for the respective equipment as delineated in the UGC.

2.12 REMOVAL OF TEMPORARY FACILITY

- A. When a temporary facility is no longer needed for the proper conduct of the Work, the Contractor shall completely remove it from the Project and shall repair or replace any material, equipment, or finished surface damaged in doing so.

2.13 PROJECT PARKING

- A. Contractor is responsible for securing adequate parking for Contractor's employees. Parking of Contractor's vehicles at the Site shall be as approved by the Owner. Contractor shall maintain at least two (2) marked parking spaces at the Site for the Owner's representatives.
 - 1. **ZERO** remote parking spaces may be provided on the campus. Such parking shall require permits, issued by the campus police department, for all vehicles. Such remote parking is provided for the convenience of the Contractor with the understanding that the Contractor is responsible for all workers and vehicles while they are on the campus. The Owner may remove such parking convenience at Owner's sole discretion.

PART 3 - EXECUTION

3.01 PARTNERING

- A. The Owner desires to create a cohesive team for this project, to include all primary parties. The Contractor and its primary Subcontractors shall join the Owner and the rest of the Project Team in project "Partnering" as a means of achieving success. The Partnering process is entirely voluntary and the Owner and Contractor shall equally share all costs with no impact to the Construction Contract price. The results of the workshop are not legally binding, but do represent a commitment by the parties to work together cooperatively toward common goals.

3.02 CONTRACTOR SITE ACCESS AND LIMITS OF CONSTRUCTION

- A. Upon authorization to mobilize, the Contractor shall submit a plan layout showing location of field offices, size and arrangement of spaces, fencing, site control points, and utility tie-in locations for Owner review.
- B. All Project personnel shall confine and limit their work and use of the Site to those areas within the defined limits of construction. All public and University rules, laws and requirements shall be obeyed and enforced by the Contractor. No tools, construction vehicles, or construction material other than those in transit, shall be permitted beyond the Site limits of construction, including Owner's existing mechanical, plumbing, and electrical rooms, equipment rooms, and storage rooms.

- C. All campus roads, drives, and fire lanes as well as all sidewalks and pedestrian routes, other than those specifically indicated to be in the Contractor's area of control, must be kept open at all times. The Contractor shall proactively schedule and obtain security clearance for all significant material deliveries, vehicle traffic, street closures, cranes, concrete trucks, etc., through and around the campus and Site.

3.03 PROJECT SURVEYING

- A. The Contractor shall employ an experienced and competent Professional Surveyor to establish at least three (3) separate permanent bench marks, to which easy access may be had during the progress of the Work, and from time to time to determine and verify the lines and grades. As the Work progresses establish easily accessible benchmarks at each level referenced to finish floor line.
 - 1. Level or Transit: The Contractor shall maintain an accurate level or transit at the site at all times. This instrument shall be used to verify lines, grades, etc., and shall be available at all times for use by the Architect/Engineer and the Owner. A level shall be used to layout all Work and shall be used by operators skilled in the instrument's use.
 - 2. The Contractor shall erect and maintain substantial and braced batter boards at all corners of structures, set their location to provide proper working clearance and verify that they are level and at the proper grade.
 - 3. As the Work progresses, the Contractor shall lay out partitions on the floor in exact locations as a guide to all contractors and trades.
 - 4. Before ordering any materials or doing any Work, the Contractor or appropriate Subcontractor shall verify and be responsible for the correctness of all measurements. No extra charge or compensation shall be allowed on account of difference between actual dimensions and the measurements indicated on the drawings. Any differences, which may be found, shall be submitted to the Architect/Engineer for consideration before proceeding with the Work.

3.04 ON-GOING CAMPUS OPERATIONS

- A. The Project is surrounded by and/or adjacent to continuously functioning campus facilities, including patient care, academic, and research efforts. The Contractor shall make every effort to avoid disruptions to ongoing campus activities and to maintain a safe environment for patients, students, faculty, and staff in the areas adjacent to the Project.
- B. The Contractor shall obtain all Owner's in-house approvals and permits. Operation of utilities and building systems must not be interrupted except when scheduled and approved in advance through established channels. The Contractor should be always mindful and proactive with regard to containment of noise, fumes, dust and debris.

3.05 CONTRACTOR'S RESPONSIBILITY OF THE PROJECT WORKFORCE

- A. The Contractor is responsible for the actions of the entire Project workforce, including, but not limited to, subcontractors' and suppliers' employees, whenever they are on the campus. The Contractor shall submit a plan for identifying and controlling all workers, and for management of personnel records, including payroll records. Identification badges for workers, busing of workers from remote parking lot(s), written and verbal reminders to workforce of appropriate behavior and avoidance of campus facilities, and publishing of established access and egress routes for vehicular and pedestrian traffic are required, as a minimum, in order to maintain control of the work force.
1. Unacceptable behavior on the part of a worker anywhere on campus, including parking lots, the Site, and the accessing route(s) through the Site and through the campus, or failure to obtain parking permits, or traffic violations while on campus may lead to cancellation of any Owner provided parking. Identifiable offending worker(s) shall be permanently removed from the Project.
 2. Harassment of any person, whether a patient, student, faculty, staff, or visitor to the campus, is strictly forbidden. Harassment includes any action such as jeering, whistling, calling-out, staring, snickering, making rude or questionable comments, or similar behavior. Identifiable offending worker(s) will be removed from the Project.

3.06 SECURITY

- A. The Contractor is responsible for security of the Project. The University of Texas Police Department will not provide security for the Contractor's areas unless under Project-specific agreement and terms of compensation.
- B. The Contractor shall secure the Site at nights and weekends, or when no work is being performed, to prevent the entry of unauthorized personnel. Locks shall be of an approved type and have special keying as required by the Owner. Keys for all door locks shall be made available to The University of Texas Police Department. All doors accessing the construction site shall be properly latched and have closers to maintain closed doors at all times. All doors accessing the construction site shall have MD Anderson standard construction signage, provided by Owner's Project Manager, to ensure that only authorized construction personnel access the site.
- C. The Contractor shall not retain the services of outside guard or law enforcement services in connection with Work on campus without the specific prior written approval of the Chief of The University of Texas Police Department.

3.07 PROTECTION OF WORK

- A. The Contractor shall properly and effectively protect all materials and equipment furnished during and after installation. Building materials, Contractor's equipment, etc., may be stored on the premises, but the placing of it shall be within the construction fence. When any room in the building is used as a shop, store room, etc., the Contractor shall be held responsible for any repairs, patching, or cleaning arising from such use. Contractor shall protect and be responsible for any damage to Contractor's Work or material, from the date of the agreement until the final payment is made, and shall make good without cost to the Owner, any damage or loss that may occur during this period. The Contractor shall handle all material as directed, so that the Architect/Engineer's representative may inspect it. All material affected by weather shall be covered and protected to keep it free from damage while being transported to the Site and while stored on the Site.
1. During the execution of the Work, open ends of all piping and conduit, and all openings in equipment shall be closed when Work is not in progress, and shall be capped and sealed prior to completion of final connections, so as to prevent the entrance of foreign matter.
 2. All heating, ventilating, plumbing and electrical equipment shall be protected during the execution of the Work. All ductwork and equipment shall be sealed with heavy plastic and tape to prevent build-up of items such as dust, mold, and debris.
 3. All ductwork and air handling mechanical equipment shall be wiped down with a damp cloth immediately before installation to ensure complete removal of accumulated dusts and foreign matter.
 4. All plumbing fixtures shall be protected and covered so that no one can use them. All drains shall be covered until placed in service to prevent the entrance of foreign matter.
 5. Contractor shall protect trees and shrubs within the Site assigned to be saved and maintained, with strong open slat fences at least six (6) feet high, completely surrounding them, all maintained in sound condition until the Owner gives the Contractor permission for removal. Contractor shall not remove, cut, or trim any trees or shrubs without the Owner's written approval, unless specifically identified on the approved Construction Documents.

3.08 PLANNED UTILITY OUTAGE PROCEDURE

- A. The Contractor shall not activate or de-activate any campus system, or component of any such system, without express written direction from the Owner.
- B. Contractor must schedule and obtain approval for any necessary outage of campus utilities a minimum of fifteen (15) work days in advance through the Owner's Project Manager using the Owner provided "Contractor's Request for Utility Shutdown" forms. All outages shall be performed outside the normal working hours and as determined by the Owner's Project Manager.
- C. The Owner reserves the right to delay or suspend shutdowns or outages to more convenient times at no additional cost.

3.09 NOISE CONTROL

- A. Contractor shall coordinate equipment locations and timing or sequence of work operations so as to avoid conflict with the Owner's continuing use of adjacent buildings and/or avoid any interference with Owner's scheduled meetings, events, or business activities.

3.10 TEMPORARY SHORING

- A. Contractor shall provide all temporary shoring required for the installation of Work. Contractor assumes all responsibility for this work and shall repair any damage caused by improper supports or failure of shoring in any respect. Any provisions that are installed to assure the stability of adjacent structures, trees, roadways, or infrastructure, shall be in accordance with the plans provided by the Contractor.

3.11 CUTTING, PATCHING, AND INSTALLATION OF SLEEVES

- A. If cutting and/or patching of holes or openings is required for the execution of the Work, the Contractor shall consult with the Architect/Engineer prior to the commencement of any cutting and/or patching. Contractor shall leave all chases, holes, or openings straight, true, and of proper size as may be necessary for the proper installation of Work.
 - 1. No excessive cutting of the structure shall be permitted, nor shall any piers or other structural members be cut without the written approval of the Architect/Engineer. After such Work has been installed, the Contractor shall carefully fit around, close up, repair, patch, and point-up as directed to the entire satisfaction of the Architect/Engineer.
 - 2. All cutting and patching for utility penetrations shall be done carefully, with proper tools by qualified workers, without additional cost to the Owner. The Contractor shall build into the Work, as indicated on the Plans and/or Specifications, any and all items furnished by others. Cutting and repairing of work in place, as a result of negligence by the Contractor, shall be paid for by the party at fault.
 - 3. The Work performed within each Section of the Specifications, unless otherwise indicated in the Plans and/or Specifications, includes all cutting, patching, and digging for work in that trade section required for proper accommodations of work of other trades. Execute such work with competent workers skilled in trade required for restoration. Contractor shall arrange and pay for cutting and patching required for installation of Contractor's Work.
 - 4. Contractor shall seal penetrations through all rated partitions, walls and floors with U.L. tested assemblies to provide and maintain a rating equal to or greater than the partition, wall or floor. In addition, Contractor shall seal penetrations through all floors to provide and maintain a watertight installation.

3.12 ASBESTOS ABATEMENT

- A. In the event the Contractor encounters material reasonably believed to be asbestos at the Site, the Contractor shall immediately stop work in the area affected and report the condition to the Owner. If in fact the material is asbestos and has not been abated, the Contractor shall not resume the non-asbestos-related Work in the affected area until the asbestos has been abated.

- B. The abatement action may be performed in any of three ways, as the Owner may decide. The Owner may perform the abatement by Owner's own forces, or the Owner may contract with a third party to perform the abatement, or the Contractor may perform the abatement by an appropriate means acceptable to the Owner such as performing the Work through Contractor's own employees if they are appropriately certified or by hiring an abatement subcontractor.
- C. If the Contractor is to perform the abatement, the Owner and the Contractor will negotiate a change order in accordance with the contract terms relative to extra work. In such a case, the Owner specifically agrees that the cost of any special comprehensive general liability insurance that may be required relative to the abatement Work will be considered a direct cost of the extra work, on which, like the other direct costs, the Contractor will be allowed to add the applicable markup per the UGC.

3.13 CONTRACTOR LICENSURE

- A. Contractor shall ensure that a Master Plumber licensed with the State of Texas directly supervises all plumbing Work. At least one plumber holding a State of Texas journeyman license shall be present at each Site during any plumbing Work.
- B. Contractor shall ensure that Contractor's mechanical subcontractor is licensed with the State of Texas to install all HVAC Work.
- C. Contractor shall ensure that a Master Electrician licensed with the State of Texas directly supervises all electrical Work. At least one electrician holding a State of Texas journeyman license shall be present at each Site involving Electrical Work.

3.14 SAFETY PRECAUTIONS AND PROGRAMS

- A. MD Anderson Environmental Health and Safety (EH&S) has the authority to take intervening action in the event it deems patient, visitor, or staff of MD Anderson are in danger. Contractor shall adhere to requirements stated in Section 01 35 25 - Owner Safety Requirements.
- B. Contractors shall familiarize themselves with, receive required training on, and abide by all policies and procedures of MD Anderson and any governmental body [i.e. NFPA, OSHA, EPA, TDLR (Texas Department of Licensing and Regulation), TCEQ (Texas Commission on Environmental Quality), etc.] having authority to control the manner and/or methods of completing the tasks contained in the Contract.

3.15 TEST, ADJUST, AND BALANCE

- A. Owner may hire a Test, Adjust, and Balance firm. If Owner directly hires a Test, Adjust, and Balance firm, Contractor shall support the firm's efforts to perform work as required.

3.16 MISCELLANEOUS

- A. All gas lines that are involved with the Project must have ends capped with proper cap and sealant, even if valves are locked off.
- B. Contractor shall install temporary equipment in such a manner that finish work will not be damaged by smoke, falling mortar, concrete, or other causes. Location and arrangement of temporary equipment shall be subject to the approval of the Owner's Project Manager.

C. Change Room Facilities:

1. Where workers are required to change clothes and wear special protective clothing to work with toxic or dangerous substances, an appropriate facility for decontamination, separate from other sanitary and washing accommodations shall be provided. In these cases, change room facilities shall be duplicated and storage shall be provided for protective clothing in one room and for personal clothing in the other.
2. Protective clothing and personal clothing shall not come into contact with each other or be stored in the same facilities. Protective clothing and work clothing, which may have become wet by the process of decontamination, must be stored in a separate, well-ventilated area.
3. Change rooms shall be gender separated and provided with inside and outside locking mechanisms.

3.17 SITE AND AREA MAINTENANCE

- A. A thorough cleanup of the Site and the Site's surroundings is required no less than once per week or more often as directed by the Owner. Contractor shall be responsible to ensure that the debris and trash resulting from site operations are removed from the building and the property on a daily basis. Solid debris, such as brick bats, mortar and plaster droppings, may not be dumped on the grounds about the Site. All combustible material including scrap from lumber, crating, excelsior, paper, and similar types of trash shall be removed from the building site on a daily basis. Trash shall not to be allowed to accumulate.
- B. The Contractor shall not allow food to be consumed or food wastes to accumulate at the Site in an effort to eliminate pests and insects.
- C. Contractor shall be required to clean all streets of mud, dirt, dust, debris, and construction material produced during Contractor's construction activities on a daily basis. Contractor shall repair any damage to existing streets, parking, facilities, and any other area of the Site, including areas used for lay down or storage.

3.18 OPERATING AND MAINTENANCE MANUALS

- A. Certain requirements of the UGC are supplemented by Section 01 77 00 – Project Closeout Procedures.

3.19 RECORD DOCUMENTS

- A. Certain requirements of the UGC are supplemented by Section 01 77 00 – Project Closeout Procedures.

3.20 SHOP DRAWINGS AND SUBMITTALS

- A. Certain requirements of the UGC are supplemented by Section 01 31 00 – Project Administration.

ATTACHMENT "A"
(to Owner's Special Conditions)
MINIMUM WAGE RATE DETERMINATION

The University of Texas System is the contracting agency for this construction project. The following statute requires the contracting agency to specify the generally minimum rates of wages in contracts that are bid.

Government Code 2258
"Construction of Public Works in State and
Municipal or Political Subdivisions; Prevailing
Wage Rates to be maintained"
and
The Uniform General and Supplementary General Conditions
for University of Texas System Building Construction Contracts

Pursuant to the requirements of this statute, we have determined that the following rates of wages are paid to various classifications of workers in the locality of this project.

Total hourly compensations to each worker must equal or exceed the minimum wage rates stated in the following attachment. Contributions by a worker toward health, pension, vacation, and the like are part of the worker's pay; contributions by the employer are not. Any dollar amounts shown in columns for health, pension, and vacation may be paid either in cash or in kind. Workers in classifications where rates are not identified shall be paid not less than the general minimum rate of "laborer" for the various classifications of work therein listed.

All hours of work over 40 hours per week are overtime and will be compensated at the rate of 1 and ½ times the regular wage.

Trainees/helpers, where not otherwise specified above, may be compensated at a rate determined mutually by the worker and employer, commensurate with the experience and skill of the worker but a rate not less than 60% of the journeyman's wage or less than the Laborers (General) rate. At no time shall a journeyman supervise more than two of apprentices, trainees or helpers. All apprentices/trainees/helpers shall be under the direct supervision of a journeyman working as a crew.

ATTACHMENT "A"
PREVAILING WAGE DETERMINATION
HOUSTON-GALVESTON AREA

The University of Texas System
Office of Facilities Planning and Construction

Date: December 31, 2009
Construction Type: Building
Area: Houston-Galveston

Building Construction Trade Classification	Prevailing Wage Rate (1)
Carpenter	\$14.38
Concrete Finisher	\$14.63
Drywall/Ceiling Installer	\$14.00
Electrician	\$16.00
Elevator Mechanic	\$23.61
Fire Proofing Installer	\$13.88
Flooring Installer	\$13.63
Glazier	\$9.00
Heavy Equipment Operator	\$13.25
Ironworker	\$17.00
Laborer	\$10.00
Light Equip Operator/Driver	\$13.88
Mason/Bricklayer	\$18.00
Painter	\$14.25
Pipefitter	\$14.87
Piping/Ductwork Insulator	\$15.00
Plumber	\$18.06
Roofer	\$11.00
Sheetmetal Worker	\$17.75
Sprinkler Fitter	\$15.40
Tile Setter	\$13.50
Waterproofer	\$13.63

(1) Wages shown are for entry level, minimum wages for each classification and do not include fringe benefits

Unlisted classifications needed for work not included within the scope of the classifications listed may not be added after award. The job classifications are not inclusive of all possible trades on the construction project.

It is the responsibility of the contractor to classify the worker in accordance with the published classifications, and demonstrate that workers are paid commensurate with determined rates.

SECTION 00 73 16 - PROJECT INSURANCE (OCIP)

PART 1 - GENERAL

1.1. DEFINITIONS

- 1.1.1. The term "OCIP", as used throughout the Contract documents, shall refer to the Owner Controlled Insurance Program.
- 1.1.2. The term "OCIP Administrator", as used throughout the Contract documents, shall refer to those employees of the firm that acts as the Owner's Insurance broker who confirm Contractor and Subcontractor enrollments, track monthly payroll reports, order final payroll audits, and report program costs to the Owner.
- 1.1.3. The term "OCIP Loss Control Representative", as used throughout the Contract documents, shall refer to those employees of the firm that acts as the Owner's Insurance broker who conduct Project site safety services, track insurance claims, and issue reports concerning Contractor management of safety and insurance claims.

1.2. PURPOSE

- 1.2.1. The purpose is to have one (1) major insurance program in place to address those risks associated with Workers' Compensation and Employer's Liability, and General Liability which will exist on the Owner's property during construction. The Owner expects the majority of employers performing construction work under this Contract to enroll in the OCIP.
- 1.2.2. The Owner shall provide, at its own expense, specific insurance policies and coverage for the Contractor and for all enrolled Subcontractors on the Project, as described in Article 2.1 of this Section.
- 1.2.3. The Contractor and all enrolled Subcontractors shall provide all other insurance coverages, including those described in Articles 2.2 and 2.3 in this Section and as necessary or required to address all other risks for the Project.
- 1.2.4. **The Contractor and all enrolled Subcontractors shall delete those Articles of the Uniform General and Supplementary Conditions for University of Texas Building Construction Contracts (UGC) which are in conflict with this Section and shall recognize and agree to the requirements described in this Section.**
- 1.2.5. **The Subcontractors and all other parties to the Contract that are not enrolled shall furnish proof of insurance in accord with the UGC.**

1.3. RELATED DOCUMENTS

- 1.3.1. In addition to specific references indicated herein, the Contractor's attention is directed, but not limited, to the following Sections and Documents, which include additional administrative requirements.
 - 1.3.1.1. Current Edition of the Uniform General and Supplementary Conditions for University of Texas Building Construction Contracts (UGC).
 - 1.3.1.2. Owner's Special Conditions.

PART 2 – PRODUCTS

2.1 INSURANCE COVERAGE FURNISHED BY OWNER (OCIP): The following insurance shall be furnished to the Contractor and all enrolled Subcontractors in separately issued coverage.

2.1.1 Workers' Compensation and Employer's Liability

2.1.1.1 Coverage A - Statutory Benefits: Liability imposed by the Workers' Compensation and/ or Occupational Disease statute of the State of Texas and any other State or governmental authority having jurisdiction over or related to the work performed on the Project.

2.1.1.2 Coverage B - Employer's Liability Limits:

2.1.1.2.1 \$1,000,000.00 bodily injury per accident/employee;

2.1.1.2.2 \$1,000,000.00 bodily injury per disease/employee;

2.1.1.2.3 \$1,000,000.00 policy limit by disease.

2.1.1.3 Extensions of Coverage

2.1.1.3.1 Other States Endorsement(s)

2.1.1.3.2 Voluntary Compensation, if exposure exists

2.1.1.3.3 United States Longshoreman's & Harborworker's Act, may be added if needed

2.1.1.3.4 Sixty (60) day Notice of Cancellation from the Insurance Provider, except 10 days for non-payment of premium

2.1.1.3.5 Amendment of Notice of Occurrence

2.1.2 Commercial General Liability (Primary and Excess)

2.1.2.1 Limits:

2.1.2.1.1 \$2,000,000.00 Each Occurrence/all insured

2.1.2.1.2 \$2,000,000.00 Personal Injury and Advertising Injury limit

2.1.2.1.3 \$5,000,000.00 Completed Operations aggregate/all insured

2.1.2.1.4 \$5,000,000.00 General Aggregate/all insured (Annual Aggregate Per Project)

2.1.2.1.5 \$10,000.00 Medical Payments

2.1.2.1.6 \$100,000.00 Fire Legal Liability

2.1.2.2 Policy Form:

2.1.2.2.1 2001 Insurance Service Office "Occurrence" form – CG00 01 (12 04)

2.1.2.3 Extensions of Coverage:

- 2.1.2.3.1 Incidental Medical Malpractice Liability
- 2.1.2.3.2 Completed Operations Liability coverage for a period of ten (10) years after final acceptance by the Owner or ten (10) years after each project is placed in operation, whichever occurs first.
- 2.1.2.3.3 Waiver of Subrogation Endorsement, if required by written contract
- 2.1.2.3.4 Sixty (60) day Notice of Cancellation from the Insurance Provider, except 10 days for non-payment of premium
- 2.1.2.3.5 Engineers, Architects or Surveyors Professional Liability Exclusions
- 2.1.2.4 Excess Liability Coverage:
 - 2.1.2.4.1 As following form over Employer's Liability and Commercial General Liability, \$50,000,000.00 of excess insurance has been obtained by the Owner for the benefit of the Owner, Contractor and all enrolled Subcontractors of every tier. This limit is written on an occurrence/annual aggregate basis.
- 2.1.2.5 Issue of Policies and Certificates:
 - 2.1.2.5.1 The OCIP Administrator and/or Insurance Carriers will issue separate Certificates of Insurance for Workers' Compensation, Comprehensive General Liability and Excess Liability to the Contractor and each enrolled Subcontractor. Copies of holder policies will be issued following receipt of written request from the OCIP Certificate holders to the OCIP Administrator and copied to the ODR.
- 2.2 INSURANCE POLICIES AND AMOUNTS OF COVERAGE FURNISHED BY CONTRACTOR AND ENROLLED SUBCONTRACTORS: All Project insurance not identified in Article 2.1 above shall be provided by the Contractor and all enrolled Subcontractors to meet or exceed terms and amounts of coverage as per requirements of the UGC. Liability coverages shall include the following (as applicable to the Work):
 - 2.2.1 "All Risk" Builder's Risk Insurance (provided by the Contractor only)
 - 2.2.2 Business Automobile Liability Owned/Leased
 - 2.2.3 Equipment (covering total value of owned/rented equipment)
 - 2.2.4 Workers' Compensation/Employers' Liability (**Off Site Only**)
 - 2.2.5 General Liability (**Off Site Only**)
 - 2.2.6 Professional Liability Insurance (Errors and Omissions)
 - 2.2.6.1 In the event any Contract specifications require a contractor to provide professional services, such as, but not limited to, architectural, engineering, construction management, surveying, design, etc., a Certificate of Insurance must be provided prior to commencing work evidencing such coverage with a limit of not less than \$1,000,000.00. Any material change in limits, coverage or loss of aggregate limit due to outstanding claims must be reported to the Owner within thirty (30) days of any such event.
 - 2.2.7 Aviation Insurance - \$10,000,000.00 (as applicable)

- 2.2.7.1 In the event any fixed-wing or rotary aircraft are used in connection with this Agreement and/or in the execution of the work, a minimum of \$10,000,000 of Aviation Liability Insurance must be maintained with the following requirements: The Owner must be named as an "additional insured" and a waiver of hull damage must be provided in favor of the Owner.
- 2.2.7.2 If any aircraft is to be used to perform lifts at the Project site, a "slung cargo" endorsement must be included to cover the full replacement value of any equipment or material being lifted. All such lifts must be coordinated with the Owner for approval prior to lift execution.
- 2.2.8 Environmental and Asbestos Abatement Insurance - \$5,000,000.00 per claim (as applicable)
- 2.2.8.1 If this Agreement involves environmentally sensitive operations (such as the removal of asbestos, the removal/replacement of underground tanks or operations involving toxic chemicals, heavy metals and/or carcinogenic substances), the Contractor and/or involved Subcontractors shall submit proof of full coverage for such exposures subject requirements and obtain approval of the Owner prior to commencement of such operations. Subcontractors that are directly and actively involved in the performance of work associated with environmentally sensitive operations will be excluded from the OCIP. If Environmental Coverage is written on a Claims Made basis, five years Completed Operations shall be included.
- 2.2.9 Maritime Insurance -Hull, Protection and Indemnity (including crew) -\$10,000,000.00 (as applicable)
- 2.2.9.1 In the event any watercraft is used in connection with the Project, the Contractor and/or involved Subcontractor shall submit proof of a "Hull and Protection and Indemnity Policy". The amount of insurance on the Hull shall be sufficient to cover the watercraft, its equipment and all additional equipment aboard during the time it is in use on the Project. Protection and Indemnity shall have limits of liability of no less than \$10,000,000.00 including coverage of the construction activity for which the watercraft is used. Master and Crew coverage shall include General Maritime Liability, Jones Act and Wages, Transportation, Maintenance and Care.
- 2.2.10 Waiver of Subrogation
- 2.2.10.1 To meet the requirements of Article 2.2, all policies shall contain a Waiver of Subrogation in favor of the Board of Regents of The University of Texas System, their respective agents, consultants, servants and employees of each and all other indemnities.
- 2.2.11 Names of Additional Insured
- 2.2.11.1 To meet the requirements of Article 2.2, for each of the preceding coverages, excepting Workers Compensation, all policies shall endorse the Board of Regents of The University of Texas System, its respective agents, consultants, servants and employees of each and all other indemnities as "Additional Insured".
- 2.2.12 Waiver of Property Damage and Right of Recovery
- 2.2.12.1 To meet the requirements of the UGC, all policies shall contain written agreement to waive the Contractor's and each enrolled Subcontractor's right for recovery of physical damage or loss to their respective properties against each other for damages, losses or claims arising out of or in connection with this Project and this

Contract. This written waiver shall also extend to the benefit of the Board of Regents of The University of Texas System, its respective agents, consultants, servants and employees. This waiver of the right of recovery for property damage shall be binding upon any property (real or personal), builders risk, automobile, aircraft, watercraft, tools or equipment insurer as respects any subrogation rights that such insurer may possess by virtue of any payments of damage or loss.

2.3 CONTRACTOR ASSURANCE OF SAVINGS

- 2.3.1 The Contractor and all enrolled Subcontractors shall agree, warrant, and represent that any proposal(s) for Construction services exclude all costs associated with Owner furnished insurance coverage as specified in Article 2.1 of this Section.
- 2.3.2 The Contractor and all enrolled Subcontractors shall agree to be subject to audits for payroll, work hours and insurance costs by the respective insurance companies providing coverage under the OCIP. The purpose of such audits is to validate insurance premiums and compare wages and other OCIP costs. The Contractor and all Subcontractors shall agree to furnish payroll and insurance cost information in the forms and formats as requested by the OCIP Administrator. Further, the Contractor and all Subcontractors agree to cooperate fully with any and all audits by supplying the required information in the manner required and as expeditiously as possible. No resources may be denied. If proprietary information is involved, the Contractor and all enrolled Subcontractors will be allowed to guard the material while it is being reviewed by the Owner or any of its agents.
- 2.3.3 The Contractor and enrolled Subcontractors agree, warrant, and represent that all Changes to the Contract as described in the UGC, shall exclude any cost for the insurance provided by the OCIP.

2.4 EXCLUSION FROM OCIP ENROLLMENT: Prior to commencement of any work at the Project site and until completion and final acceptance of Work, Subcontractors that are allowed by the Owner to be excluded from enrollment in the OCIP shall maintain, at their sole expense, insurance coverage as per the UGC and Article 2.2 of this Section.

2.4.1 Automatic Exclusion

- 2.4.1.1 Temporary workforce agencies, consultants, vendors, suppliers, material dealers, and delivery service companies shall not be considered as a Contractor or Subcontractor and therefore shall be automatically excluded from enrollment in the OCIP. The Contractor shall confirm that the companies in these categories produce copies of proof of proper insurance for the risk exposures that each one will create or experience while on the Project.
- 2.4.1.2 Subcontractors performing environmentally sensitive or highly hazardous work will be required to furnish proof of special coverage in adequate amounts for Aviation Insurance, Environmental and Asbestos Abatement Insurance, Maritime Insurance and any other policies of such nature.
 - 2.4.1.2.1 Before performing any work the Subcontractor shall provide to the Contractor and the OCIP Administrator, a Certificate of Insurance that matches the requirements described in the UGC and 2.2 above.
- 2.4.1.3 Excluded Subcontractor(s) shall install sufficient barriers to isolate all other persons in the vicinity from the risk exposures that the excluded Subcontractor may create while performing work on the Project.

2.4.2 Discretionary Exclusion

- 2.4.2.1 The Contractor may issue a written request on behalf of a Subcontractor of any tier for a discretionary exclusion from enrollment in the OCIP. To qualify, the Subcontractor must be bound to a scope of Work that anticipates a total labor value of less than \$5,000.00. A Certificate of Insurance with coverage amounts and language as required by the UGC and 2.2 above shall be furnished to the OCIP Administrator before exclusion may be granted.

2.4.3 Excluded Subcontractors

- 2.4.3.1 Excluded Subcontractors shall submit Certificates of Insurance for Owner acceptance for adequacy of protection and for the satisfactory character of the Insurer prior to performing any work on the Project. Each Certificate must have a thirty (30) day prior written notice of cancellation showing the Board of Regents of The University of Texas System as the Certificate Holder.
- 2.4.3.2 In the event of failure of the excluded Subcontractor to furnish and maintain said insurance and to furnish satisfactory evidence thereof, the Owner and/or Contractor shall have the right to take out and maintain coverage for all parties on behalf of the excluded Subcontractor who agrees to furnish all necessary information to bind such coverage and to allow deduction for the cost thereof immediately upon presentation of an invoice.

2.5 GOVERNING CONDITIONS

- 2.5.1 The Owner's payment of premiums for the insurance described in this section shall in no way be interpreted as relieving the Contractor and/or any enrolled Subcontractor of any responsibility of liability under this agreement.
- 2.5.2 The amount and types of insurance coverage required herein shall not be construed to be a limitation of liability on the part of the Contractor or any of its Subcontractors.

2.6 ELECTIVE INSURANCE FURNISHED BY A CONTRACTOR

- 2.6.1 The Contractor and any enrolled Subcontractor may elect to maintain a supplementary insurance policy(s) to extend the coverage terms and/ or conditions that are described in this Section. The cost of any policy(s) shall be at the sole expense of the contractor, and shall not be reimbursed by the Owner.

PART 3 – EXECUTION

3.1 OCIP ENROLLMENT PROCESS

- 3.1.1 The Contractor and all enrolled Subcontractors shall submit completed forms including all insurance, underwriting, payroll, rating or loss history information as required by the Owner to the OCIP Administrator for enrollment and issuance of OCIP "Certificates of Insurance". Forms shall be provided within five (5) working days of the request. No contractor shall perform any work on the Project until it is recognized as having been enrolled in or excluded from the OCIP by the OCIP Administrator.
- 3.1.2 The Contractor and enrolling Subcontractors shall provide all information necessary to bind coverage under the OCIP. The OCIP Administrator will notify the Contractor and respective Subcontractor when an application has been approved and coverage afforded.

- 3.1.3 OCIP enrollment will not be complete and work shall not commence until the OCIP Administrator has issued the OCIP "Certificates of Insurance" to the applicant.

3.2 PROJECT ADMINISTRATION AND FORMS

- 3.2.1 The Contractor shall manage and transmit all administrative and safety documentation as required by the Owner and as described in the OCIP Procedure, OCIP Claims and Project Safety guidelines. The Owner shall provide a copy of the guidelines to the Contractor upon award of a contract. The current edition is viewable at the Owner's offices.
- 3.2.2 The Contractor and all enrolled Subcontractors shall include those administrative costs in the Construction Contract Limitation (CCL) or Guaranteed Maximum Price (GMP) proposal which are necessary to properly comply with the Contract.

3.3 OCIP DOCUMENTATION COMPLIANCE

- 3.3.1 Failure by the Contractor and/or any Subcontractor to submit documentation and forms as directed by the Owner, or the OCIP Administrator, as described in the Owner's OCIP guidelines may result in an Owner-issued deductive Change Order to the Contractor for each delinquent document. The Contractor will be held accountable for all costs and schedule impacts associated with this action.
- 3.3.2 Persistent failures by the Contractor and/or any enrolled Subcontractors may result in a "stop work" order by the Owner. The Contractor will be held accountable for all costs and schedule impacts associated with this action.

3.3.3 Incident Notification and Claims Management:

- 3.3.3.1 Workers Compensation claims are to be initiated immediately by the employer, and shall always be within twenty-four (24) hours or one (1) work day of the occurrence, **or immediately upon acknowledgement of an injury from an employee**, whichever is later. The mechanism for initiating such a claim shall be the completion and transmittal of a "First Report of Injury" form (DWC Form 1) to the insurance claims adjuster for the OCIP. Late reporting has been proven to substantially escalate the cost of claims and may therefore result in action on the part of the Owner to recover these avoidable costs from the Contractor by applying the following charges:

- 3.3.3.1.1 \$1,500.00 for reports that are 2 – 3 workdays beyond the date of occurrence
- 3.3.3.1.2 \$5,000.00 for reports that are 4 – 30 workdays beyond the date of occurrence
- 3.3.3.1.3 \$7,500.00 for reports that are 31 – 60 workdays beyond the date of occurrence
- 3.3.3.1.4 \$10,000.00 for reports that are more than 60 days beyond the date of occurrence

- 3.3.3.2 General Liability claims are to be initiated immediately and shall be within twenty-four (24) hours or one (1) workday of the occurrence, whichever is later. The mechanism for initiating such a claim shall be the completion and transmittal of a Notice of Occurrence / Claim form to the insurance adjuster for the OCIP program. Late reporting has been proven to substantially escalate the cost of claims and may therefore result in action on the part of the Owner to recover these avoidable costs from the Contractor by applying the following charges:

- 3.3.3.2.1 \$1,500.00 for reports that are 2 – 3 workdays beyond the date of occurrence

- 3.3.3.2.2 \$5,000.00 for reports that are more than 3 workdays beyond the date of occurrence
 - 3.3.3.3 General Liability – Property Damage:
 - 3.3.3.3.1 If the Owner determines that the Contractor failed to take proper precautions prior to an incident that results in a property damage claim against the General Liability coverage, the Owner may recover from the Contractor the first \$5,000.00 of incurred cost against the claim.
- 3.4 WORKERS COMPENSATION PROCEEDINGS
 - 3.4.1 The ODR may require the Contractor and/or the enrolled employer of an injured worker to provide knowledgeable representation at legally binding proceedings scheduled by the Texas Department of Insurance. The proceedings that affect the amount of compensation are “Benefit Review Conferences” and “Contested Case Hearings”. Failure to provide such representation may result in Owner issuance of a recovery charge to the Contractor of \$5,000.00 per proceeding.
- 3.5 EMPLOYEE RETURN TO WORK PLAN
 - 3.5.1 The Contractor and every Subcontractor shall develop an Employee Return to Work (“Light Duty”) Plan that allows and encourages medically restricted workers to resume employment as soon as a physician assigns limits. The Plan shall include the following elements:
 - 3.5.1.1 A written policy from a Company Executive that declares intent to provide proactive safety prevention measures, immediate and appropriate medical care, aggressive claims management, and rapid return to work as critical elements of a successful safety and loss control program.
 - 3.5.1.2 Job descriptions that clearly identify and explain essential job functions and tasks required for each position. Minimum physical limits, motor skills, and endurance times shall be included.
 - 3.5.1.3 Procedures and responsibilities shall help physicians understand the Plan, the employee’s typical work assignments and activities, and available alternate assignments.
 - 3.5.1.4 A commitment to the continuous employee education about the Plan shall include monitoring of assignments, record keeping, and communications with physician(s) and injured worker(s), and tracking of compensation reports.
 - 3.5.1.5 Full compliance with the Americans with Disabilities Act, Family Medical Leave Act, the Texas Worker’s Compensation Act, and any other State or federal law.
 - 3.5.2 Employment for Workers with Medical Restrictions (“Return to Work” or “Light Duty” policy):
 - 3.5.2.1.1 Either the absence of a written policy or the presence of a written policy that lacks a responsible commitment to restoring medically restricted workers to gainful employment may result in an assessment of a recovery charge by the Owner to the Contractor of \$5,000.00 per finding.
 - 3.5.2.1.2 If the Owner determines that the Contractor or any enrolled Subcontractor deliberately obstructs a reasonable request that is intended to restore an injured worker to gainful employment, the Owner will assess a recovery charge against the

Contractor of \$5,000.00 per claim per month until the worker is returned to employment. If the Contractor or enrolled Subcontractor believes that the medical restrictions prohibit any possible employment, the Contractor will be required to prove this to the Owner's satisfaction.

- 3.5.2.1.3 Failure to pass any substance impairment screening will result in Owner insistence that the involved worker be excluded from access to the Project.

3.6 EXPIRATION AND AVAILABILITY OF COVERAGE

3.6.1 Termination of OCIP Coverage

- 3.6.1.1 Except for Extended Completed Operations coverage or Extended Ongoing Operations coverage for Repair Work, the General Liability and Excess Liability insurance furnished by the Owner under this agreement will cease for the Contractor and each enrolled Subcontractor at the earlier of OCIP program expiration or when all work called for in the Contract has been completed. Workers Compensation coverage will continue until the earlier of OCIP program expiration or when all work called for in the Contract has been completed.

3.6.2 Availability and Cancellation

- 3.6.2.1 Subject to market availability, all insurance specified herein shall be maintained continuously until the scheduled completion/termination date. All insurance shall provide for Owner to take occupancy of the Work or any part thereof during the term of said insurance. If coverage is diminished or cannot be renewed due to market constraints and limitations, all insured Contractors will be notified within the sixty (60) day cancellation or non-renewal period as provided in the policies. Upon termination of the Owner-provided insurance, the Contractor and all enrolled Subcontractors shall be responsible for furnishing all insurance as described in the UGC and Article 2.2 above.
- 3.6.2.2 Owner-furnished insurance may also be discontinued in the event the Project is substantially delayed for an extended period of time, or the Project is permanently terminated for any cause.

END OF SECTION 00 73 16

REVISION LOG

The following is provided for convenience to the Owner, Architect/Engineer and Contractor to track changes between document issuances and is not to be considered by any party to be contractual or 100% complete.

Date	Paragraph Revised
02/01/08	3.4 - Revised Texas Worker's Compensation Commission to Texas Department of Insurance.
5/1/08	3.5.2 – Relocate Employment for Workers with Medical Restrictions ("Return to Work" or "Light Duty" policy)
10/1/08	Title changed to "ROCIP", 2.1.2.3.2 – Change "3 years" to "10 years", 2.1.2.4.1 change "\$25 M" extended coverage to "\$50 M"
9/01/09	Title changed to "OCIP"; corrected spelling of "SUBCONTRACTOR" in Article 2.2 and revised all Article 3.6 subsections.
<i>Note: Original issuance date of this document was 09/01/07. Latest revision listed above was issued by U.T. System on 9/01/09.</i>	

SECTION 01 31 00 - PROJECT ADMINISTRATION

PART 1 - GENERAL

1.1. RELATED DOCUMENTS

- 1.1.1. The Contractor's attention is specifically directed, but not limited, to the Uniform General and Supplementary General Conditions for University of Texas System Building Construction Contracts (UGC) for other requirements.

1.2. SUMMARY

- 1.2.1. This Section provides Project administrative and procedural requirements for the Contractor to supplement requirements defined in the UGC.

1.3. DEFINITIONS

- 1.3.1. Refer to the UGC for Contract definitions used throughout the Contract Documents.

1.4. NOTICE TO PROCEED

- 1.4.1. The Owner may issue a formal Notice to Proceed (NTP) with Construction, which will establish the start date, the Substantial Completion date, and the Final Completion date of the Work for contractual purposes.

1.5. CONTRACT SUBSTANTIAL COMPLETION

- 1.5.1. In order to obtain an inspection for Substantial Completion, the Contractor shall fulfill all requirements as specified in the UGC and Section 01 77 00 - Project Closeout Procedures.
- 1.5.2. The Owner may elect to accept the Project as a whole, or in segments as completed. When the Owner accepts the project, the Owner will issue a letter or certificate of Substantial Completion acceptance to the Contractor, defining continuing responsibilities of the parties and establishing date(s) for the completion of punch list items.

1.6. SUBCONTRACTS

- 1.6.1. Refer to the UGC for requirements not identified in this Section. Contractor shall furnish to the Owner a list of all first tier subcontractors to the Owner as subcontracts are executed. The Contractor agrees to bind every subcontractor and every subcontractor agrees to be bound by all the terms and conditions of the Contract Documents for the benefit of the Owner and the Architect/Engineer.

1.7. PREVAILING WAGE RATE

- 1.7.1. The Contractor must comply with all aspects of the UGC. Contractor shall require all workers to complete a "Worker Wage Rate Notification Form" before starting Work on the Project. The Contractor shall maintain certified payrolls, for the Contractor and all subcontractors, at the jobsite throughout construction.
- 1.7.2. The Owner's Project Manager may verify wage rate compliance in the field by interviewing workers, or otherwise. The Contractor shall assist the Owner's Project Manager with verification of wage rate compliance, including provisions for non-English speaking workers.

1.8. FLOW OF COMMUNICATIONS

- 1.8.1. Refer to the UGC for requirements not identified in this Section.
- 1.8.2. The Architect/Engineer is responsible for document control and general Project administration and is the key contact for written communications. The Owner's written instructions to the Contractor will generally be issued through the Architect/Engineer. On Design/Build projects, the construction management staff may provide this service if approved by the Owner.
- 1.8.3. All subcontractor correspondence shall be routed through the Contractor. All written Contractor correspondence shall be directed to the Architect/Engineer, with simultaneous copies to the Owner's Project Manager, Owner's Construction Inspector, and the OFPC Representative, if applicable. The actual parties for this Project will be confirmed at the Pre-Construction Conference.
- 1.8.4. The Owner's Project Manager and the Owner's Construction Inspector are the Owner's primary representatives for the Project. The Owner's Construction Inspector is the key contact for verbal communications and Site issue coordination.
- 1.8.5. The Owner's Project Manager and the Owner's Construction Inspector are the only parties authorized to direct changes in the Work, and issue written and/or oral instructions directly to the Contractor.
 - 1.8.5.1. All ORAL instructions must be issued by the Owner's Construction Inspector and/or the Owner's Project Manager, or in their presence, and shall be promptly confirmed in writing by the Contractor. Any oral instructions or discussions with subcontractors in the absence of the Contractor are not contractual and are not binding on either party.
- 1.8.6. Per the UGC, the Architect/Engineer may issue clarification and other information not affecting the Contract cost or time by means of an Architect/Engineer's Supplemental Instruction form, (ASI), or similar clarification form, which will be sequentially numbered. Both the Architect/Engineer and the Contractor shall maintain a separate ASI register.
- 1.8.7. All subcontractor Requests for Information (RFI) shall be submitted by and under cover of the Contractor, who is to carefully review and ensure the completeness and appropriateness of the question, sequentially number each, and submit to the Architect/Engineer with copies to the Owner's Project Manager, Owner's Construction Inspector, and Institution representative (if requested). The Contractor and Architect/Engineer shall maintain separate RFI logs.
- 1.8.8. All Project correspondence shall include the University of Texas MD Anderson Cancer Center (MD Anderson) Project Number and Project Name in the title or reference.
- 1.8.9. Contractor shall process Pay Estimates, Requests for Information, Changes, and Submittals as shown in the Owner's Pre-Construction Conference Brochure.
- 1.9. CHANGED CONDITIONS
 - 1.9.1. Refer to the UGC for requirements not identified in this Section. If the Contractor finds conditions at the Site to be materially different from that indicated in the Contract Documents, Contractor shall notify the Architect/Engineer, the Owner's Construction Inspector, and the Owner's Project Manager immediately in writing and prior to disturbing such conditions.

1.10. PROJECT CHANGES

- 1.10.1. All changes shall be administered per the UGC.
- 1.10.2. Upon authorization by the Owner, the Owner or Architect/Engineer will prepare and issue all changes to the Contract affecting cost, scope and/or time as a formal Change Order to the Contract on the standard University of Texas MD Anderson Cancer Center Change Order form. The Change Order may include separate change issues, identified as Change Proposals and Field Orders.
- 1.10.3. Upon authorization by the Owner, Change Proposals may be issued to the Architect/Engineer for pricing by the Contractor. Contractor shall submit pricing to the Owner within twenty-one (21) calendar days and pricing shall be indicated on the standard Owner "Change in Work Cost Analysis" ("Cost Analysis") form provided in the Pre-Construction Conference Brochure. Contractor may not include a Change Proposal within a Change Order unless the Owner has accepted the Change Proposal.
 - 1.10.3.1. The Contractor shall summarize all costs for each change at each level of subcontractor and supplier by preparing the "Cost Analysis" form, and shall provide each subcontractor's cost summary on separate "Cost Analysis" forms as backup. Additional support documentation from both the Contractor and Contractor's subcontractors is encouraged, but such will not replace use of the standard form.
 - 1.10.3.2. When the Contractor believes it is entitled to a time extension, Contractor shall so state as part of Contractor's response to the Change Proposal, including a justification for a time extension. Owner may grant time extensions only if a Change Proposal affects the activities on the Longest Path of an Owner approved Project Schedule; i.e., when the Work impacts the "Contract Substantial Completion Date".
 - 1.10.3.3. If the Owner's Project Manager and Contractor cannot mutually agree upon a fair and reasonable cost and time settlement, the Owner's Project Manager may: 1) Reject the quotation and void the Change Proposal, 2) Issue instructions to the Contractor to proceed on a time and material basis for a price to be determined later not to exceed a fixed maximum dollar and time, or 3) Issue a Unilateral Change Order.
 - 1.10.3.4. The Owner's Construction Inspector and/or Owner's Project Manager may issue Field Orders directly to the Contractor for minor changes to the Contract, which can be negotiated in the field. Pricing backup is at the discretion of the Owner's Construction Inspector, but pricing backup is required for any Field Order, the pricing backup is to be outlined on the "Cost Analysis" form. When the Owner and Contractor have signed the Field Order, the Work is authorized and the Field Order may be included in the next Change Order.
- 1.10.4. Request for payment for Change Order work may be submitted only after the Change Order has been fully executed.

1.11. CLAIMS FOR ADDITIONAL COST

- 1.11.1. Contractor shall timely and officially certify all claims for additional cost and shall specifically comply with all provisions of the UGC to be considered valid. Note that only the Contractor can make a claim for additional cost under the terms of the Contract Documents.

1.12. TIME EXTENSIONS OTHER THAN CHANGE PROPOSALS

- 1.12.1. Refer to the UGC for requirements.

1.13. LIQUIDATED DAMAGES

- 1.13.1. If assessed, Owner may withhold liquidated damages from progress payments beginning with the first payment after the adjusted Contract completion date and continuing through any subsequent progress payments until all Work of the Contract is complete. Owner may assess liquidated damages by deducting the liquidated damages from the Contract price or Guaranteed Maximum Price (GMP) Proposal through a unilaterally written deductive Change Order.

1.14. SITE USE ISSUES

- 1.14.1. Refer to the UGC and to Owner's Special Conditions for site use requirements not identified in this Section. The Contractor shall manage, coordinate, and direct the Work from the Site.
- 1.14.2. The Contractor is responsible for actions of the entire workforce whenever the workforce is at the Site, or passing through campus to the Site. Harassment of any kind toward any person will not be tolerated; offending workers will be removed from the Project immediately and permanently.
- 1.14.3. The Contractor shall provide and submit a program plan for worker orientation, identification of workers, and control of access to the Site. Any and all workers on the Project shall participate in this program before beginning Work on the Project. The program plan shall include, as a minimum:
 - 1.14.3.1. An overview of the Contractor's plan for instruction of Site rules and regulations to all employees who participate on the Project, including but not limited to safety, restricted use of Owner's facilities, parking conduct/behavior, dress, sanitary facilities, security, etc.
 - 1.14.3.2. Employee identification badges with a photograph of the employee, the employer, and employee's name. Badges shall be provided for all employees and produced by a system on Site. This identification shall be worn at all times while on the Site. Lack of an authorized identification badge shall be grounds for removal from the Site.
 - 1.14.3.3. A detailed written plan indicating how the Contractor proposes to control pedestrian and vehicular traffic into and out of the Site. Contractor shall provide a separate plan for normal working hours, nights, after normal hours, weekends, holidays, etc. This plan may be incorporated into the Contractor's staging plan.

1.15. HISTORICALLY UNDERUTILIZED BUSINESS (HUB) PLAN

- 1.15.1. Refer to the UGC and Exhibit H of the Agreement for HUB requirements not identified in this Section.
- 1.15.2. The Contractor agrees to the Good Faith Effort procurement of historically underutilized businesses in accordance with the Historically Underutilized Business Plan (HUB) included in the Contract.
- 1.15.3. No subcontractor may be changed or added without the Owner's written consent.

PART 2 - PRODUCTS

2.1 SCHEDULING REQUIREMENTS

- 2.1.1 Refer to the UGC and Section 01 32 00 – Project Planning and Scheduling for detailed scheduling requirements not identified in this Section.

2.2 SHOP DRAWINGS AND SUBMITTALS

- 2.2.1 Refer to the UGC for requirements not identified in this Section.
- 2.2.2 Submittal Procedures: Contractor shall transmit each item using Owner's standard form. Contractor shall identify the project by Owner's assigned project number, Contractor, Subcontractor and supplier. Contractor shall identify pertinent drawing sheet and detail number and specification section number as appropriate. Contractor shall deliver submittals to Owner and Architect/Engineer as determined in the Pre-Construction Conference.
- 2.2.3 The Contractor shall include a Material Safety Data Sheet (MSDS) for any and all materials incorporated into the Project.
 - 2.2.3.1 Contractor shall attach one copy of the MSDS to the submittal and shall keep one copy in a separate three-ring binder at the site. Contractor shall organize the three-ring binder by the appropriate section of the specifications.
- 2.2.4 The Contractor shall assign an identifying number to each submittal following a format to be established at the Pre-Construction Conference. The same number with a numerical or alphabetical suffix will be used to identify re-submittals.
- 2.2.5 Submittal Product Data: Contractor shall collect and organize manufacturer's product data into a single submittal for each element of construction or system. Contractor shall include printed product data such as manufacturer's installation instructions, compliance with recognized trade association standards and testing agency standards, catalog data sheets, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where product data must be specially prepared because standard printed data is not suitable for use, Contractor shall submit as Shop Drawings.
- 2.2.6 Shop Drawings: Contractor shall submit newly prepared information and drawn to accurate scale. Contractor shall highlight, encircle, or otherwise indicate deviations from the Contract Documents. Contractor shall not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is acceptable as Shop Drawings.
 - 2.2.6.1 Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Contractor shall include at least the following information:
 - 2.2.6.1.1 Dimensions.
 - 2.2.6.1.2 Identification of products and materials included.
 - 2.2.6.1.3 Compliance with specified standards.
 - 2.2.6.1.4 Notation of coordination requirements.
 - 2.2.6.1.5 Notation of dimensions established by field measurement.

- 2.2.6.1.6 Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" but no larger than 36" x 48".
- 2.2.7 The Architect/Engineer and the Contractor shall maintain separate registers showing the number and a brief identification of each submittal. The separate registers must show dates of actions on the submittal such as receipt, forwarding to another office, and approval status.
- 2.2.8 The burden of timeliness to complete the submittal process is on the Contractor. The Contractor shall allow sufficient time within the Project Schedule for the Architect/Engineer and Owner to review and approve all submittals, including time for all re-submittals on any unaccepted/rejected submittals.
- 2.2.9 The Contractor shall carefully examine all data submitted for approval and shall certify that the data has been carefully reviewed and found to be correct with respect to the Contract Documents.
- 2.2.9.1 Any deviation from the Contract Documents shall be conspicuously noted on the submittal and the transmittal cover sheet. Contractor's failure to conspicuously note deviations will void any action taken on the submittal.
- 2.2.9.2 All manufacturer's data contained within the submittal shall have all inapplicable features crossed out or deleted in a manner that will clearly indicate exactly what is to be furnished.
- 2.2.9.3 Equipment of larger sizes than shown, even though of a specified manufacturer, will not be acceptable unless it can be demonstrated that ample space exists for proper installation, operation, and maintenance.
- 2.2.9.4 Should the Architect/Engineer, on initiating Architect/Engineer's review, find the submittal unstamped or uncertified, non-responsive and/or incomplete, Architect/Engineer shall return the submittal to the Contractor immediately. Such returned documents will not be recognized as having been an official submittal.
- 2.2.10 The Owner will not be responsible for payment of any item that has not been submitted and approved through the established submittal process.
- 2.2.11 The exact number of submittal copies required for distribution will be determined at the Pre-construction Conference. The Contractor should anticipate providing electronic copies and a minimum of twelve (12) hard copies of each submittal in addition to those needed by the Contractor or Contractor's subcontractors. Contractor shall set aside two (2) of the approved copies returned to the Contractor for subsequent turn over to Owner at Project Closeout. Contractor shall also submit approved submittals to Owner in original electronic file format as described in Section 01 77 00 – Project Closeout Procedures.
- 2.2.12 Samples: As required by individual Sections of the Contract Documents, Contractor shall submit full-size, fully fabricated samples cured and finished as specified and physically identical with the material or product proposed. Samples shall include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
- 2.2.12.1 Contractor shall mount, display, or package samples in the manner specified to facilitate review by Owner and Architect/Engineer. Contractor shall prepare samples to match the Architect/Engineer's sample, which shall include at least the following information:

2.2.12.1.1 Generic description of the Sample.

- 2.2.12.1.2 Sample source.
- 2.2.12.1.3 Product name or name of manufacturer.
- 2.2.12.1.4 Compliance with recognized standards.
- 2.2.12.1.5 Availability and delivery time.

2.2.12.2 Contractor shall submit samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual product delivered and installed.

2.2.12.3 When variation in color, pattern, texture or other characteristics are inherent in the material or product represented, Contractor shall submit no less than three (3) multiple units that show approximate limits of the variations.

2.2.13 Refer to individual Technical Specification Sections for additional submittal requirements.

2.3 SUBSTITUTION OF MATERIALS, LABOR AND EQUIPMENT

2.3.1 Refer to the UGC for requirements not identified in this Section.

2.3.2 The specified products used in preparing the Contract Documents establish minimum qualities. Substitutions must be at least equal to the minimum qualities for consideration by Owner as an acceptable substitution. The burden of proof of equality rests with the Contractor. The Owner retains sole authority for acceptance of substitutions.

2.3.3 Contractor shall clearly and boldly mark all substitutions as such on the transmittal cover sheet for the submittals. Contractor shall submit all substitutions within ninety (90) days of the Notice to Proceed for Construction.

2.3.4 The Contractor shall allow a minimum of six (6) weeks for review of each substitution by the Architect/Engineer and/or Owner in addition to the requirements identified in Section 2.2 above.

2.3.5 When requested by the Architect/Engineer, the Contractor shall provide a sample of the proposed substitution item. Owner may require Contractor to provide samples of both the specified item and the proposed item for comparison.

2.3.6 Owner may base acceptance of materials and equipment on the supplier/ manufacturer's published data and may be tentative subject to the submission of complete shop drawings and/or specifications indicating compliance with the Contract Documents. Owner's acceptance of materials and/or equipment under this provision shall not be construed as authorizing any deviation from the Contract Documents, unless specifically directed in writing from the Owner and/or Architect/Engineer.

2.3.6.1 Contractor shall be solely responsible for all additional costs resulting from the acceptance of any substitution. Additional costs include direct and indirect costs that are not presented at the time of the substitution request and costs that become known after the approval of the substitution.

2.3.7 Should the Owner accept a substitution and should the substitute prove defective or otherwise unsatisfactory for the service intended within the guarantee period, Contractor shall replace the substitute with the material or equipment specified in the Contract Documents at no additional cost to the Owner.

2.4 INITIAL APPLICATION FOR PROGRESS PAYMENT

- 2.4.1 Refer to the UGC and Section 01 32 00 – Project Planning and Scheduling for requirements not identified in this Section.
- 2.4.2 The Contractor may submit a request for a progress payment once per month. Such request shall be presented on the University of Texas MD Anderson Cancer Center Application for Payment and Schedule of Values (refer to Attachment No. 1 and No. 2) forms supplemented by columnar continuation sheets, which represent updates to the original Contract Price or GMP Schedule of Values.
- 2.4.3 The Contractor shall keep Project accounting records 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.
- 2.4.4 Prior to the submission of the first Application for Payment and within twenty-one (21) calendar days of issuance of the Notice to Proceed with Construction, the Contractor shall submit the following documents to the Architect/Engineer, Owner's Project Manager, and Owner's Construction Inspector for review, using the Owner's Standard Schedule of Values format.
 - 2.4.4.1 Contract Price or GMP Schedule of Values: Contractor shall submit a single document itemizing the breakdown of the Contract Price/GMP, including general conditions, contingencies and allowances using the Owner Standard Schedule of Values format. The Contractor shall submit a draft breakdown at least twenty-one (21) calendar days prior to the initial Application for Payment and such submittal shall be a condition precedent to the processing of the first payment application. The Contractor shall submit subsequent draft copies of the Schedule of Values at least seven (7) calendar days prior to formal submission of each monthly payment.
 - 2.4.4.1.1 The Schedule of Values breakdown shall follow the trade divisions of the specifications and shall be itemized by submittal, floor, area, elevation or other building systems, as a minimum. The breakdown shall include a labor and material breakdown for each line item and be of such detail as may be required by the Owner and/or Architect/Engineer, but in general shall limit each line item to less than \$100,000.
 - 2.4.4.1.2 No adjustment to the original detailed breakdown of a Contract line item shall be made once accepted by the Owner and Architect/Engineer. Once accepted, the breakdown will form the basis for all periodic payments.
 - 2.4.4.1.2.1 Contracts with Construction Manager at Risk or Design/Build Agreements may adjust the detailed breakdown of a General Conditions line item if the total invoices for a General Conditions line item exceeds one hundred percent (100%). A corresponding amount shall be deducted from another General Condition line item(s) or the Construction Phase Fee to pay for the General Conditions' line item overage.
 - 2.4.4.1.3 Contractor shall not use subcontractor invoices/pay applications in lieu of a single Schedule of Values from the Contractor.
 - 2.4.4.1.4 The breakdown shall anticipate future Change Orders and make provisions for incorporating all changes into the Schedule of Values listing. If issued, Change Orders shall be identified separately and shall itemize the GMP Change Orders, Change Proposals and/or Field Orders, which are

incorporated into each Change Order for payment on a line-item basis as required by this section.

2.4.4.1.4.1 Payments shall not be made for work contained in unexecuted Change Orders.

2.4.4.1.5 Contracts with Guaranteed Maximum Price proposals shall repeat the process outlined in this section every time a subcontract is added to the monthly Schedule of Values for payment.

2.4.4.2 Work Progress Schedule: Refer to Section 01 32 00 – Project Planning and Scheduling for all Project schedule requirements.

2.4.4.3 Shop Drawing/Submittal Schedule: Contractor shall provide the Owner and Architect/Engineer with a Submittal Schedule of all items requiring submittal review showing the items' anticipated submission dates and late finish dates for completion of the review process. The Submittal Schedule shall be incorporated with the Work Progress Schedule, and each will be updated monthly and submitted to the Architect/Engineer and Owner with each draft payment request.

2.4.4.4 Equipment List/Matrix: Section 01 91 00 – General Commissioning Requirements requires a matrix of all operable devices and building system components be submitted to the Owner. This matrix may be incorporated into equipment documentation required in Operating and Maintenance Manuals as indicated in Section 01 77 00 – Project Closeout Procedures.

2.4.4.5 The Contractor is encouraged to integrate these documents to the extent practical to avoid duplication, both in initial setup and ongoing updates to each.

2.4.5 When the Owner and Contractor agree to the Schedule of Values line item amounts, the Contractor shall submit eight (8) copies of the formal payment application to the Architect/Engineer, utilizing the University of Texas MD Anderson Cancer Center form, with original signatures of an officer of the contracting firm and original notarization. The Contractor shall furnish a certificate designating a person(s) who has authority to sign pay applications on behalf of the firm if such is not an officer of the firm.

2.4.5.1 The Contractor shall provide attachments to each month's payment request per the UGC. Contractor should verify the number of copies of each attachment with Owner prior to submission.

2.4.5.1.1 Six (6) copies of the monthly HUB Progress Assessment report (Attachment H to Exhibit H).

2.4.5.1.2 Four (4) copies of the updated Submittal Schedule.

Four (4) copies of all invoices required by the Contract.

2.4.5.1.3 Three (3) copies of the wage rate notification form for each member of the workforce not previously submitted.

2.4.5.1.4 Copies of an appropriately updated Work Progress Schedule as specified in Section 01 32 00 – Project Planning and Scheduling.

2.4.5.1.5 Documentation of partial Release of Liens and Claims in accordance with the value of the monthly Application for Payment.

2.4.5.2 The formal payment requests with attachments shall be organized and distributed according to the flow chart included in the Pre-Construction Brochure.

2.4.6 The formal monthly pay applications shall be first certified by the Architect/Engineer and then submitted to the Owner's Project Manager for signature and processing. The Contractor can expect receipt of payment within thirty (30) calendar days after the Owner's Project Manager receives the formal Pay Application.

2.5 MONTHLY APPLICATION FOR PROGRESS PAYMENTS

2.5.1 Refer to the UGC and Section 01 77 00 – Project Closeout Procedures, for requirements not identified in this Section.

2.5.2 For regular monthly applications for payment, the Contractor shall submit for review and approval a draft payment request to the Owner's Project Manager and the Architect/Engineer no less than seven (7) calendar days prior to formal submission. The Contractor shall be prepared to review the draft copy at the project Site with the Owner and the Architect/Engineer. Failure to comply with the requirements outlined in Section 2.4 above shall relieve the Owner from Owner's obligation to make payments on any and all line items until the Contractor meets all requirements.

2.5.2.1 Payments cannot exceed the Contract, work in-place, or subcontract amounts as depicted on Schedule of Values line items.

2.5.2.2 All as-built drawings shall be reviewed to ensure updates are current.

2.5.2.3 Retainage shall not be used to cover "punch-list" work items.

2.5.3 Requests for payments in association with release of, or reduction in, retainage or completion of Work have additional requirements as outlined in the UGC and Section 01 77 00 – Project Closeout Procedures.

2.6 PROCUREMENT OF SUBCONTRACTS – CM-R AND DB AGREEMENTS ONLY

2.6.1 The Construction Manager at Risk (CM-R) or Design/Build Contractor (DB) shall provide a written Bid/Proposal Package Strategy (B/PPS) for procuring subcontracts including self-performance Work (other than General Conditions), prior to the approval of the Guaranteed Maximum Price, but no later than twenty (20) calendar days prior to the first advertisement for proposals. The B/PPS shall be a written plan submitted to and reviewed by the Owner and the Architect/Engineer.

2.6.1.1 The plan shall identify bid packages that are most advantageous to the Project and align with the CM-R/DB's HUB Good Faith Effort (Exhibit H) by providing at least three (3) qualified respondents (including the CM-R/DB). Each bid package shall include the UGC, Owner's Special Conditions, the Owner's Division 1 Specifications, Drawings and Specifications and any other Owner requirements included in the CM-R/DB Agreement pertaining to the scope of work covered in the packages.

2.6.1.2 The B/PPS shall conspicuously identify any and all work that the CM-R/DB will submit a bid/proposal for, but will not perform with CM-R/DB's own forces (i.e. subcontract to someone else if determined to be "best value").

2.6.1.3 The B/PPS shall include the following for each bid package contemplated:

2.6.1.3.1 Anticipated scope of work to be procured.

2.6.1.3.2 Anticipated selection criteria and questions.

- 2.6.1.3.3 Self-perform work proposals to be submitted by the CM-R/DB.
- 2.6.1.3.4 Proposed advertising dates.
- 2.6.1.3.5 Proposed pre-proposal/HUB/ROCIP meetings.
- 2.6.1.3.6 Proposed Receipt, review and award dates.
- 2.6.1.3.7 Anticipated notice to proceed dates.
- 2.6.1.4 The CM-R/DB shall update the B/PPS monthly as a minimum or whenever conditions change or proposed dates are revised.
- 2.6.2 For CM-R contracts, Texas Education Code 51.782 mandates: "A construction manager-at-risk shall publicly advertise, in the manner prescribed by the institution, and receive bids or proposals from trade contractors or subcontractors for the performance of all major elements of the work other than general conditions work. A construction manager-at-risk may seek to perform major elements of the work itself if the construction manager-at-risk submits its bid or proposal for that work in the same manner as all other trade contractors or subcontractors and if the board determines that the construction manager-at-risk's bid or proposal provides the best value for the institution."
- 2.6.3 The goal of the Project Team shall be to have all work procured through advertised competitive proposals, however, if a "minor procurement" condition arises during the process, the following procurement guidelines may be used by the CM-R/DB, with Owner approval, for procurement of work:
 - 2.6.3.1 Less than \$15,000.00: No requirements
 - 2.6.3.2 Between \$15,000.01 and \$50,000.00: Obtain three (3) informal proposals
 - 2.6.3.3 Greater than \$50,000.00: Advertised competitive proposals
- 2.6.4 This specification does not pertain to Change Orders to existing subcontracts.
- 2.6.5 Work may be divided into reasonable lots; however, material or labor acquired through purchase order/vendor type agreements are subject to the entire Project (i.e. concrete material shall be procured as a unit price times an estimated total project quantity provided by the CM-R/DB to equal a total construction cost). Work shall not be incrementally divided for the purpose of circumventing the procurement guidelines.
- 2.6.6 The CM-R/DB may establish selection criteria for each phase of work for review by the Project Team. Criteria shall be qualifications based and consistent with the information needed by the CM-R/DB to make a proper evaluation and selection. The CM-R/DB shall establish a selection matrix including cost, criteria, weighting and ranking procedures for evaluation. The CM-R/DB shall work with the Project Team to tailor the selection criteria to be project and scope specific, and ensure that the questions are proper and relevant to the goals of the Project. The CM-R/DB shall follow the Good Faith Effort (HUB) requirements identified in Exhibit H of the Agreement, including attachments to be completed by first tier subcontractors. However, HUB participation/status cannot be used as criteria for determining "best value", only for determining if the respondent is responsive.
 - 2.6.6.1 The CM-R/DB shall establish clear criteria and questions so that those reading the Request for Proposals will understand how they will be evaluated.

- 2.6.6.2 If criteria are not included in the advertisement for proposals, the proposal shall be considered a lump sum bid, and the CM-R/DB shall award the work to the lowest qualified, responsive bidder.
- 2.6.6.3 After selection criteria have been established, the CM-R/DB shall publicly advertise the work in general circulations and trade associations in accordance with Texas Education Code 51.782 for CM-R, Article 5 of the current Agreement for DB and Texas Administrative Code 111.14 – “HUB” for both CM-R and DB. This advertisement shall include, at a minimum, the following:
 - 2.6.6.3.1 Owner Project Number and Owner Project Name.
 - 2.6.6.3.2 Institution/Campus name.
 - 2.6.6.3.3 CM-R/DB name and address.
 - 2.6.6.3.4 CM-R/DB contact name and phone number.
 - 2.6.6.3.5 Location for viewing plans and specifications.
 - 2.6.6.3.6 Date, time and location of Pre-proposal/HUB/ROCIP meeting.
 - 2.6.6.3.7 Date, time deadline(s), and location for receiving proposals.
 - 2.6.6.3.8 Instructions to respondents for submitting proposals.
 - 2.6.6.3.9 Selection criteria, questions and submittal requirements.
- 2.6.7 At the time and location identified in the advertisement, the CM-R/DB shall hold a Pre-proposal/HUB/ROCIP meeting for all potential subcontractors with the Project Team and Owner’s HUB Coordinator. The CM-R/DB shall review as a minimum:
 - 2.6.7.1 The general scope of the Project and the specific scope of work included in this package.
 - 2.6.7.2 Instructions to respondents for submitting proposals.
 - 2.6.7.3 Selection criteria and questions.
 - 2.6.7.4 HUB Good Faith Effort requirements (Exhibit H).
 - 2.6.7.5 Project Safety requirements.
 - 2.6.7.6 OCIP requirements (if applicable).
 - 2.6.7.7 Project Schedule requirements.
 - 2.6.7.8 Payment procedures and requirements, including retainage.
 - 2.6.7.9 Commissioning and Close-out requirements.
- 2.6.8 If the CM-R/DB identifies any self-performance in the B/PPS (work to be performed by CM-R/DB’s own employees), the CM-R/DB shall submit a proposal to the Owner at the advertised time and location in a manner so as not to compromise the competitive process.
 - 2.6.8.1 Regardless of the work or method of accepting proposals, all CM/DB self-performance proposals shall be:

- 2.6.8.1.1 Estimated and submitted by a separate estimating team that is not associated with the CM/DB's pre-construction and/or construction team;
 - 2.6.8.1.2 Submitted in a sealed envelope;
 - 2.6.8.1.3 The final proposal price and not subject to change for any reason prior to recommendation of subcontract award.
- 2.6.9 The CM-R/DB shall accept all proposals at the advertised location until the advertised deadline. Upon receipt, the Owner's Project Manager will initial the proposal to indicate the time and date received. Any proposals received after the deadline shall not be considered by the CM-R/DB, and shall be returned to the respondent unopened.
 - 2.6.9.1 Fax proposals will not be accepted unless the Owner, prior to the initial advertisement for proposals, approves a detailed plan by the CM-R/DB of care and custody.
- 2.6.10 After compiling, reviewing and verifying the costs and scope associated with all proposals, the CM-R/DB shall provide a "bid tabulation" matrix and a proposed Schedule of Values (refer to Attachment No. 2) for review by the Project Team.
 - 2.6.10.1 The "bid tabulation" matrix shall compare all equivalent scope proposals to the CM-R/DB's estimate.
 - 2.6.10.2 Each matrix shall indicate the CM-R/DB estimate(s) for each scope of work and identify the respective cost savings/over-runs.
 - 2.6.10.3 The CM-R/DB may use values/quantities from CM-R/DB's own estimate to provide full scope comparisons between each respondent, however, these "plug" numbers shall be clearly identified in the matrix to the Project Team and be used only to compare the various proposals.
 - 2.6.10.4 The proposed updated Schedule of Values shall summarize all executed and recommended "best value" subcontracts to provide a current status of the Guaranteed Maximum Price Proposal.
 - 2.6.10.5 Once the proposals are compiled into a "bid tabulation" matrix and the proposed Schedule of Values has been updated, the CM-R/DB shall request a meeting with the Project Team to review the proposals.
- 2.6.11 The CM-R/DB shall lead the proposal review meeting by reviewing the scope of work, the proposals received, any exclusions or conditions, identify any non-qualified respondents and any other problems that may have occurred during the process.
 - 2.6.11.1 The CM-R/DB shall confirm that the respondents are qualified, meet the established selection criteria (if applicable), and identify the amount of the proposals.
 - 2.6.11.2 The CM-R/DB shall identify the "best value" and the current status of the buy-out savings to the Project Team. If the "best value" causes the CM-R/DB to exceed the Cost of Work line item, including contingencies in the GMP the CM-R/DB shall acknowledge that the overage will be deducted from the CM-R/DB's Construction Phase Fee.
- 2.6.12 Once the "best value" respondent has been identified by the CM-R/DB, without exception by the Owner, the CM-R/DB shall finalize negotiations with the selected "best value" respondent.

2.6.12.1 The CM-R/DB shall identify and confirm with the Owner's Project Manager the competitive proposal "plug" numbers CM-R/DB intends to use in CM-R/DB's negotiations. "Plug" numbers may be established through the CM-R/DB's own estimate (if submitted to the Owner's Project Manager before the advertised deadline) or values included in other non-selected respondent competitive sealed proposals.

2.6.12.2 If the CM-R/DB cannot reach an agreement with the selected respondent, the CM-R/DB shall notify the Owner's Project Manager that CM-R/DB intends to begin negotiations with the second "best value" respondent.

2.6.12.3 The CM-R/DB shall issue a letter to the Owner indicating that CM-R/DB intends to write a subcontract to the selected "best value" respondent (including self-perform work), identifying the following:

2.6.12.3.1 The bid package number.

2.6.12.3.2 The base bid from the selected respondent and any alternates included in the proposal.

2.6.12.3.3 The total value of the proposed subcontract with a description of any changes from bid day values.

2.6.12.3.4 Drawings and/or specifications related to the subcontract.

2.6.12.3.5 Additional scope items added to the subcontract (as previously agreed to by the Owner) and their value.

2.6.12.3.6 Current status of the GMP identifying current savings/overages.

2.6.12.3.7 A copy of the bid tabulation matrix.

2.6.12.3.8 A copy of the executed subcontract or purchase order, etc. is required prior to any request for payment by the CM-R/DB for applicable work.

2.6.12.4 If the Owner objects to the "best value" identified by the CM-R/DB, the Owner may conduct an evaluation of the selection process and/or results.

2.6.12.4.1 If, after evaluation, the Owner disagrees with the CM-R/DB "best value" recommendation, the Owner may instruct the CM-R/DB to either re-bid the scope of work or use the Owner's "best value" selection.

2.6.12.4.2 If the value of the Owner's selection causes an increase in the Contract Sum, the increase will be the responsibility of the Owner.

2.6.12.5 The CM-R/DB shall provide one (1) complete copy of all recommendation letters and proposals to the Owner's Project Manager for record, as they occur until final payment.

2.6.13 For additional bid packages, the CM-R/DB shall repeat the steps identified in this section as many times as identified in the current B/PPS for the entire Project.

2.7 DAILY REPORT

2.7.1 The Contractor shall provide the Architect/Engineer, Owner's Project Manager and Owner's Construction Inspector with a report detailing Contractor's daily activities on the Project using a format acceptable to Owner. All tests that Contractor performs and all work reports required of subcontractors shall be attached to the Contractor's daily report.

2.7.1.1 The report shall include, as a minimum, the following information as it relates to the day's activities on the Site: subcontractors on the Site (including number of employees for each subcontractor); equipment; areas of work and type of work performed; material received; tests performed; any injuries and/or accidents; total number of employees on the Site (including Contractor); any oral instructions received; any material damage; any change in personnel; and anything else that might impact quality or schedule.

2.7.2 Contractor shall submit these reports to the Owner's Project Manager and Owner's Construction Inspector on a daily basis.

2.8 AS-BUILT DRAWINGS AND RECORD DOCUMENTS

2.8.1 Contractor shall continuously annotate "As-Built" drawings, specifications, Operating and Maintenance manuals, shop drawings, and submittals to reflect actual record conditions, addenda, issuance of Change Orders and clarifications, and actual dimensional records for underground and other services. Refer to Section 01 77 00 – Project Closeout Procedures for detailed instructions.

2.8.2 Contractor is required to maintain current documentation in order to process pay applications. The Owner's Project Manager and the Architect/Engineer will review the status of such documentation monthly, at a minimum.

2.8.3 Refer to Section 01 91 00 –General Commissioning Requirements for requirements regarding the Commissioning and Closeout Manual tracking of these documents.

PART 3 – EXECUTION

3.1 PRE-CONSTRUCTION CONFERENCE (WITH OR WITHOUT A PARTNERING WORKSHOP)

3.1.1 Architect/Engineer will prepare a Pre-Construction Brochure using the standard Owner Pre-Construction Brochure, as an overview of administrative procedures for the Project. A review of the Brochure, including this Section, identification of key Project personnel, diagrams illustrating documentation routing, Owner's sample administrative forms, and other information will be conducted at the Pre-Construction Conference.

3.1.2 Upon mutual agreement, a Partnering Workshop may be held with or near the time of the Pre-Construction Conference. The Contractor shall pay for the Pre-Construction Conference and/or Partnering Workshop in total and the Owner will reimburse the Contractor for fifty percent (50%) of the mutually agreed-upon costs (100% of the costs will be reimbursed to the Contractor as part of the General Conditions in the GMP for CM-R and DB contracts).

3.1.2.1 The Pre-Construction Conference and/or Partnering Workshop is intended to provide further understanding among the parties, to establish mutual goals for the Project, and to develop strategies for achieving those goals.

3.1.3 The Owner will schedule a Pre-Construction Conference to generally coincide with issuance of Notice to Proceed with Construction. The Pre-Construction Conference agenda will cover broad Project issues followed by detail review of administrative procedures.

3.1.3.1 The UGC requires the Contractor to comply with the Owner's administrative requirements as outlined herein and as reviewed at the Pre-Construction Conference.

- 3.1.3.1.1 For projects with Guaranteed Maximum Price contracts the Owner may require a Pre-Construction meeting prior to Notice to Proceed with Construction.
 - 3.1.3.1.2 For projects with Guaranteed Maximum Price contracts and multiple bid packages, the Owner may schedule additional Pre-Construction Conferences to include any subcontractors added to the Project after the initial Pre-Construction Conference.
 - 3.1.4 Attendance is required at the conference by all appropriate representatives of the Contractor, mechanical, electrical, plumbing subcontractors, and any additional subcontractors (proposed or engaged), whose scope of work represents five percent (5%) or more of the total construction cost. The Contractor shall request all HUB subcontractors also be represented. Each firm is to be represented by personnel directly involved in the Project, including Project Managers and Project Superintendents or labor foremen, as a minimum.
 - 3.1.4.1 Project representatives of the Contractor and all other parties directly involved with the processing or executing of Project submittals, changes and/or payments should attend the Pre-Construction Conference.
 - 3.1.5 Prior to the scheduled time of the Pre-Construction Conference, the Contractor shall provide the Architect/Engineer a written outline of all involved firms, Contractor's key personnel, including mailing address and phone numbers to be incorporated into a Project Directory and included in the Pre-Construction Brochure.
 - 3.1.6 The Architect/Engineer will provide to the Contractor, a minimum of eight (8) copies of the Pre-Construction Brochure prior to the scheduled date of the Pre-Construction Conference. The Contractor shall review the contents of the Pre-Construction Brochure with Contractor's key Project personnel and those of Contractor's subcontractors in preparation for the Pre-Construction Conference.

3.2 OWNER'S MONTHLY PROJECT PROGRESS MEETINGS

- 3.2.1 In addition to specific coordination meetings, pre-installation contractor meetings for each element of Work, and other Project meetings for other purposes, the Owner may schedule and conduct a Project Progress Meeting at least once each month with the timing generally coinciding with preparation of payment request and submission of the updated Project Schedule.
- 3.2.2 The Contractor shall coordinate with Contractor's subcontractors so that each entity then involved in planning, coordination, or performance of Work will be properly represented at each meeting.
 - 3.2.2.1 Prior to the monthly Project Progress Meeting, the Contractor shall convene a similar progress meeting with Contractor's subcontractors to review each of the subcontractor's present and future needs including interface requirements, utility outages required, sequences, deliveries, access, Site utilization, temporary facilities and services, hours of work, hazards and risks, housekeeping, change orders, and documentation of information for payment requests in order to be fully prepared to discuss all pertinent issues with the Owner. The Contractor shall notify the Owner and Architect/Engineer in advance of such meetings with subcontractors.
- 3.2.3 Owner's monthly Project Progress Meetings may include review of Contractor's updated Project Schedule and forecast of operations for the coming period, coordination issues, anticipated utility outages, status of requested change proposals and other cost impact

issues, status of the commissioning process, status of the HUB Plan, and other Project issues.

3.2.4 The Contractor and Architect/Engineer shall provide separate tracking logs for submittals, RFIs, ASIs, and changes in a package for each primary meeting participant. On Design/Build contracts, a single set of tracking logs may be utilized if accepted in advance by the Owner.

3.2.5 The Owner's Project Manager will chair the Project Progress Meetings. The Contractor shall be specifically prepared to discuss the following at each Project Progress Meeting:

3.2.5.1 Project Schedule Update Reports as required in Section 01 32 00 – Project Planning and Scheduling.

3.2.5.2 Status of "action" items from the previous Project Progress Meeting.

3.2.5.3 Status of buyout on Guaranteed Maximum Price projects.

3.2.5.4 Current status of product submittals and shop drawings, requests for information (RFI), and Architect/Engineer's clarifications (ASI).

3.2.5.5 Status of Project changes and other items of significance, which could affect progress.

3.2.5.6 Status of the commissioning process for the Project.

3.2.6 In addition to the monthly Project Progress Meeting, the Owner may also schedule bi-monthly, weekly, or other Project meetings at various stages of the Project as conditions may dictate. However, the complete report requirements noted above will apply only to the monthly Project Progress Meetings.

3.3 UTILITY OUTAGES

3.3.1 The Contractor shall notify the Owner's Construction Inspector and the Owner's Project Manager, in writing, of any planned utility outages in accordance with Owner's Special Conditions.

3.3.2 A standard form for processing a request for utility shutdown or any other campus disruption is included in the Pre-Construction Brochure. The Contractor shall utilize this form, with attachments as necessary, in requesting an outage.

3.3.3 The Contractor shall not turn services on or off, without prior written authorization from Owner. Unless directed otherwise, the Owner will turn services on and off.

3.4 TESTING

3.4.1 Refer to the UGC and Section 01 45 00 – Project Quality Control for additional requirements.

3.4.2 Where specific testing is specified in a technical section of the Specifications or indicated in the Contract Documents, the Contractor shall bear the costs of all tests unless the Contract specifically states that it is to be paid for by the Owner.

3.5 INSPECTIONS

3.5.1 Refer to the UGC and Section 01 45 00 – Project Quality Control for inspection requirements not identified in this Section.

- 3.5.2 The Contractor shall provide sufficient, safe and proper facilities at all reasonable times for observation and/or inspection of the Work by the Owner and Owner's consultants. This shall include any and all equipment necessary for access to various aspects of the Work.

3.6 FINAL ACCEPTANCE AND PAYMENT

- 3.6.1 The Contractor shall notify the Architect/Engineer and Owner's Project Manager and Owner's Construction Inspector, in writing that the Work will be ready for final acceptance verification on a definite date, a minimum of ten (10) calendar days prior to such proposed date.
- 3.6.2 In addition to requirements noted for Substantial Completion in the UGC and Section 01 77 00 – Project Closeout Procedures, final payment and/or release of remaining retainage requires submission of the following:
- 3.6.2.1 Consent of Surety.
 - 3.6.2.2 Release of Liens and Claims.
 - 3.6.2.3 Affidavit of payment of Debts and Claims.
 - 3.6.2.4 Final Historically Underutilized Business Plan.
 - 3.6.2.5 Completed and signed EPA Notice Of Termination.
 - 3.6.2.6 Closeout of Owner's Contingency Allowance and/or Owner's Special Cash Allowance to a zero (\$0) balance.

3.7 ONE-YEAR WARRANTY

- 3.7.1 If informed of a defect, the Contractor shall remedy the defect at Contractor's own cost and respond in writing to the Owner's Project Manager and the notifying party within ten (10) calendar days indicating the action taken to resolve the defect. Refer to the UGC.
- 3.7.2 The Contractor shall attend any and all meetings to resolve warranty issues. The Contractor will provide a tracking log of all warranty issues and Contractor's resolution.
- 3.7.3 The Contractor shall participate in an end-of-warranty Project review with the Owner, as scheduled by the Owner's Project Manager, at a time prior to termination of the warranty period.
- 3.7.4 Per the UGC, unless directed otherwise in writing by the Owner, all warranties shall use the date of Substantial Completion as the start date for that particular warranty.
- 3.7.4.1 If any equipment and/or system is completed prior to the date of Substantial Completion, Contractor shall provide, at Contractor's own cost, for the necessary warranty extension required by the UGC.
 - 3.7.4.2 Contractor shall deliver all equipment to the Owner in an "as-new" condition. If equipment is put into service for the convenience of the Contractor, the Contractor shall, at Contractor's own expense, maintain, service and refurbish the equipment to "as-new" condition prior to delivery to the Owner.
- 3.7.5 Provisions described herein shall also apply to those items having warranties greater than one-year.

END OF SECTION 01 31 00

Attachment No. 1 – Application for Payment Example
(Obtain an Electronic Version of This Form From Owner's Project Manager)

☐ **Yes** ☐ **No**

**THE UNIVERSITY OF TEXAS
M.D. ANDERSON CANCER CENTER**

APPLICATION FOR PAYMENT - CONSTRUCTION MANAGER AT RISK

APPLICATION FOR PARTIAL PAYMENT No. (ENTER No.) PROJECT No. (ENTER No.)

FOR THE PERIOD: (ENTER BEGINNING DATE) TO: (ENTER ENDING DATE) INCLUSIVE.

NAME OF PROJECT: (ENTER PROJECT NAME)

CM-R NAME & ADDRESS: (ENTER CM-R NAME & ADDRESS)

TO BE COMPLETED BY THE CONSTRUCTION MANAGER AT RISK

	PRE-CONSTRUCTION SERVICES	+	CONSTRUCTION SERVICES (GMP)	=	TOTAL CONTRACT AMOUNT
1 Original Contract Amount:	\$ <u>0</u>		\$ <u>0</u>		\$ <u>0</u>
2 Approved Change Order Extras:	\$ <u>0</u>		\$ <u>0</u>		\$ <u>0</u>
3 Accepted Change Order Deductions:	\$ <u>0</u>		\$ <u>0</u>		\$ <u>0</u>
4 Current Contract Amount:	\$ <u>0</u>		\$ <u>0</u>		\$ <u>0</u>
5 Total Completed To Date:	\$ <u>0</u>		\$ <u>0</u>		\$ <u>0</u>
6 Less Total Retainage Held To Date:	<u>N/A</u>		\$ <u>0</u>		\$ <u>0</u>
7 Total Net Earned Amount:	\$ <u>0</u>		\$ <u>0</u>		\$ <u>0</u>
8 Less Previous Payments:	\$ <u>0</u>		\$ <u>0</u>		\$ <u>0</u>
9 Current Payment Due For Each Part:	\$ <u>0</u>		\$ <u>0</u>		\$ <u>0</u>
10 Balance To Finish, Including Retainage: (line 4 less line 7)	\$ <u>0</u>		\$ <u>0</u>		\$ <u>0</u>

AFFIDAVIT

Insurance: I, agent for the Construction Manager-at-Risk, do hereby certify that all insurances as required by law, and by the specifications, are in full force and effect as of this date.

Claims & Liability: I, agent for the Construction Manager-at-Risk, do furthermore certify that all current invoices and obligations have been paid in full, and there are no claims or liabilities against this contract.

Signature of CM-R

CONSTRUCTION MANAGER AT RISK'S NOTARIZED SIGNATURE

STATE OF TEXAS
COUNTY OF _____

Personally before me, the undersigned authority, this day appeared (PRINTED NAME OF CM-R AGENT) who being by me duly sworn, on his oath says that the account hereto attached, in the amount of (ENTER AMOUNT) is, within the knowledge of affiant, just true, and correct; that it is due and that all just and lawful offsets, payments, and credits have been allowed.

(STAMP SEAL BELOW)

Sworn to and subscribed before me, (CONTRACTOR SIGNATURE) this _____ day of _____, 20____.

Signature of CONTRACTOR

Notary Public

(NOTARY SIGNATURE)

Signature of Notary

(ENTER NAME OF COUNTY) County, Texas

**CONSTRUCTION SERVICES CERTIFICATE: TO BE COMPLETED BY THE PROJECT ARCHITECT/ENGINEER
TO THE BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM, AUSTIN, TEXAS and the M.D. Anderson Cancer Center, Houston Texas**

This is to certify that _____, Construction Manager-at-Risk
for the Project _____ is entitled to payment
for Construction Services of this Certificate in the amount of \$ _____

Architect/Engineer _____

Reviewed and Approved on _____ By: _____

Date

Signature of AE

PRE-CONSTRUCTION SERVICES : TO BE COMPLETED BY THE UTMACC PROJECT MANAGER

Current Payment For Pre-Construction Services \$ _____

Reviewed and Approved on _____ By: _____

Date

Signature of PM

CONSTRUCTION SERVICES : TO BE COMPLETED BY THE UTMACC PROJECT MANAGER

CM-at-Risk has submitted an updated Project Schedule:

CM-at-Risk has updated the Record Drawings:

This Pay Application includes a current Release of Retainage:

if "Yes", CM-at-Risk has included a "Consent of Surety":

Current Payment For Construction Services \$ _____

Reviewed and Approved on _____ By: _____

Date

Signature of PM

Attachment No. 2 – Schedule of Values Example
(Obtain an Electronic Version of This Form From Owner's Project Manager)

The U.T.M.D.A.C.C. Schedule of Values - Contractor's Estimate Continuation Sheet (8 1/2" x 11" Sheet ONLY)															
Project No.:							Project Address:								
Project Name:							Application For Payment Number:								
Construction Manager Name:							Application Period: From To								
A	B	C		D	E	F	G	H	I	J		K	L	M	N
Spec. Section / Bid Package	Description of Work / Subcontractor / Supplier / Vendor / Specification Section	Initial Proposed Line Item Values	Additional Services / GMP Change Order Values	Actual Subcontract Amount at Buyout	Delta (Proposed to Actual)	Subcontract, Purchase Order or Vendor No.	Detailed Breakdown of Contract Line Items	Total Amount Previously Requested & Percent			Current Application				Retainage (5%)
	Column Equations			C'	C - D		D'	L'	H / G	L - H	J / G	H + J	L / G	L x 5%	
Pre-Construction Services															
Programming (20% If Applicable)		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	N/A	
Schematic Design (20%)		\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%		
Design Development (20%)		\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%		
GMP Development (10%)		\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%		
Construction Documents (20%)		\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%		
Bidding/Proposals (10%)		\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%		
Additional Services		\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%		
Pre-Construction Services Subtotal		\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%		
Construction Services															
General Conditions															
On-Site Project Management Staff															
Project Scheduler		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Project Executive		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Superintendent(s)		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Office Engineer(s)		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Project Manager(s)		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Project Expeditor(s)		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Project Support Staff		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Assistant Superintendent(s)		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Safety Coordinator/Assistant(s)		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Out-of-State Project Specific Travel*		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Bonds and Insurance															
Builder's Risk Insurance		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
General Liability Insurance		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Payment and Performance Bonds		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Other Project Insurance as Required by Contract		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Temporary Project Utilities															
Dumpsters		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Project Water		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Project Electricity		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Temporary Toilets		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Monthly Telephone / Internet Service		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Temporary Fire Protection		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Street Rental and Barricades		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Telephone / Internet System Installation		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Fencing and Covered Walkways		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Temporary Water Distribution and Meters		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Temporary Electrical Distribution and Meters		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Site Erosion Control (BMP) and Project Entrance(s)		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Field Offices & Office Supplies															
Partnering Costs		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
First Aid Supplies		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Job Photos/Videos		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Reproduction Services		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	

SECTION 01 32 00 - PROJECT PLANNING AND SCHEDULING

PART 1 - GENERAL

1.1. RELATED DOCUMENTS

- 1.1.1. The Contractor's attention is specifically directed, but not limited, to the Uniform General and Supplementary General Conditions for University of Texas System Building Construction Contracts (UGC) for other requirements.

1.2. SUMMARY

- 1.2.1 **Time is an essential part of this Contract. Therefore the timely and successful completion of the Work requires careful planning and scheduling of all activities inherent in the completion of the Project.**
- 1.2.2 Contractor must develop the Project Schedule to allow for a minimum amount of Float for the Project during Pre-Construction and/or Construction Services. Contractor must format the Project Schedule in a manner that facilitates reporting of progress and trends, identification of all critical paths, identification of each activity's predecessor(s) and successor(s), risks and opportunities, projection of upcoming activities, and forecasting of Project milestones.
- 1.2.3 The Owner must be able to reasonably rely on the Contractor's Project Schedule for projected activity dates in order to make accurate commitments to design professionals, contractors, vendors, user group(s), campus administration, and other parties as necessary.
- 1.2.4 **Owner's acceptance of the Project Schedule and any subsequent update of the Project Schedule are acceptance of the format and extent of detail of the Project Schedule only. Owner's acceptance does not indicate approval of the Contractor's means or methods, or of any change to the contract terms including, without limitation, any required contract Milestone Activities.**
- 1.2.5 This Specification applies to all Project delivery methods, regardless of contract type, whether the contracting firm, referred to as the Contractor, is a General Contractor, Construction Manager-at-Risk (CM-R), or Design/Build (DB) Contractor.
 - 1.2.5.1 All references to Pre-Construction Services in this Specification shall apply to requirements for CM-R and DB contract types only.

1.3. DEFINITIONS

- 1.3.1. The term "Project Schedule", as used throughout the Contract Documents, shall refer to the schedule for the Project as developed, monitored, and maintained, by the Contractor's Project Scheduler, and as used by the Project Team during Pre-Construction and/or Construction Services.
- 1.3.2. The term "Project Team", as used throughout the Contract Documents, shall refer to the Owner, Architect, Design Consultants, Engineer, User, Contractor, Owner's Service Providers, and Subcontractors (as applicable) that are contracted and/or specifically assigned to the Project.
- 1.3.3. The term "Owner's Planning and Scheduling Specialist", as used throughout the Contract Documents, shall refer to the Owner's scheduling specialist representative, with all correspondence to be addressed to:
 - 1.3.3.1. M.D. Anderson Cancer Center
Capital Planning and Management, Mail Box 703
1515 Holcombe Boulevard, Suite 1010

- 1.3.4. The term "Data Date", as used throughout the Contract Documents, shall refer to the date of the Project Schedule update.
- 1.3.5. The term "Total Float" (Float), as used throughout the Contract Documents, shall refer to the number of calendar days an activity on the Longest Path can be delayed without delaying the Substantial Completion date.
 - 1.3.5.1. Negative Float indicates that the Project is late, while Positive Float is the property of the Project and does not belong to any one party (Refer to the UGC).
- 1.3.6. The term "Longest Path", as used throughout the Contract Documents, shall refer to the sequence of activities that determines the longest duration for the Project when the Float is greater than zero.
 - 1.3.6.1. The term "Critical Path", as used throughout the Contract Documents, shall refer to the sequence of activities that determines the longest duration for the Project when the Float is equal to or less than zero.

1.4. CONTRACTOR RESPONSIBILITY

- 1.4.1. The Contractor is responsible for planning, management, coordination, and scheduling of all activities from a Notice to Proceed for Pre-Construction and Construction to Final Completion of the Project within the time allotted by the Agreement.
- 1.4.2. The Contractor is responsible for keeping the Owner and the Project Team fully informed of schedule status and upcoming activities throughout the Project via the Project Schedule.
- 1.4.3. The Contractor is solely responsible for the schedule and status of all activities related to Pre-Construction, procurement of materials and subcontractors, construction, testing, inspection, commissioning, and Project turnover to the Owner. The Contractor shall integrate the schedule and status of Owner furnished services such as test, adjust, and balance. Contractor shall schedule completion of activities and proactively submit for Owner's review and approval, all documentation related to commissioning, including, but not limited to, the following. (Refer to Section 01 91 00 – Project Commissioning and Section 01 77 00 – Project Closeout Procedures for additional requirements.)
 - 1.4.3.1. Commissioning Plan.
 - 1.4.3.2. Equipment List/Matrix.
 - 1.4.3.3. Submittal Schedule.
 - 1.4.3.4. Format, content, and tab structure for Operating and Maintenance Manuals and submittal of binders.
 - 1.4.3.5. Request for Start-Up/Functional Performance Test Form.
 - 1.4.3.6. Prefunctional Checklists.
 - 1.4.3.7. Functional Performance Test Procedures.
 - 1.4.3.8. Integrated System Test Procedures.
 - 1.4.3.9. Additional Commissioning and Closeout Manual documentation.

- 1.4.4. The Contractor shall provide adequate and reasonable Project planning in sufficient detail throughout all Project phases, as applicable for all aspects of Contractor's Work, to ensure completion of all activities within the Contract Time.
- 1.4.5. The Contractor's Pre-Construction and Construction project management personnel shall actively participate in the planning and development of the Project Schedule and shall be prepared to review such development and progress with the Owner, Architect/Engineer, and any other members of the Project Team so that the planned sequences and procedures are clearly understood by all parties.
- 1.4.6. The Contractor shall plan for appropriate activity durations to allow for thorough review, procurement, submittal, installation, inspection, testing, and commissioning, of all Work and/or systems in order to confirm Contract compliance, including Work relying on Owner participation or coordination.

PART 2 – PRODUCTS

2.1 QUALIFICATIONS OF THE PROJECT SCHEDULER

- 2.1.1 The Contractor shall assign a Project Scheduler who shall be responsible for the Project Schedule throughout Pre-Construction and Construction Services.
- 2.1.2 The Contractor's Project Scheduler shall have at least an undergraduate degree in a construction related field, and continuous experience on similar size and type of project(s) within the past five (5) years, including at least two (2) years with the specified scheduling software.
 - 2.1.2.1 In lieu of a degree, the Contractor's Project Scheduler may have at least five (5) years continuous experience on similar size and type of project(s) with the specified scheduling software.
- 2.1.3 The Contractor's Project Scheduler shall be an integral part of the Project Team during Pre-Construction Services and shall be on-site full-time for Construction Services until at least Substantial Completion of the Work.
 - 2.1.3.1 The Contractor's Project Scheduler may have additional responsibilities such as Senior Project Manager, Project Manager, Superintendent, Assistant Project Manager, Assistant Superintendent, Project Engineer, etc.
 - 2.1.3.2 If the Contractor's Project Scheduler is outsourced, the Contractor shall assign an on-site contact for all Project Schedule related issues.
- 2.1.4 All Contractor personnel involved in the preparation, updating, and reporting of the Project Schedule shall possess adequate construction scheduling knowledge related to the Project, Critical Path Method (CPM) knowledge, and a general understanding of the specified software.

2.2 REQUIRED SCHEDULING SOFTWARE

- 2.2.1 Regardless of Project size or type, Contractor shall develop and maintain the Project Schedule using the latest version of Microsoft Project available as of the effective date of the Contract.

2.3 NAMING THE PROJECT SCHEDULE

2.3.1 The Contractor shall title the initial Owner approved Project Schedule, the Baseline Project Schedule: BPS1. Contractor may not “reset” the Baseline Project Schedule unless the Owner approves the reset.

2.3.1.1 If the Owner approves the Contractor’s request to “reset” the Baseline Project Schedule, the new Baseline Project Schedule shall be titled sequentially (i.e. BPS1, BPS2, BPS3, etc.).

2.3.2 Subsequent updates to the Baseline Project Schedule shall be named by the last two (2) digits of the year and the month (Example: a March 2004 Baseline Project Schedule title would be “BPS2-0403”).

2.4 PROJECT SCHEDULE DEVELOPMENT REQUIREMENTS

2.4.1 The Contractor shall assign a standard “Activity Code” using a custom field, to every activity or task; organized by at least the Project phase, stage, location, building, floor, area, elevation, or system, etc., (i.e. work breakdown structure) including the following primary Activity Codes:

<u>Activity Code & Description</u>	
CP	Contract Procurement
PP	Programming/Pre-Project Planning
SD	Schematic Design
DD	Design Development
CD	Construction Documents
BOR	U.T. System Board of Regents
GMP	Guaranteed Maximum Price
TH	THECB Approval
SP	Subcontractor Bidding / Procurement

<u>Activity Code & Description</u>	
C	Construction
GC	General Conditions
SU	Submittals
FD	Fabricate and Delivery
CI	Contractor Inspections
OI	Owner Inspections
Cx	Commissioning
TAB	Test, Adjust, and Balance
OP	Owner Provided - Contractor Installed

2.4.2 The Contractor shall assign a standard “Resource Code” to every Contractor, Subcontractor, Supplier, Fabricator, Installer, Design Consultant, Owner, and any other party responsible for the accomplishment of an activity, including, but not limited to, the following primary Resource Codes (as applicable):

<u>Resource Code & Description</u>	
AE	Architect / Engineer
Carp	Carpet
Casf	Casework Fabricator
Casi	Casework Installer
Cocw	Concrete Formwork
Conf	Concrete Finishing
Ctil	Ceiling / Acoustical Tile
Door	Doors & Frames
Dryw	Drywall / Light Gauge Stud Installer
Elec	Electrical
Elev	Elevator
Falm	Fire Alarm Systems
Fire	Fire Protection Systems
Ftil	Floor Tile
Furn	Furnishings

<u>Resource Code & Description</u>	
Omat	Owner’s Material Testing Firm
Otab	Owner’s Air Testing & Balance Firm
Owne	Owner
Pain	Paint & Wall Coverings
Pier	Piers / Piles / Caissons
Plas	Plaster / EIFS
Plum	Plum
Rebf	Reinforcing Steel Fabricator
Rebi	Reinforcing Steel Installer
Roof	Roofing
Sign	Signs
Site	Sitework
Stee	Steel Erector
Stef	Steel Fabricator
Mstf	Miscellaneous Steel Fabricator

<u>Resource Code & Description</u>	
Glas	Glass / Glazing
Hard	Hardware
Hvac	HVAC
Insu	Insulator
Irri	Irrigation & Landscaping
Labc	Laboratory Casework Fabricator
Labi	Laboratory Casework Installer
Lbeq	Laboratory Equipment
Masn	Masonry

<u>Resource Code & Description</u>	
Msti	Miscellaneous Steel Installer
Stut	Site Utilities
Tele	Telephone / Communication Systems
Terz	Terrazzo
Toia	Toilet Accessories
Toip	Toilet Partitions
Watp	Waterproofing / Damp proofing
Wodf	Wood Framer
Wods	Wood Framing Supplier

2.4.2.1 The Contractor shall use additional Owner approved Resource Codes, as applicable.

2.4.3 The Contractor shall use additional Secondary Task and Resource Codes, as necessary, to monitor, provide status, and report the Project Schedule.

2.4.4 The Contractor shall assign a unique "Work Breakdown Structure" (WBS Code) and "Task Name" to every activity. The WBS Code and Task Name must be meaningful, easily understandable by the Project Team, similar to like activities at differing locations, and as shown on the Contractor's Schedule of Values.

2.4.4.1 A Task Name shall start with a verb to indicate what is to be done and shall end with a location (Example: Install metal studs - 3rd floor Bldg B).

2.4.4.2 A "Milestone" Task shall refer to any major event or phase, or any other important point in the Project, including the following Tasks:

<u>Milestone Task & Description</u>
<ul style="list-style-type: none"> • NTP for Pre-Construction Services • Authorize Architect/Engineer Start • Submit for Owner Review • Joint Review for Owner Comments • Approve Schematic Design • Authorize Architect/Engineer Start • Submit for Owner Review • Joint Review for Owner Comments • Approve Design Development • FPCC Meeting Deadline • BOR Approval • Submit Construction Application • Approve Construction Application • Submit GMP • Approve GMP

<u>Milestone Task & Description</u>
<ul style="list-style-type: none"> • Authorize Architect/Engineer Start • Submit for Owner Review(s) • Joint Review(s) for Owner Comments • Approve Construction Documents • NTP for Construction Services • Partnering/Preconstruction Meeting • Establish Site Controls /Mobilize • Complete Primary Foundations • Structural Top-Out • Building Dry-In • Systems Commissioning • Substantial Completion • Final Completion • Operational Occupancy

2.4.4.3 A “Detailed” Task shall refer to a single Work event in the Project. The following table contains examples of Detailed Tasks for scheduling:

<u>Detailed Task - Example</u>	<u>Detailed Task - Example</u>
<ul style="list-style-type: none"> • Site Mobilization <p>Material</p> <p>Approval/Procurement</p> <ul style="list-style-type: none"> • Door Frames Shop Drawings • Contractor/AE review • Fabrication • Door Frame Delivery • Light Fixtures Submittal • Contractor/Architect/Engineer Review • Fabrication • Light Fixture Delivery • Sprinkler Shop Drawings/Calculations • Contractor/Architect/Engineer Review • Fabrication • Initial Equipment Delivery • Millwork Shop Drawings/Laminate Samples • Contractor/Architect/Engineer Review • Fabrication • Initial Millwork Delivery <p>Construction</p> <ul style="list-style-type: none"> • Layout/Top Track • MEP/Sprinkler Overhead Rough-In • Door Frames/Wall Framing • MEP In-Wall Rough-In • In-Wall Inspection • Corrections • Cover Walls • Tape and Float • Frame Ceilings • Furr-Downs/Recessed Light Coves • Furr Down/Ceiling Drywall Cover • Ceramic Tile • Plumbing Fixtures - Toilet Rooms • Prime/One-Coat Paint 	<ul style="list-style-type: none"> • Toilet Partitions • Ceiling Grid • Curtaintrack Blocking • Light Fixtures/Grilles/Sprinkler Drops/Smoke Detectors • Overhead Inspections • Overhead Corrections • Ceiling Cover • Light Coves • Sheet Vinyl Flooring • Millwork • Cast Plastic • Toilet Accessories • Dark Room Equipment • Plumbing Fixtures - Millwork • Doors • Hardware • Glass & Glazing/Blinds • Curtaintrack • Biosafety Cabinets/Fume Hoods • Darkroom Equipment • Lockers • Final Paint Coat/Wallcovering • MEP Trim • Film Illuminators • TV Support Brackets • Appliances • Carpet Flooring • Resilient Base • Wall Protection • Final Clean • Pre-Final Inspections • TAB • Start-up and Testing • Corrections

2.4.4.4 A “Summary” Task (i.e. Hammock) shall refer to a grouping (or a summary) of Milestone and/or Detailed Tasks in the Project Schedule.

2.5 PROJECT SCHEDULING METHOD REQUIREMENTS

2.5.1 "Retained Logic" is the required mode of Project Schedule processing.

2.5.2 The estimated Activity Duration of an activity shall be expressed in calendar days.

2.5.2.1 During Pre-Construction Services and Construction Services, the Project Team shall determine the maximum duration for any activity.

2.5.2.2 During Construction, the minimum duration for any Owner milestone inspection activity (i.e. concealed space, above ceiling, substantial and final completion) shall be at least three (3) work days per inspection and re-inspection, or as approved by the Project Team.

2.5.2.3 Estimated remaining Activity Durations shall be stated in work days, as of the Data Date of every Project Schedule update.

2.5.3 Except for the Notice to Proceed for Construction (Preconstruction for CM-R and DB contracts) and the Final Completion Date Milestone, activities shall not have "open ends".

2.6 PROJECT SCHEDULE ANALYSIS REQUIREMENTS

2.6.1 The Contractor shall use the CPM technique to determine the overall Project duration through the analysis of the durations of each of the activities, their schedule dependencies, and their resultant Float.

2.6.2 For CM-R and DB contracts, the Project Schedule shall include at least **20%** Float from the Notice To Proceed for Pre-Construction Services to the Substantial Completion date.

2.6.3 The Project Schedule shall include at least **10%** Float from the Notice To Proceed for Construction Services to the Substantial Completion date as identified by the Owner in the Notice To Proceed.

2.6.4 Float shall be shown as an activity within the Project Schedule. It should be the last activity prior to the Substantial Completion date Milestone.

2.7 COORDINATION WITH OTHER DOCUMENTS AND WORK

2.7.1 The Contractor shall coordinate the Project Schedule with the Contractor's Submittal Schedule and Schedule of Values, as required by the UGC and Section 01 31 00 - Project Administration (i.e. the Work breakdown structure shall be arranged, numbered, and described consistently across the various documents).

2.7.1.1 Cost and/or resource loading of the Project Schedule are allowed.

2.7.1.1.1 If the Contractor elects to cost-load the Project Schedule, the Contractor shall provide a separate Schedule of Values in the format required by the Owner in Section 01 31 00 - Project Administration.

PART 3 – EXECUTION

3.1 PLANNING AND SCHEDULING WORKSHOP

3.1.1 Within thirty (30) calendar days after a Notice To Proceed, the Contractor shall schedule and conduct a Planning and Scheduling Workshop with at least the Contractor's Project Scheduler, Project Manager, Superintendent, the Owner's Project Manager and Owner's

Planning and Scheduling Specialist (if applicable), the Architect/Engineer, Owner's representatives, and any available Subcontractors prior to submitting the Project Schedule to the Owner.

3.1.1.1 The Contractor shall schedule and coordinate the workshop with the Owner at least ten (10) calendar days prior to the Planning and Scheduling Workshop. The Contractor shall submit a complete draft Project Schedule to the Owner at least five (5) calendar days prior to the Planning and Scheduling Workshop.

3.1.1.2 The Contractor shall review the draft Project Schedule with the Project Team, including a verbal description of the logic and sequencing of activities, method for determining estimated Activity Durations and corresponding resources required, and any activities involving Owner participation and/or approval.

3.1.2 For CM-R and DB projects, Contractor shall schedule and conduct at least two (2) Planning and Scheduling Workshops. The first shall be within thirty (30) calendar days after a Notice to Proceed with Pre-Construction Services and the second shall be within thirty (30) calendar days after a Notice to Proceed with Construction Services for each "major" Guaranteed Maximum Price (GMP) Proposal executed.

3.1.3 Contractor's attendance at the Planning and Scheduling Workshop(s) and Owner's acceptance of the Baseline Project Schedule is a condition precedent to the Contractor submitting initial and any subsequent progress payments.

3.2 BASELINE PROJECT SCHEDULE SUBMITTAL

3.2.1 The Baseline Project Schedule shall be submitted to the Owner with the required Float within sixty (60) calendar days from the effective date of the Notice To Proceed for Pre-Construction and/or Construction Services (or as approved by the Owner in the Project Planning Scheduling Workshop).

3.2.1.1 A Baseline Project Schedule that does not have at least the minimum amount of Float at submission will result in the Contractor forfeiting all claims to Project Schedule extensions and/or delays as a result of Contract changes and/or excusable delays as described in the UGC.

3.2.1.1.1 If conditions arise prior to submission of the Baseline Project Schedule that are beyond the Contractor's control, the Contractor shall include an Executive Summary with the Baseline Project Schedule to justify the reduction in Float.

3.2.1.2 For CM-R and DB projects, the Baseline Project Schedule shall include identified Milestone and/or Summary Tasks for the remaining Work that has not been approved in an executed GMP Proposal for Construction Services.

3.2.1.2.1 When the Owner has approved the "full" scope of the Project (i.e. the last GMP Change Order has been executed), the Contractor shall coordinate with the Owner to "reset" the Baseline Project Schedule.

3.2.2 The Contractor shall submit one (1) electronic copy of the entire Baseline Project Schedule and one (1) paper copy of the following Baseline Project Schedule reports to the Owner within ten (10) calendar days when the "full" scope of the Project as been approved:

3.2.2.1 Graphic Time-Scaled Report or Gantt Chart: A graphic time-scaled view including all activities, early start and finish dates, estimated durations and Float sorted by Activity Code.

3.2.2.2 Milestone Activity Report: A listing of every Milestone Task and critical path sorted by early start date.

3.2.2.3 Detailed Activity Report: A listing of every Detailed Task sorted by early start date including a fully completed predecessor and successor column.

3.2.3 When the Owner has approved the initial Project Schedule, it shall be referred to as the Baseline Project Schedule, and shall be used for all future Project Schedule updates and reports as "BPS1."

3.2.3.1 For CM-R and DB projects, the Project Schedule shall include Milestone and Summary Tasks until thirty (30) calendar days prior to the submittal of a GMP Proposal for Construction Services. The Project Schedule shall also include Detailed Tasks for at least the first ninety (90) calendar days of Construction Services when submitted with the GMP Proposal.

3.3 UPDATING THE PROJECT SCHEDULE

3.3.1 When the Owner has approved the Baseline Project Schedule, the Contractor shall update the Project Schedule for Pre-Construction and Construction Services at least once per calendar month and submit reports at least seven (7) calendar days prior to the Owner's monthly Project Progress Meeting.

3.3.1.1 Project Schedule updates shall be based on actual Work progress, current logic, and remaining durations.

3.3.1.2 The Owner will determine which meeting will be designated as the Owner's monthly Project Progress Meeting.

3.4 MONTHLY PROJECT SCHEDULE REPORTS

3.4.1 The Data Date for all Project Schedule Update Reports shall be current within five (5) calendar days of submission to the Owner.

3.4.2 Contractor shall submit a Total Float usage log with Contractor's monthly Project Schedule Update Reports that identifies the number of days lost or gained each month.

3.4.3 Owner retains the authority, which shall not be unreasonably withheld, to approve or reject Contractor's utilization of Total Float. If Contractor desires to utilize a portion or all of the Total Float, Contractor must submit a written request with its monthly Total Float usage log to the Owner seeking Owner's written approval of utilization of Total Float.

3.5 SUBMITTING MONTHLY PROJECT SCHEDULE REPORTS

3.5.1 The Contractor shall submit one (1) electronic schedule back-up in ".mpp" format and one (1) paper copy of the Project Schedule to the Owner.

3.6 FORMATING PROJECT SCHEDULE REPORTS

3.6.1 Electronic copies shall be submitted on compact discs and as attachments to electronic mail.

3.6.1.1 All electronic Project Schedule submittals shall be "backups" created in the specified software and included on the website if required, within one (1) calendar day of required completion.

3.7 PROJECT SCHEDULE SLIPPAGE

3.7.1 If the Project Schedule indicates schedule slippage for two (2) consecutive calendar months or if the Owner notifies the Contractor of a determination that the Work is behind schedule,

the Contractor shall develop a "Recovery Plan" to make immediate revisions to the work force, work-hours, shifts, material deliveries, or any other aspects of the Work.

3.7.2 The Contractor shall submit the "Recovery Plan" to the Owner, as required in the UGC, clearly describing all changes in the Project Schedule or work enacted and/or planned in order to ensure completion by the Contract Substantial Completion date.

3.7.2.1 The Owner has the right to review and comment on any "Recovery Plan" activities that include Owner participation or affect any Owner consultants or outside contractors.

3.7.3 When the Owner approves the "Recovery Plan", the Contractor shall incorporate the proposed revision into the Baseline Project Schedule.

3.8 PROJECT SCHEDULE CHANGES

3.8.1 If the Owner or Architect/Engineer issues a Change Proposal, the Contractor shall submit a proposed revision for all proposed Contract changes that affect the Substantial Completion date or remaining Float with the Change in Work Cost Analysis Form.

3.8.1.1 Proposed revisions shall be accompanied by a narrative listing of the affected activities including a statement of the expected overall impact of the change proposed.

3.9 EXCUSABLE DELAYS AND TIME EXTENSIONS

3.9.1 Excusable delays shall be administered per the UGC.

3.9.2 If an excusable delay extends the Contract Substantial Completion date, the Owner may extend the Contract time by the number of excusable calendar days lost on the Project Schedule or take other actions as appropriate under terms of the Agreement.

3.9.2.1 Change Proposal pricing that does not impact the Substantial Completion date or does not include a proposed revision prior to approval by the Owner shall not include a time extension.

3.9.3 Once the Owner accepts a time extension and authorizes the Contractor to proceed with the Contract change, the proposed revision shall be incorporated into the Baseline Project Schedule.

END OF SECTION 01 32 00

SECTION 01 35 16 – ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.

1.02 SUMMARY

- A. Basic and supplemental requirements for Work that alters existing facility components, systems or equipment.

1.03 REFERENCE STANDARDS

- A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.
- B. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.
- C. All materials, installation and workmanship shall comply with the applicable requirements and standards addressed within the Contract Documents.

1.04 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.
- C. Demolish: Completely remove and legally dispose of off-site.
- D. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- E. Remove and Salvage: Detach items from existing construction and deliver them to Owner [ready for reuse].
- F. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- G. Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner [ready for reuse]. Include fasteners or brackets needed for reattachment elsewhere.
- H. Recycle: Recovery of demolition waste for subsequent processing in preparation for reuse.

- I. Existing to Remain: Existing functional items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.
- J. Sensitive Area: The following areas are considered "Sensitive" by MD Anderson Cancer Center:
 - 1. Sensitive Areas listed apply to human and animal occupancies.
 - 2. Additional areas may also be considered Sensitive as determined by MD Anderson Cancer Center for a particular project. The Contractor shall coordinate with the Owner's Project Manager prior to any installation Work to identify Sensitive Areas not listed.
 - a. Operating Rooms
 - b. Invasive Procedure Rooms
 - c. Bone Marrow Transplant / Protective Environment Areas
 - d. Intravenous Procedure Rooms (Chemotherapy)
 - e. Intensive Care
 - f. Inpatient Recovery Rooms
 - g. Sterile Supply Storage
 - h. Sterile Processing
 - i. Pharmacy I V Admixture
 - j. Pharmacy Drug Preparation
 - k. Pharmacy Drug Storage
 - l. Food Preparation, Storage, Serving
 - m. Data Centers
 - n. Electrical Equipment Rooms
 - o. Telecommunication Rooms
 - p. Potable Water Storage Tanks
 - q. Any Room Containing Imaging Equipment that May be Damaged Due to Water Leakage (MRI, Cat Scan, Etc.)
 - r. Animal Holding Rooms
 - s. Animal Procedure Rooms
 - t. Laboratory Clean Rooms

1.05 QUALITY ASSURANCE

- A. Perform remodeling, alteration, demolition, cutting, patching, removal, refinishing, relocation, and disposal work in accordance with Federal, State, and local health and safety standards, codes, ordinances, and the University of Texas MD Anderson Cancer Center Institutional Safety Policies. Where conflicts occur, comply with the more restrictive requirements.
- B. Perform remodeling, alteration, demolition, cutting, patching, removal, refinishing, and relocation work in such a manner as to preserve the aesthetic and structural integrity of materials and construction.
- C. When the Contractor determines that it is unavoidable to locate new fan coil units, drainage piping, or waste piping above a Sensitive Area, the Contractor shall notify the Owner's Project Manager in writing and obtain a clear direction to proceed prior to any installation of Work.
- D. When the Contractor determines that an existing penetration cannot be sealed due to accessibility, constructability or any other condition, the Contractor shall notify the Owner's Project Manager in writing and obtain a clear direction to proceed prior to any installation of Work.
- E. When the Contractor determines that an existing fan coil unit cannot be relocated beyond the perimeter of a Sensitive Area, the Contractor shall notify the Owner's Project Manager in writing and obtain a clear direction to proceed prior to any installation of Work.
- F. Portions of the existing remaining medical vacuum and gas systems affected by Work within this Project shall be re-certified in strict accordance with NFPA 99.

1.06 SUBMITTALS

- A. Submit schedule for all proposed shut-downs prior to start of Work. The Contractor shall notify the Owner's Construction Inspector and the Owner's Project Manager, in writing, of any planned utility outages in accordance with Owner's Special Conditions.
- B. Work with noise-producing equipment is subject, at all times, to Owner's approval of entire procedure. Submit a schedule of all such operations to the Owner's Project Manager at least two weeks in advance of need and secure approval of the Owner before proceeding.

1.07 NEW AND EXISTING PENETRATIONS

- A. All new and existing penetrations through rated partitions and floor slabs within the Project boundary shall be sealed to provide a fire/smoke rating equal to or greater than the rating of the floor slab.
- B. All new and existing penetrations through floor slabs within the Project boundary shall be sealed watertight.

1.08 EXISTING COMPONENTS ABOVE SENSITIVE AREAS

- A. All existing sanitary waste, sanitary vent and storm drainage piping located within the ceiling or exposed above a Sensitive Area shall be provided with heavy-duty joint connections having a minimum 15 psi pressure rating and meeting the performance criteria of Factory Mutual 1680.3.

- B. All existing piping located within the ceilings or exposed above a Sensitive Area receiving cooling coil condensate, ice machine drainage or conveying contents having temperatures below 55 degrees F shall be insulated and vapor sealed to prevent condensation.
- C. Existing fan coil units located within the ceiling or exposed above a Sensitive Area shall be relocated to a position beyond the Sensitive Area.

1.09 JOB CONDITIONS

- A. Visit the Project Site to determine by inspection all existing conditions, including access to the Site, the nature of structures, objects, and materials to be encountered, and all other facts concerning or affecting the Work. Information on the Drawings showing existing conditions does not constitute a guarantee that other items may not be found or encountered.
- B. Obvious existing conditions, installations, and obstructions affecting work of this Section shall be taken into consideration as necessary work and included as part of work of this Section, the same as though completely shown or described.
- C. Seal off areas in which work is in progress from the occupied portions of the building to prevent entry of dust and noise into occupied portions of the building. Take all necessary measures to limit the amount of dust and dirt rising and scattering in the air to the lowest practical level.
 - 1. Where Work occurs immediately adjacent to occupied portions of the building, construct dust-proof partitions of nominal 3-5/8 inch metal studs with 5/8-inch Type X drywall, full height on both sides. Tape joints on the occupied side at non-fire rated partitions. Tape both sides full height at fire rated partitions. Fill partition cavity with sound-deadening insulation.
 - 2. Equip partitions with dustproof doors and security locks.
- D. If temporary closures block required exits, provide closures with acceptable openings equipped with gasketed, self-closing doors that open in the direction of exit as approved by authorities having jurisdiction.
- E. Provide temporary barricades and other forms of protection to protect Owner's personnel and general public from injury due to remodeling work.
 - 1. Provide protective measures as required to provide free and safe passage of Owner's personnel and general public to occupied portions of building.
 - 2. Erect temporary covered passageways as required by authorities having jurisdiction.
 - 3. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished and adjacent facilities or work to remain.
 - 4. Protect from damage existing finish work that is to remain in place and becomes exposed during remodeling operations.
 - 5. Protect floors with suitable coverings when necessary.
 - 6. Cover and protect furniture, equipment, and fixtures from soilage or damage when demolition work is performed in areas where such items have not been removed.

7. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces and installation of new construction to ensure that no water leakage or damage occurs to structure or interior areas of existing building.
 8. Remove protections at completion of work.
- F. Furnish and maintain temporary types of protection as necessary to adequately protect and prevent accidental injury to the public, Owner's personnel and personnel employed at the work. Take all necessary precautions to keep trespassers out of work areas. Properly secure work areas from entry when work is not in progress.
 - G. Conduct demolition and removal operations and the removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

1.10 TEMPORARY ELEVATOR USE

- A. Designated existing elevators may be used by construction personnel and for materials. Coordinate use with Owner. Provide protective coverings for finish surfaces of cars and entrances.

1.11 EXISTING UTILITIES AND CONDITIONS

- A. The location and description of utilities and conditions shown on Drawings are indicated from information available and are approximate only. Verify existing utilities and conditions.
- B. Protect existing utilities and conditions from damage. Repairs to utilities and conditions damaged during the Work shall be the responsibility of the Contractor and shall be made promptly at no additional cost to the Owner.
- C. Maintain existing utilities in operation at all times except where specific permission is given by Owner's Project Manager. Support and protect all exposed piping and utilities during demolition and utility rough-in.
- D. All outages of utilities, sidewalks, parking areas, driveways or facility access shall be scheduled in advance with Owner in accordance with Owner's Planned Utility Outage Procedure as specified within Section 00 25 00 – Owner's Special Conditions.
- E. Notify the Owner's Project Manager and all concerned parties prior to disconnecting and terminating abandoned utilities.

1.12 REMOVAL OF EXISTING CONSTRUCTION

- A. Where permanently disconnecting domestic water, medical vacuum, medical gas, natural gas, treated water, drainage, vent, or other piping serving removed fixtures, inlets, outlets or equipment, remove all associated piping back to remaining active mains.

- B. All existing floor drains that will not remain in service after Project completion shall be isolated from the remaining active building drainage and vent system. Floor drain bodies remaining within slabs shall be sealed watertight. Slab shall be finished to allow specified application of flooring or to match surface of the adjacent finished area. Completed patching of the slab shall prevent the passage of water and provide a structural integrity and fire rating equal to or greater than the existing slab. Remove all associated piping serving decommissioned floor drains located in suspended slabs back to remaining active mains.
- C. All existing wall penetrations that will be unused due to removal of piping shall be permanently sealed to maintain the fire rating of the wall or floor.
- D. All existing floor penetrations that will be unused due to removal of piping shall be permanently sealed to maintain the fire rating of the floor and to provide a watertight seal.
- E. All existing supports serving removed piping, duct, conduit and equipment shall be removed.
- F. Carefully remove and store all items indicated or required to be reused.
- G. Perform demolition and removal work completely and remove debris from the Site. Use such methods as required to complete the Work within the limitations of governing regulations.
 - 1. Proceed with demolition and removal work in a systematic manner, from the top to the bottom in areas indicated.
 - 2. Remove debris in covered carts to limit air pollution.
 - 3. Locate demolition equipment throughout the structure and remove materials so as to not impose excessive loads to supporting walls, floors, or framing.
 - 4. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- H. Cutting:
 - 1. Structural Elements: If not specifically shown, but removal or alteration is required, perform such removal or alteration only upon written approval of the Architect/Structural Engineer. Do not damage or alter any structural element of the existing building. Where drilling or fastening to post-tensioned reinforced concrete construction is required, X-ray existing structure to determine tendon locations and potential for tendon tension release before proceeding. Notify Architect/Structural Engineer in each instance when conflict occurs. Architect/Structural Engineer will determine corrective action required. Do not proceed until corrective action has been received.
 - 2. Concrete: Saw cut where exposed to view. Jack hammering with electric or pneumatic equipment is acceptable only with scheduled approval of Owner.
 - 3. Masonry: Cut back masonry to joint lines and remove old mortar allowing space for repairs.
 - 4. Ceramic, Structural Clay Tile, and Quarry Tile: Saw cut to natural joint lines; remove so that repairs or continuations of new work will be relatively imperceptible.
 - 5. Resilient Tiles: Remove in whole units to natural breaking points and/or straight joint lines with no damaged or defective existing tiles remaining where joining new construction.

6. Plaster: Cut back to sound plaster on straight lines, and back bevel edges of remaining plaster. Trim and prepare existing lath for tying of new lath.
 7. Woodwork: Cut back to a joint or panel line.
 8. Existing Doors, Frames, and Sash: Remove in such manner as to facilitate filling in of openings or installation of new work, as required by the Drawings.
 9. Cutting for Access to Mechanical and Electrical Systems: Removal of existing ceilings and the removal, cutting, and patching and replacement of existing walls and floors as may be necessary for access to valves, piping, conduit, and tubing by mechanical and electrical trades shall be included and performed as an obligation of, and as directed by the Contractor and accepted by the Owner.
- I. Patching, Repairing, and Finishing Existing Work:
1. Perform in compliance with the applicable requirements of the Specification technical Section covering the work to be performed and the requirements of this Section.
 - a. All holes and damaged areas exposed to view in ceilings, walls, and floors of all finished spaces shall be repaired. Repaired construction shall match existing adjacent construction and finish, unless otherwise indicated or specified.
 - b. Minor surface abrasions, small nail holes, cracks, aged checked natural wood finish and other similar deterioration not visible, when viewed under finished lighting conditions, from a distance of 6 inches will not be required to be repaired if the base material is sound and suitable to receive the scheduled finishes, if any.
 - c. Interior penetration holes in walls and ceilings of unfinished spaces and spaces not exposed to view shall be grouted and sealed with accepted materials to equal the sound seal and fire resistance rating of original construction.
 - d. Penetration holes through exterior walls above grade shall be grouted and sealed as required to produce a weather tight seal.
 - e. Penetration holes through exterior walls below grade shall be grouted and sealed to produce a watertight seal.
 2. Concrete: Edges of existing concrete shall be kept damp for 24 hours and scrubbed with neat portland cement grout just before new concrete is placed; in lieu thereof, an accepted epoxy concrete adhesive may be used. Finish shall match existing adjoining work. Unless otherwise specified, all concrete for patching shall be 3,000 psi concrete. Reinforcing bars and dowels shall be provided where required. Where installation of concrete is impracticable, the openings shall be filled with dry packed non-shrink grout as directed.
 3. Masonry: Patch with sound whole units to match existing. Joints shall match adjoining surfaces.
 4. Lath: Lath areas to be patched as required, install as required for new lath, and wire-tie to existing lath at edges at 6 inch (15.2 cm) intervals. Lap lath 3 inch (7.6 cm) minimum.
 5. Plaster: Dampen edges of existing plaster. Plaster patching shall be 3 coat work of type, thickness, and finish to match the existing work.

6. Damages: Promptly repair damages to adjacent facilities caused by demolition and removal operations at no additional cost to the Owner.
7. Painting and Finishing:
 - a. Preparation: Prepare patched areas as required for new work. Wash areas to be repainted with neutral soap or detergent, thoroughly rinse, and sand when dry. Feather remaining paint edges smooth with sandpaper.
 - b. Painting and Finishing: Conform to the applicable provisions of Painting Section. Prepare and build up bare areas and patches in existing painted surfaces with proper primer and intermediate coats, sand smooth and flush with adjoining surfaces. Paint all areas scheduled to be painted and/or repainted as specified in Painting Section of the Specifications, except the first or primer coat may be omitted on existing painted surfaces.
- J. Disposal of Debris: Clean up all material, debris, and rubbish resulting from remodeling work, remove from the building and Site, and legally dispose of. Leave all areas of work in "broom clean" condition.
 1. All debris shall be transported out of the building in covered carts with no materials extending above the cart rim.

PART 2 - PRODUCTS

2.01 GENERAL

- A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.
- B. Matching Existing Work: Except where otherwise specifically indicated or specified as a definite change, the finish materials and appearance of the new work shall match the existing contiguous materials and finishes in all respects. Repairs and/or continuations of existing work shall be relatively imperceptible in the finished work when viewed under finished lighting conditions from a distance of 6 feet (1.8 meters).

PART 3 - EXECUTION

3.01 SEQUENCING AND SCHEDULING

- A. Schedule Work so as to impose a minimum of hardship on the present operation of the facilities and the performance of the work of other trades.
- B. Maintain existing utilities indicated to remain; keep in service and protect against damage during demolition and removal operations.
- C. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by Owner. Provide temporary services during interruptions to existing utilities, as acceptable to the governing authorities.

3.02 POST DEMOLITION CONFERENCE

- A. Coordinate, schedule and conduct post demolition meetings prior to installation of new Work.

1. Purpose: Communicate existing conditions revealed by demolition that are not identified on Contract Drawings. Determine scope, cost and schedule impacts and obtain a clear direction to proceed.
2. Attendees: Contractor, Owner's Project Manager, Architect/Engineer.

3.03 INSTALLATION

- A. Check Drawings carefully and thoroughly investigate existing building construction.
- B. Protect work to remain from damage. Use barricades, tarpaulins, temporary walls, plywood, planking, masking, and other suitable means and methods as accepted.
 1. Restore accidental or careless damage to work to remain in place to a condition as good as or better than existed before work was commenced and at no additional cost to the Owner.
- C. Provide all shoring and bracing necessary to positively protect existing elements of the building. Use material adequate to support anticipated loads with a properly calculated margin of safety. Provide for transfer of stresses to successively lower construction.
- D. All work must be staged and performed so that disruption to occupied areas is minimized and so that these areas are available and suitable for their intended use during normal hours of operation. Any work that would incur excessive noise, dust, or disruption must be scheduled in advance with the Owner's Project Manager.
- E. Carefully remove and replace items of existing construction indicated to remain upon completion of the Contract, but which require removal to complete the work. Match condition of construction prior to the start of the Work unless otherwise required. Carefully remove items indicated for relocations in new Work, or to be retained by Owner, to avoid damage, thoroughly clean, and reinstall as indicated or store as directed.
- F. Items of salvable value to the Contractor may be removed from the structure as the work progresses. Salvaged items must be transported from the Project Site as they are removed. Storage or sale of removed items on the Project Site will not be permitted.
 1. Remove and dispose of all demolition materials, equipment and debris off premises, unless identified for salvage on the drawings. Deliver salvaged items to a location within a 5 mile radius of UTMDACC as directed by the Owner's Project Manager. Protect and store all items identified for reuse. Contractor assumes no salvage value for items removed and not reused in the Project.

END OF SECTION 01 35 16

SECTION 01 35 23 – PROJECT SAFETY (OCIP)

PART 1 – GENERAL

1.1 OVERVIEW

The Owner's objective is an injury and incident-free Project, with a focus on safety that shall not be compromised to achieve any other business objective. The Contractor shall structure an effective and systematic safety management approach that emphasizes continuous improvement.

1.2 GENERAL REQUIREMENTS

The Owner recognizes that the Contractor and Subcontractors may have existing safety management programs with established safety policies, processes, procedures, and work practices. The Owner will support these where they prove to be effective and meet the intent and purpose of this Section. Upon request by the Owner, the Contractor and/or Subcontractors (of any tier) shall promptly produce and provide copies of any required documents related to Project safety. Where opportunities for improvement are identified, Contractor and Subcontractors shall work collaboratively with OFPC toward making appropriate revisions to progress toward an injury and incident free workplace.

1.3 DEFINITIONS

- 1.3.1 The term "Owner's Safety Representative" (OSR) as used throughout the Contract documents shall refer to any construction safety professional who is acting on behalf of the Owner. This will include, but may not be limited to the OFPC Safety Inspector, the OFPC Safety Analyst, and all Risk Control Consultants associated with Owner Controlled Insurance for the Project.
- 1.3.2 The term "Project Safety Coordinator" (PSC) as used throughout the Contract documents shall refer to the Contractor's construction safety professional who is acting on behalf of the Contractor and who shall be responsible for safety training, inspections, incident investigations, record keeping, reporting, incident response, and claims management, and shall serve as the technical advisor to the Contractor's project staff for all safety issues.
- 1.3.3 The term "Project Safety Assistant(s)" (PSA) as used throughout the Contract documents shall refer to any Contractor's construction safety professional who is acting on behalf of the Contractor and who shall perform safety related tasks as delegated by the PSC.
- 1.3.4 The term "Subcontractor's Safety Representative" (SSR) as used throughout the Contract documents shall refer to a person employed by the Subcontractor of any tier who is designated to be the "competent" safety representative and possesses the proper credentials for the position. Subcontractors shall provide at least one SSR per shift.
- 1.3.5 The term "qualified" as used throughout this Section shall match the definition within the OSHA construction safety standards (Title 29 CFR, Part 1926). *Qualified means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the Project.*
- 1.3.6 The term "competent" as used throughout this Section shall match the definition within the OSHA construction safety standards (Title 29 CFR, Part 1926). *Competent person means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.*
- 1.3.7 The term "Construction Area" as used throughout this Section shall refer to the portion of the Owner's property that is released to the Contractor's control and is designated by the Contractor as the space where actual construction efforts will be undertaken to execute the Work.
- 1.3.8 The term "Administration Area" as used throughout this Section shall refer to the portion of the Owner's property that is released to the Contractor's control and is designated by the Contractor as

the space where support efforts will be undertaken to provide administrative needs for the Work. If the Project has Project office trailers within the confines of the Owner's property, that space and the parking area around it may be designated as an Administration Area.

- 1.3.9 The term "worker" as used throughout this Section shall refer to any person who has successfully completed the Project safety orientation.
- 1.3.10 The term "visitor" as used throughout this Section shall refer to any person who has not successfully completed the Project safety orientation. Visitors shall not be allowed access to the "construction areas" unless they are escorted by a member of the Contractor's Project management staff or OFPC.
- 1.3.11 The term "Owner's Designated Representative" (ODR) as used throughout the Contract documents shall refer to the individual assigned by the Owner to act on 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 to the contract.

1.4 PURPOSE

- 1.4.1 The Contractor shall bear overall responsibility for all aspects of safety at the Project.
- 1.4.2 The Contractor shall, at all times, provide adequate resources, equipment, training, and documentation to:
 - 1.4.2.1 Assure compliance with the requirements of this Section and all Federal, State, and local statutes, standards, and regulations.
 - 1.4.2.2 Assure a safe work environment at the Project.
 - 1.4.2.3 Instill a culture for safe behavior in all supervisors and workers.
 - 1.4.2.4 Ensure a universal understanding that safety and health issues take precedence over all other considerations at the Project.
- 1.4.3 In any circumstance where this Section differs from, or conflicts with any statutory requirement, the more stringent shall apply.
- 1.4.4 The Owner reserves the right to have any manager, supervisor or worker removed from the Project for disregarding Project safety requirements. Removal of Project Superintendent, PSC, PSA or SSR may result in work stoppage that will remain in effect pending approval of a suitable replacement.
- 1.4.5 The Owner reserves the right to deduct from the Contract any safety related expenses that the Owner incurs as a result of the Contractor's, or any Subcontractor's, failure to comply with the requirements of this Section.
- 1.4.6 The Owner will deny requests for time extensions and/or monetary considerations whenever the Owner intercedes on behalf of safety compliance as a result of Contractor failure to act as required by Contract.

1.5 RELATED DOCUMENTS

In addition to specific references indicated herein, the Contractor's attention is also directed, but not limited, to the following Publications and documents:

- 1.5.1 Current edition of Uniform General and Supplementary Conditions for The University of Texas System Building Construction Contracts (UGC);

1.5.2 Owner's Special Conditions;

1.5.3 Current edition of OSHA Safety Standards for the Construction Industry, CFR Title 29, Part 1926.

PART 2 – PRODUCT

2.1 PROJECT SAFETY COORDINATOR (PSC)

- 2.1.1 One (1) PSC shall be provided by the Contractor and shall be assigned full time and dedicated to the Project from the commencement of construction until at least Beneficial Occupancy.
- 2.1.2 Overall career experience must include at least seven (7) years in building construction safety.
- 2.1.3 Primary experience of the proposed PSC during six (6) of the recent seven (7) years of work history must have been solely dedicated to building construction safety with at least five (5) years of construction safety management experience. The PSC must have practical knowledge, working experience, and documented continuing education in areas such as fall protection, scaffolds, excavation, confined space, crane/equipment operations, electrical, incident investigation, and other such safety/health related training. An OSHA 10/30 hour Construction Outreach certificate will not be acceptable for this training requirement. The PSC shall possess a certificate of completion for the OSHA 500 or 502 (Train the Trainer in Occupational Safety and Health for Construction Industry). The certificate must be dated within four (4) years of the executed Contract. The PSC must show evidence of specialized training for Emergency First Aid, Cardio Pulmonary Resuscitation (CPR), and Automatic External Defibrillator (AED) current to within two (2) years. Formal submittal of proof must be provided prior to acceptance and before any portion of the Work will be allowed to commence. Any candidate proposed that does not meet these minimum qualifications will not be accepted.

2.2 PROJECT SAFETY ASSISTANT (PSA)

- 2.2.1 Each PSA shall be assigned full time and dedicated to the Project and shall have no additional duties other than safety.
- 2.2.2 The initial one (1) PSA shall be provided by the Contractor and shall be assigned full time and dedicated to the Project until at least Substantial Completion. ODR concurrence required prior to release. The initial PSA must be assigned full time and present on the project at the time that the average daily population reaches twenty-five (25) persons.
- 2.2.3 A second PSA shall be provided by the Contractor when the average daily population at the Project rises to one hundred and fifty (150) persons. Additional PSAs shall be provided by the Contractor when the average daily population increases by another increment of one hundred and fifty (150) persons. The additional PSAs shall remain on the Project until the average daily population falls below the number that required them to be added.
- 2.2.4 Primary experience of any proposed PSA, during the recent six (6) years of work history must include at least five (5) years that have been dedicated solely to building construction safety. The PSA must have practical knowledge, working experience, and documented continuing education in areas such as fall protection, scaffolding, excavations, confined spaces, crane/equipment operations, electrical, incident investigation, and other such safety/health related training. An OSHA 10/30 Construction Outreach certification will not be acceptable for this training requirement. The PSA shall possess a certificate of completion for the OSHA 510 (Occupational Safety and Health Standards for the Construction Industry). The certificate must be dated within four (4) years of the executed Contract. The PSA must show evidence of specialized training for Emergency First Aid, Cardio Pulmonary Resuscitation (CPR) and Automatic External Defibrillator (AED) current to within two (2) years. Formal submittal of proof must be provided prior to acceptance. Any candidate proposed that does not meet these minimum qualifications will not be accepted.

2.2.5 The ultimate number of PSA(s) at the Project shall be dictated by the value for construction services (Construction Cost Limit) as follows:

2.2.5.1 For up to and including Ten Million Dollars (\$10,000,000), only the PSC shall be required.

2.2.5.2 For projects of Ten Million Dollars (\$10,000,000) up to and including Thirty Million Dollars (\$30,000,000), the PSC and the initial PSA will be required. For projects over Thirty Million Dollars (\$30,000,000) up to and including One Hundred Eighty Million Dollars (\$180,000,000), the PSC, initial PSA and an additional PSA will be required. For projects over One Hundred Eighty Million Dollars (\$180,000,000), the PSC, initial PSA, and two (2) additional PSAs will be required. Based on scope of work and/or anticipated hazard(s), additional PSA(s) may be required. Any additional PSA(s) beyond those noted above shall be determined and negotiated by the ODR prior to GMP.

2.2.5.3 For Contracts that involve multiple Phases, Stages, and Change Orders, the value for construction services shall accumulate as additional packages of Work are added to the overall Contract. If there are significant population gaps between the head count at the start of a new GMP and the declining count of the previous one, the ODR will decide if the new GMP shall relax only the demand for additional PSAs.

2.3 PSC AND PSA (PSC/A)

2.3.1 The qualifications and previous work experience of the initial PSC/A shall be submitted with the RFP. Based on final Contractor selection for the project, additional information for the PSC/A may be required prior to written acceptance for the position. Any PSC/A additions or changes after the acceptance date must be formally submitted for consideration to the ODR. In the case of the PSC, work shall not be allowed to commence prior to written acceptance by the ODR. In the case of the PSAs, each must be assigned to the project on or before the worker count reaches the numbers indicated in section 2.2.3. Any cost related to the Contractor's failure to meet this requirement will not be reimbursed by the Owner and additional time extension of the Project schedule will not be allowed.

2.3.2 For two (2) years of military service that cites safety training or an Associate's Degree in a field of study that contains significant safety training, two (2) years of required experience will be credited for the requirements listed above. For four (4) years of military service that cites safety training or a Bachelor's (Undergraduate) Degree in a safety related field, four (4) years of required experience will be credited for the requirements listed above. Military experience and/or degree will only receive credit once. A professional certification in a safety related field (CSP, OHST, CHST, etc.) may receive credit for up to four (4) years of experience in addition to the years noted above. The Owner reserves the right to determine year(s) of credit based on recognition of certification, requirements to receive certification, and continuing education requirements to maintain certification.

2.3.3 The PSC and/or at least one PSA must be on the project at any time that workers are present.

2.4 SUBCONTRACTOR'S SAFETY REPRESENTATIVE (SSR)

2.4.1 Each tiered Subcontractor shall declare one (1) or more employees to be its designated SSR. The SSR shall be dedicated to the Project for on-site safety services.

2.4.2 The SSR may have collateral duties, but must be on the Project site when any part of the applicable Subcontractor's Work is being performed. The Contractor shall formally approve each SSR.

2.4.3 Each first-tier Subcontractor SSR shall possess a certificate of completion for the OSHA 30 hour Outreach Training in the Construction Industry. Remaining tiered Subcontractor SSRs shall possess at least a certificate for the OSHA 10 hour Outreach Training in the Construction Industry. The certificate must be dated within four (4) years of the executed Subcontract. Only a sub-tiered contractor that will have no more than three (3) workers on the project during their scope of work

may petition to be excluded from this requirement. Any exception shall be by written approval of the ODR.

2.5 CONTRACTOR PROJECT SAFETY MANAGEMENT PLAN (PSMP)

2.5.1 The Contractor shall develop, implement, and furnish adequate resources for the PSMP.

2.5.2 The objectives and intent of the PSMP shall include, but not be limited to:

2.5.2.1 Anticipating, plan, control and coordinate Work to eliminate hazards, minimize risks, and aggressively manage losses involving injuries or property damages;

2.5.2.2 Ensuring education and training for best safety practices by all workers and holding supervisors accountable for safety performance;

2.5.2.3 Documenting and recording preventative measures, establishing inspection, notification, and investigation requirements, and measuring results of performance;

2.5.2.4 Providing protection for adjacent property and safety for the public.

2.5.3 The Contractor shall submit a complete draft of the PSMP to the Owner for review and written acceptance prior to the issuance of NTP for construction services. The Contractor shall incorporate Owner comments into a final draft and shall resubmit the amended version to the ODR within thirty (30) calendar days following the return date of Owner comments to the initial draft.

2.5.4 Beginning with the Notice to Proceed for Construction Services, the Contractor shall formally evaluate and update the PSMP and its supporting documentation at least semi-annually to assure effectiveness and continuous improvement. The Contractor shall submit an evaluation report to the ODR no later than fifteen (15) calendar days after completion of the evaluation.

2.5.5 The PSMP shall address the inclusion of the OFPC SafetyNet/DBO2 Program for electronic collection of safety observations. The terms of this Owner directed Program shall not be replaced by any existing process including any existing version of the SafetyNet Program used by the Contractor. Within fifteen (15) calendar days of the issue of the NTP, the Contractor shall make available a means to record field observations. This can be done by computer or a minimum of two (2) hand held PDA devices and a PC docking station.

2.6 PERSONAL PROTECTIVE EQUIPMENT (PPE)

2.6.1 PPE shall be required for all workers in construction areas. The following items shall be furnished, inspected, and maintained by the employer.

2.6.2 Hard Hats shall be ANSI stamped (Z89.1-1997, Type I, Class E, G and C).

2.6.3 Eye Protection (Safety Glasses) shall be ANSI stamped Z87. If a worker wears prescription glasses (plastic lens only) that are not marked Z87, the employer shall furnish goggles or safety glasses that are designed to fit over another pair of glasses.

2.6.4 Vests shall be reflective traffic vests and shall be worn outside of all upper body clothing.

2.6.5 Contractor shall purchase and maintain an appropriate inventory of types and sizes to be able to furnish a hard hat, pair of safety glasses and vest for up to ten (10) Owner representatives who may visit the Project.

2.6.6 Hand Protection, Hearing Protection, Respiratory Protection, Fall Arrest Equipment, and other PPE shall all be furnished as required to comply with this Section and OSHA Standards.

2.7 MEDICAL EQUIPMENT

- 2.7.1 The Contractor shall purchase and maintain at least one (1) First Aid Kit on the Project site as per ANSI Z308.1 and it must be accessible whenever work is ongoing.
- 2.7.2 The Contractor shall purchase and maintain at least one Automatic External Defibrillator (AED) unit on the project site. The unit shall be located in Contractor project site office with appropriate signage and must be accessible whenever work is ongoing.
- 2.7.3 A minimum of two (2) Contractor employees, with current certifications for CPR/Emergency First Aid and for use of the AED, shall be at the Project whenever Work is being performed.

2.8 CERTIFICATIONS

Prior to commencement of the Work, employers shall submit lists to the PSC that identify Supervisors, Competent Persons, Equipment Operators, Crane Operators, Riggers and Emergency Responders. In addition to lists, employers shall include copies of all training certificates or formal documentation to support the declared positions and qualifications. Operations that require one of the abovementioned classifications may not commence until said documentation is at the project site.

- 2.8.1 For the overall authority at the Project and for all operations that require a Competent Person, the PSC shall maintain in a Project file from each employer, a transmittal that names each person declared to be competent for each operation. For operations that require independent certification, copies of the certificates shall be attached.
- 2.8.2 For every brand and model of crane and motor driven equipment (earth moving, lift platforms, suspended stages, material handling, etc.) brought onto the Project, the using company shall transmit to the PSC a list of employees who are trained and authorized to operate the equipment. Copies of all available training and/or certification documents shall be attached. Industrial Trucks (forklifts) and Cranes shall only be operated by persons who possess documentation of certification from a training program that carries nationally recognized accreditation. Individuals who possess required credentials shall demonstrate capability for witness by the PSC/A. The PSC/A shall issue cards and insignia as detailed herein to authorize on-site operations of all specified equipment.
- 2.8.3 For every position that is required to assist crane and motor driven equipment operations (flaggers, signal persons, riggers, spotters, etc.), the using company shall transmit to the PSC a list of employees who are trained and authorized to perform these functions. Rigging shall only be performed by persons who possess documentation of completion from a training program that carries recognized accreditation.

2.9 PROJECT SAFETY SIGNS AND POSTERS

- 2.9.1 The Contractor shall post a pair of safety regulation signs at every point of entry to the Project: one in English and one in Spanish. Font shall be black in color and sized in each language to completely fill the surface of a white-coated four foot (4') vertical by eight foot (8') horizontal sheet of 3/4 inch plywood and shall contain only the following text:

ALL VISITORS, DELIVERY PERSONS, AND NEW WORKERS MUST REPORT TO THE PROJECT OFFICE BEFORE ENTERING ANY CONSTRUCTION AREA.

**ALL PERSONS ENTERING ANY CONSTRUCTION AREA MUST WEAR STURDY WORK SHOES, PROPER CLOTHING, A HARD HAT AND SAFETY GLASSES AT ALL TIMES
– NO EXCEPTIONS ARE ALLOWED DURING WORK HOURS.**

POSSESSION OF WEAPONS, ALCOHOLIC BEVERAGES, CONTROLLED SUBSTANCES, OR DRUG PARAPHERNALIA WILL RESULT IN IMMEDIATE REMOVAL FROM THIS PROPERTY.

**EXCEPT WHERE DESIGNATED (BY POSTED SIGNS AND AVAILABLE RECEPTACLES),
USE OF ANY TOBACCO PRODUCT IS PROHIBITED ON THIS PROJECT**

**THE MAXIMUM SPEED LIMIT FOR ALL VEHICLES ON THE PROJECT SITE IS NINE (9) MPH
– LOWER SPEED MAY BE REQUIRED BY POSTED SIGNS IN SOME AREAS.
ONLY AUTHORIZED VEHICLES ARE ALLOWED ENTRY INTO CONSTRUCTION AREAS.**

- 2.9.2 The Contractor shall post a notice sign at the Project office in English and Spanish. Font shall be black in color on a white coated board and size of letters shall be at least three inches (3") in height, and shall contain at least the following text:

VISITORS, DELIVERY PERSONS AND NEW WORKERS MUST CHECK-IN HERE FIRST.

**COPIES OF MATERIAL SAFETY DATA SHEETS (MSDS) FOR MATERIALS THAT WILL BE USED
OR STORED ON SITE MUST BE DELIVERED BY ALL SUBCONTRACTORS TO THIS LOCATION
AND SHALL BE AVAILABLE TO ANY REQUESTOR.**

- 2.9.3 The Contractor shall also post the following in locations that may easily be viewed by workers:

- 2.9.3.1 Color Codes for Quarterly Equipment Safety Inspections:

- 2.9.3.1.1 1st Quarter = White (January 01– March 31)
- 2.9.3.1.2 2nd Quarter = Green (April 01 – June 30)
- 2.9.3.1.3 3rd Quarter = Red (July 01– September 30)
- 2.9.3.1.4 4th Quarter = Orange (October 01 – December 31)

- 2.9.3.2 Emergency contacts list, including phone numbers

- 2.9.3.3 Hazard Rating Guide (HMIS and/or NFPA)

- 2.9.3.4 Project Insurance Provider for Worker's Compensation Coverage

- 2.9.3.5 Others as required by Federal and/or State regulation

2.10 PROJECT SAFETY FILE DOCUMENTS

Contractor shall create and maintain files for Owner review. The following files shall be established in one location on the Project and shall be made accessible to Owner agents during working hours. Additional files shall be created as directed by ODR.

- 2.10.1 Project Safety Management Plan (PSMP)
- 2.10.2 Project Safety Management Plan Semi-Annual Evaluations
- 2.10.3 Project Safety Orientation Checklists
- 2.10.4 Project Access Log
- 2.10.5 Project First Aid Log
- 2.10.6 Project Incident Notification, Investigation, and Evaluation reports
- 2.10.7 All Qualified Person Certifications and/or Training Documentation
- 2.10.8 Project Competent Persons lists
- 2.10.9 Project Equipment and Crane Operators lists
- 2.10.10 Job Hazard/Safety Analysis (from each Subcontractor per operation)
- 2.10.11 Project Weekly Safety ("Tool Box") Meeting
- 2.10.12 Project Weekly Subcontractor Safety Representative Meeting Minutes
- 2.10.13 Contractor Monthly Safety Report
- 2.10.14 Project Quarterly (Portable) Equipment Inspection reports
- 2.10.15 Project Annual (Large) Equipment Inspection reports
- 2.10.16 Project Permits (for specialty operations)
- 2.10.17 Project Safety Infraction records

PART 3 – EXECUTION

3.1 POSITIONS, ROLES AND REQUIREMENTS FOR PROJECT SAFETY

3.1.1 Contractor's Project Superintendent

Project Superintendent shall have overall responsibility for all aspects of Project safety and shall support the PSC/A when actions are required to maintain a safe work environment at the Project.

3.1.2 Project Safety Coordinator (PSC)

3.1.2.1 PSC shall report directly to an executive officer of the Contractor and shall not report through the Contractor's Project management team.

3.1.2.2 If removal of the PSC is initiated by the Contractor, the existing PSC shall remain in position until a replacement candidate has been proposed to and accepted by the ODR in writing and is assigned to the Project. If the PSC leaves before the proposal and acceptance procedure is concluded, the Contractor shall temporarily install either a Safety Director (Regional or Corporate) or a professional construction safety consultant as the PSC until a suitable replacement is accepted in writing by the ODR. Any temporary replacement must meet the qualification levels, perform the duties, and be present full time on the Project as required of the PSC in order for Work to proceed. A permanent replacement shall be accomplished within thirty (30) calendar days.

3.1.3 Project Safety Assistant (PSA)

3.1.3.1 PSA shall report to PSC.

3.1.3.2 If PSA leaves the Project, acceptable (in writing by the ODR) replacement shall be accomplished within thirty (30) calendar days.

3.1.4 Both PSC and PSA (PSC/A)

3.1.4.1 The PSC/A shall have the authority to direct Contractor and Subcontractor personnel to correct any safety violations.

3.1.4.2 The PSC/A shall have the authority to stop operations that involve any level of risk.

3.1.4.3 The PSC/A shall be fluent in English and shall have immediate access to the necessary resources to communicate verbally with all workers at the Project.

3.1.5 Subcontractor Safety Representative (SSR)

3.1.5.1 SSR name, emergency contact information, and documentation of qualifications shall be submitted to and accepted by the Contractor prior to the commencement of any work activities by the Subcontractor. The SSR shall have the authority to direct actions, stop work and enforce discipline for safety issues.

3.1.5.2 The SSR shall submit a written Job Hazard/Safety Analysis (JH/SA) daily and as work conditions change for each of the risk exposures associated with the employer's portion of the Work. Each submittal shall be reviewed and accepted by the Contractor prior to commencement of the work operation that will create the exposure. Documentation of attendees and subject material covered must be provided by the SSR. Refer to EXHIBIT B.

3.1.5.3 The SSR shall attend the Project Weekly Subcontractor Safety Representatives Meeting when the company is actively performing work at the Project.

- 3.1.5.4 The SSR should accompany any injured worker that requires medical attention at a facility outside the Project. The SSR shall be responsible for notification to the PSC of any incident including near-misses, and shall complete all the documents required to manage any insurance claims. The SSR shall participate in incident investigations that involve the employer's portion of the Work.
- 3.1.5.5 Each SSR may be required to accompany the PSC/A during portions of each safety inspection that involves the Subcontractor's part of the Work.
- 3.1.5.6 The SSR shall either conduct and/or make arrangements for all training, equipment and materials that workers need to perform their duties safely.
- 3.1.6 Work Crew Supervisor, Equipment Operator, Competent Person, Qualified Person Medical Responder
 - 3.1.6.1 Supervisors, Operators, Competent Persons, and Medical Responders for each of the positions held, shall be recognized by the employer through formal submittal to the Contractor. Documentation shall be maintained in the Project safety file.
 - 3.1.6.2 Designations of certifications and qualifications for special roles shall be clearly displayed on hard hats and/or photo identification badges.
- 3.1.7 Tradesman, Worker, and Laborer
 - 3.1.7.1 All persons assigned to perform any portion of the Work at the Project shall attend a Project safety orientation to become acquainted with potential hazards, and the general safety rules that must be observed. No person shall be allowed to perform any Work at the Project until the PSC/A declares a successful completion of the Project safety orientation and issues a photo identification badge.
 - 3.1.7.2 A signed copy of the Project safety orientation checklist shall indicate attendance. The PSC must be able to demonstrate effectiveness of the orientation and worker understanding of the material presented.
- 3.2 PROJECT SAFETY MANAGEMENT PLAN (PSMP)
 - 3.2.1 Safety Mission and Policy Statement. Contractor's Safety Mission Statement shall include a commitment to create and maintain a work environment that will eliminate or minimize all risk exposures for all workers at the Project. The Safety Policy Statement shall include acknowledgement that the Contractor is accountable for providing and controlling a safe environment for all workers and members of the public. An original signature and date to endorse and assure commitment by a Corporate Executive or Business Owner shall be affixed to this element of the PSMP. The PLAN shall include the following as a minimum:
 - 3.2.2 Safety Roles and Responsibilities. This element shall outline and describe roles, responsibilities, and authority of each member of the Project staff for involvement in site safety, security, incident command, and incident claims management. The Contractor's Project organization chart shall indicate the reporting line for the PSC. The PSC role shall include authority to direct actions of Subcontractors and to stop work operation whenever any worker is exposed to a risk that cannot be reduced or eliminated.
 - 3.2.3 Safety Enforcement. This element shall include Contractor's disciplinary procedure for its own employees and for those of all Subcontractors. It shall include a description of the levels of severity and frequency (repetition) that will result in Contractor intervention and provide details of the retraining and/or disciplinary steps that will ensue from the possible combinations of unsafe behaviors. It shall also include discipline for supervisors who tolerate risk.

- 3.2.4 Safety Recognition and Incentive. This element shall include a description of how those workers who demonstrate exemplary safety behavior and those supervisors who manage, enforce, educate and promote safety will be recognized and commended. Any celebration that will occur as part of this element shall not be minimized with achievement of Project milestones that are associated with production, schedule, quality or budget.
- 3.2.5 Safety Hazards. This element shall include a narrative that recognizes existing site conditions, foreseeable changes to existing conditions, local climate, Owner and public interface, environmental impact and remediation issues, skill and experience levels of available work force, utility interruptions, water supply sources, power supply sources, Owner facility provisions, sanitation requirements, parking, material storage areas, and proximity to students and public walkways and roadways. It shall contain a completed copy of the Anticipated Project Hazards Checklist (EXHIBIT A). It shall also be expanded throughout the duration of Work to include Subcontractor plans for elimination or minimization of risk. These plans shall be described by use of Job Hazard/Safety Analysis forms (EXHIBIT B). Each JH/SA shall identify the work steps required to complete an activity, assess the hazards associated with each step, and offer a plan to eliminate or minimize the identified risks for each step. A copy of each accepted JH/SA shall be posted into this element as an explanatory amendment. JH/SA forms shall be reviewed by supervisors with the work crew at least daily and immediately prior to performance of the work that the form addresses. All portions of this element shall be in accord and cooperation with existing procedures for the campus Environmental Safety and Health department, the campus Security department, and local municipal Fire and Rescue.
- 3.2.5.1 Hazard Communication ("HazCom"). Insert the elements required by OSHA. The PSC/A shall maintain a Hazardous Materials Inventory List with individual MSDS for each and every hazardous substance brought onto the Project site. In addition to the product label of contents, all containers with at least five (5) gallons of fluid capacity or twenty (20) pounds of chemical content shall include either HMIS or NFPA hazards warning labels (except drinking water and fire extinguishers). All products with HMIS/NFPA number ratings greater than zero or one in any of the three categories (health, flammability, or reactivity) shall be considered as hazardous.
- 3.2.5.2 Environmental (Sensory) Hazards. Insert actions to measure worker exposures and to control hazards that exist beyond OSHA permissible exposure limits (i.e. dust, fumes, noise, chemicals, and extreme temperatures). Also, include control and remediation plans for incidents that result in a spill or discharge of a potentially hazardous or toxic substance (fluid or gas).
- 3.2.5.3 Roadway and Traffic Hazards. Insert actions to be taken at times when public roadways or sidewalks are affected by construction activities. Signs, devices, and procedures shall be identified where public passage is to be closed or altered. Procedures and training for flaggers shall be required and shall be in compliance with all applicable Texas Department of Transportation regulations for road safety; specifically the Texas Manual on Uniform Traffic Control Devices (TMUTCD) shall be referenced.
- 3.2.6 Fire Prevention and Control
- 3.2.6.1 Insert arrangements and equipment necessary to provide adequate protection during all phases of construction. All portions of this element shall be developed to be in accord and cooperation with existing procedures for the campus Environmental Safety and Health department, the campus Security department, and local municipal Fire and Rescue.
- 3.2.6.2 Burning, Welding, Flame Operations. Insert the process for issuance of a "Hot-Work" permit (EXHIBIT C). Permits forms shall be issued by PSC, unless campus Environmental Health and Safety department desires to be involved. Permit form shall be completed by SSR and

returned to PSC for acceptance prior to start of operation. Static operations in open spaces (i.e. on-site fabrication) may be authorized by week-long permits. All others shall require permits that expire at the end of the shift. Permits shall identify fire watcher(s) and require pre-operation and post-operation inspections.

3.2.7 Emergency Response. Describe each type and level of emergency that may reasonably be expected to occur on the Project. Insert response or rescue plan for each kind of potential emergency. The portion of this element that addresses occupational illness and injury shall incorporate the essence of the Illness/Injury Management Matrix (EXHIBIT D). This element shall address first aid, off-site medical care, property damage, rescue, project alarm signals, wind, flood, lightning strikes, and evacuation, threat of violence, protests or deliberately disruptive events. NOTE: Campus Spokesperson shall be the only person authorized to communicate with the media. This element shall include a drawing or sketch of the site (maintained for "as built" conditions) to indicate gates, emergency vehicle roadways, lay down areas, crane set up positions, exterior hoists, etc. All portions of this element shall be developed to be in accord and cooperation with existing procedures for the campus Environmental Safety and Health department, the campus Security department, and local municipal Fire and Rescue.

3.2.7.1 Incident Notification. Insert the list of personnel with phone, email, position and company information who may be contacted. The ODR shall be included by receipt of a copy of the Contractor Incident Notification Report form (EXHIBIT E). Indicate specific positions within the campus staff that may be contacted and/or involved in the notification and control process; i.e. site control and utility management. Campus Public Relations officer shall be the only person authorized to release live or pre-recorded video or written statements to the media. Contractor shall cooperate with campus PR officer and coordinate media arrangements as directed.

3.2.7.2 Site Security. Insert actions and control measures to prevent intrusion during work and non-work hours. Describe intended controls for perimeter security, gate security, pedestrian crosswalks, protection at public paths through and alongside construction areas, warning signage, etc. Identify special work that may not be performed during regular hours, and will require special precautions. Include descriptive detail for some method of gathering names and probable locations of workers who have not been cleared for safe departure during any type of emergency. Identify the position(s) of all who will possess this information and be prepared to convey critical details quickly to any outside emergency response command that might arrive at the Project.

3.2.8 Project Trenching, Tunneling and Excavation. Insert soil boring reports, soil classification analysis, site sketch and any other information that may support, explain or clarify the intent of this element. In addition to UGC, this element must be stamped and sealed by a Registered Professional Engineer recognized in the State of Texas in the field of Civil or Soils Engineering.

3.2.9 Drug and Alcohol Impairment. The Contractor, for itself and all Subcontractors, shall have a robust drug and alcohol screening and intervention plan. Insert details of Contractor policy for screening both direct employees and Subcontractor employees for the presence of controlled substances, prescription pharmaceuticals, and alcohol. Describe all of the types of testing and confirmation that the Contractor requires and the tolerance thresholds for each substance. This element shall include, as a minimum, a detailed explanation of the following situations and mandatory testing events:

3.2.9.1 Pre-employment – Test results conducted within two weeks preceding issuance of badge for Project access.

3.2.9.2 Post-incident

3.2.9.3 Random selection

3.2.10 Concrete (for slip-form, crane bucket, pump truck, cast-in-place)

- 3.2.11 Confined Space Entry (Permit Required and Restricted Entry)
- 3.2.12 Crane Operations (for set-up/use requirements and limitations)
- 3.2.13 Demolition (Mechanical and/or Explosive Blasting)
- 3.2.14 Electrical Power Service (address power supply and use during construction)
- 3.2.15 Fall Prevention and Protection (from elevations and at same level)
- 3.2.16 Hand and Power Tools
- 3.2.17 High Voltage ("Proximity Work")
- 3.2.18 Ladders and Stairs
- 3.2.19 Lock-out, Tag-out (Energy Isolation for sudden release of any kind of energy)
- 3.2.20 Respiratory Protection
- 3.2.21 Safety Inspection

3.3 PERSONAL PROTECTIVE EQUIPMENT (PPE)

The following PPE requirements shall apply to all workers in construction areas. Contractor may declare specific lunch break areas within construction areas to be exempt from PPE requirements. Markings for these spaces shall be clearly defined and signage shall be legible and prominently posted in language that all workers can read.

- 3.3.1 Hard Hats shall be worn 100% of the time in construction areas, with the brim forward (or as allowed by the manufacturer). "Cowboy" style hard hats shall not be allowed (even if ANSI stamped). Hard hats with noticeable wear or damage shall be replaced. Each hard hat shall be examined by the PSC/A during the Project Safety Orientation to confirm acceptable condition. The PSC shall identify all equipment operators. The PSC shall place a colored sticker on the hard hat that represents the type of equipment that can be operated. Green will represent Personnel Handling. Blue will represent Material Handling. Brown will represent Earth Work.
- 3.3.2 Eye Protection (Safety Glasses) shall be worn 100% of the time in construction areas. Additional eye and face protection shall be provided by employers for any employee when work operations create an exposure to airborne particles, chips, sparks, radiation, etc.
- 3.3.3 High visibility vests or high visibility upper body clothing shall be worn when the worker's primary work activities are subject to vehicle traffic and/or heavy equipment movement in the construction area. Primary work activities such as traffic control, excavations, rigging from ground level, exterior work at ground level or sub-ground level, earth moving operations will adhere to this requirement. All other activities can be considered by the Contractor with concurrence by the ODR on a case by case basis.
- 3.3.4 Hearing Conservation and Protection shall meet or exceed OSHA requirements. Except for suppression of sound level energy, no devices or equipment that may hinder ability to hear an alarm shall be placed in or over the ears. Portable radios, cell phones and other electronic devices used for any reason except work related communications and emergency assistance are prohibited in construction areas.
- 3.3.5 Hand Protection that is designed to counter the exposure shall be furnished to all workers who must handle materials or equipment with sharp edges, slick surfaces, chemically reactive components or extreme temperatures.

- 3.3.6 Respiratory Protection shall meet or exceed OSHA requirements.
- 3.3.7 Foot Protection (Work Shoes) must have soles with a resistance to punctures, uppers that cover the entire foot and ankle and offer resistance to scrapes and cuts. Sandals, open-toed shoes, dress loafers, high-heels, and all athletic style shoes (including those with ANSI markings) are prohibited. Additional protection shall be provided when work operations create impact exposures.
- 3.3.8 Other OSHA required PPE shall be furnished as appropriate for specific tasks.
- 3.3.9 Other clothing:
 - 3.3.9.1 Shirts shall not have noticeable holes and shall be free of profane, inflammatory, sexually explicit or discriminatory messages. Sleeve length shall cover the ball of the shoulder and shirt length shall reach waist of pants.
 - 3.3.9.2 Pants shall be full length. Holes must not be large enough to catch on snag points or offer measurable amounts of exposed skin.

3.4 PROJECT SAFETY MEETINGS AND TRAINING

- 3.4.1 Project Initial (Safety Kick-Off) Meeting
 - 3.4.1.1 At any time within, but no later than fifteen (15) calendar days after the issue of the Notice to Proceed with Construction Services, the Contractor shall arrange suitable accommodations for the meeting. The OFPC PM or RCM will schedule and chair the meeting. Minimum attendance shall include the OFPC PM/RCM, Construction Inspector(s), OSR, Contractor's PM, Superintendent, and PSC/A. The Contractor's safety director, additional representatives for the Owner, the Institution, the A/E, the Contractor and local regulatory entities may also attend.
 - 3.4.1.2 The Contractor shall confirm the schedule availability for all required attendees at least fourteen (14) calendar days prior to the meeting date.
- 3.4.2 Initial Meeting with Subcontractors for acknowledgment of Safety Requirements
 - 3.4.2.1 At any time after the date of intent to award each first tier Subcontract, but prior to commencement of any Work, the Contractor shall arrange and chair a meeting with Subcontractor to explain safety requirements. Minimum attendance shall include the OFPC Construction Inspector(s), Contractor's PM, Superintendent, PSC/A, and SSR. Other interested parties for OFPC, campus and Contractor may also attend. Any lower-tier Subcontractors that have been awarded part of the Work are encouraged to attend.
 - 3.4.2.2 In addition to all of the pertinent safety regulations that apply to the portion of the Work that the Subcontractor will perform, the Contractor shall clearly state the expectation that safety management of its workers and Sub-tier workers shall be the Subcontractor's responsibility and that failure to adequately manage safety could result in a demand for the removal and replacement of supervisors. The roster of attendees shall indicate distribution to the ODR and the Subcontractor.
- 3.4.3 Project Safety Orientation Training
 - 3.4.3.1 The PSC/A shall present training to every person who is to be allowed into the construction area(s) without an escort. This duty shall not be delegated. Unless the PSC/A is bi-lingual, a translator shall be present when there are workers in attendance who do not speak English. Workers and their immediate supervisors shall be required to attend a repetition of the orientation whenever observed behavior indicates a lack of understanding or repeated non-compliance.

- 3.4.3.2 The PSC shall review the Safety Orientation Checklist (EXHIBIT G) and incorporate each applicable topic within the training presentation. The PSC shall develop and administer a process to ensure and demonstrate worker understanding.
- 3.4.3.3 The PSC shall furnish a photo-identification badge to each person who satisfactorily completes the Project Safety Orientation. The badge will indicate the worker's name, company, job title, project name, and OFPC project number. The badge must be visible at all times that the worker is on the Project and be located above the waist using clip or arm band. Lanyards are prohibited. Failure to maintain the badge will be grounds for removal from the Project. The PSC shall place on the hard hat, a colored decal that indicates that the worker is an equipment operator. Worker qualifications for the specific equipment that can be operated will be identified on the back of the worker's photo identification badge.
- 3.4.3.4 The PSC shall confirm employer insurance requirements prior to start of orientation. PSC shall confirm document credentials for operators and SSR prior to start of orientation. The PSC shall maintain a site access log to document each successful orientation and any reorientations. The log shall include the person's identity and Project critical information (name, employer, badge number, equipment operator, medical responder and/or supervisor status).

3.4.4 Daily Job Hazard / Safety Analysis Training

- 3.4.4.1 Prior to start of Work for each shift, the immediate supervisor shall conduct a brief meeting with all members of the work crew to explain how the work steps for the shift are to be accomplished. Explanation shall include a discussion of all the work activities that will be performed in the vicinity as well as the work that the crew is expected to accomplish. Explanation shall also address all of the recognized risks associated with the task and the measures to be installed or actions to be taken to eliminate or minimize the exposures.
- 3.4.4.2 A sign in sheet shall be produced to document the training. It shall contain names and initials of all attendees, name of supervisor, statement of task(s), and any special safety measures or actions that are required to assure elimination or minimization of risk. A copy of the JS/HA shall be given to the PSC prior to work activities and copies of any completed permits shall be clipped to the document. The supervisor's/workers' signatures on the JS/HA shall be understood to also mean a thorough communication of all anticipated hazards and controls has been provided to all workers.
- 3.4.4.3 All Project Management team members (OFPC, Contractor and Subcontractor) are encouraged to attend these JS/HA meetings as frequently as possible to reinforce the Project safety culture.

3.4.5 Project Weekly Subcontractor Safety Representatives Meeting

- 3.4.5.1 The PSC shall chair a weekly meeting with all SSR(s) to ensure that all are aware of the existing hazards and exposures that should be addressed with each crew. A written agenda (EXHIBIT H), attendance roster, and meeting minutes shall be prepared and maintained at the Project site by the PSC. A copy of these documents shall be submitted to the ODR.
- 3.4.5.2 This meeting shall be exclusively reserved for safety and loss control issues. Attendance shall be required of all SSR(s) when the employer is actively conducting work operations at the Project. All Project Management team members (OFPC, Contractor and Subcontractor) are encouraged to attend these weekly meetings as frequently as possible to reinforce the Project safety culture.

3.4.6 Project Weekly Site Safety ("Tool Box Talk") Meeting

- 3.4.6.1 All workers on the project site, including site Project Management team members, shall attend a weekly safety Tool Box Talk, which shall be presented in English and all other languages that are natively spoken at the Project. The PSC/A may deliver each talk to the entire Project

population or each SSR may deliver individual meetings to a specific trade and/or group. The PSC/A shall collect and maintain copies of all sign-in sheets for every meeting.

- 3.4.6.2 Meetings shall address appropriate topics for the near-future work operations and current site conditions. In addition, the PSC/A shall select at least one (1) of the elements within the PSMP to be a mandatory topic each week, and shall select every element at least once during the course of the Project.

3.4.7 Safety Lessons Learned and Best Practices

Contractor shall work with OFPC to use Lessons Learned to capture significant safety experiences and best practices over the course of the work. Contractor will work with OFPC to facilitate Lessons Learned at Substantial Completion and will work with Subcontractors to actively participate in Lessons Learned. Contractor shall develop and distribute any reports that detail findings to OFPC as requested.

3.5 SAFETY INSPECTIONS

3.5.1 Daily SafetyNet/DBO2 Inspections

- 3.5.1.1 Site safety inspections shall be entered into SafetyNet/DBO2. OSR(s), OFPC RCM, CI, Contractor Superintendent, PSC/A, and SSR(s) shall all be recognized users of the Owner's SafetyNet Program. Other persons may also be added to the user list.
- 3.5.1.2 User participation shall include recording of all observations and conditions at the Project (via the Program's menu-driven checklist). Additionally, the Contractor shall review on-line reports and respond prudently.
- 3.5.1.3 Each deficient safety observation shall be corrected or controlled immediately. The PSC shall be responsible for reviewing and ensuring proper closure of all unresolved ("open issues") observations. ODR (including the OFPC CI) shall concur prior to closure.
- 3.5.1.4 OFPC will conduct initial training for Contractor understanding and use of the SafetyNet/DBO2 Program. All subsequent training for follow-on Subcontractors shall be accomplished by the Contractor.
- 3.5.1.5 At a minimum, a daily SafetyNet/DBO2 inspection shall be conducted. The daily inspection may only record a group of observations within a single work operation, but the accumulated inspections conducted by the Contractor throughout each work week shall reflect a comprehensive report of all operations at the Project.
- 3.5.1.6 When the OSR conducts an inspection, the PSC/A shall be available to join in during the walk around. The other OFPC users may also require the PSC/A to join in during inspections.
- 3.5.1.7 When the PSC/A conducts an inspection, at least one SSR shall join in for the portion of the inspection that addresses the Subcontractor's portion of the Work.

3.5.2 Quarterly (documented) Inspection of all tools, rigging, and portable equipment

- 3.5.2.1 The PSC shall facilitate a documented safety inspection each quarter. Each employer shall produce and submit a document (EXHIBIT I) that addresses all tools, rigging, and portable equipment within the company's inventory on the Project site. Documents shall be maintained by the PSC.
- 3.5.2.2 This inspection shall include, but not be limited to, the following: Fall Arrest Equipment, Rigging, Manufactured Ladders, Power Tools, Cords, Welding Leads, Hoses, First Aid Kit, AED, Air and Sound Meters, and Ground Fault Circuit Interrupter devices. Personally owned hand tools are exempt from this inspection procedure, but daily examinations of all portable items prior to start of work shift as prescribed by OSHA standards are not relaxed.

- 3.5.2.3 For every item that “passes” the quarterly inspection, remove the previous quarter’s color coding and affix the current quarter’s color coding. Every item removed from service shall be repaired, replaced, destroyed or immediately removed from the Project. The inspection report shall reflect such actions. Inspection reports shall be completed and submitted to the PSC prior to use of any new equipment on the Project site and re-inspections before the first calendar day of the beginning of each quarter of the year. Quarterly re-inspections may begin and color coding may be changed anytime during the final one-week period of the previous quarter.

3.5.3 Initial and Annual Inspection of all Cranes and Motor Driven Equipment

- 3.5.3.1 The Contractor shall facilitate safety inspections and written certifications for all hoists, cranes, mobile equipment, motorized scissors and aerial lift platforms, motorized stage platforms, generators, and compressors on the Project.
- 3.5.3.2 The Contractor shall ensure that all equipment inspections are consistent with the manufacturer’s requirements. An initial inspection and certification of proper condition shall be transmitted to PSC before a piece of equipment is allowed to commence operations at the Project.
- 3.5.3.3 The Contractor shall select the month that occurs approximately six (6) months after the commencement of construction, and announce this as the month for annual re-inspections and re-certifications of all motor driven units of equipment and cranes that remain in use at the Project. Any equipment that leaves the Project will require re-certification before it shall be allowed to resume operation at the Project.

3.5.4 Inspections by Regulatory Agencies

The PSC/A shall notify the ODR immediately of the arrival at the Project site by an representative of a Regulatory Agency (OSHA Compliance Officer, TCEQ representative, Law Enforcement Officer, etc.), and provide the Owner with a copy of any published findings or citations (OSHA Safety Orders, EPA Site Deficiencies, etc.) issued to any employer and shall ensure that statutory posting requirements are met.

3.6 CONTRACTOR RECORDS, INVESTIGATIONS AND REPORTS

3.6.1 Mobile Equipment and Crane Operator Records

Each employer shall submit to the PSC/A, for each operator, a record of training that identifies the trainer and the details that were addressed and successfully demonstrated during training. The minimum amount of detail shall include the following assurances:

- 3.6.1.1 Pre-start up inspection, travel path issues, and location/set up procedure;
- 3.6.1.2 Start up, operation, intended use, and shut down (normal and emergency);
- 3.6.1.3 Equipment Operations Manual, Limit Chart(s), Motor Plate information, equipment capacities and limitations, alarm features, safety stops, seat belts, roll over protection and preventive maintenance;
- 3.6.1.4 PPE, fall protection, environmental, and any other related risks or exposures.

3.6.2 Contractor Monthly Safety Report

- 3.6.2.1 The PSC/A shall prepare a monthly report (EXHIBIT J) and shall submit copies, as directed, to the ODR and OSR. Report shall be due by the 10th of the month following the reporting period.
- 3.6.2.2 This information is vital to the Owner’s safety benchmarking efforts. Failure to submit the information in a timely manner may result in ODR withholding a portion of the Contractor

application for payment, and shall disqualify the Contractor from consideration for safety award for the month of failure to submit.

3.6.3 Incident Notification, Investigation and Reporting Procedure

3.6.3.1 During the orientation, the PSC shall instruct all workers to immediately report to their supervisor every incident, even if there is no obvious injury or property damage. Supervisors shall immediately notify the PSC/A. PSC shall immediately notify the ODR of any incident. All Near Miss incidents, First Aid injuries, High Severity Safety Inspection Observations, and other such incidents as directed by the Owner shall be entered into SafetyNet/DBO2 by the PSC. All incidents shall be investigated. Contractor and involved Subcontractors shall discover all obtainable and measurable information and reach conclusions that cite both the contributing factors and the root cause(s). Contractor shall lead the efforts and follow a structured incident investigation program (Root Cause Analyst or equivalent). Contractor and involved Subcontractors shall tailor the magnitude and depth of the investigation effort to correspond to the potential, rather than the actual, outcome of the incident and shall include qualified senior management, line management, and safety consultants as the circumstances warrant. The ODR reserves the right to participate in incident investigations. Contractor shall prepare and submit reports that will allow OFPC and Subcontractors to understand findings and planned changes to the PSMP. At the time of any injury incident, workers and supervisors shall be provided a copy of (EXHIBITS K & L) that explain the rights, duties, and expectations for those who are involved in the incident.

3.6.3.2 Incident Responsibilities for Workers and Supervisors

3.6.3.2.1 Contractor shall cover the information in the Worker Responsibilities (EXHIBIT K) document during the orientation and keep copies to hand out to any worker who appears to have sustained an occupational injury.

3.6.3.2.2 Contractor shall cover the information in the Supervisor Responsibilities (EXHIBIT L) document during the orientation and keep copies to hand out to any supervisor who informs PSC/A that an worker injury has occurred.

3.6.3.3 Incident Investigation Report

3.6.3.3.1 Contractor shall prepare a two-stage written investigation report for each incident that involves any questions about facts, details or causes.

3.6.3.3.2 The first stage of the report shall provide all of the collected facts and corroborated statements that have a bearing on the understanding of all that happened before, during and after the event. This piece of the report shall be submitted to the ODR as soon as possible, but not less than two days following the event.

3.6.3.3.3 The second stage of the report shall provide three parts. The first part shall include a time line that contains all of the linked components in the chain of events that set up the incident. The second part shall include a description of all the apparent surface causes and underlying root causes that enabled the incident to occur. The third part shall describe all of the apparent weakness(s) in the PSMP, modification(s) that might have prevented or reduced the severity of the risk, and a commitment to adopt and engage the modification(s) as a new best practice. This piece of the report shall be submitted to the ODR as soon as possible, but not less than two (2) weeks following the event. If forensic studies or consultant reports will not be available within two (2) weeks, those factors shall be attached as addenda at a later date and the modification(s) to the PSMP may then be further adjusted.

3.6.4 Contractor Final Safety Report

3.6.4.1 Contractor shall work with Subcontractors to prepare a Final Safety Report and shall forward to OFPC no later than thirty (30) calendar days after Substantial Completion.

3.6.4.2 Report shall include at least the following items:

3.6.4.2.1 Summary of the PSMP with description of improvement initiatives undertaken during the course of the Project

3.6.4.2.2 Evaluation of the effectiveness of the PSMP, including summary results of assessments performed

3.6.4.2.3 Project safety performance results (leading and trailing indicator measures)

3.6.4.2.4 Project safety lessons learned and best practices

3.6.4.2.5 Summary of Project incidents

3.6.4.2.6 Evaluation of Contractor and all Subcontractor overall safety performance

3.6.5 Contractor shall provide Ad Hoc reports as requested by the ODR. This may include work force histograms, training documents, safety trending reports, etc.

3.7 CONSTRUCTION OPERATIONS

The following requirements are either in addition to or in the absence of Federal and State regulations. Where conflicts exist, the most stringent directives shall apply.

3.7.1 CRANES

3.7.1.1 Tower cranes (including affiliated transformers and power supply equipment) shall be surrounded by at least a sixteen-foot (16') high, 5/8-inch plywood enclosure with a lock-controlled entrance.

3.7.1.2 Operators of cranes shall possess certification from a nationally accredited training organization.

3.7.1.3 Every crane and piece of hoisting equipment shall be equipped with an anti-two blocking sensor above each lifting block.

3.7.1.4 Unless the crane is equipped with sensors that inform the operator of the weight of the load on the hook and the current wind speed, these measurements shall be determined by other means before commencement of each lift.

3.7.1.5 When outriggers are used on cranes, they shall be fully extended. Float pads shall be landed onto leveled and properly designed and sized slabs or cribbing. Where steel plate is used for cribbing, welded or bolted cleats shall be attached to upper surface to prevent float pads from moving horizontally.

For cranes of up to and including 35-ton capacities, wooden cribbing shall be a minimum of four inches (4") in thickness. For cranes over 35-ton capacities and up to 150-ton capacities, cribbing shall be a minimum of eight inches (8") in thickness. For all cranes up to 150-ton capacity, the minimum size of the surface ("footprint") of the cribbing assembly shall be determined by the following formula: the capacity of the crane (in tons) divided by 5 equals the minimum square footage required. Properly sized circular crib pads are acceptable. Side dimensions for rectangular crib pads shall be equal to each other or differ by no more than one foot. For cranes larger than 150-ton capacities, a qualified person shall design the cribbing. "Sandwich" units of cribbing are allowed as long as the plywood on bottom and on top is at least one inch in thickness.

- 3.7.1.6 For "Pick and Move" operations, the pick shall be made directly in front of the crane with the boom as near vertical as possible. Move at walking speed with a "spotter" in front of the load and another behind the crane. Guy wire cables that secure the load to the body (to prevent lateral force loading of the boom) of the crane shall be required if the grade slope is more than three (3) degrees or the terrain is uneven. Only rubber-tired cranes shall be allowed to perform this operation without a "critical lift" plan and the load must be under fifty percent (50%) of the "on rubber" chart limit.
- 3.7.1.7 Critical Lifts shall include, but not be limited to: (1) Tandem Lifts, (2) Lifts greater than seventy-five (75%) percent of Load Chart, (3) Crane Suspended Personnel Hoists, (4) Non-Conventional Outrigger placements and (5) "Blind" picks and/or placements. All of these events shall require submittal of custom designed plans by qualified persons.
- 3.7.1.8 Multiple lift operations ("Christmas Treeing") shall not be permitted.
- 3.7.1.9 All crane operators on rigs rated for more than five (5) tons of capacity shall submit to a physical examination prior to conducting any work on the Project and, if still on the Project, at least every twenty-four (24) months thereafter. The physician's written declaration of fitness shall be submitted to and maintained by the PSC/A in Project files.
- 3.7.1.10 Only the designated rigger and/or signal persons shall issue lift instructions to the operator. The only exception shall be an emergency stop signal, which may be delivered by anyone on the Project who knows how to alert the operator.
- 3.7.1.11 All loads lifted more than six feet (6') above ground elevation shall have a tag line attached that is long enough to allow control of load spin without placing any part of the body directly below the load. When "shake out" hooks are used, the load must never be elevated above five feet (5') over the surrounding surface and workers must stay at least five feet (5') horizontally away from the suspended load.
- 3.7.1.12 For any load that may be elevated and moved directly above workers, a means for worker notification must be in place. The crane operator may perform this notification by horn if the load can be seen at all times. If the crane operator will lose sight of the load at any time, notification must be made by a designated individual who can maintain sight of the load. Notification must be accomplished by some means that attracts the attention of all workers.

3.7.2 DEMOLITION

- 3.7.2.1 Maintain clearly marked and well-illuminated egress paths at all times.
- 3.7.2.2 Maintain barricades and signage that isolates impacted areas to prevent entry by other trades and members of the public.
- 3.7.2.3 Removal of materials and trash from elevated locations must be controlled. Materials, scraps or waste shall never be allowed to free-fall from a height greater than ten feet (10'). Items that may be caught by wind and carried horizontally shall never be allowed to drop freely for any distance. When items are allowed to be dropped freely, a person shall be stationed at the landing elevation at a safe distance to warn others away from the operation, and the landing area shall be surrounded by warning tape placed at least six feet (6') outside of the expected landing area. Wall openings that may be located vertically between the material drop point and the expected landing area shall be securely covered and marked from inside. Anything that is to move downward at a distance greater than ten feet (10') or is capable of sailing horizontally shall be contained within a chute or controlled by hoist.
- 3.7.2.4 Unless the Contract documents clearly call for it, the use of explosives for demolition is prohibited.

3.7.3 ELECTRICAL POWER

- 3.7.3.1 Ground Fault Circuit Interruption (GFCI) shall be the primary protection from exposure to electrical current for all workers on the Project. Only exit lighting and medium-high (greater than 240) voltage service will not be GFCI protected. Welding equipment that also serves as a generator shall not be used for both purposes at the same time.
- 3.7.3.2 All strings of temporary lights shall be fully lamped and guarded regardless of height, and shall be continuously maintained. Adequate and consistent levels of illumination for the work operations in each area must be maintained at all times
- 3.7.3.3 All receptacles and switches shall have trim plates installed before they are energized.
- 3.7.3.4 All power distribution panels shall have full covers installed before primary power is brought into the panel. When energized panels are located in open areas, covers shall be locked except when an electrician is present. When panels are located inside separate rooms or closets, automatic closers and automatically locking hardware shall be installed on doors as soon as equipment is energized, and only authorized persons shall be provided a key. Doors shall not be wedged to stay open. Warning signs shall be placed in conspicuous locations.

3.7.4 EXCAVATIONS

- 3.7.4.1 In addition to UGC requirements, every excavation shall require a preliminary meeting with the ODR to determine historical knowledge of existing utilities. Where applicable, a phone call for utility "locates" shall be completed seventy-two (72) hours in advance. "Potholing" and/or hand digging shall be required within three (3) horizontal feet of "located" centerlines, and in areas where knowledge is lacking.
- 3.7.4.2 The "toe" of spoil piles that are less than four feet (4') in height shall be at least two feet (2') from the edge of any excavation. Spoil piles greater than four feet (4') in height shall add one foot (1') of distance from the excavation for every additional foot in height. Spoils shall be managed to prevent airborne dust.
- 3.7.4.3 Trench excavations should be backfilled at the end of each shift.
 - 3.7.4.3.1 When an excavation cannot be backfilled in the same day as it is created, a highly visible barricade shall be erected at a minimum distance of six feet (6') from all approachable edges. All portable means of access shall be removed at the end of each workday.
 - 3.7.4.3.2 Earth ramps that are to be used for walking access shall not exceed twenty percent (20%) in grade slope. Steeper slopes shall be gate controlled for equipment only, and alternate access shall be added for pedestrian traffic.

3.7.5 FALL PROTECTION AND PREVENTION

- 3.7.5.1 Any walking/working surface that is equal to or greater than six feet (6') above surrounding areas shall present an unacceptable fall exposure unless it has all edges (side and ends) protected by an attached guardrail system, fall arrest netting, or is blocked off by an adjacent wall. An adjacent wall shall be continuous, structurally sound, and at least thirty-nine (39) vertical inches above the walking/working surface, and within eight (8) horizontal inches from the open edge.
- 3.7.5.2 Any employer that will create a fall exposure equal to or greater than six feet (6') shall submit a detailed plan and/or set of drawings in advance of the operation to indicate how the exposure shall be addressed. The Contractor shall require the plan to contain either "engineered" or conventional fall protection measures for each and every exposure that involves vertical distances equal to or greater than six feet (6'). Any precautionary measure that would allow greater risk than that afforded by a guardrail system, fall restraint equipment, fall arrest

equipment, or fall capture netting shall be prohibited. The recognized exemptions/exceptions are as follows:

- 3.7.5.2.1 Allow work from portable step ladders as long as a “three point” contact is maintained, the ladder is secured from movement, the worker’s center of gravity remains between the rails and in front of the feet, and the worker’s waist does not extend above the top of the ladder. The height of the worker’s feet is limited to twelve feet (12’) for this exemption/exception.
- 3.7.5.2.2 Allow work from an extension or straight ladder if the ladder is secured from movement, “three point” contact is maintained, the worker’s center of gravity remains between the rails and in front of the feet, and the worker’s waist does not extend above the top of the ladder.
- 3.7.5.2.3 Work may be performed without fall arrest measures while standing on an elevated walking/working surface at a distance of at least six (6) horizontal feet from an unprotected edge. The unprotected edge shall be clearly identified by posted signage and a warning line erected continuously at a six-foot (6’) setback distance. When work is to be performed from a ladder placed near the warning line and the ladder can fall toward the leading edge, the safe distance from an unprotected edge shall increase one foot (1’) horizontally for each vertical foot that a worker climbs above the surrounding surface. This requirement shall also apply to a ladder that is being placed beside a protected edge. Any leading edge (“controlled access”) zone work shall require fall capture arrangements prior to entry.
- 3.7.5.3 Covers placed over pier holes, and roof or floor openings shall be physically secured and clearly marked with warning message “HOLE COVER - DO NOT REMOVE.” Any cover that is too small for legible wording shall be bright orange or red.
- 3.7.5.4 Job built ramps and bridges shall be surfaced with an abrasive (non-skid) material. Ramps shall comply with ADA slope requirements.
- 3.7.5.5 Equipment and work operations of any description shall not be permitted to be performed directly above a worker unless adequate overhead protection is provided prior to commencement of the operation.

3.7.6 FIRE PROTECTION

- 3.7.6.1 All floors that have combustible materials present shall be accessible from ground level by a usable stair system (temporary or permanent). For structures greater than three (3) stories in height, fire sprinkler standpipes shall be completed and charged to within two (2) stories, or thirty (30) vertical feet of all floors containing combustible materials. Siamese connection shall be installed at every level to provide access for fire hoses. All fire extinguishers that are not task-specific shall be adequate in number and description to comply with OSHA declared limits for egress points, floor area and travel distances. They shall be situated in highly visible locations mounted at a height to facilitate ease of inspection and retrieval for use.
- 3.7.6.2 All fire extinguishers that are task specific shall be inspected and furnished in advance by the employer that will be conducting the work that requires such fire fighting provisions. The fire extinguisher shall be situated within sight of and less than twenty-five feet (25’) from the perimeter of the task operation. All work that includes burning or welding of any type shall be defined as “hot work” and shall require the presence of a fire extinguisher, at least one fire watcher, and a Hot Work Permit. Refer to WELDING AND BURNING for additional details.

3.7.7 HOUSEKEEPING

The PSC/A shall ensure that the Contractor and all Subcontractors “effectively” clean the Project site continuously throughout each workday. “Effective clean-up” shall adequately address all of the following housekeeping issues:

- 3.7.7.1 All construction waste, trash, and debris shall be placed in designated receptacles. Glass bottles shall not be permitted on the Project site.
- 3.7.7.2 Stack (or restack) all whole and scrap materials in locations that shall not obstruct a clear pathway nor create a risk for toppling onto a person passing through the area.
- 3.7.7.3 Place all hoses, cords, cables and wires in locations that prevent them from being damaged by equipment, sharp edges or pinch points and from creating tripping hazards.
- 3.7.7.4 Secure and effectively cover all materials on roofs or elevated levels that may be displaced by wind.
- 3.7.7.5 Restore all signs, barricades, fire extinguishers, guardrails, gates, etc. to proper locations and sound condition.
- 3.7.7.6 Properly store and secure all flammable and combustible liquids and gases.
- 3.7.7.7 Collect and place all cut-off or waste pieces of rolling stock, as they are created, into waste or scrap containers.
- 3.7.7.8 Live rounds that have been ejected from powder-actuated tools shall be immediately placed in designated containers and properly disposed of as recommended by the manufacturer.
- 3.7.7.9 All puncture and impalement exposures shall be covered or eliminated as soon as they are created. As per ANSI specification, effective covers shall be designed to prevent impalement of a 250-pound body being dropped from a fall of four feet (4').

3.7.8 LADDERS

- 3.7.8.1 Every elevated platform (slab, deck or work surface) shall have at least two (2) remote means of access/egress when the platform is populated by more than three (3) persons. As the population rises above twenty-five (25), additional means of independent access/egress shall be required. A double-cleated ladder may only serve as one (1) independent means of access/egress.
- 3.7.8.2 At the end of each workday, ground access to elevated levels shall be eliminated. This shall be accomplished by removal and storage of all portable and job-built ladders, or installation of a lockable shield that prevents use of the lower rungs.
- 3.7.8.3 Portable aluminum ladders shall be prohibited.
- 3.7.8.4 Extension ladders, straight ladders and job-built ladders shall be secured from movement at the top and the bottom.
- 3.7.8.5 Physical barricade offsets that force at least one change in walking path direction shall be constructed within a six-foot (6') radius around the upper access points for any ladder's step off landing area.
- 3.7.8.6 All elevated landings shall include a rope hoist (manual or motorized) near the ladder's uppermost access point.
- 3.7.8.7 Manufactured portable (step and extension) ladders shall display ANSI heavy-duty rating (Class I-A) and be inspected daily for condition and set up.

3.7.9 MEDICAL ASSISTANCE AND SCREENING

- 3.7.9.1 The PSC/A shall maintain a First Aid Log for all treatment administered on the Project (including any that might later escalate). Each SSR shall report and record details daily.

- 3.7.9.2 PSC/A and SSR shall transport or accompany any injured worker for initial off-site medical treatment.
- 3.7.9.3 Drug and Alcohol Screening shall be mandatory for every supervisor and/or worker who sustains or contributes to any incident that involves injury beyond first aid or property damage. If impairment or poor judgment appears to be involved in a first aid event, PSC shall direct injured employee to be screened for probable cause.
- 3.7.9.4 Minimum requirements for chemical screening shall at least match the threshold limits for a NIDA 5-panel protocol and for alcohol screening shall at least match the Texas DOT vehicle operator's limit for blood alcohol content. Only negative results are acceptable for employment on the Project.
- 3.7.9.5 Screening shall be initiated as soon as possible, but not later than two (2) hours after the incident occurrence. Any worker's refusal to submit to screening shall be treated in the same manner as a "positive" finding. Any worker who withholds notification of an incident for longer than one (1) hour after the alleged event shall be evaluated by the PSC/A and if declared to be negligent shall be permanently removed from the Project.

3.7.10 PETROLEUM-BASED FUEL OPERATED EQUIPMENT

- 3.7.10.1 Where possible, equipment operator cabs shall be locked during non-working hours. Only equipment operators and direct supervisors shall have access to keys.
- 3.7.10.2 No combustion engine equipment shall be operated in enclosed spaces unless the exhaust is piped to outside air, and "fresh" air is brought into the space to replace the amount being consumed. The PSC shall be responsible for monitoring air quality at the Project. This includes generators and compressors as well as mobile equipment.
- 3.7.10.3 For hose and termination fittings on air compressors, "whip checks" shall be used at all connection points. Emergency automatic shut off valves shall be installed on every discharge fitting of all air compressors that are capable of producing air pressure greater than thirty (30) pounds per square inch.

3.7.11 PUBLIC PROTECTION

- 3.7.11.1 The project boundary perimeter shall be secured from public intrusion by fencing and locked gates.
- 3.7.11.2 "Attractive nuisance" items such as tower cranes, tall ladders, fire escapes, large excavations, etc. shall require additional and separate security measures.
- 3.7.11.3 Contractor shall challenge any visitor or member of the public who attempts to enter a construction area without an authorized escort.
- 3.7.11.4 All visitors to the project must abide by all project safety requirements. Visitors must read and sign the Visitor's General Waiver and Release prior to entry to the construction area(s). (Exhibit F)
- 3.7.11.5 Contractor shall be authorized to contact campus police to remove anyone who refuses to abide by Contractor directive to leave the construction area. The ODR shall be notified immediately should this occur.

3.7.12 SANITARY FACILITIES

- 3.7.12.1 The Contractor shall provide at least one (1) toilet facility per twelve (12) workers (separate count per gender) at the Project site; and shall pump, clean and re-supply at least once per

week to maintain sanitary conditions. When average temperatures during daylight hours exceed 85 degrees, pump outs shall occur at least twice per week. When female workers are present at the site, toilets designed and designated for their exclusive use shall be clearly marked. Toilets located in project management office trailers and used by office support staff shall not be considered to meet this requirement unless by written consent of the ODR.

3.7.12.2 On all projects that are four (4) stories in height or greater, sanitary facilities shall be furnished on ground level and every third level (maximum 45 vertical feet).

3.7.12.3 The use of any Owner facility is strictly prohibited unless by written consent of the ODR.

3.7.13 SCAFFOLDING

3.7.13.1 Each ground-supported scaffold shall bear a shift inspection tag (initialed by the competent person for each company that requires use of the scaffold) to indicate the status of the scaffold (green tag means completely safe and red tag means specific precautions required, or not safe/do not use). For suspended scaffold, inspection tags shall also be placed on the outrigger as well as the work platform. The PSC/A shall purchase and control a universal system to be used by all employers at the Project site. Training and documentation shall be required for all workers on the Project who will climb onto any kind of scaffolding. Contractor shall furnish tags, and ensure that all applicable workers understand the procedure. This requirement shall apply to all scaffolds.

3.7.13.2 Mudsills and surrounding areas at the base of ground-supported scaffolds shall be maintained in a well-dressed and level condition. Scaffold foot plates (or casters) shall be installed on the legs of all ground level frame sections and shall be visible for inspection at all times. Diagonal braces shall be included in every scaffold section as is practically possible. Every work level shall be fully planked and kick-off protection shall be included along open sides and ends. Overhead protection shall be constructed where walk-through passages are allowed. Mudsills shall be at least 2"x12" in one-foot lengths with foot plate centered and nailed in two corners.

3.7.13.3 Brakes on rolling scaffolds shall be secure at all times, except when the scaffold is being moved. Workers shall not be allowed on the platform when a scaffold is being moved.

3.7.14 STAIRS

3.7.14.1 Properly designed and built stair and landing units shall be placed at access doors for every Project office and storage trailer prior to use. Per ANSI requirements, the landing outside each door of any office trailer shall be no greater than one quarter inch (1/4") below the threshold and the unobstructed (standing) area outside the swing radius shall be no less than twenty-two inches (22"). Fire & Life safety code (NFPA) and ADA requirements shall also be satisfied as they apply. Ramps or connecting decks may be installed to satisfy this requirement.

3.7.14.2 For incomplete permanent stair sections, at least the bottom four (4) risers and upper entry points for each floor shall be physically blocked and marked "INCOMPLETE – DO NOT USE." Until a complete section is made acceptable for general use, the barricades and signs for that section shall be maintained.

3.7.15 PROJECT SERVICE WATER

3.7.15.1 Potable Water: Potable water shall comply with city and community health requirements.

3.7.15.2 Non-potable Water: Water storage containers, hose bibs and faucets shall be posted in English and Spanish "DANGER – DO NOT DRINK."

3.7.16 WELDING AND BURNING

- 3.7.16.1 Splices, taps, welds and/or burning operations that may produce sparks, slag or hot scraps shall require "Hot-Work" or "Burn" Permits (daily or per shift). "Burn Permit" forms shall be furnished by the Contractor and issued by the PSC. The SSR shall submit completed permit form in advance of the Work to the PSC for acceptance. One copy of the accepted permit form shall be posted by the SSR in the vicinity of the operation. At the conclusion of the work and successful completion of the smolder/re-kindle watch, a copy of the expended permit shall be signed off and returned to and filed by the PSC. If the campus Environmental Health and Safety group wishes to be involved in the process (provision of permit and/or pre-inspection of the permit space), Contractor shall accommodate these wishes, however, if campus permit exceeds more than one day, Contractor will also issue work specific permit daily. No matter who furnishes the permit form, Contractor shall ensure that all Hot Work will be provided with at least a fire watcher(s), fire extinguisher(s), and smolder watch. If the work produces intense light, permit shall also contain requirement for screens to protect others from flash burns. For open space operations that will not be moved, (on-site fabrication shops), a permit may be issued for a week.
- 3.7.16.2 Oxygen and fuel gas cylinders shall not be stored together, including on bottle carts. At the end of any cutting operation and/or any shift, bottles must be removed from carts and taken to OSHA prescribed storage arrangements. Hoses and gauges shall be removed and caps restored onto cylinders.
- 3.7.16.3 Anti-flashback arrestors shall be installed at the pressure regulator gauges of all Oxy-Acetylene cutting rigs, even if the torch is equipped with a built-in arrestor.
- 3.7.16.4 Fire watchers shall be posted at every operation that produces sparks, flames or sufficient heat to create an ignition or to fall onto another person. Watchers shall be trained in the use of extinguishers, shall keep other people from entering exposure areas, and shall not be assigned other duties until the rekindling possibility ("smolder watch") is over. When sparks, slag, or fire may fall to a different level, a separate watcher shall monitor each level directly below the work (including exterior locations).
- 3.7.16.5 Heater boxes for welding electrodes shall have a manufacturer's label that certifies the purpose of the unit. Job-built heaters shall be prohibited.
- 3.7.16.6 The unused stubs of welding electrodes ("rod butts") shall be collected and placed in proper disposal containers (i.e. metal bucket with sand or water) as soon as each one is expended. Whenever operation is idle, electrode shall be removed from stinger.
- 3.7.16.7 Welding operations shall not be allowed to present an opportunity for flash burn exposures to the eyes of any workers in the vicinity. All welding operations shall provide appropriate screening measures, erected in advance to contain the high energy light.

3.8 REQUEST FOR SAFETY VARIANCE

If the Project conditions present a situation that will not allow compliance with any portion of this Section, the Contractor shall submit a Request for Safety Variance (EXHIBIT M) to the ODR. The Request for Safety Variance must provide sufficient detail(s) regarding the action(s) to be taken that will provide a measure of safety that is equal to or exceeds the stated requirement. Until the variance is approved and signed by the ODR, compliance with this Section is required.

EXHIBIT Attachments:

- EXHIBIT A Anticipated Construction Project Hazards – Checklist submittal
- EXHIBIT B Job Hazard/Safety Analysis – Subcontractor submittal
- EXHIBIT C Hot Work Burning/Welding Permit – Project file document
- EXHIBIT D Occupational Injury/Illness Incident Management – Decision matrix
- EXHIBIT E Incident Notification Report – Contractor submittal
- EXHIBIT F Visitor's General Waiver and Release – Contractor submittal
- EXHIBIT G Project Safety Orientation Checklist – Project file document
- EXHIBIT H Subcontractor Safety Representatives Weekly Meeting Agenda - Template
- EXHIBIT I Quarterly Equipment Inspection Report – Project file document
- EXHIBIT J Contractor's Monthly Safety Report – Contractor submittal
- EXHIBIT K Worker Guide for Reporting Injury - Handout
- EXHIBIT L Supervisor Guide for Management of Worker Injury - Handout
- EXHIBIT M Request for Safety Variance – Contractor submittal

END OF SECTION 01 35 23

EXHIBIT A**CONTRACTOR SUBMITTAL TO OWNER – CHECKLIST****The University of Texas System – Construction Project Safety****ANTICIPATED CONSTRUCTION PROJECT HAZARDS**

CIP (Owner's Project) #		Project Name		Date
No	Yes	Issue	Timing for appearances & ID for Subcontractor JH/SA's	
General Health Exposures				
		Noise, Illumination, Lasers and X-ray		
		Dusts, Mists, Vapors, Gases		
		Chemical exposures		
		Proximity to public and/or traffic		
		Existing geography/ extreme weather		
Electrical Exposures				
		Overhead power lines in area		
		High Voltage (> 600 volts)		
		Hot taps and/or Double fed circuits		
Excavations				
		Tunnels and/or Jack and Bore		
		Maximum estimated trench depth		
		Maximum estimated pier sizes		
		Existing underground services		
		Proximity to streets or buildings		
Elevated Fall Exposures				
		Excavations and piers		
		Structural erection (steel/precast)		
		Building exterior		
		Stairwell/ Chase/Elevator Shaft		
		Roof (note steep or low slope)		

Cranes/ Hoists/ Derricks			
		Pier Drilling/ Pile Driving	
		Exterior Hoists (Elevators)	
		Mobile Cranes (track and rubber tire)	
		Tower Cranes	
		Critical lifts	
Tools and Equipment			
		Powder Actuated	
		Pneumatics or High Torque power tools	
		Generators and Compressors	
Motor-Driven Equipment			
		Earth moving equipment	
		Lift Platforms (articulating and/or scissor)	
		Industrial trucks (fork lifts)	
		Bulk fuel storage area	
Demolition			
		Structural, Explosive or Mechanical	
		Jackhammers and power cutting	
Scaffolding			
		Ground supported (static and/or motorized)	
		Suspended	
Welding and Burning			
		Types and Locations	
Confined Space			
		Permit required and/or not required	

EXHIBIT B**SUBCONTRACTOR SUBMITTAL to CONTRACTOR - PLAN****The University of Texas System – Construction Project Safety****JOB HAZARD/JOB SAFETY ANALYSIS**

(insert Company name)		Original author name:	
Job Task Name:		Original issue date:	
Job Task Description:		Latest revision author:	
		Latest revision date:	
		Approved by:	

Step # 1 in sequence of steps required to accomplish task	
Description of actions of participants	
List associated hazards	
Define required safety measures	
Step # 2 in sequence of steps required to accomplish task	
Description of actions of participants	
List associated hazards	
Define required safety measures	
Step # 3 in sequence of steps required to accomplish task	
Description of actions of participants	
List associated hazards	
Define required safety measures	

Step # 4 in sequence of steps required to accomplish task	
Description of actions of participants	
List associated hazards	
Define required safety measures	
Step # 5 in sequence of steps required to accomplish task	
Description of actions of participants	
List associated hazards	
Define required safety measures	
Step # 6 in sequence of steps required to accomplish task	
Description of actions of participants	
List associated hazards	
Define required safety measures	

The University of Texas System – Construction Project Safety

HOT WORK (BURNING/WELDING) PERMIT
(ONE COPY MUST BE POSTED IN THE VICINITY OF THE WORK)

CIP Number				Request Date:
UT Campus / Institution				
Project Name				
Requesting Company				
Responsible Supervisor				
Work Location				
General Description of Work Tasks				
Date(s) Required		to		
Permit Duration (check one):	<input type="checkbox"/> One Week (Static Operation)		<input type="checkbox"/> One Shift (Transitory Operation)	
ISSUES AND/OR PREVENTION MEASURES	DESCRIPTION			
Dedicated Fire Extinguisher(s)				
Special Suppression Equipment				
Fire Blankets/Equipment Shielding				
Flash Bum (Eye Safety) Screening				
Fire Watch Position(s)				
Existing Sprinklers Disabled				
OTHER CONSIDERATIONS:				

NOTES:

1. STATIC OPERATIONS (i.e. fabrication shop areas) may use a weekly permit. **All others must be daily.**
2. Unless a specific task requires a **LONGER** time period, fire watch positions must also conduct a smolder-rekindle watch for at least THIRTY (30) MINUTES after the burning/welding operation is completed.
3. If the work moves from one area to another during a single shift, the permit must accompany the move and all task areas must be identified on the permit.
4. After the work is completed, the permit must be initialed by the RESPONSIBLE SUPERVISOR (below) and a copy must then be forwarded to the Prime (Controlling) Contractor within one (1) work day.

If unexpected events during the work led to modified plan, place initials in appropriate box: ☐ NO ☐ YES
 If **YES**, describe the unexpected events and the subsequent actions.

The University of Texas System – Construction Project Safety**OCCUPATIONAL INJURY/ILLNESS INCIDENT & CRISIS MANAGEMENT**

Page 1 of 3

Eleven (11) steps that shall be completed when an occupational injury occurs

1	Render immediate “first” aid (using all available resources on the Project)
2	Immediately notify emergency services (if required) and then Owner representative
3	Secure and preserve the scene of the incident, evidence and attached surroundings
4	Start the evidence gathering and incident recovery control process
5	Complete insurance (first report) claims forms and record incident
Steps #1 through #5 SHALL be completed on the date of the incident	
6	Facilitate opportunity for return to work (full or modified duty)
7	Confirm all medical findings and physical restrictions
8	Complete investigations and develop recovery/prevention plans
9	Issue a “bona fide” offer of employment to workers with medical restrictions
10	Bring insurance claim to closure
Steps #6 through 10 SHALL be completed as soon as possible	
11	Instruct all persons on the Project to perform their roles during a crisis.
Step #11 starts as soon as an incident escalates beyond a first aid event (see page 3 of 3)	

The matrix (table) on the next page indicates the step-by-step responsibilities associated with each level of severity. There are three (3) distinct levels. Level 2 is subdivided to capture the modification of control when patient handling and recovery moves beyond prepared arrangements.

NOTES to assist the reader

- Term CC is used to denote the (Controlling) Contractor.
- Texas Department of Insurance (previously Texas Workers Compensation Commission).
- Where Drug Test is indicated, Alcohol Test shall also be required.

OCCUPATIONAL INJURY/ILLNESS INCIDENT & CRISIS MANAGEMENT

Page 2 of 3

Level One	Level 2		Level 3
First Aid	Occupational Clinic	Single Hospital Case	Catastrophe
Qualified persons (with CPR and Emergency First Aid training)	Qualified persons (with CPR and Emergency First Aid training)		Qualified persons (with CPR and Emergency First Aid training)
Injured worker's Employer to notify CC immediately following treatment.	<ul style="list-style-type: none"> Injured worker's Employer to notify CC immediately. CC to notify OFPC RCM immediately 		<ul style="list-style-type: none"> Injured worker's Employer to notify CC immediately. CC to notify OFPC RCM and UT Police immediately. Injured worker's Employer to notify OSHA within 8 hours.
N/A	CC physically secures the area until investigation has all information.		CC physically secures the area until OSHA, UT Police, and OFPC release
CC records incident in the project First Aid Log within one day.	<ul style="list-style-type: none"> Employer completes TDI form ("First Report of Injury"). CC confirms insurance carrier notification within one day. Employer and CC record the incident in OSHA 300 log within 6 days 		<ul style="list-style-type: none"> Employer completes TDI form ("First Report of Injury"). CC confirms insurance carrier notification within one day. Employer and CC record the incident in OSHA 300 log within 6 days.
N/A	<ul style="list-style-type: none"> CC issues treatment authorization form to supervisor of injured worker. Supervisor transports worker and treatment form to clinic. CC contacts clinic to apprise them of status. 	<ul style="list-style-type: none"> CC contacts the claims adjuster for the insurance carrier as soon as the names of the injured worker and hospital are known. CC shares the information with OFPC RCM. 	<ul style="list-style-type: none"> CC contacts the claims adjuster for the insurance carrier as soon as the names of the injured worker and hospital are known. CC shares the information with OFPC RCM.
N/A	Supervisor of injured worker informs medical provider that the Employer will furnish a position to match medical restrictions.	Adjuster contacts the emergency room to announce "doctor of record" for all follow-up care.	Adjuster contacts the emergency room to announce "doctor of record" for all follow-up care.
N/A	<ul style="list-style-type: none"> Doctor diagnosis and announces restrictions. Drug test is completed. 	<ul style="list-style-type: none"> Emergency room completes care. Doctor of record makes arrangements for drug test and announces restrictions. 	<ul style="list-style-type: none"> Emergency room completes care. Doctor of record makes arrangements for drug test and announces restrictions.
Employing Contractor conducts investigation and reports findings to CC.	Employing Contractor and CC conduct investigation and report findings to Safety Team and OFPC RCM.		<ul style="list-style-type: none"> Employing Contractor and CC conduct investigation and report findings to Safety Team and OFPC RCM. OSHA will conduct a separate investigation, starting within 24 hours of notice. Police investigation is also possible.
N/A	Employer issues a "bona fide" offer letter to inform injured worker that employment is available to match medical restrictions.		Employer issues a "bona fide" offer letter to inform injured worker that employment is available to match medical restrictions.
N/A	Doctor issues a return to work notice when all medical treatment is concluded. Permanent restrictions are possible.		Doctor issues a return to work notice when all medical treatment is concluded. Permanent restrictions are possible.

OCCUPATIONAL INJURY/ILLNESS INCIDENT & CRISIS MANAGEMENT

Page 3 of 3

Step # 11 (CRISIS MANAGEMENT AND MEDIA RESPONSE GUIDELINE)***-----For non-command persons on the Project – general items of understanding***

- A. Do not approach an incident scene until the entire situation and vicinity has been evaluated and all possible hazards have been identified and neutralized. **Do not become an additional casualty for the emergency response team.**
- B. Know the name and face of the person who is the incident commander for the Project. Know the name of the campus media relations person who is the only official spokesperson for the Project.
- C. Confirm that someone has contacted the appropriate emergency services and public safety agencies.
- D. Stay back from the scene if you have no assistance skills to offer. Be prepared to take directions from those who are in charge of the response. Offer any logical suggestions that seem to be appropriate for the situation.
- E. Try to observe and remember as much detail as possible. Witness statements concerning times, names, physical details, weather conditions, adjoining work operations, etc. may add a critical bit of information to develop an effective recovery and future prevention plan.

-----For Contractor – action items to be managed (and coordinated with ODR and campus)

SPECIAL NOTE: Media reporters will broadcast and publish the most sensational story that can be reported. One tactic is to question as many people as possible and look for evidence of confusion and conflict among the gathered statements.

- A. Designate one employee to be the liaison with both the Corporate and UT Campus spokespersons. If the spokespersons are not at the Project, the liaison should be capable of reaching them to decide the preliminary information that may be shared with the media. Normally this duty will fall to the Project Manager for the Contractor.
- B. Designate one employee to be the incident commander during the emergency. This has to be a person who is assigned to the Project and must be on call 24/7. Normally this duty will fall to the Project Superintendent.
- C. Shut down all unnecessary operations at the Project. Do not allow the appearance that the Owner is more concerned with production than with people's safety and health, and allow nothing to impede emergency response professionals.
- D. Instruct all workers to avoid contact with members of the media, and to understand that the Project spokesperson will deliver the entire story when the details are fully understood. Provide an easy avenue for internal expression of their feelings about what they hear from others and see in publication.
- E. Promise to give the media all of the pertinent facts (in stages if necessary). **Speculation must not be offered.**
- F. Have a preplanned area designated for media assembly. For events that draw only one or two reporters, direct them to an office or small conference room until the spokesperson is ready to deliver comments. For larger groups, contain the reporters outside the gate, or collectively in a remote area, and keep them informed with bits of factual information that may be aired.
- G. Do not divulge the names of any injured persons until law enforcement or corporate representatives issue assurance that the families have been contacted. Be honest with estimates of times when information will be shared.
- H. Keep the media away from all areas where the emergency response professionals will be congregating during moments of rest. You do not want to see their unguarded remarks or blood stained clothing in print or on television.
- I. A "sensitive" professional should be delivering messages to family members, and in communication with the Project.
- J. Be prepared to furnish counseling for anyone (workers, responders, and family members) that may need such help.
- K. Send representatives to all area hospitals involved in treatment of injured workers. Assure the injured persons and their families that their problems will be given the best attention and that the medical expenses will not be their problem.

EXHIBIT E**CONTRACTOR INCIDENT NOTIFICATION - REPORT**

Report is to be completed and submitted to Owner within two hours following control of incident. If initial report is submitted electronically, one hard copy with an original signature must also be submitted to ODR within 24 hours.

OFPC Project # _____

Place an "x" in the appropriate box/boxes below that best classify the incident.

Safety/Health

- ☐ Occupational Injury
☐ Occupational Illness
☐ Near Miss (Safety)

Loss/Damage

- ☐ Workers Compensation
☐ 3rd Party Injury/Property Damage
☐ Builder's Risk
☐ Other (describe)

Environmental

- ☐ Material Spill/Gas Discharge
☐ Fire/Explosion
☐ Near Miss (Environmental)

Section 1: Background Information (for any kind of incident with a worker involved)

Worker Name:	Employer/Company:	Work Trade & Job Title:
Supervisor's Name:	When supervisor reported incident: _____ @ _____ AM/PM	When worker said it happened: _____ @ _____ AM/PM

Section 2: General Incident Details (for any kind of incident, even if no loss occurred)

Describe where on the Project the incident occurred (according to current best information).

Describe how the incident occurred (according to current best information).

What job task(s) was/were being performed at the time of the incident?

Has the condition(s) that might have contributed to the incident been corrected or made safe?
 ____Yes ____No If "Yes," how?

Were there any witnesses to the incident? ____Yes ____No

Section 3: Injury (If incident involves injury or illness, complete this section)

Describe the injury and body part affected (1" scratch to right forearm, etc.):

Describe the initial treatment (antiseptic and band-aid applied, etc.):

Will injury probably be Recordable per OSHA guidelines? ____Yes ____No

Section 4: Spill/Discharge (If incident involves environment, complete this section)

Type of material spilled/discharged: _____
 Estimated Volume of material lost: _____
 Estimated Volume recovered: _____
 Was remediation required? ____Yes ____No If "Yes," how?

PSC completing report: _____
 (Print Name) (Signature) (Date)

Distribution: OFPC RCM OFPC Safety Analyst- Contractor's Project Safety File



**Visitor's General Waiver and Release
The University of Texas System (Owner)**

Project Name: _____

Project Number: _____ Location: _____

General Contractor: _____

OFPC Resident Construction Manager: _____

Project Safety Coordinator _____

On behalf of The University of Texas (Owner) and the General Contractor, we welcome you to the project. Construction projects can be dangerous and hazardous to employees and visitors alike. Upon entering the site, you must exercise extra care to adhere to safety protocols and instructions from knowledgeable construction professionals.

Initials _____ I acknowledge that I will observe and follow all safety procedures, including any warning signs or safety instructions posted on or about the premises. In addition, I acknowledge that proper safety vests, hard hats and safety glasses have been provided to me for my visit. I am wearing closed toed shoes that the Project Safety Coordinator has acknowledged will be appropriate for my visitation.

Initials _____ I hereby waive, release and hold harmless, as well as forever discharge, The University of Texas System, the General Contractor and all subcontractors, their agents and employees from all claims which I, or my heirs, executors or administrators shall or may have, because of bodily injury or death to me or damage to my property resulting from any act or omission of the Released Parties. I AM NOT AGREEING, HOWEVER, TO RELEASE THE RELEASED PARTIES FROM GROSS NEGLIGENCE.

Initials: _____ I hereby agree to indemnify, defend and hold harmless the Released Parties for any bodily injury, death or damage to other persons or property caused by my acts or omissions while visiting the project.

Initials: _____ I, the undersigned, acknowledge that I (1) have requested permission from the Owner and General Contractor to visit the Project Site; 2) have executed this Waiver and Release as a condition of and in consideration for being permitted by Owner and General Contractor to visit the project Site; and 3) agree to exercise extreme care while on the Project Site and to comply with all safety rules and requirements of the Owner and General Contractor.


Date: _____ Visitor Signature: _____

Number in Visiting Party: _____ Group Affiliation: _____

Project Safety Coordinator Signature: _____

EXHIBIT G**CONTRACTOR CHECKLIST – TRAINING DOCUMENT****The University of Texas System – Construction Project Safety****PROJECT SAFETY ORIENTATION**

Owner's Project #	Date of Safety Orientation Training:
Project Name	
Trainer's Name:	
Contractor/Employer's Company Name:	

INSTRUCTIONS: Place a  mark in the box to the right of each topic as it is discussed.

1-	Review General Purpose of Rules	7-	Daily Issues
a.	Do NOT work alone – stay in contact	a	Housekeeping
2-	Personal Protective Equipment (PPE)	ITEM	Slippery surfaces and Trip hazards
	Purpose, use, storage and care of:	ITEM	Visual obstructions to emergency equipment
a	Safety Helmets (Hard Hats)	ITEM	Blocked Exit paths
b	Basic Eye Protection	ITEM	Emergency Roadways
c	Additional Eye/Face Protection	ITEM	Trash = Vermin/Fire hazards
d	Feet/Hands/Clothing Protection	ITEM	Puncture/Impalement hazards
e	Respiratory Protection	ITEM	Unstable Stacks of materials
f	Hearing Protection	b	Manual Lifting
g	Fall Protection	c	Ladders and Stairs
h	Special Protection issues	d	Scaffolding (frame and suspended)
3-	Hazard Communication (aka Right to Know)	e	Tools and Portable equipment
a	General Plan	f	GFCI/Electrical power
b	Major Chemical hazards on-site:	g	Surface and ground conditions
NAME		h	Overhead exposures
NAME		8-	Motorized Equipment Operations
NAME		a	Mobile equipment (uses and alarms)
NAME		b	Crane and Rigging Operations
c	Hazard Labels	c	Lift platform equipment
d	Material Safety Data Sheet (MSDS)	d	Hoists/ Exterior Elevators
e	Location of MSDS	e	Company/ Personal Vehicles
f	Safe Task Training requirements	9-	Special Operations (with and w/out permit)
4-	Emergency Equipment (location and use)	a	Excavations
a	First Aid Station and AED	b	Concrete pour and place
b	Fire Extinguisher	c	Steel and Precast erection
c	Eye Wash/Shower Stations	d	Decking and roofing
5-	Emergency Procedures	e	Lock/Tag out of Energized Systems
a	Medical/ Injury incident	f	Hot work and Burn Permits
b	Fire incident	g	Scaffold erection/dismantle and use
c	Weather/ Evacuate	h	Critical shutdown
d	Violence, Protest, Spill, Explosion	10-	Miscellaneous Issues
6-	Incident Notification/Reporting	a	Parking, Smoking, Harassment
a	Tell Supervisor Immediately	b	Signs, Barricades, Handrails
b	Help –OR- stay out of the way	c	Traffic, Pedestrians, Neighbors
c	Give a statement of facts	d	Drugs and Alcohol
d	Assist investigation	e	Meetings, Badges, Incentives
e	Report Unsafe acts and conditions	f	Enforcement

I understand that this training is designed to help me make safe decisions and act to reduce risks.

Employee Name (print)

Employee Signature

The University of Texas System – Construction Project Safety**SAFETY REPRESENTATIVES WEEKLY MEETING AGENDA**

- Sign in and introduction of any new Subcontractor Safety Representatives
- Read minutes from last meeting and vote final adjustments before filing into record

Past (Old Business):

1. Discuss investigations (findings and conclusions) from recent past incidents.
 2. If the Project has a safety committee, have someone from the committee report the safety conditions and behaviors noted in the past week.
 3. Review safety issues/conditions identified during Project Safety Coordinator's weekly safety inspection or third party inspection.
 4. Discuss any pending claims (worker injury or general liability). Review claims handling procedures.
 5. Discuss trends identified regarding claims or safety performance.
-

Present (Current and New Business):

6. Review the activities for the week ahead. Identify particular safety concerns and issues. Develop actions to control identified hazards.
7. Review any MSDS for potential exposure warnings that pertain to upcoming operations.
8. Review specific PSMP elements and/or requirements.
9. Safety suggestions
10. Open forum for general Q and A
11. Announcements
 - Subcontracts that are concluding – need final look at their areas
 - Upcoming safety recognition events
 - Upcoming training opportunities
 - Upcoming professional safety seminars or workshops
 - Names of workers who are not permitted to return to Project
 - Time and date of next meeting
 - Next week's mandatory topic for the Weekly Tool Box talk

SUBCONTRACTOR SUBMITTAL – FILE DOCUMENT

The University of Texas System – Construction Project Safety

QUARTERLY EQUIPMENT INSPECTION REPORT

Quarterly Color Codes:	(1 st) White	(2 nd) Green	(3 rd) Red	(4 th) Orange							
Project Number			Date of Report								
Project Name											
Contractor											
Employer Name											
Inspector's Name											
INSTRUCTIONS:			Insulation intact and cords undamaged	Clean, no electrical shorts, good polarity	Labels in place and legible	All parts present and undamaged	No excessive wear or corrosion	No deformity or sign of excessive strain	Safety feature(s) intact and working	Warning alarms operating properly	
1. Use one line to identify each type of portable equipment on Project.											
2. Use a "check" mark to indicate pertinent categories for each line item.											
3. Use an "N/A" mark to indicate non-applicable categories for each line item.											
4. Use "Qty" column to indicate total number for each item inspected.											
5. Use "Comments" area to describe items removed for repair and/or discarded.											
6. Complete this process within final fourteen (14) days of each quarter.											
7. Items that enter or return to Project during quarter must first be re-inspected.											
Portable Equipment Items			Qty	Inspection Categories							
Comments:											

I certify that all of the portable items on this Project at the beginning of this quarter have been inspected and certified or removed from service.

Signature of Inspector

Date of Report

Distribution:

Employer's Project file

Contractor's Project file

EXHIBIT J**CONTRACTOR SUBMITTAL TO OWNER - REPORT****The University of Texas System – Construction Project Safety****CONTROLLING CONTRACTOR'S MONTHLY SAFETY REPORT**

Report Date:
OFPC Project Name:
OFPC Project Number:
Name of Contractor:
Name / Position of Preparer:
Reporting for Month and Year:

INFORMATION FOR MONTH BEING REPORTED

Total number of man-hours worked by all workers assigned to the project during the month:	
Average daily count of workers on project site (average the First and the Last Wednesday worker count):	
Total number of "near miss" incidents reported during the month:	
Number of incidents classified as "first aid" only:	
Number of injured/ill workers classified as Recordable who were treated and released without restrictions:	
Number of injured/ill workers classified as Recordable who were treated and released with restrictions:	
Number of injured/ill workers classified as Recordable who received medical orders not to return to work next day (Days Away From Work):	
Total number of all injured/ill workers classified as Recordable for the month:	
Number of occupational deaths:	
Number of incidents with Builder's Risk or General Liability damage only (no occupational injury or illness to a worker) for the month:	
Were all incidents (with damage or injury) investigated and a report of findings completed and on file?	

CUMULATIVE INFORMATION THROUGH MONTH BEING REPORTED

Total number of months worked since Notice to Proceed for Construction Services:	
Total number of man-hours worked by all workers assigned to the project through month being reported:	
Total number of all Recordable Incidents through month being reported:	
Total number of all Recordable Incidents with Days Away from Work through month being reported:	
Recordable Incident Rate (project start to date) - Total Recordable cases x 200,000 / Total Man-hours worked:	
Days Away From Work Incident Rate (project start to date) – Total DAFW cases x 200,000 / Total Man-hours worked:	
Total number of occupational deaths:	
Total number of Builder's Risk or General Liability damage only (no occupational injury or illness to a worker) :	

By my signature, I certify that the information above is true and accurate to the best of my knowledge. I understand that an provided may require verification to the satisfaction of the Owner. I further understand that failure to submit may result in processing of the payment application.

Signature:

**Signed original copy to OFPC RCM no later than submittal for following month's payment application.
E-mail copy to rpetty@utsystem.edu, mschaeffer@utsystem.edu, and tod.hollis@marsh.com no later than 10th day of the current month following the month reported.**

The University of Texas System – Construction Project Safety**WORKER GUIDE FOR REPORTING INJURY**

- ❖ **WORKERS MUST IMMEDIATELY REPORT** all injuries (no matter how minor) to a supervisor.
- ❖ The supervisor will report the incident to the Contractor and take care of all paperwork.
- ❖ The Contractor will drive the injured employee to the clinic to guarantee safe transport and to secure swift and complete medical attention.
- ❖ The doctor may prescribe written “orders” for medical restrictions. The supervisor must then assign temporary duties that fit the restrictions (“Light Duty”). This guarantees the worker a full paycheck while the injury heals.
- ❖ The Contractor will drive the injured worker back to the Project and make arrangements with the employer to get the worker and personal vehicle home by a safe method.
- ❖ Injured employees must follow the doctor’s “orders” and comply with work restrictions – **at home and at work**. Employers must allow reasonable times for visits to the doctor and to therapy sessions. Normally, sessions can be scheduled during non-work hours.
- ❖ The insurance company may contact the injured employee to discover how the doctor and the employer are planning to treat the injury and the recovery. Injured workers should share any personal details that might help the agent understand the situation. If anything needs to be changed in order to help the recovery process, the agent will contact the proper people to make it happen.
- ❖ The insurance company will pay the medical bills for injuries on this Project. Workers should never pay any medical bills for an injury that is related to work. If there are any questions, talk to a supervisor and/or the Project Safety Coordinator for the Contractor.

SPECIAL WARNING TO USERS AND ABUSERS (of alcohol and other controlled substances):

No matter where a worker receives medical care, the treatment will include a drug and alcohol test. Workers who are injured as a result of impairment from alcohol or non-prescribed drugs will lose the guarantee that all medical treatment will be covered by insurance. Also, they will not be allowed to return to work on any UT System Project.

The University of Texas System – Construction Project Safety**SUPERVISOR GUIDE FOR MANAGEMENT OF WORKER INJURY**

1. Workers must **IMMEDIATELY REPORT** all injuries (no matter how minor they appear at the time of the incident) to a supervisor (foreman, general foreman, superintendent, etc.).
2. The supervisor must **IMMEDIATELY REPORT** any injury to the Contractor's Project Superintendent or Safety Coordinator. Improper and/or late reporting of injuries will result in Owner directed recovery charges as described in the Contract.
3. The supervisor must then escort the injured employee to the Contractor's Project office (**except when the injury requires an ambulance or emergency response**).
4. The Contractor's Safety Coordinator shall retrieve 5 documents from the Project Safety Files as follows:
 - a. The form (Authorization for Medical Treatment) that guarantees quickest medical response at the clinic
 - b. A map that shows the best route to the clinic
 - c. A copy of the Return to Work Policy from the employer of the injured worker
 - d. A "First Report of Injury" form to furnish the insurance company with the necessary information to start a claim and pay medical bills
 - e. A "Bona Fide Offer of Employment" form to guarantee suitable employment for medically restricted workers
5. The Contractor will drive the injured employee to the clinic to guarantee safe transport and present the "Authorization to Treat" form to obtain swift response. This form will also notify the clinic that a test for drugs and alcohol is required. If the injured worker is transported elsewhere, the Contractor shall also notify the insurer. The supervisor shall also be at the clinic to respond to questions from the physician.
6. After the doctor has completed the examination and all required medical care, the Contractor and the worker shall meet with the doctor to accomplish three objectives:
 - a. Review the injury and discover the need for any additional medical assistance.
 - b. Discuss suitable Return to Work positions to accommodate any medical restrictions.
 - c. Present the worker with a "Bona Fide Offer of Employment" form to guarantee continuing employment and to guarantee work tasks that will not exceed prescribed medical restrictions.
7. The Contractor shall then drive the worker back to the Project and the supervisor shall make suitable arrangements to get the worker and personal vehicle home at the end of the day. If the doctor has written a prescription that contains orders for medical restrictions, the worker must be assigned to ("Light Duty") tasks that meet the restrictions. This presents a "win-win" for all involved as follows:
 - a. The injured worker will continue to draw his/her full paycheck.
 - b. The employer will be able to keep its insurance rating as competitive as possible.
 - c. The insurance provider will be able to keep the costs of medical claims as low as possible.
8. The supervisor must promote three issues to quickly and completely restore health:
 - a. Maintain awareness of medical restrictions, and assign work tasks that do not violate the restrictions.
 - b. When contacted by the insurance agent, be candid and share any information that may expedite the physical recovery of the injured worker.
 - c. Allow reasonable times for physical therapy (or other medical treatment) and maintain contact with worker.
9. **Zurich** is the insurance company that will pay the medical bills. The Contractor's Project Safety Coordinator will have the contact information to file the required insurance claim.

SPECIAL NOTE: No matter where the worker receives medical treatment, a drug and alcohol test **MUST** occur at the Project assigned clinic. Employers must not allow workers with confirmed drug or alcohol impairment to return to employment on any UT System Project unless the drug is prescribed by a physician and the work assignment can be safely performed.

EXHIBIT M**CONTRACTOR SUBMITTAL TO OWNER - TEMPLATE****The University of Texas System – Construction Project Safety****REQUEST FOR VARIANCE**

Date of Request:

From: *(insert name of Contractor and name of person signing on behalf of company)*

To: Office of Facilities Planning and Construction – *(insert name of OFPC RCM)*

Project Name: _____

Project Number: _____

We respectfully request a variance from the Contract, Section # 01 35 23 (Project Safety Requirements). We understand that no alteration of safety procedures is to be allowed until formal acceptance is executed by OFPC.

We believe that the following regulation(s) is/are either not practicable or not the best practice for the Project at this time.

(Insert verbiage that describes the specified regulation.)

(Insert description of how and why the existing conditions make the existing regulation less than the safest method for accomplishing the work – convenience is not an acceptable reason.)

(Insert the proposed method in sufficient detail to allow a reader to visualize the better plan.)

Very truly yours,

Signature

Position

On behalf of the Board of Regents of The University of Texas System, Contractor's request is:

ACCEPTED

☐

DENIED

☐

Print name

Signature

Request reviewed by OFPC Regional Program Manager and no objections to the request are made at this time.

Printed Name

OFPC Resident Construction Manager

Signature

Cc: OFPC Safety Analyst - Austin

REVISION LOG

The following is provided for convenience to the Owner, Architect/Engineer and Contractor to track changes between annual document issuances and is not to be considered by any party to be contractual or 100% complete.

Date	Paragraph Revised
02/01/08	Correct numbering in section 3.8
06/01/08	Include SafetyNet Program in section 2.4
04/01/09	Reissue date of substantially revised document. (not posted to eManual)
04/26/10	Reissue date of substantially revised document. Notable changes include: <ul style="list-style-type: none"> • increased experience level and qualifications of the Project Safety Coordinator (PSC) and Project Safety Assistant(s) (PSA) • modified the number of PSAs required on a Project and their start and conclusion of service days • increased credit for formal education, continuing education, and certification for PSCs and PSAs • modified OSHA 10/30 hour training requirements • modified hard hat sticker process for equipment operators • modified safety vest requirement • modified height requirement for ladder use without fall protection • removed other exemptions for fall protection • added visitor waiver and release requirement and document • other cosmetic changes with no impact to content or intent of specifications.
3/24/11	Inclusion of criminal background check requirement and associated forms 3.2.10
5/17/11	Removal of criminal background check requirement and associated forms
[05/17/11 Revision Posted on MD Anderson Website 07/07/11]	

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SECTION 01 35 25 – OWNER SAFETY REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.
- C. For projects enrolled under the Owner Controlled Insurance Program (OCIP), this Section supplements Section 01 35 23 Project Safety Requirements, with additional Owner requirements for work within existing facilities or for work in areas controlled by the Owner.

1.02 SUMMARY

- A. The control of Project Safety by the Contractor is an essential element of performing work at The University of Texas MD Anderson Cancer Center (MD Anderson). The Contractor shall, at all times, provide adequate resources, equipment, training, and documentation to assure a safe work environment at the Project site and to instill a culture for safety in the behavior of all supervisors and workers. Every worker shall understand that safety and health issues always take precedence over all other considerations, and that identifying, reporting, and correcting unsafe acts and conditions are the responsibility of everyone at the Project site.
- B. MD Anderson is dedicated to providing a safe healing and work environment for all patients, visitors, staff, students, guests, and Contractors.
- C. The details of this document should be considered as supplemental requirements. The Contractor shall develop, implement, maintain, and submit to the Owner a written Project Safety Program that meets or exceeds all Federal, State, and Local standards and regulations pertaining to construction activities. The Contractor and every Subcontractor shall comply with the rules and guidelines outlined in this guideline. In any circumstances where this section differs with or conflicts with any standard or statutory requirement, the more stringent requirement shall apply. Contractors may use a company-wide safety program in lieu of the Project specific safety program as long as it meets or exceeds the requirements listed in these guidelines.
- D. The Owner reserves the right to have any manager, supervisor or worker employed by the Contractor or Subcontractor removed from the Project for disregard of Project Safety requirements.
- E. The Owner reserves the right to deduct from the Contract any safety related expenses that the Owner incurs, as a result of the Contractor's, or any Subcontractor's, disregard for Project safety.

1.03 REFERENCE STANDARDS

- A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.
- B. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.

1.04 DEFINITIONS

- A. The term "Owner's Designated Representative" or "MD Anderson Representative", as used throughout the document, shall refer any of the Owner's Project management team, insurance carrier representative(s), Owner's designated agent, or campus representative(s).
- B. The term "Contractor" as used throughout the Contract Documents shall refer to the party having a direct contractual agreement with the Owner to provide services. This term is to apply whether Contractor is known as a Prime Contractor, General Contractor, Construction Manager, or Design/Build Contractor.
- C. The term "Subcontractor" as used throughout the Contract Documents shall refer to any on-site Subcontractor, regardless of tier.

1.05 EMERGENCY / IMPORTANT CONTACT INFORMATION

- A. Consult with your MD Anderson Representative regarding the correct emergency contact information for the facility in which you are working. Each facility may have a different emergency call procedure.

PART 2 - PRODUCTS

2.01 GENERAL

- A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.

PART 3 - EXECUTION

3.01 ASBESTOS CONTAINING MATERIAL

- A. Environmental Health and Safety must review all Job sites prior to the start of a Project to determine the presence of Asbestos Containing Material (ACM).
- B. All suspect materials shall be considered asbestos-containing material until identified otherwise by an EPA approved method of analysis for identifying asbestos-containing material.
- C. Any Contractor personnel needing to disturb any suspected asbestos containing building materials shall first contact their MD Anderson Representative. It is then the responsibility of the MD Anderson Representative to contact Environmental Health and Safety to determine if there is any Asbestos Containing Materials present.
- D. Contract personnel coming into contact with known or suspected asbestos containing materials (ACM) will:
 - 1. Avoid any physical contact or other actions that may damage or otherwise disturb the material.
 - 2. Submit all requests for sampling suspected asbestos containing materials through your MD Anderson Representative. If the material has not been previously identified as containing asbestos, Environmental Health & Safety personnel will sample the materials, obtain analysis, and report results to the requester.

3.02 BLOODBORNE PATHOGENS

- A. Contractors shall instruct their employees in the concept of Standard Precautions and document training in accordance with OSHA 29 CFR Section 1910.1030.
- B. The Contractor must take every effort to prevent exposure to blood and/or body fluids while in the hospital.

- C. Patient care and research areas are considered to have the potential for exposure and special instructions may be given by the nursing or research staff on how to avoid potential contamination. Contact your MD Anderson Representative to determine if an exposure potential exists for all areas in which you will be working.
- D. Contractors shall not handle bags or containers identified as containing potentially infectious materials. Contractors may contact Environmental Health and Safety at 713-792-2888 for additional questions.
- E. For Smithville / Bastrop, Contractors may contact Environmental Health and Safety with additional questions at:
 - 1. Smithville Office Phone: 512-237-9522, 9536
 - 2. Bastrop Office Phone: 512-332-5232

3.03 CELLULAR PHONE AND RADIO USE

- A. The use of the following devices in PMA locations should be used with caution (beyond six feet of physiological monitoring systems):
 - 1. Cellular Phones
 - 2. Computers with wireless capabilities
 - 3. Two-way pagers
 - 4. Wireless handheld devices
- B. Definitions:
 - 1. Cellular Phone – Telephone that uses a frequency range of 800 - 1910 MHz to transmit voice and data to a remote cell and up to 625mW of power.
 - 2. Close Proximity - within twenty (20) feet for two-way radios and within three (3) feet for cell phones and others of a physiological monitoring system.
 - 3. Non PMA Area - an area of M.D. Anderson facility outside of the defined PMA Areas.
 - 4. Physiological monitoring area (PMA)- An area of M.D. Anderson facility where patients are likely to require the use of a physiological monitoring (e.g., Electrocardiograph, electroencephalographs, pulse oximetry, cardiac output, invasive pressure, etc) for care or treatment.
 - 5. PMA Locations: Bone Marrow Unit (G11), Cardiac Unit (P12), Cardio-Pulmonary Clinic (R8), Diagnostic Imaging (G3, R3, B3, ACB4-ACB7), Emergency Center (R1, P1, P2), Endoscopy Clinic (R5), Intensive Care Unit (G7), Operating Rooms (G5, ACB4), Pediatric Unit (G9, R7), Post Anesthesia Care Unit (G3, G5, ACB4, P3 Pod B), Rehab and Patient Therapy (P8), and the Telemetry Unit (P7).
 - 6. Wireless Communication Devices - Cellular telephones and two way radios are the only devices currently defined as having caused interference to medical devices.
 - 7. Two Way Radios – “Walkie-talkies” which use a frequency range of 29 - 1000 MHz to transmit voice between two locations up to 5 watts of power.
 - 8. Wireless Handheld Devices – Commonly known as PDA (Personal Digital Assistant). Devices that provide a range of personal information management, voice communication, data communication, and computing capabilities, that relies on wireless technology to transfer or retrieve data. May include Palm Pilot, Pocket PC, Blackberry, Smartphone, or similar devices with operating frequency of 800 to 1900 MHz.

- C. If allowed to be turned on, the volume of radios and cellular telephones must be turned down to minimize disruption to patients and operations.

3.04 CONDUCT

- A. The use or consumption of alcoholic beverages or controlled substances is strictly forbidden on any Institution owned or controlled property.
- B. Contractor shall not permit any person to operate a motor vehicle or heavy equipment while taking prescription or non-prescription medication that may impair their ability to operate safely.
- C. MD Anderson is a NO SMOKING Institution. No smoking or use of tobacco products is allowed on any Institutional property. There are no designated smoking areas. Anyone found smoking will be immediately removed from the jobsite.
- D. Contractor personnel shall be courteous to all tenants, business invitees, patients, visitors, and employees.
- E. Unacceptable behavior on the part of the workers anywhere on campus, including parking lots, the project site, the accessible route(s) through the site or through the campus may lead to the identifiable Contractors being removed from the project.
- F. Personal grooming, personal hygiene and language by Contractors must be constructed in a professional manner at all times. Use of foul and off-color language will not be tolerated and can result in Contractor removal from jobsite.
- G. Shirts must have sleeves of at least 3 inches, measured from the armpit seam. All buttoned shirts must be buttoned to at least the third button from the top. T-shirt styles may be approved if they are part of a company uniform or contain no political or offensive language or images. For additional guidance, see Section 3.26 Personal Protective Equipment.
- H. Pants that are excessively loose, torn, ragged or with dragging cuffs will not be permitted. Shorts are not allowed.
- I. No clothing, accessories, or hardhat stickers that display offensive, derogatory or inflammatory wording or graphics shall be worn on the worksite.
- J. All clothing must be in good repair and free of any large holes or major damage. All clothing must be clean and sanitary at the start of each work shift and periodically cleaned to prevent tracking dust and debris out of the construction area.
- K. Workers clothing must be clean of visible dusts and dirt when outside of the Project site.
- L. No radios or music shall be allowed on the Project including headphone systems. Personnel must be able to hear alarms and warnings in the immediate area. (This does not pertain to the use of two-way hand held communication equipment or phones).
- M. No tools or equipment will be loaned by Owner to Contractors to assist them in completing Projects.
- N. Contractor personnel shall not tape back lock/latch mechanisms nor prop open any exterior door, security door, stairwell door, or fire / smoke door. Personnel may not disconnect any electronic security device or defeat lock systems.

3.05 CONFINED SPACES

- A. MD Anderson does not provide any confined space entry support such as sampling, entry permits, rescue personnel, rescue equipment, etc., for contractor personnel.

- B. Contractors are responsible for ensuring all of their employees are trained on the recognition and significance of confined space entry procedures in accordance with 29 CFR 1910.146.
- C. It will be the responsibility of the Contractor performing the work inside the confined space to provide the necessary equipment to assess the hazards within the space and prepare the space for entry and to meet the precautions of the entry permit.
- D. Contractor shall provide all emergency rescue equipment and personnel as required by 29 CFR 1910.146, as applicable.
- E. The Contractor conducting the work inside a permit-required confined space shall follow, at a minimum, all applicable OSHA requirements.

3.06 CONSTRUCTION SAFETY SITE INSPECTIONS

- A. All construction sites will be subject to periodic inspections by Environmental Health and Safety representatives. The inspector(s) will be looking for life safety, environmental, construction safety, and indoor air quality deficiencies. Once noted, the inspector will notify the MD Anderson Representative responsible for the site. The inspector may also notify the Contractor Representative on site.
- B. All noted deficiencies shall be immediately corrected.
- C. The inspector will be enforcing IAQ measures found in the "Maintaining Indoor Air Quality During Construction and Renovation" policy / procedures and other requirements set forth in the MD Anderson construction specifications for that Project. (See Attachment A).
- D. A job or activity will be suspended if an imminent danger to patients, animals, visitors, employees, Contractor personnel or facilities is observed.

3.07 CONTRACTOR DAILY SIGN-IN AND WORK NOTIFICATION - HOUSTON

- A. Contractors must follow any specific check-in procedures for the facilities in which they will be working. Your MD Anderson representative will inform you of these procedures.
- B. All Contractors/vendors must wear an MD Anderson-issued ID badge at all times while on property owned or under the control of the Institution. Badge must be worn and be visible at all times. Contact your MD Anderson Representative for assistance in obtaining an ID badge.

3.08 CONTRACTOR DAILY SIGN-IN AND WORK NOTIFICATION – SMITHVILLE / BASTROP

- A. Contractors/Vendors hired by the Facilities Management Division must register their activities with Facilities Management before commencing work.
- B. Contractors coordinate with Project Managers for access to the campus. Contractors must submit a Construction Schedule to Physical Plant Management.
- C. Physical Plant informs Facilities Management of contractors schedule as well as the badge numbers issued to that contractor. Facilities Management will issue badges to contractor for their use while on the property. Contractors are responsible for distributing the badges as needed.
- D. Contractor/vendor registration is performed in the Physical Plant Building.
- E. All Contractors/vendors must wear an MD Anderson-issued ID badge at all times while on property owned or under the control of the Institution.
- F. Contractors/vendors who fail to register with Physical Plant Management are subject to removal from the property by the UT Police.

3.09 CONTRACTOR INJURIES AND INCIDENTS

- A. Contractors shall make prior provisions for the treatment of minor injuries.
- B. Contractor is responsible for cleaning up all blood and body fluids and debris from accidents.
- C. Contractor employees requiring immediate medical treatment should be taken to the emergency room of a local hospital. MD Anderson does not provide medical treatment to Contractors engaged in projects.
- D. If an injured worker cannot be moved and assistance is needed, contact the Houston or local Fire Department (911) for an ambulance.
- E. An injury requiring treatment beyond minor Job Site First Aid, shall be reported immediately to your MD Anderson Representative or Designee and Monitoring Services 713-792-2888 (All Houston Locations) and UTPD Smithville/Bastrop at 512-332-5371 or 512-237-9411
- F. A copy of the incident / accident report must be provided in a timely manner to your MD Anderson Representative. A preliminary report must be made within 24 hours of the end of the next working day.
- G. All incidents that result in property damage must be reported to your MD Anderson Representative.

3.10 CONTRACTOR SAFETY ORIENTATION

- A. All Contractor personnel are required to complete the MD Anderson Construction Safety and Infection Control Orientation Training given by the Environmental Health and Safety Office before beginning work at the Institution. This training may be in the form of videos or an in-class presentation. Videos can be requested through the EH&S department or your MD Anderson Representative and are available in both English and Spanish.
- B. Completion of orientation is required to obtain an MD Anderson hardhat sticker and emergency contact card.
- C. The Contractor may be required to attend orientation again for refresher, and review any changes if deemed necessary by the Owner.
- D. The Contractor's MD Anderson Representative must contact the Environmental Health and Safety Office to make arrangements for the orientation session.
- E. It is the responsibility of the Contractor to ensure that the information given in the orientation session is understood by all workers (i.e., Spanish or other language translation).

3.11 ELECTRICAL SAFETY

- A. Refer to Section 3.24 on Lock Out / Tag Out requirements.
- B. All electrical power tools, equipment and extension cords shall be inspected daily before use. Defective items shall be immediately removed from service for repair or replacement.
- C. NOTICE: RED OUTLETS are for power requirements provided by the Emergency Generator System and shall NOT be used by Contractor personnel.
- D. Ground Fault Circuit Interrupters (GFI's) shall be in use between any permanent receptacle and any Contractor equipment.
- E. Temporary power panels shall have GFI protected circuits built into the panel.
- F. The GFI shall be tested for function before plugging in any Contractor equipment.

- G. Electrical power tools shall be grounded, or double insulated, or battery powered. The cord on the tool must be free of defects.
- H. Battery powered portable hand tool battery charging stations are not to be plugged into hallway or exit stairs outlets or other areas so as not to create a trip hazard.
- I. Extension cord sets shall be the "heavy duty" three-wire grounded type (14 gauge or larger), and must be rated for the particular application in which it is to be used.
- J. Three-wire flat type extension cords are NOT permitted.
- K. Defective cord ends must be replaced with a UL rated repair end; Contractor must follow the manufacturer instructions for repair installation.
- L. Damage to the cord jacket shall not be taped over and must be repaired per manufacturer's recommendations.
- M. Extension cords shall be routed overhead whenever possible or otherwise protected against damage or tripping hazard by being securely taped to the floor or secured by other acceptable means and approved by the MD Anderson Representative.
- N. Running/hanging extension cords through ceiling spaces is not permitted. Special permission from Environmental Health and Safety is required for any variation from this requirement.
- O. Extension cords must be used as designed by the manufacturer. Avoid using extension cords in a manner to cause damage to the electrical system or cause personal injury.
- P. All electrical shutdowns and electrical "taps" must be coordinated through the Project Manager or MD Anderson Representative for that Project.
- Q. Contractors are absolutely not allowed to turn on/off any electrical source breakers or switches without permission from the respective MD Anderson Facilities Management representative for that building/space. This should be accomplished through a Utility Shutdown Request submitted by the Project Manager or MD Anderson Representative.
- R. Existing and new electrical equipment must be protected at all times from humidity, liquid material splashes, activities inducing to vapor formation and condensation.
- S. No liquid materials shall be handled in electrical rooms, electrical equipment areas or areas adjacent to electrical equipment locations.
- T. In the event that the Contractor must handle liquid materials in the vicinity of electrical equipment locations, the Contractor must inform the Owner and seek written approval, prior to bringing those liquid materials to the above-mentioned locations.

3.12 EXCAVATIONS

- A. All excavation shall have the following prerequisites:
 - 1. Discussion with the appropriate MD Anderson Representative or site owner/property manager of as-built locations of all underground utilities in the vicinity;
 - 2. Where applicable, a phone call for utility "locates" shall be completed seventy-two (72) hours in advance. "Potholing" and hand excavation shall be required within three horizontal feet of "located" centerlines.
 - 3. All excavations must follow the applicable OSHA guidelines and requirements as related to design and protection of excavations.
 - 4. All trench excavations should be backfilled or plated at the end of each shift.

5. When an excavation cannot be backfilled or plated in the same day it is created, a highly visible hard and sturdy barricade such as a wooden fence or wooden railings shall be erected. Excavation protections in areas of traffic must comply with local, state, or federal safety standards.
 6. Means of access into excavations shall be removed or physically barricaded at the end of each workday.
 7. Excavations in areas of public access shall be secured with a temporary "hard" barricade such as solid fencing or wooden railings to prevent entry. These excavations and protection plans must be approved by the Environmental Health and Safety Office.
- B. Where applicable, all required engineer stamped excavation plans must be readily available at all excavations for review by MD Anderson Representative(s). Certificates of soil testing shall also be made available.

3.13 FALL PROTECTION AND PREVENTION

- A. Work in areas not protected by a standard guardrail system OR present a fall hazard greater than six (6) feet shall require compliance with all current applicable OSHA Fall Protection requirements and/or ANSI/WCA I-14.1 Window Cleaning Safety Standard.
- B. The Contractor shall ensure that all workers exposed to fall hazards have been properly trained and equipped by their employer.
- C. No worker or equipment shall be allowed to perform work directly above another worker unless adequate overhead protection is provided.
- D. Covers or fencing of sufficient design shall be placed over holes, roof and floor openings or drop offs to prevent personnel or equipment from penetrating the opening.
- E. Covers or fencing shall be physically secured and clearly marked with warning message, such as "Danger", "Hole", or "Cover! Do Not Remove".
- F. If a cover is too small for a warning message, it shall be painted bright orange or red.
- G. All puncture and impalement exposures shall be covered or eliminated as soon as they are created. Exposed ends of rebar are to be covered with material that is designed to prevent impalement of a 250-pound body from a fall of four (4) feet.

3.14 FIRE PREVENTION

- A. All combustible materials shall only be stored in approved areas as designated by the MD Anderson Representative.
- B. MD Anderson is a NO SMOKING facility. No smoking or use of tobacco products is allowed on any Institutional property. There are no designated smoking areas. Anyone found smoking will be immediately removed from the jobsite.
- C. Contractor shall coordinate the covering and uncovering of smoke/heat detectors with Owner's Environmental Health and Safety Department (713-792-2888) prior to starting work or upon discovery of such devices as work progresses. Covering smoke detectors with tape, rubber gloves, or any other method that can agitate or damage a detector is prohibited.
- D. Contractor is subject to fines by the Cities of Houston, Bastrop/Smithville Fire Marshal or Fire Department Inspector if they are found to negligently activate fire alarm devices.

- E. For large or high dust generating Projects, the Contractor shall coordinate with their Project Manager or MD Anderson Representative to arrange for the replacement of smoke detectors with heat detectors. Environmental Health and Safety must approve all changes to any fire alarm or suppression systems.
- F. Combustible scrap, trash, and debris shall be removed from the Project site on a daily basis, or, more frequently as required.
- G. Contractor shall not tape back door lock/latch mechanisms nor prop open any exterior door, security door, stairwell door, or fire / smoke door. Lock cores shall not be removed. Coordinate changing lock cores to the designated construction core lock with your MD Anderson Representative.
- H. Flammable products shall be limited to one days supply inside the building. Flammable products shall be stored outside the building or in approved UL Rated flammable storage cabinets. Flammable liquids shall be in approved safety cans or cans designed for their use.
- I. No internal combustion engines or portable propane heating devices are allowed in any Institutional buildings unless approved by the Owner. Coordination of how gasoline will be transported through buildings and stairwells must be coordinated with your MD Anderson Representative.
- J. Absolutely no gasoline will be allowed inside MD Anderson owned buildings. For temporary use outdoors, only approved metal safety cans will be permitted.
- K. Compressed flammable gas cylinders (i.e acetylene) shall not remain inside the building overnight and must be removed from the premises at the conclusion of each workday. Oxygen cylinders must also be removed from the premises at the end of each workday. Gas bottles are not allowed to be stored in areas that are used as Contractor offices.
- L. The Contractor shall also have the Material Safety Data Sheets (MSDS) for each gas used available within 15 minutes when requested. .
- M. Compressed flammable gas cylinders, while on the project site, shall be secured by chain or other suitable method to prevent tipping or falling over. All safety caps shall be securely installed when tanks are not in use.
- N. When working in the ceiling space or on rated fire/smoke rated walls and structures, all holes and penetrations for wires, conduits, piping, etc. shall be sleeved and sealed with a UL approved fire caulking / sealing compound at the end of each workday. Any holes that must remain overnight must be sealed with an equivalent temporary fire proofing material as approved by the MD Anderson Representative.
- O. Work on fire sprinkler and detection systems shall continue until the system operation is fully restored. No impairments will be allowed to extend beyond approved periods of time or during times when the site is unattended.
- P. Shutdown of any fire suppression or detection systems/devices shall be coordinated through the Owner's Designated Representative. Unauthorized shutdown or disabling of life safety systems shall be grounds for immediate removal from the jobsite.
- Q. All Contractors are required to supply and maintain a minimum of one currently tagged ABC fire extinguisher, 10 pound (Class 2-A) or greater. The use of a M. D. Anderson owned fire extinguisher will not be permitted. Requirements are as follows:
 - 1. Indoors - Within 100 feet of any Class-A hazard, within 25 feet of any hot work and one for every 3000 square feet of floor space.
 - 2. Outdoors – between 25 - 50 feet of any hot work.

- R. All Contractor employees shall be trained on the proper use and handling of fire extinguishers.
- S. If a Project involves multiple locations on a single floor or on multiple floors, additional multi-purpose fire extinguishers are required.
- T. The Owner may require additional extinguishers as dictated by the risk of each project or project area.

3.15 FIRE REPORTING AND EVACUATION PLAN

- A. Contractor shall establish a designated emergency evacuation assembly area for all Projects prior to starting work. Contractor shall train all employees on assembly area locations and how to get to each area.
- B. For areas that do not allow a clear view of egress route, the Contractor must post easy to understand maps, that are clearly visible to all workers and visitors, of the proper exit paths as required by OSHA and NFPA.
- C. In the event of a fire alarm, all work is to stop, all sources of ignition or hazardous work shall be immediately halted and all personnel are to proceed to the door of the construction site and wait for further instructions.
- D. In the event of a smoke, fire, or emergency incident the following procedures should be followed:
 - 1. RACE – Rescue, Alarm, Confine, Evacuate/Extinguish
 - a. Rescue: rescue Patients, Visitors, Employees
 - b. Alarm: a fire alarm pull station should be activated as quickly as possible or call 911.
 - c. Confine: confine the fire or smoke by closing all doors to the area.
 - d. Evacuate/Extinguish: extinguish the fire after you have performed the above operations but only if you can do it safely.
- E. When reporting a fire by phone:
 - 1. The caller should provide their name, the location of the fire, and a brief description of the incident. The caller should not hang up until emergency services personnel instruct them to do so.
 - 2. The caller should be prepared to guide the Fire Alarm Response Team and Emergency Responders to the fire location.
- F. All Contractor personnel shall report to their designated assembly area immediately. Contractor must coordinate the Designated Assembly Area with their MD Anderson Representative prior to the beginning of the project.

3.16 GENERAL SITE CONDITIONS – LIFE SAFETY

- A. Contractors will comply with all OSHA and NFPA life safety requirements as related to emergency exiting and lighting for construction areas.
- B. For areas that do not allow a clear view of egress route, the Contractor must post easy to understand maps, that are clearly visible to all workers and visitors, of the proper exit paths as required by OSHA and NFPA. Contractor should coordinate the creation of these maps with their MD Anderson Representative.

- C. Contractors are required to maintain any required temporary signs directing to exit routes. These signs shall be externally or internally illuminated by lighting that is either on emergency power or of the luminescent "glow-in-the dark" type.
- D. All temporary lighting and bulb protective devices shall be maintained and in good working condition. Wiring for temporary lighting shall be removed at the conclusion of the Project scope.
- E. All emergency exit doors must be maintained and in good working order. Paths to exits must remain clear at all times.
- F. Depending on the size of the project site and number of Contractors working in the site, a Contractor may be required to maintain at least two clearly marked exits per NFPA 101 and 241 requirements.
- G. All exits must be clearly marked with the words "EXIT" or "EMERGENCY EXIT". Doors that the Contractor does not want to use for daily access may be marked with the words "EMERGENCY EXIT ONLY".
- H. Lock all entry doors/gates to the project site. Due to life safety requirements, chains and/or pad locks will not be permitted on any door. Contact your M.D. Anderson Representative for the proper lock cores and keys.
- I. If a combination key pad is installed on a jobsite, the door must also be equipped with a construction core to ensure emergency personnel maintain access to the site. Key pads without a construction core will not be permitted. Contractor must also ensure that the combination to the key pad is not posted on the wall or door of the site. If this occurs, the combination must be changed immediately.

3.17 HAZARD COMMUNICATION (HAZCOM)

- A. The Contractor shall provide training and maintain documentation that their personnel and Subcontractors have received proper training in Hazard Communications under the provisions of OSHA's requirements in 29 CFR 1910.1200 and/or 1926.59.
- B. A printed, legible copy of the Material Safety Data Sheet (MSDS) shall be made available within 15 minutes of a request for each chemical used on the job site.

3.18 HAZARDOUS WASTE AND WORK IN HAZARDOUS LOCATIONS

- A. Owner chemical, biological or radioactive materials (hazardous substances and equipment) must be moved or secured prior to beginning work in any area. Contractor shall coordinate the removal of these items with their MD Anderson Representative.
- B. The Contractor's MD Anderson Representative will coordinate any pre-site assessments with Environmental Health and Safety, the laboratory principle investigator, clinic representative or laboratory manager to prevent disturbing experiments/animals or creating accidents.
- C. All Contractors must have permission from their MD Anderson Representative and the laboratory manager or clinic representative before entering laboratory or hospital clinical work areas.
- D. Disposal of all hazardous wastes generated by Contractor activities is the responsibility of the Contractor. All wastes must be removed from the premises.
- E. Absolutely no chemicals, trash, paint, paint brush rinse, shop vacuum contents, excess materials, sand, dirt, etc. may be disposed of in storm sewers/drains or sanitary drains.
- F. Contractor must prevent dirt from entering exterior storm drains by adding appropriate silt protection screen material to all exterior drains that may be impacted by the project.

- G. Contractor must follow all requirements set forth in the Storm Water Pollution Prevention Plan (SWPPP) as indicated in the appropriate Project Specification (Section 01 57 23). Consult the Environmental Health and Safety Office (713-792-2888) for questions regarding environmental permitting and plans.
- H. All hazardous waste, fuel, oils, and chemicals stored outdoors must have adequate secondary containment to prevent discharge onto the ground or in storm or sanitary sewer drains. All containers must be stored to prevent theft or unauthorized access. All containers outdoors must also be protected from weather elements and secured from public access.
- I. Contractor shall ensure that adequate spill protection equipment and supplies are readily available during all equipment refueling activities.

3.19 HOT WORK PERMITS

- A. A valid and signed Hot Work Permit must be obtained anytime all work being implemented involves the use of any incendiary or heating devices such as:
 - 1. Electric Arc Welding
 - 2. Oxygen Acetylene Welding
 - 3. Tig/Mig Welding
 - 4. Cutting/Soldering
 - 5. Propane Torch
 - 6. High Heat Producing Sources
 - 7. Spark Producing Activities
 - 8. Gasoline or Propane Powered Equipment used Indoors
- B. All Smithville/Bastrop hot work applicants must go to Physical Plant Management and fill out a blank Hot Work Permit. Instructions on how to properly fill out the permit are available.
- C. Permits to work on ANY medical gas systems must be obtained from the Facilities Department responsible for that area prior to work.
- D. Hot Work Permits shall be completed by the Contractor 24 hours in advanced and once approved, posted in the vicinity of any burning or welding operations that are to be completed inside or near a building or enclosure. Permits may be issued for up to three (3) days duration only when the work operation is to be continuous in a single area and so approved by the Owner.
- E. Hot work applicants must contact the designated Facilities Building Manager or your MD Anderson Representative for specific hot work permitting requirements for the facility in which they are working.
- F. Responsibilities of the Contractor:
 - 1. It is the responsibility of the contractor, vendor, and/or UTMDACC personnel to read, understand, and acknowledge sections I, II, and III of the Hot Work Permit.
 - 2. It is the responsibility of the contractor, vendor, and/or UTMDACC personnel to acknowledge and abide by all precautions stated in section III of the Hot Work Permit.
 - 3. It is the responsibility of the contractor, vendor, and/or UTMDACC personnel to complete and sign the appropriate sections of the Hot Work Permit 24 hours prior to the start date of the work to be performed.

4. Projects that are to begin on Saturday, Sunday, or Monday must have Hot Work Permit request form completed by the preceding Friday.
5. Contractors are responsible for ensuring all of their authorized and affected employees are trained on the significance of Welding, Cutting, and Brazing procedures in accordance with OSHA regulations 29 CFR 1910.252 - 1910.255.
6. At the end of any cutting operation or at the end of the day, all fuel gas cylinders must be removed from the facility. Fuel gas cylinders WILL NOT be allowed to remain in the facility overnight.
7. Anti-flashback arrestors shall be installed at the base of all Oxy-Acetylene cutting torches or at the pressure regulator gauges where the hoses are attached, unless the torch is equipped with a built-in arrestor. Only friction strikers shall be used to light and re-light Oxy-Acetylene torches.
8. Fire Watchers shall be posted at every operation that produces sparks, flames or sufficient heat to create an ignition. Watchers shall be trained in the use of extinguishers, shall keep other people from entering exposure areas, and shall not be assigned other duties until the rekindling ("smolder watch") possibility is over. Additional fire watch personnel shall be posted in all areas in which hot work sparks, slag, heat, etc. go beyond the sight of the primary fire watch.
9. Except in a fabrication shop or in front of a properly guarded grinding wheel, the person performing the work may not act as a watcher. When sparks, slag, or fire may fall to a different level, a separate watcher shall monitor each level directly below the work (including exterior locations).
10. Heaters for welding electrodes shall have a manufacturer's label that certifies the purpose of the unit. Job-built heaters shall be prohibited.
11. The remains of welding electrodes shall be picked up and disposed of as soon as each electrode is expended. No welding electrode shall be permitted to fall and remain in the work area.
12. All temporary fabrication areas shall be approved by the Facility Manager prior to starting work.

3.20 HURRICANE / SEVERE WEATHER PLANS FOR CONSTRUCTION SITES

- A. Construction sites may be required to have a Hurricane/Severe Weather Plan special to that site. Consult with your MD Anderson Representative for applicability, as some departments may require this Plan for small projects.
- B. A copy of the Hurricane/Severe Weather Plan must be submitted to your respective MD Anderson Representative prior to starting work.
- C. The Texas Medical Center (TMC) Emergency Preparedness Office or Campus Director (Smithville/Bastrop) will issue warning levels in the event of possible flooding or hurricanes. Contractors are urged to learn more about the TMC warning system by contacting their MD Anderson Representatives.

3.21 IDENTIFICATION (ID) BADGES

- A. It is the policy of The University of Texas MD Anderson Cancer Center to issue an identification (ID) badge to each employee and to all Temporary Agency and Contractor personnel.
- B. All badge requests must be processed by the MD Anderson department (i.e., PCF, REF, CPM, AFCCO, etc.) that is issuing the contract for work.

- C. ID badges must be worn at all times in a highly visible manner while on property owned or under the control of the Institution.
- D. Contractors are responsible for returning any badges for personnel that will no longer be providing services to the Institution within one week after termination or conclusion of Project.
- E. The badge must be clearly visible to someone facing the wearer.
- F. A fee may be required to replace a lost Contractor badge. Lost identification badges that have programmed electronic access must be reported to the contracting department representative (i.e. Project Manager) immediately.
- G. Personnel not wearing proper identification may be subject to immediate removal from the jobsite.

3.22 INTERIM LIFE SAFETY MEASURES (ILSM) GUIDELINE

- A. Interim Life Safety Measures (ILSM) – Is a series of administrative actions required to temporarily compensate for significant hazards posed by existing National Fire Protection Association 101, 2009 Life Safety Code (LSC) deficiencies or construction activities.
- B. All Contractors are required to abide by any ILSM requirements that may be implemented by the Owner due to a temporary deficiency/hazardous condition and must be continuously enforced through Project completion or until the deficiency is corrected. Each Contractor shall be responsible for ensuring all personnel on site are aware of the Interim Life Safety Measures implemented.
- C. Contractors may be required to keep daily logs of the condition of their jobsites.

3.23 LADDER SAFETY

- A. Ladders must be inspected prior to each use. Defective ladders shall be immediately removed from service and removed from the job site.
- B. Ladders shall be used only in accordance with the manufacturer's labeled instructions.
- C. Stepladders shall be used only in the fully open position with spreaders locked in place. Using a folded stepladder leaned against a support is prohibited.
- D. Employees shall not stand on the top platform, the step below the top platform or the back stretchers.
- E. Do not sit on, or straddle the top platform.
- F. Stepladders shall not be used for access to platforms or other elevated areas – an extension ladder is required.
- G. Extension ladders must be properly positioned and locked in place.
- H. Extension ladders used for access to elevated areas shall extend at least three feet beyond the supporting structure.
- I. Extension ladders must be secured to the supporting structure or be held at the base by another employee.
- J. Job built ladders shall conform to applicable ANSI Standards AND shall be limited to use in excavations or concrete form work only. These types of ladders must be inspected daily.
- K. At the end of each workday, remove and store, or secure from use all portable and job-built ladders that provide ground access to any elevated platform or structure so as to prevent unauthorized access.

- L. Chaining ladders to equipment or mechanical, electrical, or plumbing fixtures or piping is prohibited. Ladders must be stored in a manner to prevent blocked fire exits or escape routes. Ladders must not block access to equipment or facilities.
- M. Portable stepladders and extension ladders shall be rated class I-A.
- N. Ladders that have multiple sections that can be manipulated to form multiple surfaces and angles are not allowed.
- O. Aluminum ladders are prohibited.
- P. All exceptions to these requirements must be approved by MD Anderson Environmental Health and Safety.

3.24 LOCK OUT / TAG OUT

- A. It is the policy of The University of Texas MD Anderson Cancer Center that its employees and Contractors are protected from all energy sources during maintenance and repair activities.
- B. Each facility has a Lock Out/Tag Out program. Contractors whose work will involve the Lock Out/Tag Out process shall comply with the provisions of the respective Facilities Management program and procedures. If there is a difference between the Contractor's program and the Institution's program, the more stringent procedure shall prevail.
- C. Lock Out/Tag Out procedures may be specific to each type of equipment or device. Consult with the Facility Maintenance Department for specific procedures.
- D. Contractors are responsible for ensuring all of their authorized and affected employees are trained on the significance of Lock Out/Tag Out procedures in accordance with 29 CFR 1910.147 and must follow these requirements.
- E. Only the authorized employee or Contractor who applied a device is allowed to remove his/her lock out or tag out device from each energy-isolating device so energy can be restored to the equipment. MD Anderson personnel may add locks or tags to tagged-out devices – Contractors are not allowed to remove these locks or tags.
- F. Never remove another person's tag/lock. Unauthorized removal of tags/locks will be grounds for immediate and permanent removal from the jobsite.
- G. If tags/locks remain on equipment, contact the appropriate personnel or department for resolution to the removal process.

3.25 MAINTAINING INDOOR AIR QUALITY (IAQ) DURING CONSTRUCTION AND RENOVATION ACTIVITIES

- A. It is critical to our patient's health that proper controls are in place to ensure indoor air quality is maintained during construction and renovation activities. These activities disturb existing dust and/or create new dust, which causes the release of Aspergillus and other mold spores into the air. These spores can result in serious complications, and potentially death, for immuno-compromised individuals.
- B. The guideline covers all Contractors involved in building maintenance, construction, renovation and/or repair and applies to all areas of the Institution.
- C. An Indoor Air Quality (IAQ) Permit may be required for every Project, no matter the duration. The permit explains the requirements needed to maintain the best possible air quality outside the work site.

- D. This permit shall be posted at the site and shall remain posted until the completion of the Project.
- E. EH&S will perform periodic inspections, verify that the proper controls are in place and will periodically monitor sites with instruments used to measure applicable indoor air quality (IAQ) parameters.
- F. Contractor must follow the requirements of the Indoor Air Quality Permit and the Maintaining Indoor Air Quality During Construction and Renovation Policy.
- G. See Attachment A for the "Maintaining Indoor Air Quality During Construction and Renovation Policy" for the requirements that must be followed for each Project. This policy is a guide to the minimum protective measures that are to be in place prior to start of all Projects.

3.26 PERSONAL PROTECTIVE EQUIPMENT (PPE)

- A. The minimum OSHA requirements for Personal Protective Equipment (PPE) shall be required of ALL persons on the Project site. Each Contractor/Subcontractor shall provide their workers with all required PPE. The Contractor is responsible to ensure that PPE is inspected and maintained in proper condition.
- B. Safety Hard Hats: When required, every person in the Project shall wear a hard hat that meets the minimum OSHA requirements.
- C. When required, hardhats are to be worn and maintained in accordance with the manufacturer's recommendations. "Cowboy" style hard hats shall not be allowed, including ANSI approved hats. Hard hats that display noticeable wear or damage shall be replaced or repaired per manufacturer's specifications.
- D. Eye Protection: When required, every person on the Project shall wear eye protection. Additional face protection may be required when work operations create airborne particles, chips, or sparks. Eye protection and face protection shall meet the minimum OSHA requirements. .
- E. Shoes: When required, every worker on the Project shall wear shoes that have soles with a resistance to punctures, leather or leather equivalent uppers that cover the entire foot and ankle and offer resistance to scrapes and cuts. Sandals, open-toed shoes, dress loafers, high-heels, fabric shoes and all athletic style shoes (including those with ANSI markings) are prohibited.
- F. When required, exterior toe and metatarsal cover shall be used when activities involve impact exposures to the feet (ie; jackhammering, water blasting, concrete demolition etc), unless the shoe has this protection built into the footwear.
- G. Clothing: When required, sleeve length shall cover the ball of the shoulder. Shirts shall not have noticeable holes, be long enough to be tucked into pants and be free of profanity, objectionable, or obscene messages. Pants shall be full length and without excessive holes.
- H. Hearing Protection: When required, employees shall be provided with hearing protection against the effects of noise exposures from machines, equipment or surrounding operations generating sound levels that exceed OSHA hearing protection requirements. Employees required to use hearing protection shall be tested and trained in the use and limitations of such protection.
- I. Hand Protection: When required, employees handling materials or equipment with potential hand injury hazards shall be provided with appropriate hand protection.

- J. Harnesses, Lifelines, and Lanyards: When required, employees working in areas where there is an exposure to falls of heights greater than six (6) feet, regardless of work activities (i.e. steel erection, leading edge work, scaffold use, and brick masonry) shall be protected by measures that are equal to or better than fall restraint/arrest systems.
- K. Respiratory Protection: When required, employees shall be provided with respirators when it is necessary to protect them from inhalation of toxic or harmful gases, vapors, mists, fumes, and dust.
- L. When required, employees required to use respiratory protective equipment shall be medically qualified and thoroughly trained in the use and limitations of such equipment. Employer must demonstrate compliance with OSHA 29 CFR 1910.134.
- M. Other PPE: When required, employees working in areas where there is a possible danger to other parts of the body not listed above shall be protected by the appropriate PPE for that body part.

3.27 ROOF WORK

- A. All roof work must be approved by the Administrative Facilities Campus Operations (AFCO) - Chief Engineer at the campus you are working at prior to project start.
- B. All roof access to T. Boone Pickens Tower must be approved prior to access. This area contains multiple radio transmitters and receivers that emit harmful radio and microwaves. All personnel accessing this area must have attended the required training. Contact the building owner for training requirements.
- C. Contractor is responsible for ensuring that they are able to immediately contact emergency forces during an emergency event by providing cell phones, radios, or access to working phones within MD Anderson facilities. Contractor shall ensure personnel working on the jobsite know the address of the building.
- D. Any roof repairs that are performed around fresh air intakes shall be scheduled with Facilities Operations Group (713-563-9977) prior to any planned work. Contractor is required to provide fume control devices when performing roof repair, replacement, or installation to prevent odors from being transmitted inside the facility.
- E. Some areas of roofs may be restricted due to potentially hazardous exhaust from laboratories or processes. Contractor must obtain approval from their MD Anderson Representative before proceeding with entering any roof areas.
- F. Contractors are required to comply with all applicable OSHA Fall Protection requirements.
- G. Contact Facilities Operations Group Campus Operations (713-563-9977 or 713-563-1143) regarding proper davit use and tie-off areas.
- H. All roof work involving heated materials or open flames must have a valid hot work permit.
- I. The Contractor shall have a 20 pound ABC Fire Extinguisher on the roof and immediately available for use. Institutional fire extinguishers will not be loaned. Additional extinguishers must be provided as needed.
- J. All fire extinguishers must have current annual certification tags and in working order.
- K. All open flames must be continuously supervised.
- L. A 1-hour fire watch must be provided after any heated materials or open flames have been used during roof work. Fire watch personnel must perform a "touch test" to determine any residual hot spots. A laser thermometer is recommended. Fire watches could be up to two hours in duration.

- M. All propane bottles must be removed from the premises daily. Do not store propane cylinders in mechanical or roof spaces.
- N. All roofing materials shall be secured at the end of each workday to prevent disruption by wind and rain.

3.28 SANITATION AND HOUSEKEEPING

- A. Contractors and Subcontractors are responsible for ensuring that Project sites are effectively cleaned.
- B. "Effectively Cleaned" shall address all of the following issues:
 - 1. Place all construction waste, trash, and debris in a designated receptacle. Glass bottles shall not be permitted in the Project site. Trash must be removed on a daily basis as to prevent accumulation and attraction for pests. Contractor must have an approved method for removing trash from the jobsite (i.e., dumpsters, trucks, etc.) before starting work.
 - 2. Eating is not allowed on the jobsite. Limited amounts of soft drinks and water will be allowed but must be removed on a daily basis as to prevent attraction of insects or rodents.
 - 3. Contractor may only use PUBLIC restroom facilities assigned by their MD Anderson Representative. Contractors may not use staff restrooms.
 - 4. Any waste, trash, and/or debris created by the Contractor shall be cleaned (ie; sweeping, vacuuming, dust mopping, large debris removal etc.) at the end of the day to prevent accumulation of dirt and combustibles on the jobsite.
 - 5. Contractors are NOT allowed to use sinks or drains to clean materials or paint brushes.
 - 6. All holes and penetrations to the outside of the building must be sealed with an appropriate material as to prevent water, insects and rodents from entering the building.
 - 7. All windows must remain closed unless permission is granted by Environmental Health and Safety. All windows or penetrations used for ventilation purposes shall be protected from water, insect/rodent, and dust intrusion by use of protective covers and screen wire materials.
 - 8. Stack (or restack) all whole and scrap materials in locations that do not obstruct a clear pathway nor create a risk for toppling onto a person passing by the area.
 - 9. Place all hoses, cords, cables, and wires in locations that prevent them from damage and do not create tripping hazards.
 - 10. Restore all signs, barricades, fire extinguishers, guardrails, gates, etc. to proper locations and condition.
 - 11. Properly store and secure all flammable and combustible liquids and gases in proper containment or flammable storage cabinets.
 - 12. Collect and place all cut-off or waste pieces of rolling stock, as they are created, into waste or scrap containers. No rolling stock shall be permitted to fall and remain in the work area.
 - 13. Used shot strips from powder-actuated tools shall be properly maintained and disposed of in accordance with manufacturer's recommendations.

14. All puncture and impalement exposures shall be covered or eliminated as soon as they are created. Exposed ends of rebar are to be covered with material that is designed to prevent impalement of a 250-pound body from a fall of four (4) feet.
15. All work surfaces shall be maintained in level and smooth condition as to prevent rolling carts from catching and possibly falling over while in transit. Appropriate temporary fill materials shall be installed as warranted.
16. All wheeled equipment shall have non-marking wheels or tape shall be used over wheels when moving through non-project areas to prevent marking and damage to floor surfaces. Tape should be removed if adequate traction is required to perform a task. Tape can be removed once in job-site area.
17. Contractors shall only use their trash dumpsters or dumpsters designated by their MD Anderson Representative.

3.29 SITE POSTINGS

- A. Contractor shall securely post the required warning signs (as required by the Owner and OSHA) for the Project area(s).
- B. All signs must be approved by your MD Anderson Representative. Consult your MD Anderson representative regarding facility specific informational signs.
 1. Signs that warn of impending danger (i.e., CONSTRUCTION AREA – DO NOT ENTER)
 2. Signs that communicate the level of personal protective equipment that is required (i.e., HARD HATS AND SAFETY GLASSES REQUIRED)
 3. All necessary permits (i.e., Hot Work Permits, Indoor Air Quality Permit, ILSM and/or other State/Local Regulatory Agency Permits as required by law).
- C. These postings must consist of the required color, size, and character size lettering and/or symbols as required by OSHA and/or State/Local regulations.
- D. Signs must be made from a sturdy material that resists tearing and fading. Laminated signs are acceptable for indoor postings.
- E. All exterior Projects must contain the above noted required postings in all locations that warrant these warning signs and postings.
- F. A single location such as a plywood Project board is acceptable for posting required permits and project information signage. Any required permits should be protected from the elements by covering them in a laminate or waterproof material.
- G. Contractor shall install and maintain any additional signs, barricades, warning devices, and traffic warnings.

3.30 SCAFFOLDING

- A. All scaffold systems (any temporary elevated platform (supported or suspended) and its supporting structure (including its point of anchorage), used for supporting employees or materials or both) - shall follow the manufacturer instructions and adhere to all applicable OSHA requirements per each type of scaffolding device.
- B. Contractor shall be required to receive permission from MD Anderson Facility – Administrative Facilities and Campus Operations before erecting any suspension or stationary scaffolding system on roofs or attaching lines to roof davits. Consult with the MD Anderson Representative for approval before beginning any work.

- C. All ground-supported scaffolds shall bear a safety tag that indicates the safety status of the scaffold. The Contractor shall designate a universal Project system for tagging scaffolding that is to be used by any or all personnel.
- D. Training and documentation shall be required for all workers on the Project who will erect, maintain, dismantle, or use the scaffolding. A designated competent person must ensure scaffold use requirements are maintained and inspected at the beginning of each work shift as per OSHA requirements. Contractor shall maintain documentation to support this requirement.
- E. Contractor will ensure proper fall protection for employees is required and followed per OSHA requirements when using scaffolding and aerial lift.
- F. Mudsills and surrounding areas at the base of ground-supported scaffolds shall be maintained in a well-dressed and level condition. Scaffold feet shall be installed on all legs and the maximum number of diagonal braces shall be included in every scaffold section.
- G. Every work level shall be fully planked and toe board shall be included along open sides. Overhead protection shall be constructed where walk-through passages are allowed.
- H. Brakes shall be secure at all times on rolling scaffolds, except when being moved. Workers shall not be allowed on the platform when the scaffold is being moved.
- I. Rolling scaffolds shall not be used on uneven or unstable surfaces. Wheels shall be non-marking or temporarily covered with tape to prevent damage to floor surfaces when being moved through non-project areas.

ATTACHMENTS

“A” - Maintaining Indoor Air Quality During Construction and Maintenance Activities Policy

END OF SECTION 01 35 25

ATTACHMENT "A"

MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES POLICY

Volume IV

Book F Environmental Health and Safety

Chapter 4 Construction Safety

Policy Number IV.F.4.02

Last Revised by EH&S: 04/18/07

PURPOSE	The purpose of this policy is to provide guidance for maintaining indoor air quality during activities such as construction, renovation, modernization, and structural repairs - particularly, to prevent Aspergillus and other mold spores from being generated or released into the air. These spores can result in serious complications, and potentially death, for immuno-compromised individuals.	
POLICY STATEMENT	It is the policy of The University of Texas MD Anderson Cancer Center (MD Anderson) to manage all construction, renovation, modernization, and structural repairs in a manner designed to minimize the potential for the spread of infections due to degraded air quality or environmental contamination.	
SCOPE	This policy covers all employees and contractors involved in construction, renovation, modernization, structural repairs and/or repair. This policy applies to all areas of the Institution.	
DEFINITIONS	<p>Bioaerosols: Microscopic live particulates such as spores, pollen, bacteria, and viruses.</p> <p>Construction, Renovation, Modernization, and Structural Repair Activities: Activities that disturb existing building features, which can cause or create the release of potentially harmful dusts or bioaerosols.</p> <p>Designee: Person(s) appropriately trained and able to demonstrate competency in assessing and determining appropriate infection control requirements.</p> <p>HEPA Filter: High-Efficiency Particulate Air (HEPA) filter.</p> <p>Infection Control Risk Assessment (ICRA): Using a risk assessment tool to determine the minimum level of controls used during a project to control potentially harmful dusts and bioaerosols.</p> <p>Pre-Construction Risk Assessment (PCRA): A comprehensive risk assessment tool that must be completed before a project starts. Major areas of review are Infection Control, Interim Life Safety Measures (ILSM), Utility Disruptions, Noise and Vibration.</p>	
RESPONSIBILITY	1.1	It is the responsibility of all MD Anderson personnel, contractors, and vendors to abide by the requirements of this policy to ensure a safe patient care, research, and work environment. Corrective actions shall be taken immediately when deficiencies are discovered.
	1.2.	The Environmental Health and Safety Department (EH&S), Infection Control, or designee may perform periodic inspections of the work site to monitor compliance with this policy.

ATTACHMENT "A"

MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES POLICY

EXCEPTIONS	2.1	Any exception to this established policy is at the discretion of the Institutional Safety Committee. Procedural exceptions may be granted through Environmental Health and Safety or Infection Control (IC).
PERFORMANCE REQUIREMENTS	3.1	Activities that disturb existing building features, possibly causing or creating the release of potentially harmful dusts or bioaerosols, must be conducted in accordance with the required precautions listed in the implementation section of this policy.
	3.2	Prior to commencing Construction, Renovation, Modernization, and Structural Repair Activities, a Pre-Construction Risk Assessment (PCRA) must be obtained from the Environmental Health and Safety department or designee.
	3.3.	Project management shall provide personnel and equipment at all times while working on site for the purpose of containment and clean-up of dust and particulates in and around the work area. Equipment may include dust mops, wet mops, adhesive walk-off ("tacky") mats, buckets, HEPA-filtered vacuums, and clean rags for removing fine dust inside and outside the site and from equipment.
IMPLEMENTATION – (SEE MATRIX)	4.1	Use the infection control risk assessment (ICRA) matrix to determine the appropriate precautions that must be used.
	4.2	See matrix.

REFERENCES:

Joint Commission for Accreditation of Health Care Organizations, Environment of Care Standard EC.8.30

AIA, Guidelines for Design and Construction of Hospital and Health Care Facilities

Centers for Disease Control and Prevention, Guidelines for Environmental Infection Control in Health Care Facilities.

Approved by (Name):	Title:	Date:
Joseph Savala	Associate Vice President, Facilities Administration	04/18/2007
Matthew Berkheiser	Director, Environmental Health and Safety	04/18/2007
Jim Mathis	Program Director, Safety	04/18/2007
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ATTACHMENT "A"
**MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND
 MAINTENANCE ACTIVITIES POLICY**

INFECTION CONTROL RISK ASSESSMENT

Instructions on how to determine the appropriate indoor air quality measures for your project/activity	
Step 1	Determine the Risk Area using the Risk Areas Defined table (TABLE A)
Step 2	Determine the Activity Type on the left side of the Matrix table (ie, small, medium, large; TABLE B), then compare the project activity type to the risk area to determine the Class of Indoor Air Quality controls that are to be implemented
Step 3	Then select the appropriate Class of controls to be used on the project (LIST C)

TABLE -A-			
Risk Areas Defined			
RISK AREA 1	RISK AREA 2	RISK AREA 3	
<u>LOW RISK</u>	<u>MEDIUM RISK</u>	<u>HIGH RISK</u>	
Office areas not adjacent to high risk areas	Cancer Prevention Center	Admissions areas	BMT Patient Unit
Dock and Service Corridors	Place of Wellness	Inpatient units	Operating rooms
Physical Plant spaces	Kitchen(s)	Emergency Center	Sterile Processing
Boiler room		Mays Clinic – (Ambulatory Care Building)	Intensive Care units (ICU, PACU & MICU)
		Cafeteria	Pharmacy
		Laboratory Medicine	Pharmacy mixing areas
		Physical Therapy	Research labs
		Occupational Therapy	Laboratories involved with production of products for patient infusion
		All outpatient clinics	Waiting rooms
		Office areas adjacent to high risk areas	Proton Therapy Center
		Radiation Oncology	
		Sterile animal areas	
		Animal ORs	

Note: The current nature, adjacency to other areas, and use of a space may change the risk group determination and should be reviewed prior to start of planning and work.

ATTACHMENT "A"
**MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND
 MAINTENANCE ACTIVITIES POLICY**

INFECTION CONTROL RISK ASSESSMENT

TABLE -B-			
Matrix			
Project Activity Types:	RISK AREA I <u>Low</u> Risk Areas <i>See risk area definition</i>	RISK AREA II <u>Medium</u> Risk Areas <i>See risk area definition</i>	RISK AREA III <u>High/Extreme</u> Risk Areas <i>See risk area definition</i>
<u>Small/Minor:</u> Inspections above ceiling that create minimal to no dust, minor repair, painting, (no patching), minor electrical work, plumbing, similar work with little or no drilling, cutting, or other dust-raising activity, opening into chases and concealed spaces. Normal maintenance activity.	Class I Precautions <input type="checkbox"/>	Class I Precautions <input type="checkbox"/>	Class I Precautions <input type="checkbox"/>
<u>Medium Scale Projects:</u> Installation of electrical and computer cabling, working in chases and concealed spaces, working above ceiling, replacing finishes, carpet removal, wall covering removal, cutting plaster and drywall, sanding and other dust making activity within a room or other controlled area, opening ceiling tiles (more than 16 square feet consecutive). Usually one to three shifts.	Class I Precautions <input type="checkbox"/>	Class II Precautions <input type="checkbox"/>	Class III Precautions <input type="checkbox"/>
<u>Large/Major Scale Projects:</u> Removing floor coverings, sanding plaster walls, wall demolition and construction, duct work, major ceiling work, major demolition of areas, particularly those open to patient care areas, work on HVAC systems that release dust. Usually more than three days work.	Class II Precautions <input type="checkbox"/>	Class III Precautions <input type="checkbox"/>	Class III Precautions <input type="checkbox"/>

ATTACHMENT "A"
**MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND
MAINTENANCE ACTIVITIES POLICY**

INFECTION CONTROL RISK ASSESSMENT

LIST -C-
Recommended Infection Control Precautions, by Class

Class I Precautions

Indoor air quality permit posted at jobsite entrance, when required.
Control of Debris: use covered container to remove debris through internal hospital paths. Cover must be dust tight and secured to container, not just laid on top.
Protect patient care areas from activity, or enclose work area (close doors). Replace ceiling tiles promptly.
Minimize dust and dirt, clean or have area cleaned when work is complete and when dust or dirt builds up. Vacuum with HEPA filter type vacuum, and/or damp mop areas when work is complete.
Direct questions about work to Environmental Health and Safety.
Other precautions as assigned.

Class II Precautions

Indoor air quality permit required and posted at jobsite entrance
Protect patient care areas from activity by closing doors, or enclosing area with approved (6 mil minimum) fire retardant polyethylene plastic or equivalent. Replace ceiling tiles prior to removal of enclosures.
Use water spray mist to minimize dust when applicable (ie, cutting sheetrock).
Close off HVAC system openings (exhaust and supply) with plastic or equivalent. If exhaust must be maintained, use a "clean air" machine (HEPA-filter equipped), or powered HEPA filters in exhaust path, or exhaust directly to outside.
Use dust mats or tacky mats at entrances <u>inside</u> site (not to be used in public access hallways because of trip hazard). Wet mops areas during and after construction to remove and control dust and dirt with suitable cleaning agents.
Control of Debris: use covered container to remove debris through internal hospital paths. Cover must be dust tight and secured to container, not just laid on top.
Temporary barriers or containment vestibule— stationary (6 mil fire retardant polyethylene or drywall) or mobile containment (control cube).
Direct questions about work to Environmental Health and Safety.
Debris and supply routing pre-determined through PCRA evaluation.
Other precautions as assigned.

Class II Precautions: At Job Completion

Replace all ceiling tiles, or re-close ceiling.
Wipe down all horizontal surfaces (except floor and ceiling). Wet mop or extract floor with hospital approved disinfectant. If appropriate, vacuum all areas with HEPA filters on vacuum.
Clean the HVAC system diffusers as the enclosure is being removed, and operate system for 24 hours prior to final cleaning of job site.
Maintain all enclosures as practical until post-job cleaning complete. Use vacuum with HEPA filters during removal of barriers, as practical.
Schedule final cleaning of area by MD Anderson Housekeeping.
Other precautions as assigned.

ATTACHMENT "A"
**MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND
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INFECTION CONTROL RISK ASSESSMENT

LIST -C-
Recommended Infection Control Precautions, by Class
Class III Precautions
Indoor air quality permit required and posted at jobsite entrance
Isolate the HVAC systems to minimize a route for dust movement. If exhaust is used to maintain the area negative in pressure to outside areas, the exhaust must go to the outside when possible. If existing exhaust systems are to be used, they must be non-recirculating exhausts. A pressure negative to the air in the patient care units must be maintained during construction activity, when feasible.
Use a "clean air" machine (HEPA-filter equipped), both to re-circulate air in the job site to reduce airborne dust, and to exhaust air from the job site, to maintain a pressure negative to the air outside the job site, so leakage will be into the job site. The same machine may be used for both purposes, if it has suitable capacity.
Provide construction separations that are fire resistive, and dust tight, constructed of sheet rock or limited combustion plywood. Enclose work areas prior to any demolition work or opening any walls or ceilings. If work is being done in public areas, use control unit technology (similar to units developed to remove asbestos in areas that could not be closed down) and "clean air" machines to maintain a pressure in the enclosure negative to the air outside the enclosure, with the exhaust going through a HEPA filter prior to releasing into the air in the patient care area.
Debris must be removed in tightly closed containers, with solid lid, or plastic taped into place. The debris removal containers should be vacuumed or wet-wiped prior to removal from the site, to remove all surface dust and dirt.
Create a construction ante-room where all clothing, tools, equipment, and other materials being removed are vacuumed or wet-wiped prior to being taken off site through the hospital patient care areas. The ante-room should be as clean as a patient care area. Cart wheels should also be cleaned, and run over a tacky mat, or similar method to assure no dust is tracked out via wheels. All persons must walk across the tacky mats to clean their feet. Any person who has dust, dirt, or materials on their clothing must vacuum it prior to leaving the ante-room areas. Tacky mats will be maintained to keep the surface tacky, and to replace or remove layers when they become dirty. The ante-room will be wet mopped frequently (several times a day in usual construction activity), or similar methods will be used to satisfy Environmental Health and Safety or Infection Control staff.
Seal all holes, penetrations, and openings in the construction barriers and walls which are part of the construction separation with appropriate materials. Sealed holes in fire rated separations must be equivalent in fire rating. Other holes must be sealed with tape and plastic, or similar materials which are strong enough to withstand the pressure differential without leakage.
When required, personnel working in the area must either change clothing prior to leaving the job site, or use shoe covers and cover clothing prior to leaving the area.
Direct questions about work to Environmental Health and Safety.
Debris and supply routing predetermined through the PCRA Evaluation.
Containment vestibule – stationary or mobile – (for work outside site).
Other precautions as assigned.

ATTACHMENT "A"
**MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND
MAINTENANCE ACTIVITIES POLICY**

INFECTION CONTROL RISK ASSESSMENT

LIST -C-
Recommended Infection Control Precautions, by Class

Class III Precautions: At Job Completion

Maintain barriers and "clean air" machines (HEPA-filter equipped), in place as much as practical until final cleaning is complete. Removal of barrier materials should be accompanied by vacuuming using a vacuum with HEPA filters.
Clean HVAC system diffusers as closure being removed, and operate system for 24 hours prior to final cleaning of job and removal of barriers (to the extent practical based on the system). If necessary, allow the HVAC to blow into the site with the "clean air" machine catching the output of the supply, and the machine feeding the air to the returns.
Site must be thoroughly cleaned by damp-wiping all horizontal surfaces with a hospital approved disinfectant.
Schedule final cleaning of area by MD Anderson Housekeeping.
Other precautions as assigned.

END OF ATTACHMENT "A"

SECTION 01 45 00 - PROJECT QUALITY CONTROL

PART 1- GENERAL

1.1. RELATED DOCUMENTS

- 1.1.1. The Contractor's attention is specifically directed, but not limited, to the Uniform General and Supplementary General Conditions for University of Texas System Building Construction Contracts (UGC) for other requirements.

1.2. SUMMARY

- 1.2.1. This Section provides administrative and procedural requirements for Contractor quality control on the Project.
- 1.2.2. Specific quality-control requirements for individual construction activities are specified in the Sections that govern those activities. Requirements in those Sections may also cover production of manufactured products.
- 1.2.3. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures to fully comply with the Contract Document requirements in all regards.
- 1.2.4. Provisions of this Section do not limit the requirements for the Contractor to provide quality-control services required by the Contract Documents or the Authority Having Jurisdiction.
- 1.2.5. The following quality issues are addressed in detail in this Section:
 - 1.2.5.1. (1.3) Quality Control
 - 1.2.5.2. (1.4) Quality Assurance
 - 1.2.5.3. (1.5) Contractor Employed Testing Agency
 - 1.2.5.4. (1.6) Testing
 - 1.2.5.5. (1.7) Inspections
 - 1.2.5.6. (1.8) Preinstallation Meetings
 - 1.2.5.7. (1.9) Mock-ups

1.3. QUALITY CONTROL

- 1.3.1. Quality Control shall be the sole responsibility of the Contractor, unless specifically noted otherwise. The Contractor shall be responsible for all testing, coordination, start-up, operational checkout, and commissioning of all items of Work included in the Project, unless specifically noted otherwise. All costs for these services shall be included in the Contractor's cost of work.
- 1.3.2. The Contractor shall assign one employee to be responsible for Quality Control. This individual may have other responsibilities, but may not be the Contractor's Project superintendent or the Contractor's Project manager.

1.4. QUALITY ASSURANCE

- 1.4.1. The Owner or Owner's designated representative(s) will perform quality assurance. Owner's quality assurance procedures may include observations, inspections, testing, verification,

monitoring and any other procedures deemed necessary by the Owner to verify compliance with the Contract Documents.

1.4.1.1. The Owner's quality assurance testing and inspection program is separate from Owner's commissioning program, as defined in Section 01 91 00 –General Commissioning Requirements.

1.4.2. The Contractor shall cooperate with and provide assistance to the Owner related to Owner's quality assurance procedures. Contractor shall provide to Owner ladders, lifts, scaffolds, lighting, protection, safety equipment and any other devices and/or equipment (including operators if required) deemed necessary by the Owner to access the Work for observation/inspection.

1.4.3. Owner may employ independent testing agencies to perform certain specified testing, as Owner deems necessary. The Contractor shall integrate Owner's independent testing services within the Baseline Project Schedule and with other Project activities.

1.4.4. Owner's employment of an independent testing agency does not relieve the Contractor of the Contractor's obligation to perform the Work in strict accordance with requirements of the Contract Documents.

1.5. TESTING AGENCY

1.5.1. The Contractor shall employ and pay for services of an independent testing agency to perform all specified testing requiring an independent agency, unless specifically noted otherwise.

1.5.2. Contractor's employment of an independent testing agency does not relieve the Contractor of the Contractor's obligation to perform the Work in strict accordance with requirements of the Contract Documents.

1.5.3. The Contractor Employed Testing Agency:

1.5.3.1. The testing agency must have the experience and capability to conduct testing and inspecting indicated by ASTM standards and that specializes in the types of tests and inspections to be performed.

1.5.3.2. The testing agency shall comply with requirements of ASTM E 329, ASTM E 543, ASTM E 548, ASTM C 1021, ASTM C 1077, ASTM C 1093, and other relevant ASTM standards.

1.5.3.3. The testing agency's laboratory must maintain a fulltime engineer on staff to oversee and review the services. The engineer must be licensed in the State of Texas.

1.5.3.4. The testing agency must calibrate all testing equipment at reasonable intervals (minimum yearly) with accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

1.5.4. The Contractor shall not employ the same testing entity engaged by the Owner for the Project, without the Owner's written approval.

1.6. TESTING

1.6.1. Where specific testing is specified in a technical section of the Specifications or indicated in the Contract Documents, the Contractor shall bear all costs of such tests unless the Owner has expressly agreed in writing to pay for the tests.

- 1.6.2. Testing specifically identified to be conducted by Owner, will be performed by an independent entity and will be arranged and paid for by the Owner unless otherwise indicated in the Contract Documents. Should the test return unacceptable results, the Contractor shall bear all costs of retesting and reinspection as well as the cost of all material consumed by testing, and replacement of unsatisfactory material and/or workmanship.
- 1.6.3. The Owner's Construction Inspector will schedule the Owner's testing services. The Contractor must assist the Owner's Construction Inspector to facilitate timeliness of such testing services.
- 1.6.4. The Owner may engage additional consultants for testing, air balancing, commissioning, or other special services. The activities of any such Owner consultants are in addition to Contractor testing of materials or systems necessary to prove that performance is in compliance with Contract requirements. The Contractor must cooperate with persons and firms engaged in these activities.
 - 1.6.4.1. The Contractor shall self-perform various tests to verify performance and/or operation of various systems. Test reports that document the tests shall be consecutively numbered and defined by scope and extent of the test. Copies of the test report forms can be obtained from the Owner. The following Owner test report forms are examples of forms that shall be used for this purpose and shall not be altered in any manner:
 - 1.6.4.1.1. Pipe Test Report.
 - 1.6.4.1.2. Duct Test Report.
 - 1.6.4.1.3. Equipment or System Start-up/Request for Inspection.
 - 1.6.4.1.4. Contractor's Request for Utility Shutdown.
 - 1.6.4.1.5. Domestic Water Sterilization and Flushing Report.

1.7. INSPECTIONS

- 1.7.1. All of the Work is subject to inspection and verification of correct operation prior to 100% payment of the line item(s) pertaining to that aspect of the Work.
- 1.7.2. The Contractor shall incorporate adequate time for performance of all inspections and correction of noted deficiencies into the Work Progress Schedule for the Project.
- 1.7.3. During the course of construction, the Owner, Architect/Engineer, and/or other Owner representatives may visit the Site for observation of the Work in place. The Contractor shall provide all necessary personnel and/or equipment for safe access to the Work to be inspected or observed, regardless of frequency. This requirement shall extend to all Owner personnel and their representatives. Some of these inspections will be informal and some will require formal notification by the Contractor.
- 1.7.4. The Contractor shall provide a system of tracking all field reports, describing items noted, and resolution of each item. The Owner will review this printed report on a monthly basis, or as necessary.
- 1.7.5. The following are typical Project inspections:
 - 1.7.5.1. Informal Daily Reviews of Project conditions by the Owner's Construction Inspector and/or members of the Project Team. When considered appropriate, results of these reviews will be documented via Observation Reports or Memorandum.

- 1.7.5.2. Concealed Space Inspections shall be formally scheduled in advance by the Contractor through the Owner's Construction Inspector by submitting written notification at least five (5) calendar days prior to the inspection. Subject areas include partitions, structural walls, chases, crawl spaces, ceiling spaces, and any other Work, which will be difficult or impossible to examine once concealed in the final construction.
- 1.7.5.2.1. Contractor shall not enclose partitions, structural walls, chases, crawl spaces, ceiling spaces, and any other Work which will be difficult or impossible to examine once concealed in the final construction until Contractor has received written approval from Owner's Construction Inspector.
- 1.7.5.3. Progress Inspections for piping, ductwork, and other systems shall be scheduled by the Contractor through the Owner's Construction Inspector as appropriate portions, or sections, of the Work are completed. This is in addition to "system-wide" performance verification and tests. The Contractor shall schedule and document the tests using the standard Owner Pipe Test and Duct Test report forms. The Contractor shall conduct the tests and the Owner's Construction Inspector will witness and approve the results.
- 1.7.5.3.1. The Contractor shall coordinate their intended "apportioning" of systems tests with the Owner's Construction Inspector immediately following formal submission of their Work Progress Schedule so that all parties are aware of the intended Work and inspection sequence.
- 1.7.5.4. Overhead and Above Ceiling Inspections are similar in nature and requirements to the Concealed Space Inspections. Ceilings that are fixed in place, such as gypsum board or plaster, constitute a Concealed Space Inspection. Ceilings that are of "lay-in" type or where no finish ceiling is scheduled are considered an "overhead" inspection. Contractor shall include Overhead and Above Ceiling Inspections on the Work Progress Schedule. Contractor shall provide written inspection request notice to the Owner's Construction Inspector and Architect/Engineer at least five (5) calendar days in advance.
- 1.7.5.4.1. No finish ceiling material shall be installed until all overhead punchlist items have been resolved to the satisfaction of the Owner.
- 1.7.5.4.2. Completed Work in place necessary for an Overhead Inspection shall include all required infrastructure and appurtenances, inclusive of, but not limited to the following.
- 1.7.5.4.2.1. Installation of ceiling grid or framework.
- 1.7.5.4.2.2. Installation and operation of all above ceiling electrical Work, including light fixtures.
- 1.7.5.4.2.3. Installation of all HVAC and plumbing Work above ceiling with installation and connection of terminal units and air devices.
- 1.7.5.4.2.4. Installation of fire sprinkler heads.
- 1.7.5.4.2.5. Completion and Owner approval of all required tests for above ceiling Work.
- 1.7.5.5. Inspections of Building Systems and Equipment are intended to confirm acceptable operation. Contractor shall formally schedule inspections through the Owner's Construction Inspector and Architect/Engineer utilizing Owner's Inspection Request Form. Refer to Section 01 91 00 –General Commissioning Requirements and to

Technical Specifications for additional requirements pertaining to system start-up, commissioning, operation, demonstration, and acceptance.

- 1.7.6. The Contractor shall perform a thorough checkout of operations with the manufacturer's representatives prior to requesting the formal inspection by the Owner. Contractor must notify the Owner's Construction Inspector, in advance, as to when the manufacturer's representative is scheduled to arrive at the Site.
- 1.7.7. Inspection and documented approval of individual equipment and/or system(s) must be accomplished prior to requesting Substantial Completion Inspection for any area affected by said equipment and/or system.
- 1.7.8. For "building-wide" and/or life safety systems, such as emergency lighting, emergency power, uninterruptible power supply systems, fire alarm, fire sprinkler systems, smoke evacuation systems, toxic gas monitoring, captured exhaust systems, etc., the formal start-up inspection shall be completed prior to requesting Substantial Completion Inspection for any area of the Project.
 - 1.7.8.1. The manufacturer's representatives and the installing contractor shall demonstrate both operation and compliance to the Owner's agents and consultants. If coordinated and scheduled appropriately by the Contractor, these equipment and/or systems inspections may also serve to provide the required Owner training, if approved in advance by the Owner.
 - 1.7.8.2. The Contractor is responsible for requesting that the Owner's Construction Inspector and Architect/Engineer arrange for the inspection of materials, equipment, and Work prior to assembly or enclosure that would make the materials, equipment, or Work inaccessible for inspection and at other times as may be required.
- 1.7.9. For any requested inspection, the Contractor shall complete prior inspections to ensure that items are ready for inspection and acceptance by the Owner and/or Architect/Engineer. The Contractor shall be responsible for any and all costs incurred by Owner and/or Owner representatives, including consultants, resulting from a review or inspection that was scheduled prematurely.
- 1.7.10. The Contractor shall coordinate the Work and schedule the inspections in advance so as not to delay the Work. All major inspections shall be indicated on the Work Progress Schedule for advance planning. Contractor shall allow a minimum of five (5) calendar days to confirm schedule of requested inspections with Owner and Owner's representatives.

1.8. PREINSTALLATION MEETINGS

- 1.8.1. The Contractor shall coordinate and conduct meetings to review the installation of major systems/equipment on the Project. As a minimum, Contractor shall schedule and conduct the Preinstallation Meeting(s) for the Work of each major building system. The Preinstallation Meeting(s) shall be convened following approval of system submittals and prior to commencement of system installation Work.
- 1.8.2. The purpose of the Preinstallation Meeting(s) is for the Contractor and all applicable subcontractors and/or suppliers and/or factory representatives to discuss all aspects of the installation of the particular system. Contractor shall direct special attention to the scheduled order of Work and any impact on or by any other building systems. Contractor shall develop a strategy acceptable to the Owner for start-up, inspection and acceptance, based on Contractor's Prefunctional Checklists, so that all parties are aware of what is expected and/or acceptable.

- 1.8.3. The Contractor shall ensure attendance of the installing subcontractor, manufacturer and/or supplier (if appropriate), supporting subcontractors involved in the installation, and any other parties involved in the phase of Work to be reviewed. Contractor shall notify the Owner and Architect/Engineer in writing at least five (5) calendar days in advance of the Preinstallation Meeting(s).
- 1.8.4. Each party shall be prepared to discuss in detail the staging, installation procedure, quality control, testing/inspection, safety and any other pertinent items relating to the Work being reviewed. Submittal approval shall be a prerequisite of the Preinstallation Meeting(s). At this meeting(s), Contractor shall review and discuss the Commissioning Plan, test procedures, scheduling, and logistics. Contractor shall bring the following to the Preinstallation Meeting(s), as a minimum, for review and discussion:
 - 1.8.4.1. Portion of the Initial Equipment List/Matrix applicable to the system under discussion.
 - 1.8.4.2. Draft of the Prefunctional Checklists.
 - 1.8.4.3. Current work schedule data pertaining to the beginning, start-up, inspection, and turnover phases anticipated for the particular system.
 - 1.8.4.4. Copy of all approved submittals for the system.
- 1.8.5. The Contractor shall take minutes of the Preinstallation Meeting(s) and distribute to all attending parties.
- 1.8.6. Whether required in the Technical Specifications or not, a Preinstallation Meeting(s) shall be conducted for the following Work, if included in the Project:
 - 1.8.6.1. Concrete.
 - 1.8.6.2. Masonry.
 - 1.8.6.3. Large Steel Fabrications.
 - 1.8.6.4. Waterproofing.
 - 1.8.6.5. Roofing.
 - 1.8.6.6. Exterior Glazing (including storefront and curtain wall).
 - 1.8.6.7. Door Hardware.
 - 1.8.6.8. Audio / Visual Equipment.
 - 1.8.6.9. Air Handling Units.
 - 1.8.6.10. Medical Gas Systems.
 - 1.8.6.11. All Other Mechanical and Electrical Systems.
- 1.9. MOCK-UPS
 - 1.9.1. Before installing portions of the Work requiring mock-ups, Contractor shall build mock-ups for each form of construction and finish required, using materials indicated for the completed Work.

- 1.9.2. Build mock-ups in location and of size indicated or, if not indicated, as directed by Architect/Engineer. The mock-up may be work in place that is intended to remain, unless otherwise directed by the Owner.
- 1.9.3. Notify Architect/Engineer and Owner five (5) calendar days in advance of dates, times, and locations of when and where mock-ups will be constructed.
- 1.9.4. Demonstrate the proposed range of aesthetic effects and workmanship. Demonstrate anticipated repairs in the mock-up, such as for stone veneer.
- 1.9.5. Obtain Architect/Engineer's and Owner's approval of mock-ups before starting work, fabrication, or construction.
- 1.9.6. Maintain mock-ups during construction in an undisturbed condition as a standard for judging the completed Work.
- 1.9.7. Demolish and remove mock-ups when directed by Owner, unless otherwise indicated.
- 1.9.8. As a minimum, Contractor shall prepare a mock-up for the following Work, if applicable to the Project. Owner may define additional mock-ups at the Pre-bid or Preconstruction Meeting.
 - 1.9.8.1. Exterior wall system to include: substructure, masonry/stone veneer, plaster, architectural concrete and windows.
 - 1.9.8.2. Roof system.
 - 1.9.8.3. Interior laboratory room; utilities serving laboratory casework.
 - 1.9.8.4. Interior patient care and prevention room.
 - 1.9.8.5. Interior wall finishes.
 - 1.9.8.6. Ceramic tile.
 - 1.9.8.7. Finished flooring.
 - 1.9.8.8. Plumbing battery for multiple-use toilet rooms.
 - 1.9.8.9. Medical gas headwalls.

PART 2- PRODUCTS (NOT USED)

PART 3- EXECUTION (NOT USED)

END OF SECTION 01 45 00

SECTION 01 77 00 - PROJECT CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1. RELATED DOCUMENTS

- 1.1.1. The Contractor's attention is specifically directed, but not limited, to the Uniform General and Supplementary General Conditions for University of Texas System Building Construction Contracts (UGC) for other requirements.

1.2. SUMMARY

- 1.2.1. The following Project closeout procedures are addressed in this Section:

- 1.2.1.1. (1.4) General Description of Closeout Requirements
- 1.2.1.2. (1.5) Requirements for Substantial Completion
- 1.2.1.3. (1.6) Provisions for Release of Retainage
- 1.2.1.4. (1.7) Requirements for Final Acceptance
- 1.2.1.5. (1.8) Required Project Record Documents
- 1.2.1.6. (3.1 & 3.2) Project Cleaning

1.3. DEFINITIONS

- 1.3.1. The term "Project Closeout" is hereby defined to include requirements near the end of the Contract Time, in preparation for Substantial Completion acceptance, occupancy by Owner, release of retainage, final acceptance, final payment, and similar actions evidencing completion of the Work. Specific additional requirements for individual units of work are specified in the Technical Specifications.
- 1.3.2. The term "Time" of closeout is directly related to completion and acceptance, and therefore may be either a single time period for the entire Project, or a series of time periods for individual portions or phases of the Project that have been certified as substantially complete at different dates.

1.4. GENERAL DESCRIPTION OF CLOSEOUT REQUIREMENTS

- 1.4.1. This Section is based on completion and acceptance of the entire Project during a single time period.
 - 1.4.1.1. If the Project is to be accepted in phases, whether by originally specified Project scope or by subsequent agreement between the parties, then Project Closeout requirements shall pertain to each separately accepted portion or phase of the Project; unless by written notice the Owner allows for these requirements to be done singularly upon anticipated acceptance of the final phase.
- 1.4.2. RECORD DOCUMENTS for Project Closeout include, but are not necessarily limited to the following documents, which are required at Substantial Completion:
 - 1.4.2.1. As-Built Record Drawings.
 - 1.4.2.2. As-Built Record Specifications.

- 1.4.2.3. Operating and Maintenance Manuals.
- 1.4.2.4. Record Approved Submittals and Samples.
- 1.4.2.5. Certification of No Asbestos Products Incorporated in Project.
- 1.4.2.6. Completed Punch Lists.
- 1.4.3. REQUIRED DOCUMENTS for final payment to be released include final versions of all of the above and the following:
 - 1.4.3.1. Final Release of Claims & Liens.
 - 1.4.3.2. Affidavit of payment of Debt and Claims.
 - 1.4.3.3. Consent(s) of Surety.
 - 1.4.3.4. Completed SWPPP documents and Notice of Termination.
 - 1.4.3.5. Final Historically Underutilized Business Plan.
 - 1.4.3.6. Completed Commissioning and Closeout Manual.

1.5. REQUIREMENTS FOR SUBSTANTIAL COMPLETION

- 1.5.1. Prior to requesting Architect/Engineer and Owner to schedule a Substantial Completion inspection (for either the entire Work or portions thereof as agreed to by the Owner and Contractor), Contractor shall complete the following and list known exceptions in the request.
 - 1.5.1.1. For the progress payment request coincident with the period of time anticipated for Substantial Completion, Contractor's payment request should reflect a minimum of 95% completion for all applicable Work.
 - 1.5.1.2. Contractor must submit to Architect/Engineer and Owner a complete copy of the Contractor's most current punch list covering the portion(s) of the Project claimed as substantially complete.
 - 1.5.1.2.1. Such punch list shall indicate dates of Contractor re-checks and schedule for completion of work items remaining.
 - 1.5.1.2.2. All items remaining outstanding on the Contractor's punch list shall include a projected date of completion and/or correction with an explanation of why such item is not presently completed.
 - 1.5.1.3. Contractor must submit to Architect/Engineer and Owner for review the full set of marked-up as-built record drawings and marked-up as-built record specifications as described later in this Section.
 - 1.5.1.4. Contractor must submit to Architect/Engineer and Owner for review the preliminary copies of Owner's Operating and Maintenance Manuals as described later in this Section.
 - 1.5.1.5. Contractor must provide access to Contractor's copy of the Commissioning and Closeout Manual for review by Owner and Architect/Engineer. The Commissioning and Closeout Manual must be up-to-date before the Contractor requests the Substantial Completion inspection.

- 1.5.1.6. Contractor must submit the certification statement that no asbestos containing materials have been used or incorporated into the Project. Contractor must use Owner's sample letter format.
- 1.5.1.7. Contractor must obtain and submit releases enabling Owner's full and unrestricted use of the Project and access to services and utilities, including (where applicable) operating certificates, and similar releases.
- 1.5.1.8. Contractor must deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner.
- 1.5.2. If Owner intends to occupy Project upon Substantial Completion acceptance, Contractor shall make provisions for final changeover of locks with the Owner's personnel. Upon written directive from Owner and for the convenience of the Contractor in completing punch list activity, Owner may waive the final changeover of locks until final acceptance.
- 1.5.3. Contractor must complete instructing and training Owner's personnel for all systems and equipment serving the areas claimed as substantially complete, for which Owner training was not completed in association with system demonstrations and inspections. Refer also to Section 01 91 00 – General Commissioning Requirements.
- 1.5.4. Contractor must complete the initial clean up requirements as described later in this Section for the entire portion of the Project claimed as substantially complete. Contractor must touch up and otherwise repair and restore marred exposed finishes.
- 1.5.5. SUBSTANTIAL COMPLETION INSPECTION PROCEDURE
 - 1.5.5.1. Refer to the UGC and Section 01 45 00 – Project Quality Control.
 - 1.5.5.2. The Contractor shall ensure the Work is ready for inspection and/or reinspection. If the Work is found not to be as stated in the Contractor's punchlist or the items have not been substantially corrected/completed, the inspection will be terminated. All costs incurred by the Owner and Architect/Engineer for scheduling and attending the terminated inspection(s) shall be the responsibility of the Contractor and excluded from the Cost of Work.

1.6. PROVISIONS FOR RELEASE OF RETAINAGE

- 1.6.1. Refer to the UGC.
- 1.6.2. Release of any retainage, or reduction in amount of retainage withheld, is strictly at the discretion of the Owner, regardless of Contractor compliance with requirements. All of the requirements noted for Substantial Completion acceptance must be completed prior to application for final release of Contract retainage. In addition, Contractor shall meet the following requirements:
 - 1.6.2.1. Contractor must submit affidavits of final release of claim and lien from each subcontractor and supplier who provided materials and/or labor to the Project.
 - 1.6.2.2. Contractor must submit affidavit that all bills for the Project have been paid, or will be paid within thirty (30) calendar days of Contractor's receipt of payment.
 - 1.6.2.3. Contractor must submit Consent of Surety to Release of Retainage.

1.7. REQUIREMENTS FOR FINAL ACCEPTANCE

1.7.1. Prior to requesting Architect/Engineer and Owner to schedule Final Inspection for the Project, Contractor shall complete the following:

- 1.7.1.1. Contractor must submit a draft payment request showing 100% completion for each line item on the Schedule of Values. Contractor must submit with this draft the final releases and supporting documentation not previously submitted and accepted. Contractor must include Certificates of Insurance when applicable. The Final Payment, including final release of retainage, will not be released until all Work (including punch list items) has been completed, all requirements met, a Project closeout audit performed (if deemed necessary) and a Final Change Order has been processed if required to resolve final cost or closeout audit issues, including deletion of any remaining Contract allowances.
- 1.7.1.2. Contractor must submit a copy of Architect/Engineer's Substantial Completion punch list including evidence that each item has been completed or otherwise resolved.
- 1.7.1.3. Contractor must submit final meter readings for utilities, and similar data as of time of Substantial Completion or when Owner took possession of and responsibility for corresponding elements of the Work.
- 1.7.1.4. Contractor must submit final record as-built drawings and specifications and two (2) copies of all approved submittals and Operating and Maintenance Manuals as described later in this Section. This includes specific warranties, maintenance agreements, product certifications and similar documents. The Architect/Engineer and Owner must approve record closeout documentation in writing prior to issuance of final payment.
- 1.7.1.5. Contractor must transmit the completed Commissioning and Closeout Manual to the Owner. The Commissioning and Closeout Manual shall be complete, acknowledging receipt of all attic stock, spare parts, training/demonstration, test reports and any other requirements of the Contract Documents.
- 1.7.1.6. Contractor must complete final cleaning requirements including touch-up of marred surfaces.
- 1.7.1.7. Contractor must submit the final payment request including the following documentation:
 - 1.7.1.7.1. Release of Liens and Claims.
 - 1.7.1.7.2. Affidavit of payment of Debts and Claims.
 - 1.7.1.7.3. Consent of Surety.
 - 1.7.1.7.4. Completed SWPPP documents and Notice of Termination.
 - 1.7.1.7.5. Final Historically Underutilized Business Plan.
 - 1.7.1.7.6. Completed and signed Notice of Termination.
- 1.7.1.8. Contractor must revise and submit evidence of final and continuing insurance coverage complying with applicable insurance requirements.

1.7.2. FINAL ACCEPTANCE INSPECTION PROCEDURE

- 1.7.2.1. When the Contractor has completed the Work required in the Substantial Completion punch list and has complied with the close-out requirements in this Section and elsewhere in the Contract Documents, then the Contractor must provide written notice to the Architect/Engineer and Owner that the Project is ready for Final Inspection. Refer to the UGC for additional requirements.
- 1.7.2.2. All Owner and Architect/Engineer costs for travel and time for additional inspections at either Substantial Completion or Final Acceptance which are required either by failure of the Contractor to complete the noted punch list items, or by erroneous notices that the Work is ready for such inspections, shall be the responsibility of the Contractor. Owner may issue a unilateral deductive Change Order for these costs.

1.8. REQUIRED PROJECT RECORD DOCUMENTS

1.8.1. AS-BUILT RECORD DOCUMENTS

- 1.8.1.1. Contractor may not use record documents for construction purposes. Contractor must protect record documents from deterioration and loss in a secure location. Contractor must provide access to record documents for Owner and/or Architect/Engineer's reference or review during normal working hours.
- 1.8.1.2. Contractor must furnish as-built record drawings made from the Architect/Engineer's Contract Drawings, or subsequent updates thereof, annotated as noted below with actual as-built conditions.
 - 1.8.1.2.1. As-built drawing information must be professionally drafted.
 - 1.8.1.2.2. As-built drawings must show all changes in the Work relative to the original Contract Documents; and must show additional information of value to Owner's records but not indicated in the original Contract Documents.
- 1.8.1.3. As-built record documents must include marked-up copies of Contract Drawings and Specifications, including newly prepared drawings if applicable or necessary to achieve the Owner's intended result, and shop drawings including all changed conditions issued through addenda and/or change orders.
 - 1.8.1.3.1. Contractor must include marked-up product data submittals, field records for variable and concealed conditions such as excavations and foundations, and miscellaneous record information on Work that was schematically recorded only schematically or not recorded at all.
- 1.8.1.4. Certain individual sections of the Technical Specifications indicate specific requirements, which may clarify requirements of this Section. When a conflict may be perceived to exist, the more restrictive (i.e.: more expensive) requirement will prevail. There is no intent, however, to require more sets of as-built drawings than is indicated herein.
- 1.8.1.5. The Contractor shall bear all costs associated with obtaining the Architect/Engineer's original Contract Documents, and subsequent updated plots thereof, drafting as-built information, reproduction, or other related work.
 - 1.8.1.5.1. Contractor shall ensure that all as-built changes are of good drafting quality, performed by a person skilled in drafting and knowledgeable of the conventions of the trades involved.

- 1.8.1.5.2. Contractor may utilize Contractor's staff or seek outside assistance, including the Architect/Engineer, for this drafting work provided the contractual requirements pertaining to quality, format, and content are met.

1.8.1.6. MAINTENANCE OF AS-BUILT DRAWINGS DURING CONSTRUCTION

- 1.8.1.6.1. During progress of the Work, Contractor shall maintain a blueline set of Contract Drawings along with the specifications and the shop drawings in the construction office. Contractor must update these drawings weekly, at a minimum, with mark-ups of actual installations that vary from the work as originally shown. Contractor shall include all drawings issued as addenda, clarifications, and/or change orders.
 - 1.8.1.6.1.1. Contractor must mark-up whatever drawing is most compatible for showing actual physical condition, fully and accurately and must reference all other appearances of this work to the updated sheet. Contractor must include cross-references to the official change number on the updated sheet and all additional sheets where the work is shown.
 - 1.8.1.6.1.2. Contractor must mark-up with erasable colored pencil in a legible and professional manner, using separate colors where feasible to distinguish between changes for different categories of work at the same general location.
 - 1.8.1.6.1.3. Contractor must mark-up important additional information, which was either shown schematically only or omitted from the original drawings. Contractor must give particular attention to information on concealed work that would be difficult to identify or measure and record at a later date.
 - 1.8.1.6.1.4. Contractor must record alternative numbers, change order numbers and similar identification for any change.
 - 1.8.1.6.1.5. Contractor must require each person preparing mark-ups to initial and date the mark-ups and indicate the name of their firm.
- 1.8.1.6.2. The Contractor shall maintain and have available for review in conjunction with the regular Project Progress Meetings, a current set of the marked-up as-built blueline drawings and specifications marked with "as-constructed" information. Availability for review and acceptability of both the format and the content, is a prerequisite condition for certification of the monthly pay requests by the Owner and Architect/Engineer.

1.8.2. SUPPLEMENTAL DRAWINGS

- 1.8.2.1. The use of shop drawings as supplements to the As-Built Record Drawings is required for all items in which the larger scale employed on the shop drawings is needed to show the work in sufficient detail for Owner's future use. When marked-up shop drawings are included in the As-Built Record documents, Contractor must mark-up and cross-reference on the Contract Drawings at the corresponding location.
 - 1.8.2.1.1. Use of such shop drawings is particularly applicable to ductwork and electrical shop drawing layouts. Use of shop drawing supplements is acceptable provided the following conditions are met:

- 1.8.2.1.1.1. The applicable supplemental sheet must be placed in the set directly behind the Contract Drawing, which it supplements, with appropriate reference notes on both the applicable Contract Drawing and all other affected drawings.
- 1.8.2.1.1.2. Contractor must retain a copy for inclusion with the record product submittals.
- 1.8.2.1.1.3. The supplemental document must be identified as a "Supplementary Record As-Built Drawing" and must be numbered with an extension to the Contract Drawing it supplements in a manner acceptable to the Owner.

1.8.3. PREPARATION OF FINAL AS-BUILT RECORD DRAWINGS

- 1.8.3.1. In association with Contractor's request for Substantial Completion inspection, Contractor must submit the marked-up site copy of the as-built drawings to the Architect/Engineer and Owner for review.
 - 1.8.3.1.1. Following the Architect/Engineer's review of the marked-up as-built drawings and supplemental drawings, and upon the Architect/Engineer's acceptance that the marked-up information is accurate and complete, the Contractor shall proceed with preparation of a full set of professionally drafted As-Built Record Drawings in electronic format made from Architect/Engineer's Contract Drawing files.
 - 1.8.3.1.2. Contractor shall submit final as-built record drawings to Owner in Owner's designated version of AutoCAD.
- 1.8.3.2. All drawings shall bear the official Project name and number. Further, each drawing, including supplemental drawings, shall also bear a stamp to the effect of "Record As-Built" along with the Contractor's certification that such is an accurate reflection of actual as-built conditions. Contractor shall sign and date each certification in a format that is acceptable to the Owner.
 - 1.8.3.2.1. All drawings shall be the same size as the original Contract Documents.
 - 1.8.3.2.2. Once the final As-Built Record Drawings are complete, the Contractor shall transmit them to the Owner within sixty (60) calendar days after Final Completion.
 - 1.8.3.2.3. Contractor shall ensure that all drawings issued as addenda, clarifications and/or change orders are incorporated into the as-built record drawing set and fully shown on the applicable Contract Drawing. If supplemental sheets are used, Contractor must follow the requirements outlined above for supplemental shop drawing sheets.

1.8.4. AS-BUILT RECORD SPECIFICATIONS

- 1.8.4.1. During progress of the Work, Contractor must maintain and update one record copy of specifications at the jobsite, including addenda, change orders and similar modifications issued during construction, indicating all significant variations between the actual Work and the text of original specifications.

- 1.8.4.1.1. Contractor must give particular attention to substitutions, selection of options, and similar information on work where the exact products used are not clearly identified or readily discernable in the original specifications. When applicable, Contractor must cross-reference related record drawing information and product data.
- 1.8.4.1.2. It is not necessary to re-type an entire section if modified, but it is mandatory that all changes to specified materials, installation, warranty, etc. be clearly and fully marked within the applicable specification section in a manner acceptable to the Architect/Engineer and the Owner. Contractor should review with the Owner and document an acceptable procedure early in the construction phase.
- 1.8.4.1.3. Contractor must neatly transcribe and post all as-built marked-up information to a "clean" copy of the Project Specifications, ensuring that similar types of information are annotated in like fashion throughout the Project Specifications.
- 1.8.4.2. In association with Contractor's request for Substantial Completion inspection, Contractor must submit the marked-up site copy of the specifications to the Architect/Engineer and Owner for review.
- 1.8.4.3. Once the marked-up specifications are found acceptable by the Architect/Engineer, based on the Architect/Engineer's belief that the marked-up information is accurate and complete, the Architect/Engineer will proceed with preparation of As-Built Record Specifications.
 - 1.8.4.3.1. The Architect/Engineer will prepare the As-Built Record Specifications based upon the Contractor's mark-up specifications using Owner's designated version of Microsoft Word with changes tracked in red-lined format.
- 1.8.4.4. After the Architect/Engineer has completed the As-Built Record Specifications, the Architect/Engineer will submit both the marked-up site copy of the specifications and the As-Built Record Specifications to the Owner in both electronic (doc and pdf) and paper format.

1.8.5. OPERATING AND MAINTENANCE MANUALS

- 1.8.5.1. Contractor shall organize maintenance-and-operating manual information into suitable sets of manageable size, and bind into individual binders properly tabbed and indexed. Contractor shall provide equipment data electronically in a spreadsheet or database format provided by Owner.
- 1.8.5.2. Within thirty (30) calendar days of the Notice to Proceed with Construction, Contractor shall submit to Owner the proposed format, content and tab structure for all Operating and Maintenance Manuals for the Owner's review and approval. The tab structure for Operating and Maintenance Manuals shall follow specification division format as accepted by the Construction Specification Institute. After the Owner approves the proposed format, content, and tab structure for the Operating and Maintenance Manuals, Contractor shall create and deliver to Owner tabbed binders within twenty-one (21) calendar days. Contractor shall transmit to Owner the content of the Operating and Maintenance Manuals in a timely manner as the Work progresses.
- 1.8.5.3. Contractor shall make revisions and corrections to format and content as reasonably requested by Owner. Contractor shall submit to Owner each individual

Operating and Maintenance Manual document within fifteen (15) calendar days of the document's availability to facilitate inspections and testing by Contractor and Owner.

- 1.8.5.3.1. Operating and Maintenance Manual documents must include, but are not limited to, approved submittals, manufacturer's operating and maintenance instructions, brochures, shop drawings, performance curves and data sheets annotated to indicate equipment actually furnished (e.g. identifying impeller size, model, horsepower, etc), procedures, wiring and control diagrams, records of factory and field tests and device/controller settings and calibration, program lists or data compact discs, maintenance and warranty terms and contact information, spare parts listings, inspection procedures, emergency instructions, and other Operating and Maintenance documentation that may be useful to Owner.
- 1.8.5.3.2. The material and equipment data required by this Section must include all data necessary for the proper installation, removal, normal operation, emergency operation, startup, shutdown, maintenance, cleaning, adjustment, calibration, lubrication, assembly, disassembly, repair, inspection, trouble-shooting, and warranty service of the equipment or materials.
- 1.8.5.4. Contractor must bind the Operating and Maintenance Manual documents in heavy-duty, 3-ring vinyl-covered binders including pocket folders for folded sheet information. Contractor must mark binder identification on both the front and spine of each binder.
 - 1.8.5.4.1. Contractor must submit the Operating and Maintenance documents on bindable 8-1/2" x 11" sheets or on sheets that are bindable and foldable multiples of 8-1/2" x 11". The bindable edge shall be the left 11" edge.
 - 1.8.5.4.2. Contractor may request waivers to the size requirement for specific instances. Contractor's waiver request must be in writing to the Architect/Engineer and Owner. Contractor's waiver request must include a justification for seeking the waiver.
- 1.8.5.5. Contractor must provide two (2) complete paper copies of each bound Operating and Maintenance Manual to the Owner.
- 1.8.5.6. Contractor must provide an electronic version of the complete and final Operating and Maintenance Manuals to Owner in original electronic file format on compact disc or DVD. Contractor must also provide one electronic pdf file of each bound Operating and Maintenance Manual that represents each Manual's content. The electronic pdf file must match the Operating and Maintenance Manual content and organizational structure.
- 1.8.5.7. The requirements of this Section are separate, distinct and in addition to product submittal requirements that may be established by other Sections of the Specifications. Owner's manuals, manufacturer's printed instructions, parts lists, and other submittals required by other Sections of the Specifications may be included in the Operating and Maintenance Manuals provided that they are approved and are formatted in a manner consistent with the requirements of this Section.
 - 1.8.5.7.1. Test data and Commissioning data included in the Operating and Maintenance Manuals need not be duplicated in the Commissioning and

Closeout Manual and vice versa. Test data not pertaining to a particular device or piece of equipment (such as domestic water pipe pressure test reports) must be inserted in the Commissioning and Closeout Manual.

- 1.8.5.8. Equipment is defined as any mechanism, mechanical, electrical or electronic device, or any combination thereof, which is made up of two (2) or more working parts to perform a particular function.
- 1.8.5.9. When an item of equipment is a packaged unit furnished by one manufacturer and the package as furnished contains proprietary items of equipment obtained from other sources, Contractor must include copies of equipment data for each item of such equipment as if each item of equipment had been separately furnished.
- 1.8.5.10. For general guidance only, the following are examples of equipment, material, and systems for which operating and maintenance data is required:

Architectural	Mechanical	Electrical
Doors and Windows	Piping, Valves, and Fittings	Cable, Wire, and Connectors, 600 volt
Overhead Coiling Doors and Grilles	Motors	Wiring Devices
Automatic Door Openers	Fire Protection Systems	Motor Control Centers
Door Hardware	Plumbing Equipment	Distribution Panelboards
Finish Materials	Plumbing Specialties	Branch Circuit Panelboards
Loading Dock Equipment	Liquid Nitrogen System	Electronic Grade Panelboards
Laboratory Casework and Furnishings	Gas Systems	Packaged Electric Generating Plant
Fume Hoods	Fuel Oil Systems	Automatic Transfer Switches
Access Flooring	Reverse Osmosis System	Standby Power Generator Switchgear
Environmental Rooms	Hydronic Specialties	Switchboards
Biological Safety Cabinets	Steam and Steam Condensate Specialties	Switchgear
Sterilizers, Washers and Dryers	HVAC Pumps	Power Factor Correction Capacitors
Audio-Visual Equipment	Chemical Treatment Systems	Transformers
Window Treatment	Chillers	Busway – 600 Volt and Below
Radiation Protection	Boilers	Surge Protective Devices
Conveying Systems	DX Air-Conditioning Systems	Lighting Fixtures
Irrigation Systems	Heat Exchangers	Lighting Control Systems
	Humidifiers	Fire Alarm System
	Terminal Heat Transfer Units	Power Status and Monitoring System
	Modular Air Handling Units	Paging System
	Custom Air Handling Units	Security System
	Fans	
	Filters	
	Ductwork	
	Air Terminal Units	

Architectural	Mechanical	Electrical
	Air Outlets and Inlets	
	Variable Speed Drives	
	Building Automation System	

1.8.5.11. The UGC requires that a preliminary copy of all Operating and Maintenance Manuals, in addition to as-built record documents, be furnished prior to the Substantial Completion inspection. The Contractor shall accumulate and package the documentation and submit the preliminary copy to the Architect/Engineer for review.

1.8.5.12. The Contractor's submission of a preliminary copy of all Operating and Maintenance Manuals to the Architect/Engineer for review is a precondition for scheduling of a Substantial Completion inspection. The Contractor's final submission of these Operating and Maintenance Manuals in an acceptable format (based on review of preliminary copies by the Architect/Engineer) is a precondition for scheduling of a Final Acceptance inspection, release of remaining contract retainage, and application for Final Payment.

1.8.5.13. Equipment Data to be Included in Operating and Maintenance Manuals

1.8.5.13.1. Description of Equipment. Refer also to the equipment list requirements of Section 01 91 00 – General Commissioning Requirements. Contractor shall prepare a form for each item of equipment on 8-1/2" x 11" paper using the Owner's format or using a format approved by the Owner. Contractor must include the description of the equipment and following additional information in the Operating and Maintenance Manuals.

1.8.5.13.1.1. A complete description of each equipment item in the following order: basic descriptive terminology first, followed by modifying words describing the model, size and weight, flow rate, amperage, voltage, material, etc., as applicable, plan designation, if any, and package serial number.

1.8.5.13.1.2. Part Number. Manufacturer's and supplier's part number.

1.8.5.13.1.3. Quantity. Total quantity of this equipment item installed under this Contract.

1.8.5.13.1.4. Specification Paragraph Reference. State the specification section, paragraph, and page number under which the item of equipment was procured.

1.8.5.13.1.5. Source. Manufacturer's name and address and supplier's name and address.

1.8.5.13.1.6. Serial Number. Complete manufacturer's serial number(s) or other identity symbol(s) as applicable.

1.8.5.13.1.7. Location. State the name of the system and/or sub-system in which each like item of equipment is installed and state the physical location of each like item of equipment by identifying the columnar grid intersections, as shown on the Drawings,

near which the item is located and also state the room or space title as applicable. The location of item must correspond to Owner's wayfinding codes listing in Owner's space management database, consisting of building identification code (or color zone), floor level, and room number.

- 1.8.5.13.2. Parts Lists. Contractor must clearly identify every part in the item of equipment with the proper manufacturer's name, part nomenclature and number, local source, and list price.
- 1.8.5.13.3. Recommended Spare Parts. Contractor must furnish a list of recommended spare parts for each equipment item that Owner will likely need within a 12-month period to support and operate that item of equipment. The quantities of spare parts recommended must be based upon the quantity of like equipment items installed under the Contract Documents. Contractor must prepare the recommended spare parts list for each equipment item on 8-1/2" x 11" paper and must include the following information for each part in columns.
 - 1.8.5.13.3.1. Part Description. Complete descriptive nomenclature plus manufacturer's complete model and part number, and list price cost for each part.
 - 1.8.5.13.3.2. Quantity Per Assembly. Quantity of listed part that occurs in the item of equipment.
 - 1.8.5.13.3.3. Quantity of Equipment Items. Quantity of like equipment items installed under this Contract.
 - 1.8.5.13.3.4. Shelf Life. Storage life of part, in months, if the part has limited life.
 - 1.8.5.13.3.5. Recommended Quantity. Quantity of parts that Owner will need to support the installed quantity of equipment in which the part appears for a period of twelve (12) months.
 - 1.8.5.13.3.6. Source for Part. Name, address, website address, and phone number of the nearest supplier for the part.
- 1.8.5.13.4. Contractor's Purchase Order. Contractor must furnish a copy of Contractor's purchase order for the equipment. The furnished copy need only show the quantity ordered, part number, equipment description and name and address of the vendor who supplied the item
- 1.8.5.13.5. Normal Operating Instructions. Contractor must furnish normal operating instructions with sufficient detailed information to permit a journeyman mechanic to adjust, start-up, operate and shut down the equipment. Special start-up precautions must be noted as well as other action items required before the equipment is put into service.
- 1.8.5.13.6. Emergency Operating Procedures. Contractor must furnish a detailed description of the sequence of action to be taken in the event of a malfunction of the unit, either to permit a short period of continued operation or emergency shutdown to prevent further damage to the unit and to the system in which it is installed.

- 1.8.5.13.7. Preventive Maintenance. Contractor must furnish detailed information to cover routine and special inspection requirements, including but not limited to, field adjustments, inspections for wear, adjustment changes, packing wear, lubrication points, frequency and specific lubrication type required, cleaning of the unit and type solvent to use, and such other measures as are applicable to preventive maintenance program.
- 1.8.5.13.8. Calibration. Contractor must furnish detailed data on what to calibrate, how to calibrate, when to calibrate and procedures to enable checking the equipment for reliability or indications as well as data for test equipment, special tools and the location of test points.
- 1.8.5.13.9. Scale and Corrosion Control. Contractor must furnish detailed information covering the prevention of and removal of scale and corrosion.
- 1.8.5.13.10. Trouble Shooting Procedures. Contractor must furnish detailed information and procedures for detecting and isolating malfunctions and detailed information concerning probable causes and applicable remedies.
- 1.8.5.13.11. Removal and Installation Instructions. Contractor must furnish detailed information concerning the logical sequence of steps required to remove and install the item including instructions for the use of special tools and equipment.
- 1.8.5.13.12. Disassembly and Assembly Instructions. Contractor must furnish detailed illustrations and text to show the logical procedure and provide the instructions necessary to disassemble and assemble the unit properly. The text shall include all checks and special precautions as well as the use of special tools and equipment required to perform the assembly or disassembly.
- 1.8.5.13.13. Repair Instructions. Contractor must furnish detailed repair procedures to bring the equipment up to the required operating standard including instruction for examining equipment and parts for needed repairs and adjustments, and tests or inspections required to determine whether old parts may be reused or must be replaced.
- 1.8.5.13.14. System Drawings. Contractor must furnish detailed drawings, where applicable, that clearly show wiring diagrams, utility service diagrams, control diagrams, system schematics, pneumatic and fluid flow diagrams, etc., which pertain to the unit function. System drawings must show major pieces of equipment, such as chillers, boilers, heat exchangers, pumps, air handlers, tanks, switchgear, etc., as meaningful to the Project. Fluid flow and direction and valves with their valve tag identification numbers must be clearly noted on drawings. Drawings must show modifications to another manufacturer's standard unit when it is incorporated into the assembly or package unit.
 - 1.8.5.13.14.1. System diagrams must be provided on multiples of 8-1/2" x 11" format, folded to fit within the Operating and Maintenance Manuals. The outer (exposed) face of the folded drawing must include identification of the system and the specification section that governs its installation and operation.

- 1.8.5.13.14.2. The requirements of this paragraph are separate, distinct, and in addition to similar requirements that may be established by other Sections. Where such system diagrams are required for submittal by other specification sections, the same diagrams will be acceptable for inclusion herein, so long as the diagrams used were approved during the submittal phase and are reproduced for clarity and to fit the size format of the Operating and Maintenance Manuals.
- 1.8.5.13.14.3. The Contractor must provide diagrammatic drawings for each installed system that indicate placement of the system in relation to the building, and the physical location of each item or equipment installed within the system. Each installed item of equipment shown on the drawing must be identified by the equipment item model and/or serial/part number.
- 1.8.5.13.14.4. System drawings may, for purpose of clarity, be prepared upon a major subsystem basis.
- 1.8.5.13.14.5. The drawings may be prepared upon several drawings having referenced match lines.
- 1.8.5.13.15. Special Tools and Test Equipment: Contractor must furnish a detailed list of the special tools and test equipment needed to perform repair and maintenance for each equipment item. The list must contain the special tool and test equipment part number, size, quantity, price, manufacturer's name and address, and local supplier's name and address.
- 1.8.5.13.16. Warranties and Guarantees: Contractor must bind, within the tabbed section for each system, equipment item, or material, an executed copy of the specified warranty/guarantee with warranty effective dates covering that particular system, equipment item, or material.
- 1.8.5.13.16.1. Contractor must include both the manufacturer's warranty as specified and the installing contractor's guarantee for workmanship and system operation.
- 1.8.5.13.16.2. This copy of the particular warranty/guarantee is in addition to original signature copies of all Project warranties and guarantees bound together separately. Contractor shall transmit this binder to the Owner when complete.
- 1.8.5.13.16.3. Contractor must provide in a separate tabbed section of the Operating and Maintenance Manuals a grouping of all Project warranties and guarantees as required by various specification sections and other conditions of the Contract. Contractor must include all specific warranties on manufactured items and installed systems as noted above, in addition to Contractor's Project warranty and applicable guarantees from all subcontractors and suppliers covering defects in workmanship or manufacture.
- 1.8.5.13.16.4. As clarification, it is intended that the Contractor provide the Owner with a separate binder containing all original Project warranties and guarantees. Contractor must also provide a copy of the appropriate warranty in the same section as the equipment (or system) data furnished in individual tabbed

sections of the Operating and Maintenance Manuals for convenient reference.

- 1.8.5.13.17. Training of Owner Personnel: Contractor must furnish documentation of Owner's personnel training regarding operation of particular systems within the tabbed section for that particular system. Contractor must include identification of parties receiving training and date(s) of such training.

1.8.6. RECORD PRODUCT SUBMITTALS

- 1.8.6.1. During progress of the Work, Contractor must maintain approved copies of each product data submittal and shop drawing. Contractor must mark up significant variations in the actual Work in comparison with submitted information. Contractor must include both variations in product as delivered to the Site and variations from manufacturer's instructions and recommendations for installation.
- 1.8.6.1.1. Contractor must maintain during the course of the Project, a separate binder with one copy of all MSDS sheets for any and all products incorporated into the Project. Contractor must include this binder in the record submittal documents.
- 1.8.6.2. Contractor must give particular attention to concealed products and portions of the Work that are not clearly identified in the original submittal or cannot otherwise be readily discerned at a later date by direct observation. Contractor must cross reference to change orders and mark-up of record drawings and specifications.
- 1.8.6.3. Upon completion of as-built revisions, Contractor must submit two (2) complete sets of all approved submittals to Architect/Engineer for review and subsequent transmittal to Owner. Contractor must organize and group files in sturdy file boxes with tabbed dividers for each separate specification division. Contractor must include a complete table of contents. In addition, Contractor must submit all Record Product Submittals to Owner in its original electronic file format on compact disc or DVD. Contractor may scan material into electronic file format when necessary.
- 1.8.6.4. These record submittal requirements are in addition to inclusion of similar material as supplementary as-built drawings or technical data for the Operating and Maintenance Manuals.

1.8.7. RECORD SAMPLE SUBMITTAL

- 1.8.7.1. Immediately prior to date(s) of Substantial Completion, Contractor must arrange for Architect/Engineer and Owner's representative to meet with Contractor at the Site to determine which (if any) of the submitted samples or mock-ups maintained by Contractor during progress of the Work are to be transmitted to Owner for record purposes.
- 1.8.7.2. Contractor must comply with Architect/Engineer's and/or Owner's instructions for packaging, identification marking, and delivery to Owner's designated location at the Site or other location as directed by Owner.
- 1.8.7.3. Contractor must dispose of other samples in the manner specified for disposal of surplus and waste materials, unless otherwise indicated or directed by Architect/Engineer and/or Owner.

1.8.8. COMMISSIONING AND CLOSEOUT MANUAL

- 1.8.8.1. The Contractor shall incorporate all Commissioning and closeout documentation and/or verification documents not included in the Operating and Maintenance Manuals, into a separate Commissioning and Closeout Manual for transmittal to the Owner at the conclusion of the Project. The Commissioning and Closeout Manual is intended to be a consolidation of documentation/verification for the Project commissioning and closeout process. By updating the Commissioning and Closeout Manual throughout the Project, the documentation process can be expedited and monitored.
- 1.8.8.2. The Commissioning and Closeout Manual shall include, but is not limited to, the following.
 - 1.8.8.2.1. Commissioning documentation as described in Section 01 91 00 General Commissioning Requirements.
 - 1.8.8.2.2. Closeout Documentation Matrix. A spreadsheet listing of system/equipment documentation that Contractor must submit to Owner as required by the Technical Specification requirements and containing columns for submittal dates, approval (if required) dates, and Owner's signature or initials for acknowledgement. The Closeout Documentation Matrix is subject to Owner's approval.
 - 1.8.8.2.3. Paint/Finish Schedule.
 - 1.8.8.2.3.1. Contractor must include a schedule of all paints, flooring, finishes, etc. used on the Project.
 - 1.8.8.2.3.2. Contractor must provide manufacturer, model number, color formula, location on Project, purchase source and any other information helpful to the Owner's maintenance personnel.
 - 1.8.8.2.4. Spare Parts, Attic Stock and Keys Checklists.
 - 1.8.8.2.5. Elevator Checklist.
 - 1.8.8.2.6. Electrical Test Reports (including factory tests and settings).
 - 1.8.8.2.7. Miscellaneous Equipment Test Reports (including factory tests and settings).
 - 1.8.8.2.8. HVAC Calibration Reports (including duct testing reports).
 - 1.8.8.2.9. Fire Alarm Test Reports.
 - 1.8.8.2.10. Piping Test Reports.
 - 1.8.8.2.11. Sewer Video Log.
 - 1.8.8.2.12. Demonstration / Training Reports.
 - 1.8.8.2.13. Millwright's Alignment Report: Contractor must include a report of the coupled mechanical equipment after the equipment has been set and installed.
 - 1.8.8.2.14. Code-required Certifications as described within Technical Specifications.

- 1.8.8.2.15. Miscellaneous Record Documents. Contractor must provide categories of requirements resulting in miscellaneous work records including, but not be limited to, the following.
 - 1.8.8.2.15.1. Required field records on excavations, foundations, underground construction, wells and similar work.
 - 1.8.8.2.15.2. Accurate survey showing locations and elevations of underground lines, including invert elevations of drainage piping.
 - 1.8.8.2.15.3. Surveys establishing lines and levels of building.
 - 1.8.8.2.15.4. Plant treatment records (wood, soil, etc).
 - 1.8.8.2.15.5. Certifications received in lieu of labels on products and similar record documentation.
 - 1.8.8.2.15.6. Batch mixing and bulk delivery records.
 - 1.8.8.2.15.7. Testing and qualification of tradesmen.
 - 1.8.8.2.15.8. Documented qualification of installation firms.
 - 1.8.8.2.15.9. Load/performance testing.
 - 1.8.8.2.15.10. Final inspection and deficiency corrections.
- 1.8.8.3. The Owner may provide a preliminary handbook with sample forms and matrix for use by the Contractor in development of the Commissioning and Closeout Manual. Each Project may require the Contractor to revise and/or create forms for Project specific equipment. The Contractor must review each form for approval with the Owner before using the Contractor's form.
- 1.8.8.4. The Contractor shall maintain and provide two (2) copies of the Commissioning and Closeout Manual. Contractor shall transmit one copy to the Owner's Construction Inspector for use during the Project. The Contractor shall keep the other copy and shall update both copies as the Work progresses. The Owner's Construction Inspector will initial the Closeout Documentation Matrix to acknowledge receipt of various documentation, spare parts, attic stock, etc.
 - 1.8.8.4.1. Contractor must insert the accumulated documentation into the Commissioning and Closeout Manual in tabbed formatting according to the table of contents for each Project.
 - 1.8.8.4.2. Contractor must bind the documentation in heavy-duty 3-ring vinyl-covered binders including pocket folders for folded sheet information. Contractor must mark identification on both the front and spine of each binder.
 - 1.8.8.4.3. Contractor must provide an electronic version of the completed Commissioning and Closeout Manual to Owner in original electronic file format on compact disc or DVD. In addition, Contractor must provide one electronic pdf file for each bound Commissioning and Closeout Manual that includes each Manual's content. Contractor must organize data to match the Commissioning and Closeout Manual tab structure.

- 1.8.8.5. The Contractor shall prepare the initial Closeout Documentation Matrix early in the Project to ensure tracking of this process throughout the Project.
- 1.8.8.6. The Commissioning and Closeout Manual is not intended to impose duplication of closeout documentation. Those items and/or data that are incorporated into the Operating and Maintenance Manuals need not be included in the Commissioning and Closeout Manual.

1.8.9. Equipment and system submittals as required elsewhere in the Contract Documents.

PART 2- PRODUCTS (NOT USED)

PART 3- EXECUTION

3.1. PROJECT CLEANING AT SUBSTANTIAL COMPLETION

- 3.1.1. The Contractor must maintain the Project and the Site in a clean and orderly condition throughout the course of construction. In addition to continuous Project cleaning, the following requirements are related to Project closeout.
- 3.1.2. Special cleaning for specific units of Work may also be specified in other Sections of Project Specifications.
- 3.1.3. Contractor must perform an initial cleaning of the Work consisting of cleaning each surface or unit of Work to normal "clean" condition expected for a first-class building cleaning and maintenance program.
- 3.1.4. Contractor must comply with manufacturer's instructions for cleaning of all system components, equipment, and materials incorporated into the Project.
- 3.1.5. Contractor must perform the following "initial" final cleaning immediately prior to the time the Contractor requests Substantial Completion inspection.
 - 3.1.5.1. Contractor must remove labels that are not required as permanent labels.
 - 3.1.5.2. Contractor must clean exposed hard-surfaced finishes, including glass, metals, stone, concrete, painted surfaces, plastics, tile, wood, special coatings, and similar surfaces, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substances. Contractor must restore reflective surfaces to original condition.
 - 3.1.5.3. Contractor must remove debris and surface dust from limited-access spaces including plenums, shafts, and similar spaces.
 - 3.1.5.4. Contractor must clean concrete floors in non-occupied spaces, wet-mop and broom clean.
 - 3.1.5.5. Contractor must clean fixtures of all dust and debris. Contractor must replace lamps in accordance with Technical Specifications after final Project cleaning.
 - 3.1.5.6. Contractor must remove crates, cartons and other flammable waste materials or trash from the Site. Contractor must provide Owner with a finished Project that is free of concealed garbage, trash and rodent infestation. If concealed garbage, trash and rodent infestation are revealed, or odors from them occur, Contractor shall remove and correct at the Contractor's expense. Contractor must restore property to its original condition where no improvements are shown.

- 3.1.5.7. Contractor must clean leave free from rubbish, loose plaster, mortar drippings, extraneous construction materials, dirt and dust spaces which are generally unfurnished such as elevator shafts, electrical closets, pipe and duct shafts, chases, furred spaces, and similar spaces.
- 3.1.5.8. Contractor must remove rubbish by way of chutes, taken down on hoists, or lowered in receptacles. Contractor shall not remove rubbish or waste by dropping or throwing from one level to another within or outside the building(s).
- 3.1.5.9. Contractor must ensure that Contractor does not mark, soil or otherwise deface finished surfaces. If Contractor marks, soils, or otherwise defaces finished surfaces, Contractor shall bear all costs for cleaning and restoring such surfaces to their originally intended condition.

3.2. PROJECT CLEANING AT FINAL ACCEPTANCE

- 3.2.1. The following "final" cleaning is to be accomplished immediately prior to the time the Contractor requests Final Acceptance inspection:
 - 3.2.1.1. Contractor must clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances that are noticeable as vision-obscuring materials.
 - 3.2.1.2. Contractor must turn the work over in immaculate condition inside and outside including the premises.
 - 3.2.1.3. Contractor must clean all work on the premises including walks, drives, curbs, paving, fences, grounds and walls. Contractor must provide a clean shine on slick surfaces. Contractor must removal of smudges, marks, stains, fingerprints, soil, dirt, paint, dust, lint, labels, discolorations and other foreign materials.
 - 3.2.1.4. Contractor must clean all finished surfaces on interior and exterior of Project (again) including floors, walls, ceilings, windows, glass, doors, fixtures, hardware and equipment. Contractor must final wax and polish all natural finish metal on interior or exterior surfaces. Contractor must clean and apply finish (including wax) to all floors as recommended by the manufacturer.
 - 3.2.1.5. In addition to the cleaning specified above and the more specific cleaning required in various Sections of the Specifications, Contractor must prepare the building(s) for occupancy by a thorough cleaning throughout, including washing (or cleaning by approved methods) surfaces on which dirt or dust has collected, and by washing glass on both sides. Contractor must wash exterior glass using a window-cleaning contractor specializing in such work.
 - 3.2.1.6. Contractor must remove temporary buildings and structures, fences, scaffolding, surplus materials and rubbish of every kind from the site of the work. Contractor must repair these areas to be compatible with the surrounding construction finished condition.

END OF SECTION 01 77 00

SECTION 01 91 00 –GENERAL COMMISSIONING REQUIREMENTS

PART 1 – GENERAL

1.1. RELATED DOCUMENTS

- 1.1.1. The Contractor's attention is specifically directed, but not limited to, the Uniform General and Supplementary General Conditions for University of Texas System Building Construction Contracts (UGC) for other requirements.
- 1.1.2. Specifications throughout all Divisions of the Project Manual, which pertain to operable and non-operable equipment and/or building systems, are directly applicable to this Section, and this Section is directly applicable to them.

1.2. SUMMARY

- 1.2.1. This Section establishes general and administrative requirements pertaining to commissioning of equipment, devices, and building systems installed on renovation and new construction projects delivered under various contracting methodologies. Technical requirements for commissioning of particular systems and components are established in the Contract Documents.
- 1.2.2. It is of primary concern that all operable systems installed in the Project perform in accordance with the Contract Documents and the specified Owner's operational needs. During Commissioning, the Contractor systematically demonstrates to the Owner that the operable systems are properly performing in strict accordance with the Contract Documents.
- 1.2.3. Commissioning requires cooperation and involvement of all parties throughout the construction process. The Contractor shall deliver a successful Commissioning process. Successful Commissioning requires that installation of all building systems complies with Contract Document requirements and that full operational check-out and necessary adjustments are performed prior to Substantial Completion, with the exception of deferred tests approved in advance by Owner.
- 1.2.4. Commissioning will encompass and coordinate traditionally separate functions of system documentation, installation checkout, Prefunctional Checklists and start-up, control system calibration and point-to-point checkout, testing, adjusting, and balancing, Functional Performance Tests, and Integrated System Tests, Contractor demonstration to the Owner, and training of Owner. Commissioning is intended to achieve the following specific objectives of the Contract Documents.
 - 1.2.4.1. Verify and document proper installation and intended performance of equipment, systems, and integrated systems.
 - 1.2.4.2. Ensure that operating and maintenance and Commissioning documentation requirements are complete.
 - 1.2.4.3. Provide Owner with functional buildings and systems that meet the Contract Document requirements at Substantial Completion.

1.3. DEFINITIONS

- 1.3.1. Building Automation System: System and components associated with the Building Automation System.
- 1.3.2. Commissioning: A systematic process confirming that building systems have been installed, properly started, and consistently operated in strict accordance with the Contract Documents,

that all systems are complete and functioning in accordance with the Contract Documents at Substantial Completion, and that Contractor has provided Owner adequate system documentation and training. Commissioning includes deferred and/or seasonal tests as approved by Owner.

- 1.3.3. Commissioning Consultant: Owner or Owner's consultant who performs technical reviews of Contract Documents, observes completion of construction, verifies equipment and system start-up by Contractor or Subcontractor, observes Prefunctional Checklists and Functional Performance Tests of systems, and Integrated System tests for compliance with the Contract Documents, tracks deficiencies, and recommends solutions. Commissioning Consultant does not have authority to alter design or installation procedures without the written approval of Owner.
- 1.3.4. Commissioning Plan: Document prepared by Contractor and approved by Owner that provides the structure, schedule, and coordination plan for the Commissioning process from the construction phase through the warranty period. The Commissioning Plan must satisfy the Owner's Test Requirements.
- 1.3.5. Commissioning Team: Working group made up of representative(s) from the Architect/Engineer, Contractor, Test, Adjust, and Balance Firm, Building Automation System vendor, specialty manufacturers and suppliers, and Owner. Contractor will provide ad-hoc representation of subcontractors on the Commissioning Team as required for implementation of the Commissioning Plan.
- 1.3.6. Datalogging: Monitoring flows, current, status, pressures, etc. of equipment using stand-alone dataloggers or the Building Automation System as acceptable to Owner.
- 1.3.7. Deferred Tests: Functional Performance or Integrated System Tests performed after Substantial Completion due to partial occupancy, partial equipment acceptance, seasonal requirements, design, or other Site conditions that prohibit the test from being performed prior to Substantial Completion.
- 1.3.8. Deficiency: Condition of a component, piece of equipment, or system that is not in compliance with the Contract Documents.
- 1.3.9. Factory Testing: Testing of equipment at the factory, by factory personnel with an Owner's representative present, if deemed necessary by Owner.
- 1.3.10. Functional Performance Test: Test of dynamic function and operation of equipment and systems executed by Contractor. Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, life safety conditions, power failure, etc. Systems are run through all specified sequences of operation. Components are verified to be responding in accordance with Contract Documents. Functional Performance Tests are executed after start-ups and Prefunctional Checklists are complete.
- 1.3.11. Functional Performance Test Procedures: Commissioning protocols and detailed test procedures and instructions in tabular and script-type format that fully describe system configuration and steps required to determine if the system is performing and functioning properly. Contractor prepares these procedures to document Functional Performance Tests.
- 1.3.12. Integrated System Test: Test of dynamic function and operation of multiple systems. Integrated System Tests are tested under various modes, such as fire alarm and emergency situations, life safety conditions, power failure, etc. Systems are integrally operated through all specified sequences of operation. Components are verified to be responding in accordance with Contract Documents. Integrated System Tests are executed after Functional Performance Tests are complete and prior to Substantial Completion. Integrated

System Tests provide verification that the integrated systems will properly function according to the Contract Documents.

- 1.3.13. Integrated System Test Procedures: Commissioning protocols and detailed test procedures and instructions in tabular and script-type format that fully describe system configurations and steps required to determine if the interacting systems are performing and functioning properly. Contractor prepares these procedures to document Integrated System Tests.
- 1.3.14. Indirect Indicators: Indicators of a response or condition without direct physical linkage, such as a reading on a control system display reporting a damper to be 100 percent closed.
- 1.3.15. Manual Test: Use of hand-held instruments, immediate control system readouts or direct observation to verify performance (contrasted to analyzing trend data to make the "observation").
- 1.3.16. Overwritten Value: Writing over a sensor value in control system to see response of a system (e.g., changing outside air temperature value from 52°F to 72°F to verify economizer operation). See also "Simulated Signal".
- 1.3.17. Prefunctional Checklist: A list of static inspections and material or component tests that verify proper installation of equipment (e.g., belt tension, oil levels, labels affixed, gages in place, sensors calibrated, etc.). The word Prefunctional refers to before Functional tests. Prefunctional Checklists must include the manufacturer's start-up checklist(s). Contractor shall sign Prefunctional Checklists as complete and submit with the Request for Start-Up/Functional Performance Test Form.
- 1.3.18. Simulated Condition: Condition created to test component(s) and system(s) responses. (e.g., applying heat to space temperature sensor to monitor response of a terminal unit).
- 1.3.19. Simulated Signal: Disconnecting a sensor and using a signal generator to send voltage, amperage, resistance or pressure to transducer and/or direct digital control system to simulate a value to the Building Automation System to test the system and component response.
- 1.3.20. Start-up: The activities where equipment is initially energized, tested and operated. Start-up is completed prior to Functional Performance Tests.
- 1.3.21. Test, Adjust, and Balance Firm: The Owner may engage a Test, Adjust, and Balance Firm directly. Test, Adjust, and Balance responsibilities are contained in Technical Specifications and in the Test, Adjust, and Balance Firm's contract.
- 1.3.22. Test Requirements: Requirements specifying what systems, modes and functions, etc. must be tested. Test requirements are not detailed test procedures. Test requirements and acceptance criteria are specified in the Contract Documents.
- 1.3.23. Trending: Data collection of monitoring points using the Building Automation System or dataloggers.

1.4. COORDINATION

1.4.1. Commissioning Team:

1.4.1.1. Members appointed by Owner:

- 1.4.1.1.1. Owner's Project Manager and any other designated representatives of Owner's staff.

1.4.1.1.2. Commissioning Consultant (if hired by Owner).

1.4.1.1.3. Architect/Engineer.

1.4.1.1.4. Test, Adjust, and Balance Firm.

1.4.1.2. Members appointed by Contractor:

1.4.1.2.1. Individuals, each having authority to act on behalf of the entity they represent, explicitly organized to implement the Commissioning process through coordinated actions.

1.4.1.2.2. Representatives of Contractor, including but not limited to, Project Manager and Commissioning coordinator, subcontractors, installers, and equipment suppliers. Owner must approve Contractor's Commissioning coordinator.

1.4.2. Scheduling:

1.4.2.1. Contractor shall integrate all Commissioning activities into the Project Schedule. All parties will address scheduling problems and make necessary notifications in a timely manner to expedite the Commissioning process.

1.4.2.2. Contractor shall provide the initial schedule of primary Commissioning activities at the Pre-Commissioning Meeting. Prior to the first Start-up or Prefunctional Checklist test occurring, Contractor shall have incorporated and integrated all Commissioning activities into the Project Schedule with appropriately linked predecessors and successors.

1.5. ROLES AND RESPONSIBILITIES

1.5.1. Roles and responsibilities of Commissioning Team members are provided in this Section to clarify the Commissioning process.

1.5.2. Owner's Role and Responsibilities:

1.5.2.1. Review Architect/Engineer's Technical Specifications containing Commissioning requirements.

1.5.2.2. Provide Owner's Test Requirements to Contractor.

1.5.2.3. Approve Contractor's Commissioning Plan and Contractor's schedule of Commissioning activities.

1.5.2.4. Assign Owner's representatives and schedule them to participate in Commissioning activities, including the following:

1.5.2.4.1. Commissioning Team meetings.

1.5.2.4.2. Review and approve Commissioning Plan, Prefunctional Checklists, Functional Performance Test Procedures, Functional Performance Tests, Integrated System Test Procedures, Integrated System Tests, Deferred Tests, Trending, and other Commissioning documents.

1.5.2.4.3. Attend Contractor's training sessions in operation and maintenance of systems and equipment.

1.5.2.4.4. Observe Contractor's demonstration of system and equipment operation.

1.5.3. Architect/Engineer's Role and Responsibilities:

- 1.5.3.1. Specify control sequences of operation within the Contract Documents.
- 1.5.3.2. Attend Commissioning Team meetings.
- 1.5.3.3. Review Commissioning Plan, Prefunctional Checklist, Functional Performance Test Procedures, Functional Performance Test, Integrated System Test Procedures, Integrated System Tests, Deferred Tests, Trending, and other Commissioning documents.
- 1.5.3.4. Review Commissioning training plan.
- 1.5.3.5. Review Test, Adjust, and Balance plan.
- 1.5.3.6. Coordinate resolution of Deficiencies and approve technical requirements for correction of deficiencies identified during Commissioning, Deferred Tests, and during the warranty period.
- 1.5.3.7. Review Operating and Maintenance Manuals.

1.5.4 Contractor's Role and Responsibilities:

- 1.5.4.1 Produce for Owner's approval the Commissioning Plan, Prefunctional Checklist, Functional Performance Test Procedures, Integrated System Test Procedures, Request for Start-Up/Functional Performance Test Form, Equipment List/Matrix of all devices, systems and equipment supplied, and other Commissioning documents. Contractor must incorporate Owner's Test Requirements within the Commissioning Plan.
- 1.5.4.2 As the Project progresses, add specific checklists, test procedures, schedules, recorded results, action lists, signoff sheets and other documents for the Commissioning and Closeout Manual. Administer updates to the Commissioning and Closeout Manual with the intent that all Commissioning Team members will have up-to-date documentation as the Commissioning progresses.
- 1.5.4.3 Provide a qualified individual, subject to Owner's approval, experienced in construction and Commissioning of building systems to organize, schedule, conduct, and document the Commissioning Plan and the Commissioning process. The Contractor shall assign this individual to act as the Contractor's Commissioning Coordinator. The Contractor's Commissioning Coordinator may have additional duties such as MEP Coordinator, but not as Project Manager or Superintendent. In the event that Contractor chooses to subcontract its Commissioning obligations, then Contractor must submit the subcontractor's qualifications and personnel to Owner for Owner's approval.
- 1.5.4.4 Furnish and install systems that meet all requirements of the Contract Documents. Perform construction inspections, Start-ups, Prefunctional Checklists, Functional Performance Tests, and Integrated System Tests in accordance with the Contract Documents and Commissioning Plan. Correct any deficiencies identified during these processes.
- 1.5.4.5 Ensure that Commissioning activities are incorporated into the Project Schedule.
- 1.5.4.6 Submit inspection and Start-up documentation to Owner in accordance with this Section – 01 99 00 General Commissioning Requirements, Section 01 45 00 – Project Quality Control, Section 01 77 00 – Project Closeout Procedures, Technical Specifications, and the Commissioning Plan.

- 1.5.4.7 Cooperate with Owner's representative(s), provide access to Work and provide adequate labor, resources, and time for Commissioning.
- 1.5.4.8 Furnish copies of all shop drawings and submittals, manufacturers' literature, maintenance information, and any other information required for the Commissioning process. Contractor must submit to Owner installation and checkout materials actually shipped inside equipment and actual field checkout sheet forms used by factory or field technicians. Cross-reference Section 01 31 00 – Project Administration and Section 01 77 00 – Project Closeout Procedures (Operating and Maintenance Manuals) for additional required documentation.
- 1.5.4.9 Schedule and conduct pre-installation meetings and pre-commissioning meetings with subcontractors and equipment suppliers related to Commissioning. Contractor must invite Architect/Engineer and Owner to attend the pre-installation meetings and pre-commissioning meetings.
- 1.5.4.10 Provide qualified personnel, including subcontractors as required, to fully perform the testing and operational demonstrations required by the Contract Documents and the Commissioning Plan, including any deferred tests or re-testing related to warranty work.
- 1.5.4.11 Correct deficiencies identified during any stage of the Commissioning process.
- 1.5.4.12 Provide training to Owner. Coordinate subcontractor/vendor participation in training sessions.
- 1.5.4.13 Perform Deferred Tests and make necessary amendments to Operating and Maintenance Manuals and as-built drawings for applicable issues identified during the Deferred Tests.
- 1.5.4.14 Contractor shall be responsible for the following activities, and may contract with a Building Automation System vendor for these activities.
 - 1.5.4.14.1 Provide on-site technician skilled in software programming and hardware operation to exercise sequences of operation and to correct controls deficiencies identified during Commissioning. Contractor must provide final as-builts reflecting correction of controls deficiencies identified during Commissioning.
 - 1.5.4.14.2 Provide instrumentation, computer, software and communication resources necessary to demonstrate compliance with the Contract Documents and the Commissioning Plan during the Prefunctional Checklist, Functional Performance Tests and Integrated System Tests of Building Automation System equipment.
 - 1.5.4.14.3 Attend pre-commissioning meetings and Commissioning meetings including seasonal, post occupancy, or deferred Commissioning meetings and activities as deemed appropriate to the Owner. Prepare training plans with Commissioning Team and perform training as specified in Contract Documents and Commissioning Plan.
 - 1.5.4.14.4 Maintain comprehensive system calibration and checkout records. Submit records to Commissioning Team.
 - 1.5.4.14.5 Set up, capture, analyze, and report trend logs as requested by Owner to substantiate proper systems operation.

1.5.5 Test, Adjust, and Balance Firm's Role and Responsibilities:

- 1.5.5.1 Attend pre-commissioning meetings and Commissioning Team meetings including seasonal, post occupancy, or deferred Commissioning meetings and activities as deemed appropriate to the Owner.
- 1.5.5.2 Submit Test, Adjust, and Balance Plan and forms describing methodology for performance of Test, Adjust, and Balance procedures specific to this Project to Owner for review.
- 1.5.5.3 Cooperate with Contractor and Contractor's Building Automation System vendor, if any, during Commissioning.
- 1.5.5.4 Re-balance any Deficiency identified during Commissioning.
- 1.5.5.5 Provide Test, Adjust, and Balance report to Contractor before Contractor begins Functional Performance Tests.

1.6 EQUIPMENT DOCUMENTATION REQUIREMENTS

1.6.1 Equipment List / Matrix:

- 1.6.1.1 Contractor shall submit a complete listing of all equipment, devices, and systems, with certain information as herein noted, within twenty-one (21) calendar days of issuance of the Notice to Proceed with Construction and at least seven (7) calendar days prior to submission of the first application for payment. This listing shall be referred to as the Equipment List/Matrix. Refer to Attachment "A" for an example of the Equipment List/Matrix.
- 1.6.1.2 Contractor shall coordinate Contractor's response to this requirement with Contractor's preparation of the Project Schedule, Submittal Schedule, Schedule of Values, and list of all equipment. Refer to Section 01 32 00 – Project Planning and Scheduling and Section 01 31 00 – Project Administration.
 - 1.6.1.2.1 To the extent practical, Contractor should minimize redundant efforts in favor of a single, organized approach to all documentation required for Project equipment, systems, and devices.
- 1.6.1.3 The Equipment List/Matrix shall be formatted as a computerized spreadsheet with capability for printing various selected data columns (ranges) to meet documentation requirements at various stages of construction, and for different purposes as required by various Technical Sections. The Equipment List/Matrix shall be updated as the Project progresses and submitted periodically as requested by Owner. Provide Owner with an electronic version (Microsoft Excel 2003 or later) of the final approved Equipment List/Matrix at or before project closeout.
- 1.6.1.3.1 Contractor may elect to combine the Submittal Schedule and Equipment List/Matrix into one computerized spreadsheet (with multiple tabbed sheets) that Contractor updates as the Project progresses.
- 1.6.1.4 The Equipment List/Matrix shall identify all operable devices and equipment grouped by the Construction Specification Institute (CSI) Master Format under the system they are primarily categorized under. When sorted by the column for system identification, the resulting printout must identify all system components, regardless of whether they are mechanical, electrical, or otherwise.

1.6.1.5 Contractor shall submit the Equipment List/Matrix in its entirety prior to the first pre-commissioning meeting. The Equipment List/Matrix shall include the following data, as a minimum, for each device, and shall provide for additional columns containing subsequent data requirements as follows.

1.6.1.5.1 Specification section.

1.6.1.5.2 Room Number: Owner's Wayfinding Codes from Owner's Space Management database referring to room number or building location.

1.6.1.5.3 Equipment Plan Designation: Equipment Naming Convention (equipment acronym and sequential number) from Contract Documents.

1.6.1.5.4 Owner's asset number from Owner's maintenance database.

1.6.1.5.5 Description: Further detail including more definitive description and identification of duplicate assets, if available.

Service: Building area or type or system that the equipment serves.

1.6.1.5.6 Product submittal reference number(s) and projected time of original submission of device or system.

1.6.1.5.7 Product submittal approval date.

1.6.1.5.8 Name of installing Subcontractor.

1.6.1.6 Contractor shall provide the final Equipment List/Matrix for each device or system as an attachment to the Contractor's submission of the Request for Start-Up/Functional Performance Test Form for requesting Start-up and Functional Performance Test of particular devices or systems. The final Equipment List/Matrix shall include all data noted above; including any necessary corrective updates to the data, and shall also provide the following new data in distinct columns:

1.6.1.6.1 Equipment manufacturer's representative (Vendor).

1.6.1.6.2 Equipment manufacturer's representative (Vendor) phone number.

1.6.1.6.3 Equipment manufacturer, model number, and serial number.

1.6.1.6.4 Vendor's P.O. number.

1.6.1.6.5 Date of initial equipment or device start-up by the Contractor.

1.6.1.6.6 Substantial Completion date.

1.6.1.6.7 Manufacturer's warranty start date.

1.6.1.6.8 Manufacturer's warranty duration period.

1.6.1.6.9 Functional Performance Test approval date.

1.6.1.6.10 Integrated Systems Test approval date.

1.6.2 Request for Start-Up/Functional Performance Test Form:

- 1.6.2.1 Contractor must use Owner's Request for Start-Up/Functional Performance Test Form to request: (1) to initially energize or operate equipment and systems; and (2) an inspection of any system or system component for readiness prior to Functional Performance Tests. Contractor must complete the appropriate section of Owner's Request for Start-Up/Functional Performance Test Form.
 - 1.6.2.1.1 Request for Start-up. Contractor must certify that: (1) electrical and mechanical connections have been installed and are safe for initial Start-up; (2) Contractor has complied with Owner's outage notifications; and (3) Start-up will not harm Owner's daily routine operations.
 - 1.6.2.1.2 Request for Functional Performance Test. Contractor must certify that the Contractor has verified that the installation, Start-up, Prefunctional Checklists, and initial operation of the system or component are in accordance with the Contract Documents and the Commissioning Plan including manufacturer's instructions, manufacturer's requirements for maintenance of warranty, and verification that the system is ready for Functional Performance Tests. Contractor must certify that the manufacturer's representative has verified that the installation, start-up, and initial operation of the system or component are in accordance with the manufacturer's published recommendations.
- 1.6.2.2 Contractor shall attach to the Request for Start-Up/Functional Performance Test Form the applicable Prefunctional Checklist(s) completed and signed by Contractor, evidencing Contractor's own thorough inspection of the system and completion of start-up activities required by the Contract Documents and the Commissioning Plan.
- 1.6.2.3 Contractor must obtain Owner's signature on the Request for Start-Up/Functional Performance Test Form prior to proceeding with the Start-up or Functional Performance Test.

1.8 PREFUNCTIONAL CHECKLIST

- 1.8.1 Contractor shall provide a Prefunctional Checklist for each system to Owner and Architect/Engineer for review.
 - 1.8.1.1 The Prefunctional Checklist shall identify in columnar format each device, location, test method, control sequence of operation reference, device code reported, and other data as appropriate.
 - 1.8.1.2 Contractor shall provide a draft version of each Prefunctional Checklist at a pre-installation meeting for the system. Based on discussions at a preinstallation meeting and subsequent as-built conditions, Contractor shall amend and revise each Prefunctional Checklist as appropriate prior to requesting system inspection from the Owner.
 - 1.8.1.3 Contractor shall provide the final approved Prefunctional Checklist as an attachment to the Request for Start-Up/Functional Performance Test Form.
- 1.8.2 In addition to the Request for Start-Up/Functional Performance Test Form, Contractor shall review the installation and Contract Documents for each system and shall provide written confirmation of the following.
 - 1.8.2.1 All required test reports and/or certifications have been submitted and accepted by Owner. If required, Contractor must provide certification of acceptance from manufacturer's representative.

- 1.8.2.2 Evidence that Architect/Engineer has approved all shop drawings and product data submittals for each component device.
- 1.8.2.3 All valve charts, wiring diagrams, control schematics, electrical panel directories, etc. have been submitted, approved, and installed in accordance with the Contract Documents.
- 1.8.2.4 All tabulated data has been submitted for each system and/or device.
- 1.8.2.5 Each component device has been installed in accordance with applicable codes, the Contract Documents, and manufacturer's written recommendations.

1.9 COMMISSIONING AND CLOSEOUT MANUAL

- 1.9.1 Contractor shall incorporate all Commissioning and closeout documentation and/or verification into a Commissioning and Closeout Manual for the Owner as specified in Section 01 77 00 – Project Closeout Procedures.
- 1.9.2 The Commissioning and Closeout Manual submitted to Owner must contain all documentation related to the Commissioning process, including but not limited to: Prefunctional Checklists, calibrations, all related correspondence, Functional Performance Test Procedures and results, Integrated Systems Test Procedures and results, Deficiency reports, data trends, punchlists, and signoffs.

PART 2 - PRODUCTS

2.1. TEST EQUIPMENT

- 2.1.1. Contractor shall provide all specialized tools, test equipment and instruments required to execute start-up, checkout, and testing of equipment.
- 2.1.2. All specialized tools, test equipment and instruments required to execute start-up, checkout, and testing of equipment shall be of sufficient quality and accuracy to test and/or measure system performance within specified tolerances. A testing laboratory must have calibrated test equipment within the previous twelve (12) months. Calibration shall be NIST traceable. Contractor must calibrate test equipment and instruments according to manufacturer's recommended intervals and whenever the test equipment is dropped or damaged. Calibration tags must be affixed to the test equipment or certificates readily available.

PART 3- EXECUTION

3.1. PRE-COMMISSIONING MEETING

- 3.1.1. Contractor shall submit the Commissioning Plan to Owner at least ninety (90) calendar days prior to initial installation of materials or equipment that will undergo Start-up and Functional Performance Tests, or as otherwise approved by Owner.
 - 3.1.1.1. Contractor shall allow a minimum of twenty-one (21) calendar days after Owner's receipt of the Commissioning Plan for Owner to submit initial review comments to Contractor.
 - 3.1.1.2. Contractor shall incorporate Owner's initial review comments and resubmit the revised Commissioning Plan to Owner within fourteen (14) calendar days of receipt of Owner's initial review comments.

- 3.1.1.3. Contractor shall allow in the Project Schedule an additional fourteen (14) calendar days for Owner's approval of the resubmitted Commissioning Plan that incorporates Owner's initial review comments.
- 3.1.2. Upon obtaining Owner's approval of the Commissioning Plan, Contractor shall schedule, plan, and conduct a Pre-Commissioning Meeting with all parties involved in the Commissioning process. This meeting should include the major subcontractors, specialty manufacturers/suppliers, Architect/Engineer, Test, Adjust, and Balance Firm, and Owner's representatives as participants.
- 3.1.3. Contractor shall prepare for the Pre-Commissioning Meeting by creating drafts of the following documents with input from the Owner.
 - 3.1.3.1. Approved Commissioning Plan including the Equipment List/Matrix and the Closeout and Documentation Matrix and defined in Section 01 77 00 – Project Closeout Procedures.
 - 3.1.3.2. Project Schedule incorporating Commissioning activities.
 - 3.1.3.3. Prefunctional Checklists.
 - 3.1.3.4. Functional Performance Test Procedures.
 - 3.1.3.5. Integrated System Test Procedures.
- 3.1.4. Contractor shall conduct the Pre-Commissioning Meeting and review all aspects of the Commissioning Plan. All documentation will be discussed and all test procedures and forms reviewed for approval with the Owner. Contractor shall prepare an outline noting responsibilities of the various parties involved in the Commissioning process for review at this meeting.
- 3.1.5. The Commissioning Plan shall be reviewed with all attendees and the scope of work discussed. Contractor should be prepared to distribute copies of the pertinent sections to the various subcontractors involved in the Commissioning process.
- 3.1.6. Contractor shall present Commissioning target dates for the Project. These dates and durations shall be incorporated in the Project Schedule in accordance with Section 01 32 00 – Project Planning and Scheduling.
- 3.1.7. Contractor shall provide updates to the Project Team on the Commissioning process during all Project Progress Meetings.
- 3.2. REPORTING
 - 3.2.1.1. Contractor shall provide status reports to Owner at frequencies directed by Owner.
 - 3.2.1.2. Contractor shall communicate at least monthly with all members of the Commissioning Team, keeping them apprised of Commissioning progress and scheduling changes.
 - 3.2.1.3. Contractor shall submit non-conformance and Deficiency reports to Owner within five (5) calendar days of the non-conformance or Deficiency occurrence.
 - 3.2.1.4. Contractor shall provide final Commissioning documentation to Owner in accordance with Section 01 77 00 – Project Closeout Procedures, which will become part of the Commissioning and Closeout Manual.
- 3.3. INITIAL START-UP

3.3.1. Start-up of Independent Devices:

- 3.3.1.1. Prior to Start-up, Contractor shall not energize or activate, or allow to be energized or activated, any operable device until Contractor has verified to Contractor's own satisfaction that all Contract Document requirements for the operable device have been met, other than the requirements relating to operational checkout.
- 3.3.1.2. Contractor may energize and/or start-up independent devices for operational check-out and testing only after Contractor and manufacturer's representative and/or engineering technician (if required by the Contract Documents) have inspected and accepted the installation. The installation must not vary from provisions of the applicable Specifications and the manufacturer's written recommendations for Start-up.
- 3.3.1.3. When Start-up of equipment or systems have the potential to impact Owner's daily operations, Contractor must provide advance notice to Owner prior to Start-up. Contractor may not proceed with Start-up without the Owner's written approval.

3.3.2. Start-up of Building Systems:

- 3.3.2.1. Contractor shall not energize or activate any building system until the following conditions have been met:
 - 3.3.2.1.1. Contractor has verified that all wiring and support components for equipment are complete and have been tested in accordance with the technical specifications and/or the manufacturer's written recommendations.
 - 3.3.2.1.2. Contractor has verified that each component device has been checked for proper lubrication, vibration isolation, drive rotation, belt tension, control sequence, or other conditions that may cause damage.
 - 3.3.2.1.3. Contractor has verified that all tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer and are in compliance with applicable Contract Documents.
 - 3.3.2.1.4. Contractor has provided the Owner and Architect/Engineer with a written seven (7) calendar day notice of intent to start-up the system for operational check-out. The Request for Start-Up/Functional Performance Test Form without attachments shall be used for this notification.
- 3.3.2.2. Contractor shall perform Start-up under supervision of the responsible manufacturer's representative in accordance with manufacturer's instructions and specification requirements.
- 3.3.2.3. Contractor shall coordinate and schedule system(s) Start-up in a timely manner so that each component or system can operate for a period of time that is sufficient to evaluate and adjust performance as necessary. All building systems shall be operational and must have been successfully inspected by Owner's representatives, through attendance and concurrence with results of the Prefunctional Checklists or as otherwise approved by Owner, prior to the Contractor proceeding with Functional Performance Tests.
- 3.3.2.4. Contractor shall clearly list outstanding items on initial Start-up and Prefunctional Checklists not completed successfully. Contractor shall obtain from Subcontractor completed forms documenting any outstanding Deficiency within five (5) calendar days of completion of such test procedures.

- 3.3.2.5. Contractor shall review completed Deficiency forms to determine if outstanding items prevent the Functional Performance Tests.
- 3.3.2.6. Owner may backcharge Contractor for any incomplete Prefunctional Checklist or Deficiency that subsequently causes delays during Functional Performance Test.

3.4. FUNCTIONAL PERFORMANCE TESTS

3.4.1. Objective and Scope:

- 3.4.1.1. The objective of a Functional Performance Test is to demonstrate that each system operates according to the Contract Documents.
- 3.4.1.2. Contractor shall operate each system through all modes of operation (occupied, unoccupied, warm-up, cool-down, etc.) for specified system responses. Contractor is required to demonstrate to Owner's satisfaction each operational sequence.

3.4.2. Development of Functional Performance Test Procedures:

- 3.4.2.1. The purpose of a Functional Performance Test is to verify and document compliance with the stated criteria of acceptance. Contractor shall develop specific script-type test procedures and associated test forms to verify and document proper operation of each piece of equipment and system.
- 3.4.2.2. Contractor shall prepare Functional Performance Test Procedure forms as part of the Commissioning Plan.
- 3.4.2.3. Functional Performance Test Procedure forms must include the following.
 - 3.4.2.3.1. System and equipment or component name(s).
 - 3.4.2.3.2. Equipment location and identification number as identified in the Equipment List/Matrix.
 - 3.4.2.3.3. Unique test identification number and reference to unique Prefunctional Checklist and Start-up documentation identification numbers for the equipment.
 - 3.4.2.3.4. Date and time of test.
 - 3.4.2.3.5. Project name.
 - 3.4.2.3.6. Participating parties.
 - 3.4.2.3.7. Specific sequence of operation or other specified parameters, including performance data being verified.
 - 3.4.2.3.8. Instructions for setting up a Functional Performance Test.
 - 3.4.2.3.9. Specific script-type, step-by-step procedures to perform a Functional Performance Test, in a clear, sequential and repeatable format that is customized for the system being tested.
 - 3.4.2.3.10. A Yes/No checkbox (or data entry box as appropriate) for clearly indicating whether or not proper performance of each part of a Functional Performance Test was achieved and space for actual readings.

3.4.2.3.11. Section for comments.

3.4.2.3.12. Signatures and date block for participants and Owner approvals.

3.4.3. Contractor shall operate, or cause to be operated, each system, device, or equipment item, both intermittently and continuously, for a duration period as indicated in the Specification Section(s) for each item and/or in accordance with the manufacturer's written recommendations, the Contract Documents and the Commissioning Plan.

3.4.4. Contractor shall operate each component device and each building system to the full extent of its capability, from minimum to maximum, and under automatic control and manual control.

3.4.5. Contractor and manufacturer's representatives shall supervise and coordinate adjustments and balancing of all devices and systems for proper operation prior to requesting a Functional Performance Test(s).

3.4.5.1. Where final balancing of a system is to be performed by Owner or Owner's consultants, such as final air balancing, Contractor shall provide all services indicated in the applicable Technical Sections and under this Section including the following prior to Owner's final balancing.

3.4.5.1.1. Operational verification of all component devices and the total system, including automatic controls when applicable. Operational verification includes verification that all motors, fans, dampers, and other operable devices are performing in compliance with Specifications throughout their operable range and that all devices are controlled as described in the specified sequence of operation.

3.4.5.1.2. All tabulated data, motor amperage readings, valve tag verifications, and other data required by Technical Specifications.

3.4.5.2. Where final balancing of a system or particular components of a system are not specifically indicated to be performed by Owner or Owner's consultants, Contractor shall provide final balancing and adjustments for operation within specified tolerances prior to Functional Performance Test of such system.

3.4.6. Coordination and Scheduling.

3.4.6.1. Owner may observe Functional Performance Tests of equipment components and systems. Contractor shall provide written notice to Owner at least seven (7) calendar days prior to Functional Performance Tests of equipment components and systems. Contractor shall notify Owner in advance of any changes to the Functional Performance Test schedule. Owner may require Contractor to reschedule Functional Performance Tests to ensure availability of Owner's representative(s).

3.4.6.2. Contractor conducts Functional Performance Tests after system Start-up and Pre-functional Checklists are satisfactorily completed and approved by Owner. Air balancing and water balancing shall be completed before Functional Performance Tests.

3.4.6.3. Contractor conducts Integrated System Tests after Functional Performance Tests are satisfactorily completed and approved by Owner. Owner's representative(s) may observe Integrated System Tests.

3.5. INTEGRATED SYSTEM TESTS

3.5.1. Objective and Scope:

- 3.5.1.1. The objective of an Integrated System Test is to demonstrate that each system operates jointly and independently of other systems according to the Contract Documents.
- 3.5.1.2. Contractor shall operate each system, jointly and independently of other systems, through selected modes of operation (occupied, unoccupied, warm-up, cool-down, etc.) for specified system responses. Contractor is required to demonstrate to Owner's satisfaction each operational sequence.
- 3.5.2. Development of Integrated System Test Procedures:
 - 3.5.2.1. The purpose of an Integrated System Test is to verify and document compliance with the stated criteria of acceptance. Contractor shall develop specific script-type test procedures and associated test forms to verify and document proper operation of each piece of equipment and system, jointly and independently of other systems.
 - 3.5.2.2. Contractor shall prepare Integrated System Test Procedure forms as part of the Commissioning Plan.
 - 3.5.2.3. Integrated System Test Procedure forms must include the following.
 - 3.5.2.3.1. System and equipment or component name(s).
 - 3.5.2.3.2. System and equipment location and identification number as identified in the Equipment List/Matrix.
 - 3.5.2.3.3. Unique test identification number and reference to unique Prefunctional Checklist, Start-up documentation, and Functional Performance Test identification numbers for the system and equipment.
 - 3.5.2.3.4. Date and time of test.
 - 3.5.2.3.5. Project name.
 - 3.5.2.3.6. Participating parties.
 - 3.5.2.3.7. Specific sequence of operation or other specified parameters, including performance data being verified.
 - 3.5.2.3.8. Instructions for setting up an Integrated System Test.
 - 3.5.2.3.9. Specific script-type, step-by-step procedures to perform an Integrated System Test, in a clear, sequential and repeatable format that is customized for the system being tested.
 - 3.5.2.3.10. A Yes/No checkbox (or data entry box as appropriate) for clearly indicating whether or not proper performance of each part of an Integrated System Test was achieved and space for actual readings.
 - 3.5.2.3.11. Section for comments.
 - 3.5.2.3.12. Signatures and date block for participants and Owner approvals.
- 3.5.3. Contractor shall operate, or cause to be operated, each system, device, or equipment item, both intermittently and continuously, for a duration period as indicated in the Specification Section(s) for each item and/or in accordance with the manufacturer's written recommendations, the Contract Documents and the Commissioning Plan.

3.5.4. Coordination and Scheduling.

- 3.5.4.1. Owner may observe Integrated System Tests of equipment components and systems. Contractor shall provide written notice to Owner at least fourteen (14) calendar days prior to Integrated System Tests of equipment components and systems. Contractor shall notify Owner in advance of any changes to the Integrated System Test schedule. Owner may require Contractor to reschedule Integrated System Tests to ensure availability of Owner's representative(s).
- 3.5.4.2. Contractor conducts Integrated System Tests after Functional Performance Tests are satisfactorily completed and approved by Owner. Owner's representative(s) may observe Integrated System Tests.

3.6. DOCUMENTATION AND NON-CONFORMANCE

3.6.1. Documentation:

- 3.6.1.1. Contractor shall witness and document the results of all Functional Performance Tests and Integrated Systems Tests using specific procedural forms developed for that purpose. Prior to testing, Contractor shall submit these forms to the Owner for review and approval. Contractor will include the completed, filled-out forms in the Commissioning and Closeout Manual.

3.6.2. Non-Conformance:

- 3.6.2.1. Contractor shall record results of Functional Performance Tests and Integrated System Tests. Contractor shall report all deficiencies and non-conformance issues to Owner on the Functional Performance Test form and the Integrated Systems Test form and in a Commissioning Deficiency report.
- 3.6.2.2. At the sole discretion of Owner, Owner may permit Contractor to make corrections of minor deficiencies observed during a Functional Performance Test or during an Integrated System Test. However, the Contractor must document the Deficiency and resolution on the appropriate report form.
- 3.6.2.3. Contractor shall make every effort to expedite testing and minimize unnecessary delays, while not compromising the integrity of a Functional Performance Test or an Integrated Systems Test.
- 3.6.2.4. Contractor and Owner will attempt to resolve deficiencies in the following manner.
 - 3.6.2.4.1. When there is no dispute about a Deficiency and Contractor accepts responsibility for correction.
 - 3.6.2.4.1.1. Contractor documents the Deficiency and the corrective actions, and then proceeds to another test or sequence. Contractor submits a Deficiency report to Owner. Contractor corrects the Deficiency, completes the statement of correction form certifying that the equipment or system is ready for retesting, and sends the certification to Owner.
 - 3.6.2.4.1.2. Contractor reschedules test with Owner.
 - 3.6.2.4.2. When there is a dispute about whether or not the test indicates a Deficiency, or the Contractor's responsibility for the correction of the apparent Deficiency.

- 3.6.2.4.2.1. Contractor documents the apparent Deficiency and proceeds to another test or sequence. Contractor submits a Deficiency report to Owner, including the apparent Deficiency.
- 3.6.2.4.2.2. Contractor facilitates resolution of Deficiency and provides recommendations to the Owner. Contractor and Owner may bring other parties into the discussions as needed. Final technical interpretive authority is with the Architect/Engineer. Final acceptance authority is with the Owner.
- 3.6.2.4.2.3. Contractor documents resolution process.
- 3.6.2.4.2.4. If Owner agrees with Contractor's interpretation and proposed resolution, Contractor forwards response to Owner. Contractor reschedules test with Owner. Contractor must repeat this process until satisfactory performance and Owner's approval is obtained.

3.7. DEMONSTRATION AND OWNER TRAINING

- 3.7.1. Contractor shall conduct classroom-style training session followed by on-site demonstrations of system operation. Refer to Technical Specification Sections and Contract Documents for training requirements. When equipment or a system requires both demonstration and training, Contractor may combine the demonstration and training provided that the Contractor obtains the Owner's approval at least ten (10) calendar days prior to the demonstration and training.
- 3.7.2. Contractor shall furnish to the Owner a professional quality video and audio recording of the training. Owner may select portions of the training to be recorded.
- 3.7.3. Contractor shall coordinate, schedule and complete the training related to all equipment specified in the Contract Documents. Contractor may utilize the installing subcontractor and/or manufacturers' representative or others approved in advance by Owner for specific portions of equipment or systems training. Contractor shall conduct multiple training sessions as required to adequately train Owner's staff.
- 3.7.4. Contractor shall submit a written training plan to the Owner and Architect/Engineer for review and approval. Contractor's training plan shall cover the following elements.
 - 3.7.4.1. Equipment included in training.
 - 3.7.4.2. Intended audience.
 - 3.7.4.3. Location of training.
 - 3.7.4.4. Objectives.
 - 3.7.4.5. Subjects covered.
 - 3.7.4.6. Duration of training on each subject.
 - 3.7.4.7. Instructor for each subject.
 - 3.7.4.8. Methods (classroom lecture, video, Site walk-through, actual operational demonstrations, written handouts, etc.).
 - 3.7.4.9. Instructors and qualifications.

- 3.7.5. Contractor shall use Operating and Maintenance Manuals and the Equipment List/Matrix as a basis for instructing Owner's staff regarding system operation. Contractor shall review contents of Operating and Maintenance Manuals and review equipment data and performance verification to Owner as part of Owner training. This instruction and data review should be held in a classroom environment.
- 3.7.6. Contractor shall demonstrate in the field: start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of the system(s) and each component device.
- 3.7.7. Contractor shall demonstrate system performance at each stage of sequence of operation. Contractor shall promptly correct any deficiencies noted during the demonstration and document on a Deficiency report.
- 3.7.8. Contractor shall cooperate with Owner and Owner's Test, Adjust, and Balance Firm for verification testing and final adjustments and balancing as may be indicated in the Contract Documents or as directed by Owner.
- 3.7.9. As a minimum, Contractor shall perform training on all systems including, but not limited to, the following (as applicable to the Project):
 - 3.7.9.1. Heating, Ventilating, and Air Conditioning Airside and Waterside Systems.
 - 3.7.9.2. Building Automation System.
 - 3.7.9.3. Life Safety Systems (including Fire Alarm, Stairwell Pressurization, Fire Protection, and Smoke Containment, Control, and Response System).
 - 3.7.9.4. Elevators/Escalators.
 - 3.7.9.5. Refrigeration Systems.
 - 3.7.9.6. Lighting Control Systems.
 - 3.7.9.7. Communications Systems (including Network, Data, Nurse Call)
 - 3.7.9.8. Emergency Power and Uninterruptible Power Supply (UPS) Systems.
 - 3.7.9.9. Domestic and Process Water Systems.
 - 3.7.9.10. Medical Gas and Vacuum Systems.
 - 3.7.9.11. Laboratory Gas and Vacuum Systems.
 - 3.7.9.12. Any other major system not identified above.

3.8. DEFERRED TESTS

3.8.1. Deferred Tests:

- 3.8.1.1. Contractor shall complete Deferred Tests as part of this Contract during the warranty period. Contractor shall schedule this activity with Owner. Contractor shall perform tests and document and correct deficiencies. Owner may observe the tests and review and approve test documentation and Deficiency corrections.
- 3.8.1.2. Contractor shall incorporate final updates to the Commissioning and Closeout Manual.

- 3.8.1.3. If any check or test cannot be completed prior to Substantial Completion due to the building structure, required occupancy condition, or other condition, performance of such test may be delayed to later in the warranty period, upon approval of the Owner. Contractor shall reschedule and conduct these unforeseen deferred tests in the same manner as Deferred Tests.

3.9. COMMISSIONING DOCUMENTATION

- 3.9.1. Contractor shall compile and organize the Commissioning and Closeout Manual, and deliver the Commissioning and Closeout Manual to Owner. The Commissioning and Closeout Manual must include the following:

- 3.9.1.1. The Commissioning Plan within the Commissioning and Closeout Manual must include an executive summary, list of participants and roles, brief building description, overview of commissioning and testing scope and general description of testing and verification methods. The Commissioning Plan shall address methodology for documentation of equipment and system operational performance in the following areas: 1) Conformance to Contract Documents, 2) Equipment Installation, and 3) Prefunctional Checklist, Functional Performance Tests, and Integrated System Tests.
- 3.9.1.2. Specifically list all outstanding non-compliance items. Recommendations for improvement to equipment or operations, future actions, etc. shall also be listed. Each non-compliance issue shall be referenced to the specific Functional Performance Test or Integrated System Test where the Deficiency is documented.
- 3.9.1.3. Project Commissioning schedules with Commissioning milestone activities and Equipment List/Matrix.
- 3.9.1.4. Request for Start-Up/Functional Performance Test Forms with all attachments.
- 3.9.1.5. Completed Prefunctional Checklists and Prefunctional test results, Functional Performance Tests, Integrated System Tests, and Owner Demonstration test records and results of each.
- 3.9.1.6. Owner training attendance.
- 3.9.1.7. Deficiency reports and solution results.
- 3.9.1.8. Recommendations on continuous Commissioning, best practices, and preventive maintenance.

- 3.9.2. Contractor shall submit the Commissioning and Closeout Manual to Owner on paper and in original electronic file format as described in Section 01 77 00 – Project Closeout Procedures.

ATTACHMENTS:

“A” - Equipment List/Matrix

END OF SECTION 01 91 00

Download an electronic version of this spreadsheet to use as a template for submittal purposes at:
[HTTP://WWW2.MDANDERSON.ORG/DEPTS/CPM/STANDARDS/SUPP.HTML](http://www2.mdanderson.org/depts/cpm/standards/supp.html)

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EXHIBIT C – CPM No. 06-0076
ALLOWABLE GENERAL CONDITION LINE ITEMS

On-Site Project Management Staff

Safety Coordinator/Assistant(s)
Project Executive
Office Engineer(s)
Project Expeditor(s)
Assistant Superintendent(s)

CPM Scheduler
Superintendent(s)
Project Manager(s)
Project Support Staff
Out-of-State Project Specific Travel*

Bonds and Insurance

Builder's Risk Insurance
General Liability Insurance (unless ROCIP)
Payment and Performance Bonds
Other Project Insurance as Required by Contract

Temporary Project Utilities

Dumpsters
Project Electricity
Monthly Telephone /Internet Service
Street Rental and Barricades
Fencing and Covered Walkways
Temporary Water Distribution and Meters
Temporary Electrical Distribution and Meters
Site Erosion Control (BMP) and Project Entrance(s)

Project Water
Temporary Toilets
Temporary Fire Protection
Telephone / Internet System Installation

Field Offices & Office Supplies

Partnering Costs
Job Photos/Videos
Project Specific Signage
Postage/Special Shipping
Project/As-Built Drawings
Project Milestone Event(s)*
Move-In/Out and Office Setup
Employee Identification System
Small Tools and Storage Trailers
Monthly Office Trailer Rental Costs
Mobilization and Demobilization (Equipment Only)

First Aid Supplies
Reproduction Services
Monthly Office Supplies
Remote Parking Expenses
Project Reference Manuals
Security System/Watchman
Safety Material and Equipment
Drinking Water and Accessories
Office Clean-Up/Janitorial Services

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

EXHIBIT D
GUARANTEED MAXIMUM PRICE PROPOSAL

The Construction Manager hereby submits to MD Anderson Cancer Center pursuant to the provisions of Article VII of the Agreement by and between Owner and _____ dated _____, 2009 (the Agreement”), a Guaranteed Maximum Price (GMP) for the _____ Project, CPM Project Number _____, as defined in the Agreement), based on the Contract Documents (as defined by the Agreement) developed for the Project, as follows:

1. A not-to exceed amount for the Cost of the Work pursuant to the Agreement: \$ _____
2. A not-to exceed amount for the General Conditions pursuant to the Agreement: \$ _____
3. A not-to exceed amount for the Construction Manager’s Contingency pursuant to the Agreement: \$ _____
4. A lump sum amount for the Construction Phase Fee pursuant to the Agreement: \$ _____
5. Owner’s Special Cash Allowance provided by the Owner: \$ _____
6. Owner’s Construction Contingency provided by the Owner. This is a lump sum amount from which changes are to be paid in accordance with the Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts. Any unused amount will be deducted from the Guaranteed Maximum Price by Change Order: \$ _____
7. TOTAL OF GMP LINE ITEMS 1 THROUGH 6: \$ _____

This figure shall be the Guaranteed Maximum Price (GMP), which we hereby guarantee to the Owner.

GUARANTEED MAXIMUM PRICE PROPOSAL SIGNATURE PAGE
(Continuation of Exhibit D)

Corporations/LCC's: Attest:

(Vendor Name)

Corporate Secretary

By:

(original signature)

(name and title typed)

Other business forms: Witness:

Date:

(SEAL)

CONTENT APPROVED:

THE UNIVERSITY OF TEXAS
MD ANDERSON CANCER CENTER
(Owner)

Office of Vice President
Operations and Facilities Management

By: _____
(original signature)

By: _____
(original signature)

Name: William A. Daigneau
Title: Vice President, Operations and Facilities

Name: Dwain Morris
Title: Vice President and Chief Financial Officer

Date: _____

Date: _____

ATTACHMENT 1 TO EXHIBIT D

GUIDELINES FOR THE PREPARATION OF THE GUARANTEED MAXIMUM PRICE PROPOSAL

1. CONTRACT REQUIREMENTS:

The provisions of the GMP are defined here and other related requirements are included throughout the Agreement. In the event of irreconcilable conflict between the GMP Proposal and the Agreement, the interpretation that provides for the higher quality of material and/or workmanship shall prevail.

The GMP Proposal shall adopt and incorporate all of the terms and conditions of the Agreement. Any exceptions to or modifications of such terms and conditions proposed shall not be effective unless they are expressly stated and conspicuously identified in the GMP Proposal and are specifically accepted and approved by the Owner. In general, proposed revisions or modifications to the language, terms or conditions of the Agreement will not be accepted.

2. PRE SUBMITTAL REQUIREMENTS:

- A. Scope Definition: Prior to GMP submittal, the Contractor shall thoroughly review the GMP construction document package with the Owner and determine if the scope is sufficiently defined and identify those areas requiring additional scope definition. As a minimum the following should be defined: Program building size, site limits and access, utility systems (existing and new), complete building systems descriptions, materials outline by division, MEP systems descriptions including materials, MEP system options shall be defined and accepted. Refer to the section "PDRI For Buildings" which is an attachment to the Agreement for additional guidelines. The PDRI checklist must be completed at this time.
- B. Schedule: The anticipated Notice To Proceed and Substantial Completion dates shall be coordinated and approved by the Owner.
- C. Value Engineering: Proposed value engineering items included in the GMP shall be updated from previously submitted value engineering and should reflect the "final acceptance" of VE items, which are part of the scope of work. The VE schedule shall identify current acceptance and the date of acceptance in an adjacent column. VE items must be resolved and accepted by the Owner prior to GMP submittal.
- D. Pre-submittal Conference: The Contractor shall schedule a conference with the Project Manager no later than six (6) weeks prior to submitting the GMP to the Owner. Issues regarding the required materials to be included in the GMP should be reviewed so that there is a clear understanding of the format and contents of each division of work to be submitted. The Contractor shall obtain a copy of the "Owner Standard Schedule of Values Format" from the Project Manager. Additionally, a review of acceptable "General Condition" items, as defined in the Agreement, is required.

3. CONSOLIDATION OF REVIEW COMMENTS:

The Owner and the Owner's Consultants shall provide review comments. The Contractor shall consolidate all responses to those groups into TAB 9 of the document. Each owner comment

shall have a corresponding answer directly below the original comment. A reply to each owner comment is required even if only a clarification is required. Each reply shall state where in the GMP Proposal the corresponding information may be located.

4. GENERAL REQUIREMENTS;

The GMP Proposal shall be submitted at the phase specified by the Owner. The GMP Proposal shall be submitted in the format described below. Proposals substantially deviating from the organization's format will be returned to the Contractor for re-submittal. Proposals not in compliance with the format, which result in substantial delay, will be the responsibility of the Contractor and may not extend the construction duration or substantial completion date.

5. MULTIPLE GMP'S:

In order to expedite the project schedule, the Owner and Contractor may execute multiple GMP Proposals (stages), which shall be incorporated into the contract through a change order to the previous approved GMP Proposal(s), identified in Article 7. The requirements for this method shall be identical to the requirements for the first GMP submittal/approval process.

6. GMP PROPOSAL PACKAGE

The GMP Proposal shall be bound in 3-ring notebook or spiral notebook and entitled "Guaranteed Maximum Price Proposal". Below it the following items shall be shown:

- Submittal number (i.e. Submittal #1)
- Date of Submittal
- CPM Project Name
- Campus/Institution Name
- CPM Project Number

Since several submittal revisions may be submitted, always state which submittal number is currently being submitted.

All pages within each tab shall be numbered.

The proposal shall be organized in the order described below:

TABLE OF CONTENTS

- List all the following items. Provide a brief summary of the major components within each Tab.

TAB 1 – Guaranteed Maximum Price Proposal (Exhibit D)

- Refer to the GMP Proposal document attached to this Exhibit. Type in the cost amounts and sign, attest, date and seal the form.
- In addition to the bound notebooks, provide two (2) loose original executed copies. (Do not bind into spiral notebooks.)
- Do not alter any language from the original document without prior approval from the Contract Manager.
- Do not electronically alter the document.
- Each line item cost must exactly match the corresponding cost summary shown on the TAB 6 GMP Proposal Cost Breakdown.
- Provide a Corporate Resolution or Articles of Organization, stating individual's authorization to execute contracts on behalf of the corporation, for any individual signing the GMP, who is not the President or CEO of the firm.

TAB 2 - Executive Project Summary

- State any amended services or scope changes included in the Proposal.
- Provide a brief project summary defining the scope of work associated with the construction phase of work included in this GMP Proposal.
- Include the description of building type, size, character and general materials.
- Summarize any relationship with existing structures, unusual site conditions, utility issues, or conditions effected by other governmental agencies (i.e. right-of-way issues)
- State the anticipated Notice to Proceed date and Substantial Completion date.

TAB 3 - Project Team

- List the various teams and the team members, in graphic and written form, including names, titles, job responsibilities, and contact information. Identify the Project Safety Specialist and their duties. If Project Safety Specialist has changed from the individual approved in the RFQ, please identify the change in a statement on a separate page.
- Identify all consultants.

TAB 4 - List of Documents

- Drawings Index – provide detailed listing of each sheet number, sheet title, original date of drawing, revised date of drawing
- Specification Index:

- Provide a detailed listing of each specification section required by the Owner as identified in the Agreement (see the Exhibit for “Owner’s Specifications”)
- Provide a detailed listing of all other spec sections describing the project.
- Specifications shall be organized by CSI Division format. State the name, original date of issue, and a column for revision date.

TAB 5 - Qualifications and Value Engineering

- Qualifications – A summary of all qualifications and assumptions organized by drawing sheet number or by specification sections to match those in TAB 4.
- Exclusions – A summary of exclusions organized by drawing sheet number or by specification section.
- Substitutions – A summary of substitutions to materials or systems described by drawing sheet number or by the specifications listed in TAB 4. Organize by specification section.
- Value Engineering Recommendations - List all items proposed to date and for each item identify if the item is accepted by the Owner and included in the GMP. State the date of acceptance. In addition identify those VE items not currently accepted. State if the price is good for a limited time period.
- Alternates List. State the amount of each alternate and the last date in which the price is good in the event the alternate is not currently included in the GMP price.

TAB 6 - GMP Proposal Cost Breakdown

- Provide an Estimated Construction Cost breakdown on the Owner Standard Schedule of Values Format for Cost of the Work based on anticipated subcontracts organized by CSI Division format, General Conditions per exhibit, Contractor’s Contingency, Construction Phase Fee, any Owner’s Special Cash Allowance and/or Owner’s Construction Contingency as identified by the Owner.

The U.T. System Schedule of Values - Contractor's Estimate Continuation Sheet (8 1/2" x 11" Sheet ONLY)															
OFRC Project No.:								Project Address:							
OFRC Project Name:								Application For Payment Number:							
CM-ROB Name:								Application Period: From To							
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
CSI Section / Work Breakdown Structure	Description of Work / Subcontractor Name / Specification Section	Initial Proposed Line Item Value	Actual Subcontract Amount at Buyout	Contingency Allocation	Delta (Proposal to Actual)	Subcontract, Purchase Order or Vendor No.	Detailed Breakdown of Contract Line Items	Total Amount Previously Requested & Percent		This Period Amount & Percent	Total Amount Completed To Date & Percent				Balance to Finish Including Retainage
Column Equations		C'	C'	C' - D + E			D'	M'	N'	M - I	K / H	I + K	M / H	H - (M x 93%)	
Preconstruction (Part I) Services															
	Programming	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	N/A	
	Schematic Design	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	N/A	
	Design Development	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	N/A	
	Contract Documents	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	N/A	
	Bidding	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	N/A	
	Owner's Special Cash Allowance	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	N/A	
	Preconstruction (Part I) Services Subtotal	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	N/A	
Construction (Part II) Services															
General Conditions (Breakdown per Exhibit I)															
	Project Management	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Bonds & Insurance	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Temporary Utilities	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Field Office & Construction Supplies	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	General Conditions Subtotal	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Cost of Work															
	Sitework	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Concrete	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Masonry	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Metals	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Woods & Plastics	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Thermal & Moisture Protection	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Doors & Windows	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Finishes	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Specialties	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Equipment	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Furnishings	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Special Construction	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Conveying Systems	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Mechanical	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Electrical	\$ -	\$ -	\$ -	\$ -		\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Cost of Work Subtotal	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Contractor's Contingency	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Construction Phase Fee	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Owner's Special Cash Allowance	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Owner's Construction Contingency	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
	Construction (Part II - GMP) Services Subtotal	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	
Contract (Part I + Part II Services) Total															
		\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	0%	\$ -	0%	\$ -	0%	\$ -	

(An electronic copy is available upon request)

- The Construction Manager shall provide a breakdown for all Allowable General Condition Line Items by unit cost and duration.
- Clearly state the different types of insurance coverages included in the general conditions.
- On a separate page state whether this GMP includes provisions to incorporate the Owner's ROCIP program. (this affects your provided insurance coverages).
- General Condition breakdown shall include line items for each type of insurance coverage including builders risk and auto.
- State how the CM's Contingency was established or show a breakdown of major items anticipated to be funded by the contingency.
- For projects which are a renovation of an existing building or a project which is being constructed adjacent to or connected to an existing building, provide a page which states whether or not the builders risk insurance coverage includes a \$5M endorsement for coverage of damages to the existing Owner's property for damages caused by the contractor or subcontractors.
- The Construction Manager may request to include an updated Exhibit F, "CM's Personnel and Monthly Salary Rates" identifying any proposed new staff or proposed rate modifications. **Bold any revisions.** Revisions, if any, are subject to the approval of Owner at Owner's sole discretion.
- Identify the CM's Contingency and provide a breakdown or explain the basis for how the amount was established.
- Provide a breakdown of the Owner's Special Cash Allowance showing the major items anticipated to be included in this cost. The Owner's Project Manager should help provide this detail.

TAB 7 - Master Project Schedule (Summary Level)

- The Summary Level schedule shall be submitted electronically **on a CD** and on paper bound with the GMP Proposal.
- Summary Schedule Requirements
 - The schedule shall comply with the requirements of Owner's Specification Section 01 32 00 and shall form the basis for the "Detail" schedule, which shall be submitted within sixty (60) days following Notice to Proceed for Construction Services.
 - The schedule shall be a computer generated CPM schedule developed in Microsoft Project Planner software.
 - The schedule shall be presented in "bar chart" form and contain detailed activities for all events and milestones included in Pre-construction Services
 - The schedule shall include detailed, logic driven activities for all Construction Service activities scheduled to commence during the first ninety (90) days following the Notice to Proceed for Construction. The remaining construction activities (those commencing after the first 90 days) may be summarized by trades and may have longer durations than the "detailed" activities mentioned above.
- Total Float

- The total float indicated on the Master Project Schedule shall be no less than 10% of the total Construction Phase duration (NTP to Substantial Completion). i.e. - All paths in the schedule must lead to a milestone activity for Substantial Completion, which shall be logic driven and indicate completion within approximately 90% of the time allowed by contract for the Owner established Substantial Completion Date.

TAB 8 - Bid/Proposal Package Strategy

- The Contractor shall provide a written Bid/Proposal Package Strategy for procuring subcontracts including self-performance work (other than General Conditions) as described in Owner's Specification Section 01 31 00.

TAB 9 - Historically Underutilized Business Plan

- Complete the attachments required by exhibit of the Agreement.
- For all first and second tier subcontractors currently under contract or anticipated to be contracted with, provide completed Attachments C, D, and E.
- A completed HUB Subcontracting Plan shall be delivered to Owner at the time of final subcontracting buyout.

TAB 10 - Responses to Review Comments

- For resubmitted GMP Proposals, include all review comments provided by the Owner regarding the GMP or GMP re-submittal.
- For each submittal the Contractor shall provide a written response below each original comment, stating the appropriate response to the issue and include that documentation in this section. **A re-submittal may not be forwarded to Owner without responses to the previous review comments and included under this TAB 10.**
- **Any proposed deviations from the provisions or processes described in the Agreement, contained in this Proposal, shall be approved in writing by the Associate Director of Project Management and included herein.**

ATTACHMENT 2 TO EXHIBIT D

PAYMENT AND PERFORMANCE BONDS

**((Included herein by reference. Actual Bonds shall be executed after the execution of the
GMP Proposal))**

EXHIBIT E

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 Owner and The Board of Regents of The University of Texas System as Obligees in the penal sum of Five Percent (5%) of _____ (\$ _____), the Construction Cost Limitation (CCL) 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 for the use and benefit of _____, 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 unto 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 F**CM'S PERSONNEL AND MONTHLY SALARY RATES**

CPM Project No. & Name: _____ - _____
[CM - Insert Project No.] [CM - Insert Project Name]

The following Monthly Salary Rate (MSR) shall identify the estimated billable rate prior to execution of the Agreement, and shall be confirmed during the Guaranteed Maximum Price Proposal phase for use throughout Construction Phase Services on the Owner Standard Schedule of Values Format for all salaried General Conditions type personnel pursuant to the Agreement. The MSR shall include the employee's estimated monthly direct salary expense (including possible future salary increases), plus any employer payroll taxes and/or fringe benefit contributions as identified below. Any additional employer contributions not identified below shall be included in the Construction Phase Fee pursuant to Article 14 of the Agreement.

Employee		Estimated Employer's Monthly Contributions						Monthly Salary Rate
Name and Title	Estimated Monthly Direct Salary Expense	Federal & State Unemployment (Approx. 1%)	Social Security & Medicare (7.65%)	Worker's Compensation (\$0 for ROCIP)	Health & Insurance	Pension / 401(k)	Vacation / Holiday	
1.	\$	\$	\$	\$	\$	\$	\$	\$
2.	\$	\$	\$	\$	\$	\$	\$	\$
3.	\$	\$	\$	\$	\$	\$	\$	\$
4.	\$	\$	\$	\$	\$	\$	\$	\$
5.	\$	\$	\$	\$	\$	\$	\$	\$
6.	\$	\$	\$	\$	\$	\$	\$	\$
7.	\$	\$	\$	\$	\$	\$	\$	\$
8.	\$	\$	\$	\$	\$	\$	\$	\$
9.	\$	\$	\$	\$	\$	\$	\$	\$
10.	\$	\$	\$	\$	\$	\$	\$	\$

Construction Manager shall certify, to the best of his knowledge, that the above referenced salary information is accurate.

CM signature: _____ (same individual who signs agreement)

EXHIBIT G

CONSTRUCTABILITY IMPLEMENTATION PROGRAM

Program Objectives:

- Implement a rigorous constructability program following The University of Texas System, Office of Facilities Planning and Construction Constructability Manual.
- Identify and document project cost and schedule savings (targeted cost savings: 5% of construction costs)

Proposed Steps:

- **Constructability Implementation Meeting**
 - identification of all project team personnel and all project stakeholders
 - clarification of project goals, objectives, and progress to date
 - team briefing on objectives, methods, and concepts of constructability
 - familiarization with implementation program
 - preliminary identification of constructability priorities and special challenges or concerns
- **Constructability Review of Schematic Design (SD) Documents; Comments Submitted to CM Team**
 - establishment of project constructability procedures, including procedures for documenting savings
- **Meeting to Review Schematic Design Constructability Comments**
 - assessment of applicability of 17 CII constructability concepts
 - prioritization and time-phasing of constructability concepts
 - detailed discussions of front-end, high-priority concepts (identify concerns, identify information needs, start to brainstorm alternative approaches, conduct preliminary evaluation of approaches, identify needs for further analysis, chart path forward, documentation of savings)
- **Design Development Constructability Review Comments to CM Team**
 - follow-up discussions on front-end, high-priority concepts
 - detailed discussions of front-end, high-priority concepts (identify concerns, identify information needs, start to brainstorm alternative approaches, conduct preliminary evaluation of approaches, identify needs for further analysis, chart path forward, documentation of savings)
- **Constructability Review Meeting**
 - review plans & specifications developed to date, identifying sub-optimal or potentially problematic design elements
 - recommend alternative design suggestions for consideration and document potential savings
 - conduct Value Engineering investigations into selected high-cost design elements;

consider life-cycle cost effects

- **30% CD Constructability Review Comments to CM Team**
 - review plans & specifications developed to date, identifying sub-optimal or potentially problematic design elements
 - recommend alternative design suggestions for consideration and document potential savings
 - conduct Value Engineering investigations into selected high-cost design elements
- **50% CD Constructability Review Comments to CM Team**
 - review plans & specifications developed to date, identifying sub-optimal or potentially problematic design elements
 - recommend alternative design suggestions for consideration and document potential savings
 - conduct Value Engineering investigations into selected high-cost design elements
- **95% CD Constructability Review Comments to CM Team**
- **Constructability Discussions with CM Team**
- **Document On-site Constructability Lessons Learned**
- **Close-out Project Constructability Documentation**

EXHIBIT H

POLICY ON UTILIZATION, HISTORICALLY UNDERUTILIZED BUSINESSES

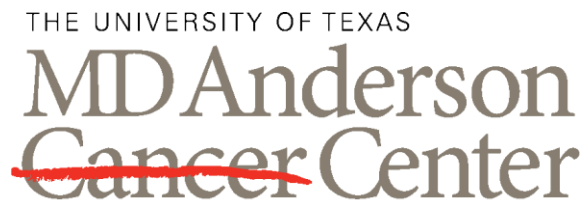


THE UNIVERSITY OF TEXAS
MD ANDERSON CANCER CENTER
May 2010

EXHIBIT H - Rider 104-C

POLICY ON UTILIZATION HISTORICALLY UNDERUTILIZED BUSINESSES

BUILDING CONSTRUCTION Major Building Projects Only



Making Cancer History®

**The University of Texas
MD Anderson Cancer Center
Policy on Utilization of Historically Underutilized Businesses (HUBs)**

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The University of Texas
MD Anderson Cancer Center

POLICY ON UTILIZATION OF HISTORICALLY UNDERUTILIZED BUSINESSES (HUBs)
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Introduction

In accordance with the Texas Government Code, Sections 2161.181-182 and Section 34 TAC §20 Texas Administrative Code, The Board of Regents of the University of Texas MD Anderson Cancer Center (MD Anderson), acting through the Office of HUB Development shall make a good faith effort to utilize Historically Underutilized Businesses (HUBs) in contracts for construction services, including professional and consulting services; and commodities contracts. The Texas Procurement & Support Services' (TPASS) HUB Rules, 34 TAC §20.11-20.28 encourage the use of HUBs by implementing these policies through race, ethnic and gender-neutral means.

The purpose of the HUB Program is to promote equal business opportunities for economically disadvantaged persons (as defined by TGC §2161) to contract with the State of Texas in accordance with the following specified in the State of Texas Disparity Study: The HUB goals defined in 34 TAC §20.13 are:

- 26.1% for all building construction, including general contractors and operative builders contracts;
- 57.2% for all special trade construction contracts;
- 20% for professional services contracts;
- 33% for all other services contracts; and
- 12.6% for commodities contracts.

The University of Texas MD Anderson Cancer Center's current fiscal year HUB Strategic goals are available at www.mdanderson.org/hub.

The University of Texas MD Anderson shall make a good faith effort to meet or exceed these goals to assist HUBs in receiving a portion of the total contract value of all contracts that MD Anderson expects to award in a fiscal year. The University of Texas MD Anderson may achieve the annual program goals by contracting directly with HUBs or indirectly through subcontracting opportunities in accordance with the Texas Government Code, Chapter 2161, Subchapter F.

<p style="text-align: center;">SUMMARY OF REQUIREMENTS Historically Underutilized Business (HUBs) Subcontracting Plan</p>

It is the policy of The University of Texas System and each of its component institutions, to promote and encourage contracting and subcontracting opportunities for Historically Underutilized Businesses (HUBs) in all contracts. Accordingly, The University of Texas MD Anderson has adopted “**EXHIBIT H, Policy on Utilization of Historically Underutilized Businesses**”. The Policy applies to all contracts with an expected value of \$100,000 or more. The Board of Regents of The University of Texas System is the contracting authority.

1. In all contracts for professional services, contracting services, and/or commodities with an expected value of \$100,000 or more, the University of Texas MD Anderson will indicate in the purchase solicitation (e.g. RFQ, RFP, or CSP) whether or not MD Anderson has determined that subcontracting opportunities are probable in connection with the contract. A HUB Subcontracting Plan is a required element of the architect, contractor or vendor Response to the purchase solicitation. The HUB Subcontracting Plan shall be developed and administered in accordance with the Policy. **Failure to submit a required HUB Subcontracting Plan will result in rejection of the Response.**
2. If subcontracting opportunities are probable, MD Anderson will declare such probability in its invitations for bids, requests for proposals, or other purchase solicitation documents, and shall require submission of the appropriate HUB Subcontracting Plan with the Response.
 - a. When subcontracting opportunities are probable, and the Respondent proposes to subcontract any part of the work, the Respondent shall submit a **HUB Subcontracting Plan as prescribed by Texas Procurement and Support Services** identifying subcontractors [[34 TAC §20.14 (d) (1)(A)(B)(C)(D) (2)(A)(B)(C)(D)(E) (3)(A)(B)].
 - b. When subcontracting opportunities are probable, but the Respondent can perform such opportunities with its employees and resources, the Respondent’s HUB Subcontracting Plan shall include **the Self Performance HUB Subcontracting Plan, Section 9 – Self Performance Justification as the HUB Subcontracting Plan (HSP).** [34 TAC §20.14 (d)(4)(A)(B)(C)(D)]
3. If subcontracting opportunities are not probable, MD Anderson will declare such probability in its invitations for bids, requests for proposals, or other purchase solicitation documents and shall require submission of the appropriate HUB Subcontracting Plan with the Response.
 - a. When subcontracting opportunities are not probable, and the Respondent proposes to perform all of the work with its employees and resources, the Respondent shall submit a HUB Subcontracting Plan that includes **the Self Performance HUB Subcontracting Plan, Section 9 – Self Performance Justification as the HUB Subcontracting Plan (HSP).**
 - b. When subcontracting opportunities are not probable, but the Respondent proposes to subcontract any part of the work, the Respondent shall submit a **HUB Subcontracting Plan as prescribed by the Texas Building and Procurement Commission** identifying subcontractors.
4. Respondents shall follow, but are not limited to, procedures listed in the Policy when developing a HUB Subcontracting Plan.
5. In making a determination whether a good faith effort has been made in the development of the required HUB Subcontracting Plan, MD Anderson shall follow the procedures listed in the Policy. If accepted, the HUB Subcontracting Plan shall become a provision of the Respondent's contract with MD Anderson. **Revisions necessary to clarify and enhance information submitted in the original HUB subcontracting plan may be made in an effort to determine good faith effort.** Any revisions after the submission of the HUB Subcontracting Plan shall be approved by the HUB Coordinator.
6. **MD Anderson shall reject any Response that does not include a fully completed HUB Subcontracting Plan, as required. An incomplete HUB Subcontracting Plan is considered a material failure to comply with the solicitation for proposals.**

7. **D/B and CM @ Risk Responses:** Respondents to a “design build” or “construction manager-at-risk” purchase solicitation shall include the Letter of HUB Commitment in their Response attesting that the Respondent has read and understands the Policy on Historically Underutilized Businesses (HUBs). A HUB Subcontracting Plan for all preconstruction and construction services includes **HUB Subcontracting Plan as prescribed by the Texas Comptroller specific to construction services identifying first, second and third tier subcontractors**. Respondents proposing to perform Part I services with their own resources and employees shall submit, as part of their HSP, **the Self Performance Justification**.
8. **D/B and CM @ Risk HUB Contract Requirements:** Contractors engaged under design-build and construction manager-at-risk contracts shall submit a HUB Subcontracting Plan for all Construction Phase Services, and, must further comply with the requirements of this Policy by developing and submitting a HUB Subcontracting Plan for each bid package issued in buying out the guaranteed maximum or lump sum price of the Project. The HUB Subcontracting Plans shall identify first, second and third tier subcontractors.
9. Changes to the HUB Subcontracting Plan. Once a Respondent’s HUB Subcontracting Plan is accepted by MD Anderson and becomes a provision of the contract between Respondent and MD Anderson, the Respondent can only change that HUB Subcontracting Plan if (a) the Respondent complies with 34 TAC Section 20.14; (b) the Respondent provides its proposed changes to MD Anderson for review; (c) MD Anderson (including MD Anderson’s HUB Coordinator) approves Respondent’s proposed changes to its HUB Subcontracting Plan; and (d) MD Anderson and the Respondent amend their contract (via a writing signed by authorized officials of both parties) in order to replace the contract’s existing HUB Subcontracting Plan with a revised HUB Subcontracting Plan containing the changes approved by MD Anderson.
10. Expansion of Work. If, after entering into a contract with a Respondent as a result of a purchase solicitation subject to the Policy, MD Anderson wishes to expand the scope of work that the Respondent will perform under that contract through a change order or any other contract amendment (the “Additional Work”), MD Anderson will determine if the Additional Work contains probable subcontracting opportunities not identified in the initial purchase solicitation for that contract. If MD Anderson determines that probable subcontracting opportunities exist for the Additional Work, then the Respondent must submit to MD Anderson an amended HUB Subcontracting Plan covering those opportunities that complies with the provisions of 34 TAC §20.14. Such an amended HUB Subcontracting Plan must be approved by MD Anderson (including MD Anderson’s HUB Coordinator) before (a) the contract may be amended by MD Anderson and the Respondent to include the Additional Work and the amended HUB Subcontracting Plan and (b) the Respondent performs the Additional Work. If a Respondent subcontracts any of the additional subcontracting opportunities identified by MD Anderson for any Additional Work (i) without complying with 34 TAC §20.14 or (ii) before MD Anderson and that Respondent amend their contract to include a revised HUB Subcontracting Plan that authorizes such subcontracting, then the Respondent will be deemed to be in breach of its contract with MD Anderson. As a result of such breach, MD Anderson will be entitled to terminate its contract with the Respondent, and the Respondent will be subject to any remedial actions provided by Texas law, including those set forth in Chapter 2161, Texas Government Code, and 34 TAC §20.14. University may report a Respondent’s nonperformance under a contract between that Respondent and MD Anderson to the Texas Procurement & Support Services (TPASS) in accordance with 34 TAC Chapter 20.106, Subchapter F, Vendor Performance and Debarment Program.
11. A Response may state that the Respondent intends to perform all the subcontracting opportunities with its own employees and resources in accordance with the Policy. However, if such a Respondent enters into a contract with MD Anderson as a result of such a Response but later desires to subcontract any part of the work set forth in that contract, before the Respondent subcontracts such work it must first change its HUB Subcontracting Plan in accordance with the provisions of Section 5 above.
12. The University of Texas MD Anderson shall require a professional services firm, contractor or vendor to whom a contract has been awarded to report the identity and the amount paid to its subcontractors on a monthly basis using a **HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report (PAR)** as a condition for payment.

13. If the University of Texas MD Anderson determines that the successful Respondent failed to implement an approved HUB Subcontracting Plan in good faith, MD Anderson, in addition to any other remedies, may report nonperformance to the Texas Procurement & Support Services (TPASS) in accordance with 34 TAC, Chapter 20.14, Subchapter B (d) (13) related remedies of nonperformance to professional services firms, contractor, and vender implementation of the HUB Subcontracting Plan.
14. In the event of any conflict between this “Summary of Requirements” and the remainder of the HUB Policy, the remainder of the HUB Policy will control.

These requirements, including the attachments referred to above, may be downloaded over the Internet from <http://www.mdanderson.org/hub>. For additional information contact, Marian Nimon, C.P.M., Associate Director HUB Program, MD Anderson, 713-745-8352.

Building Construction HSP
Summary of Attachments Required from Respondents

	Letter of Transmittal Page 8	Letter of HUB Commitment Page 9	HUB Subcontracting Plan (HSP) Pages 10-12	Progress Assessment Report (PAR) Page 13
1. MD ANDERSON DETERMINES THAT SUBCONTRACTING OPPORTUNITIES ARE PROBABLE.				
1. A. Competitive Sealed Proposal (CSP) Respondent Proposes Subconsultants: Attachments required from the Respondent for the HUB Subcontracting Plan if the solicitation states that <u>subcontracting opportunities are probable</u> .	X		X	
1. B. Competitive Sealed Proposal (CSP) Respondent Proposes Self-Performance: Attachments required from the Respondent for the HUB Subcontracting Plan if the solicitation states that <u>subcontracting opportunities are probable</u> , but the Respondent can perform such opportunities with its employees and resources.	X		X	
2. MD ANDERSON DETERMINES THAT SUBCONTRACTING OPPORTUNITIES ARE NOT PROBABLE.				
2. A. Respondent Proposes Self-Performance: Attachments required from the Respondent for the HUB Subcontracting Plan if the solicitation states that <u>subcontracting opportunities are not probable</u> , but the Respondent can perform such opportunities with its employees and resources.	X		X	
2. B. Respondent Proposes Subconsultants: Attachments required from the Respondent for the HUB Subcontracting Plan if the solicitation states that <u>subcontracting opportunities are not probable</u> but the Respondent proposes to subcontract any part of the work.	X		X	
3. Design Build or CM@ Risk Responses: Attachments required from Respondents for HUB Subcontracting Plans for Part I, Preconstruction Phase Services Performing Part I Services with own resources and employees Attachments required from Respondents for HUB Subcontracting Plans for Part II, Construction Phase Services when the guaranteed maximum or lump sum price of the project is established and for each bid package issued in buying out the guaranteed maximum or lump sum price of the project.	X	X X	X X	
4. Changes in the HUB Subcontracting Plan After Award: Attachments required from the Respondent to whom a contract has been awarded if it desires to make changes to the approved HUB Subcontracting Plan.			X	
5. Reporting: Attachment required with all payment requests. The submittal of this attachment is a condition of payment.				X

(RESPONDENT'S BUSINESS LETTERHEAD)

To be completed ONLY if you will be subcontracting.

Date

Ms. Marian Nimon
Associate Director, HUB & Federal Small Business Program
The University of Texas MD Anderson Cancer Center– Unit 546
PO Box 301439
Houston, Texas 77230-1439

Re: Historically Underutilized Business Plan for (Project Title)
Project Number ____ - ____

Dear Ms. Nimon:

In accordance with the requirements outlined in the specification section "HUB Participation Program," I am pleased to forward this HUB Subcontracting Plan as an integral part of our response in connection with your invitation for Request for Qualifications referencing the above project.

I have read and understand The University of Texas MD Anderson Cancer Center's Policy on Utilization of Historically Underutilized Businesses (HUBs). I also understand the State of Texas Annual Procurement Goal according to 34 Texas Administrative Code 20.13 is 26.1% for building construction.

This HUB Subcontracting Plan includes ____ Subcontracting Opportunities [*refer to Section 2, page 10*] representing ____ (no. of subcontractors) trades with a total dollar value of _____. These figures represent a cumulative percentage of _____%, representing _____% for minority-owned HUBs and _____% for women-owned HUBs. When a HUB is owned by minority women, I have classified that HUB as minority-owned rather than women-owned.

I understand the above HUB percentages must represent the Texas Procurement & Support Services (TPASS) HUB certification standards. For each of the listed HUB firms, I have attached a TPASS Certification document, or, if the HUB is certified by another TPASS approved certifying agency, a copy of their approved certification document.

By completion of Section 8 of the HUB Subcontracting Plan, I affirm my intent to utilize the subcontractors selected to perform the scope of work to be subcontracted.

Should we discover additional subcontractors claiming Historically Underutilized Business status during the course of this contract we will notify you of the same. In addition, if for some reason a HUB is unable to fulfill its contract with us, we will notify you immediately in order to take the appropriate steps to amend this contractual obligation.

Sincerely,

(Company Executive)

cc: Contract Manager

(PLACE ON YOUR COMPANY BUSINESS LETTERHEAD)

Date

Ms. Marian Nimon
Associate Director, HUB & Federal Small Business Program
The University of Texas MD Anderson Cancer Center– Unit 546
PO Box 301439
Houston, Texas 77230-1439

Re: Historically Underutilized Business Plan for (Project Title)
Project Number ____ - ____

Dear Ms. Nimon:

In accordance with the requirements outlined in the specification section “HUB Participation Program,” I am pleased to forward this Letter of HUB Commitment as an integral part of our submittal in connection with your Request For Proposal, referencing Project Number _____.

I understand that following the award of the RFP, the HUB Plan in its entirety is due prior to signing of the contract.

I have read and understand The University of Texas MD Anderson Cancer Center’s Policy on Utilization of Historically Underutilized Businesses (HUBs).

Good Faith Effort will be documented with each contract and will contain a Letter of Transmittal and HUB Subcontracting Plan for each contract solicited. An updated HUB Plan will be submitted prior to the execution of each contract process. Documentation of subconsulted work and the Progress Assessment Report must be provided with each pay request as well as to MD Anderson’s HUB and Federal Small Business Program.

Sincerely,

(Company Executive)

cc: Contract Manager



HUB SUBCONTRACTING PLAN (HSP)

In accordance with Gov't Code §2161.252, the contracting agency has determined that subcontracting opportunities are probable under this contract. Therefore, respondents, including State of Texas certified Historically Underutilized Businesses (HUBs), must complete and submit a State of Texas HUB Subcontracting Plan (HSP) with their solicitation response.

NOTE: All Responses HUB AND NON-HUB that do not include a completed HSP shall be rejected pursuant to Gov't Code §2161.252(b).

The HUB Program promotes equal business opportunities for economically disadvantaged persons to contract with the State of Texas in accordance with the goals specified in the State of Texas Disparity Study. The HUB goals defined in 34 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.**

-- Agency Special Instructions/Additional Requirements --

- Respondents shall submit a completed HUB Subcontracting Plan (HSP) to be considered responsive (pages 10, 11,12). Failure to submit a completed HSP shall result in the bid, proposal or other expression of interest to be considered NON-responsive.
- Respondents who intend to Self-Perform all of their work shall submit an HSP for Self-Performance (pages 1 and 12).
- HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report (PAR) shall be submitted with each request for payment as a condition of payment.

MDACC (only) **Procurement please check:**

- ☐ new HUB plan
- ☐ design build/contract manager at risk
- ☐ renewal
- ☐ change order

SECTION 1 - RESPONDENT AND SOLICITATION INFORMATION

- a. Respondent (Company) Name: _____ State of Texas VID #: _____
Point of Contact: _____ Phone #: _____
- b. Is your company a State of Texas certified HUB? ☐ - Yes ☐ - No
- c. Solicitation/P.O.#: _____ Project Title: _____

SECTION 2 - SUBCONTRACTING INTENTIONS

After having divided the contract work into reasonable lots or portions to the extent consistent with prudent industry practices, the respondent must determine what portion(s) of work, including goods or services, will be subcontracted. Note: In accordance with 34 TAC §20.12., a "Subcontractor" means a person who contracts with a vendor to work, to supply commodities, or contribute toward completing work for a governmental entity. Check the appropriate box that identifies your subcontracting intentions:

- ☐ - Yes, I will be subcontracting portion(s) of the contract.
(If Yes, in the spaces provided below, list the portions of work you will be subcontracting, and go to Section 3-8.)
- ☐ - No, I will not be subcontracting any portion of the contract, and will be fulfilling the entire contract with my own resources.
(If No, complete SECTION 9 and 10.)

Line Item # - Subcontracting Opportunity Description	Line Item # - Subcontracting Opportunity Description
(#1) -	(#11) -
(#2) -	(#12) -
(#3) -	(#13) -
(#4) -	(#14) -
(#5) -	(#15) -
(#6) -	(#16) -
(#7) -	(#17) -
(#8) -	(#18) -
(#9) -	(#19) -
(#10) -	(#20) -

*If you have more than twenty subcontracting opportunities, a continuation page is available at <http://www.window.state.tx.us/procurement/prog/hub/hub-forms/HUBSubcontractingPlanContinuationPage1.doc>

Enter your company's name here: _____ Solicitation/P.O. #: _____

IMPORTANT: You must complete a copy of this page for each of the subcontracting opportunities you listed in SECTION 2. You may photocopy this page or download copies at <http://www.window.state.tx.us/procurement/prog/hub/hub-forms/HUBSubcontractingPlanContinuationPage2.doc>.

SECTION 3 - SUBCONTRACTING OPPORTUNITY

Enter the line item number and description of the subcontracting opportunity you listed in SECTION 2.

Line Item # _____ Description: _____

SECTION 4 - MENTOR-PROTÉGÉ PROGRAM

If respondent is participating as a Mentor in a State of Texas Mentor Protégé Program, submitting their Protégé (Protégé must be a State of Texas certified HUB) as a subcontractor to perform the portion of work (subcontracting opportunity) listed in SECTION 3, constitutes a good faith effort towards that specific portion of work. Will you be subcontracting the portion of work listed in SECTION 3 to your Protégé?

☐ - Yes (If Yes, complete SECTION 8 and 10.) ☐ - No / Not Applicable (If No or Not Applicable, go to SECTION 5.)

SECTION 5 - PROFESSIONAL SERVICES CONTRACTS ONLY

This section applies to Professional Services Contracts only. All other contracts go to SECTION 6.

Does your HSP contain subcontracting of 20% or more with HUB(s)?

☐ - Yes (If Yes, complete SECTION 8 and 10.) ☐ - No / Not Applicable (If No or Not Applicable, go to SECTION 6.)

In accordance with Gov't Code §2254.004, "Professional Services" means services: (A) within the scope of the practice, as defined by state law of accounting; architecture; landscape architecture; land surveying; medicine; optometry; professional engineering; real estate appraising; or professional nursing; or (B) provided in connection with the professional employment or practice of a person who is licensed or registered as a certified public accountant; an architect; a landscape architect; a land surveyor; a physician, including a surgeon; an optometrist; a professional engineer; a state certified or state licensed real estate appraiser; or a registered nurse.

SECTION 6 - NOTIFICATION OF SUBCONTRACTING OPPORTUNITY

Complying with a, b and c of this section constitutes Good Faith Effort towards the portion of work listed in SECTION 3. After performing the requirements of this section, complete SECTION 7, 8 and 10.

- Provide written notification of the subcontracting opportunity listed in SECTION 3 to **three (3)** or more HUBs. Use the State of Texas' Centralized Master Bidders List (CMBL), found at <http://www2.cpa.state.tx.us/cmb/cmbhub.html>, and its HUB Directory, found at <http://www2.cpa.state.tx.us/cmb/hubonly.html>, to identify available HUBs. **Note:** Attach supporting documentation (letters, phone logs, fax transmittals, electronic mail, etc.) demonstrating evidence of the good faith effort performed.
- Provide written notification of the subcontracting opportunity listed in SECTION 3 to a minority or women trade organization or development center to assist in identifying potential HUBs by disseminating the subcontracting opportunity to their members/participants. A list of trade organizations and development centers may be accessed <http://www.window.state.tx.us/procurement/prog/hub/mwb-links-1/>. **Note:** Attach supporting documentation (letters, phone logs, fax transmittals, electronic mail, etc.) demonstrating evidence of the good faith effort performed.
- Written notifications should include the scope of the work, information regarding the location to review plans and specifications, bonding and insurance requirements, required qualifications, and identify a contact person. Unless the contracting agency has specified a different time period, you must allow the HUBs no less than five (5) working days from their receipt of notice to respond, and provide notice of your subcontracting opportunity to a minority or women trade organization or development center no less than five (5) working days prior to the submission of your response to the contracting agency.

SECTION 7 - HUB FIRMS CONTACTED FOR SUBCONTRACTING OPPORTUNITY

List **three (3)** State of Texas certified HUBs you notified regarding the portion of work (subcontracting opportunity) listed in SECTION 3. Specify the vendor ID number, date you provided notice, and if you received a response. **Note:** Attach supporting documentation (letters, phone logs, fax transmittals, electronic mail, etc.) demonstrating evidence of the good faith effort performed.

Company Name	VID #	Notice Date (mm/dd/yyyy)	Was Response Received?
_____	_____	____/____/____	<input type="checkbox"/> - Yes <input type="checkbox"/> - No
_____	_____	____/____/____	<input type="checkbox"/> - Yes <input type="checkbox"/> - No
_____	_____	____/____/____	<input type="checkbox"/> - Yes <input type="checkbox"/> - No

SECTION 8 - SUBCONTRACTOR SELECTION

List the subcontractor(s) you selected to perform the portion of work (subcontracting opportunity) listed in SECTION 3. Also, specify the expected percentage of work to be subcontracted, the approximate dollar value of the work to be subcontracted, and indicate if the company is a Texas certified HUB.

Company Name	VID #	Expected % of Contract	Approximate Dollar Amount	Texas Certified HUB?
_____	_____	____%	____\$	<input type="checkbox"/> - Yes <input type="checkbox"/> - No*

*If the subcontractor(s) you selected is not a Texas certified HUB, provide written justification of your selection process below:

Enter your company's name here: Solicitation/P.O. #:

SECTION 9 - SELF PERFORMANCE JUSTIFICATION

(If you responded “No” to SECTION 2, you must complete SECTION 9 and 10.)

Does your response/proposal contain an explanation demonstrating how your company will fulfill the entire contract with its own resources?

- ☐ - **Yes** If **Yes**, in the space provided below, list the specific page/section of your proposal which identifies how your company will perform the entire contract with its own equipment, supplies, materials and/or employees.
- ☐ - **No** If **No**, in the space provided below, explain how your company will perform the entire contract with its own equipment, supplies, materials, and/or employees.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

SECTION 10 - AFFIRMATION

As evidenced by my signature below, I affirm that I am an authorized representative of the respondent listed in SECTION 1, and that the information and supporting documentation submitted with the HSP are true and correct. Respondent understands and agrees that, if awarded any portion of the solicitation:

- The respondent must submit monthly compliance reports (Prime Contractor Progress Assessment Report – PAR) to the contracting agency, verifying their compliance with the HSP, including the use/expenditures they have made to subcontractors
- The respondent must seek approval from the contracting agency prior to making any modifications to their HSP. If the HSP is modified without the contracting agency's prior approval, respondent may be subject to debarment pursuant to Gov't Code §2161.253(d).
- The respondent must, upon request, allow the contracting agency to perform on-site reviews of the company's headquarters and/or work-site where services are to be performed and must provide documents regarding staff and other resources.

Signature

Printed Name

Title

Date _____

Email

Phone #



HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report

*****This form for use after award*****

This form must be completed and submitted to The University of Texas MD Anderson Cancer Center on a monthly basis to document compliance with your HSP.

Contract/P.O. Number: _____ Date of Award: _____ Object Code: _____
(mm/dd/yyyy) (Agency use only)

Contracting Agency/University Name: _____

Contractor Name: _____

Contractor Vendor Identification Number (VID Number): _____

Reporting Period: (January, February, March...) _____ Total Contract Amount Paid this Reporting Period to Contractor: \$ _____

Document Subcontractor (HUB & Non-HUB) Information, as applicable below:

Subcontractor Name(s)	HUB		2 nd /3 rd tier	HUB Subcontractor's VID or HUB Certificate Number	Total Contract \$ Amount from HSP with Subcontractor	Total \$ Amount Paid This Period to Subcontractor	Total Contract Amount Paid to Date to Subcontractor
	Yes	No					
TOTALS					\$	\$	\$

Signature: _____ Title: _____

Printed Name: _____ Date: _____

Email (please type): _____ Phone No. _____
Address: _____

Return to: Marian Nimon, C.P.M., Associate Director
HUB and Federal Small Business Program Unit 546
UT MD Anderson Cancer Center
P O Box 301439
Houston TX 77230-1439
Phone: 713-745-8352 Fax: 713-745-5814
mnimon@mdanderson.org

☐ Check if this is the last report to be
submitted for this project.



Resources For Locating HUBs

Texas Association of Mexican American Chambers of Commerce

<u>Chamber</u>	<u>Address</u>	<u>City</u>	<u>Zip</u>	<u>Phone</u>	<u>Fax</u>	<u>Email</u>
Greater Austin Hispanic Chamber of Commerce	3000 S. IH 35, Ste 305	Austin	78704	512-476-7502	512-476-6417	member@hispanicaustin.com
Hispanic Chamber of Commerce of Greater Baytown	P.O. Box 815	Baytown	77522	281-422-6908	281-486-4802	www.baytownhcc.com
Harlingen Hispanic Chamber of Commerce	P.O. Box 530967	Harlingen	78553	956-421-2400	956-364-1879	hhcoc@xanadu2.net
Houston Hispanic Chamber of Commerce	2900 Woodridge Dr. Ste 312	Houston	77087	713-644-7070	716-644-7377	dwalker@houstonhispanicchamber.com
Greater Hispanic Chamber of Commerce of Comal County	1115 Mahan Circle	New Braunfels	78130	512-428-1729	512-912-8499	
Golden Triangle Hispanic Chamber of Commerce	3046 Procter St	Port Arthur	78642	409-983-1169	409-983-2329	www.gthcc.org
San Antonio Hispanic Chamber of Commerce	318 W. Houston Ste 300	San Antonio	78205	210-225-0462	210-225-2485	www.sahcc.org
San Marcos Hispanic Chamber of Commerce	P.O. Box 1051	San Marcos	78667	512-353-1103	512-353-2175	www.sanmarcoshispanic.com
Seguin-Guadalupe County Hispanic Chamber of Commerce	P.O. Box 1154	Seguin	78155	830-372-3151	830-372-3151	shcc@axs4u.net
Greater Victoria Hispanic Chamber of Commerce	221 S. Main	Victoria	77901	361-575-7100	361-575-7100	

Texas Black Chambers of Commerce

<u>Chamber</u>	<u>Address</u>	<u>City</u>	<u>ZIP</u>	<u>Phone</u>	<u>Fax</u>	<u>Email</u>
African American Chamber of Commerce of San Antonio	1717 N Loop 1604 East, Ste 220	San Antonio	78232	210-490-1624	210-490-5294	blackchamber@aol.com
African American Chamber of Commerce of Victoria	1501 E. Mockingbird, Ste 104	Victoria	77904	361-575-2061	361-570-3696	info@aaccv.com
Alamo City Chamber of Commerce	600 Hemisfair Plaza Way, #406-10	San Antonio	78205	210-226-9055	210-226-0524	info@alamocitychamber.org
Houston Citizens Chamber of Commerce	2808 Wheeler	Houston	77004	713-522-9745	713-522-5965	info@hccoc.org
Prairie View Chamber of Commerce	P.O. Box 2875	Prairie View	77446	936-931-5875	936-931-1082	gdarby@swbell.net

Associated General Contractors

<u>Chapter</u>	<u>Address</u>	<u>City</u>	<u>ZIP</u>	<u>Phone</u>	<u>Fax</u>	<u>Email</u>
Austin AGC	609 South Lamar Blvd	Austin	78704	512-442-7887	512-442-3503	philt@agcaustin.org
Houston AGC	3825 Dacoma St	Houston	77092	713-843-3700	713-843-3701	cmitchell@isqft.com

Other Minority Organizations

<u>Name</u>	<u>Address</u>	<u>City</u>	<u>ZIP</u>	<u>Phone</u>	<u>Fax</u>	<u>Email</u>
Women's Business Enterprise Alliance	4100 Westheimer Rd. Ste 206	Houston	77027	713-681-9232	713-681-9242	bpatterson@wbea-texas.org
Houston Minority Business Council	Three Riverway, Suite 555	Houston	77056	713-271-7805	713-271-9770	maria.brown@hmbc.org
National Association of Minority Contractors	500 Lovett Suite 500	Houston	77006	713-524-6766	713-524-4322	egoodie@namc-houston.org
Austin Asian American Chamber of Commerce	8711 Burnet Rd., Ste A-15	Austin	78757	512-407-8240	512-407-8233	aaacc@austinaacc.org
The Woman's Chamber of Commerce of Texas	P.O. Box 26051	Austin	78755	512-338-0839	512-338-1614	
Asian Construction Trades Association	4100 Ed Bluestein	Austin	78721	512-926-5400	512-926-5410	acta@cs.com
Austin Black Contractors Association	6448 Highway 290 East, Suite E107	Austin	78723	512-927-8290	512-467-9808	brc-pro@swbell.net
Hispanic Contractors Association of Austin	4100 Ed Bluestein	Austin	78721	512-929-3363	512-929-3368	
National Association of Women in Construction	14101 W. Hwy 290	Austin	78737	512-922-5395		nawie@hawic.org
Hispanic Contractors de San Antonio	4047 Naco Perrin, Ste 201-B	San Antonio	78217	210-444-1100	210-444-1101	info@hcsa.com
Alamo Asian American Chamber of Commerce	12758 Cimarron Path, Ste 118	San Antonio	78249	210-641-6003	210-641-8279	echan@unitech.com
Central South Texas Minority Business Council	912 Bastrop Hwy. Ste 101	Austin	78741	512-386-8766	512-386-8988	dinah@cstmbsc.org
Texas Association of Mexican American Chambers of Commerce		Austin		512-444-5727	512-444-4929	belinda@tamacc.org
Women's Contractor's Association	P.O. Box 6757	Houston	77265	713-807-9977	713-807-9917	akalmin@womencontractors.org

Selected List of HUB Resources on Web

<u>Agency/Organization</u>	<u>Resource</u>	<u>Web Site</u>
Texas Association of African American Chambers of Commerce:	Listing of African American chambers in Texas	http://www.taaacc.org
Texas Association of Mexican American Chambers of Commerce:	Listing of Hispanic Chambers in Texas	http://www.tamacc.org/chambers/index.html
Texas Women's Chamber of Commerce:	Database of selected women owned businesses	www.womenschambertexas.com

Texas Asian Chamber of Commerce:	Database of selected Asian owned businesses	www.txasianchamber.org
Austin Asian-American Chamber of Commerce	Database of selected Asian owned businesses	www.austinaacc.org
(Houston) Asian Chamber of Commerce:	Database of selected Asian owned businesses	www.asianchamber-hou.org
U. S. Department of Commerce Minority Business Development Agency	Listing of minority business development centers	http://www.mbda.gov/?section_id=1&parent_bucket_id=151&content_id=2267

Plan Rooms

<u>Organization</u>	<u>Address</u>	<u>City</u>	<u>ZIP</u>	<u>Phone</u>	<u>FAX</u>	<u>Contact</u>
City of Austin Dept. of Small & Minority Business Resources Office	4100 Ed Bluestein Blvd.	Austin	78721	512-974-7799	512-974-7622	Devetta Martinez
Austin Black Contractors Association	4100 Ed Bluestein Blvd.	Austin	78721	512-927-8290	512-467-9808	Carol Hadnot
City of San Antonio Small Business Outreach	1901 South Alamo, Ste 283	San Antonio	78204	210-207-3900	210-207-3909	Courtney McClure
Houston Minority Business Development Center	2900 Woodridge, Ste 310	Houston	77087	713-644-0821	713-644-3523	Milton Thibodeaux
Austin Minority Trades Association	4100 Ed Bluestein Blvd.	Austin	78721	512-927-8290	512-467-9808	Joe Vera
Asian Construction Trades Association	4100 Ed Bluestein Blvd.	Austin	78721	512-926-5400	512-926-5410	Thang Bu
Houston Associated General Contractors	3825 Dacoma St.	Houston	77092	713-843-3700	713-843-3701	
San Antonio Associated General Contractors	10806 Gulfdale	San Antonio	78216	210-349-4921	210-349-4017	
McGraw Hill Construction	4101 Greenbriar, Ste 320	Houston	77098	713-529-4895	713-524-7639	

EXHIBIT I

**CONTRACTOR'S HUB SUBCONTRACTING PLAN
FOR PRE-CONSTRUCTION SERVICES**

EXHIBIT J

**ADDITIONAL SERVICES PROPOSAL FOR
PRE-CONSTRUCTION PHASE SERVICES**

Requisition Number _____

Project Number: _____

Project Name: _____

Campus: _____

Date: _____

To: PM _____

RCM _____

Central File (original)

(Contractor)

Gentlemen:

Please refer to the Agreement dated _____, 20__ between _____ (“Owner”) and the undersigned (“Construction Manager”) as amended to the date hereof (such agreement as so modified and amended being hereafter called the “Agreement”) pursuant to which Construction Manager is to perform certain services. The terms, which are defined in the Agreement, shall have the same meanings when used in this letter.

Owner has requested the performance of the services described below which Construction Manager deems to be Additional Services.

(Description of Services.)

Construction Manager agrees to perform the Additional Services described above subject to and in accordance with the terms and provisions of the Agreement for a fee which will be determined in accordance with the Agreement but which will not exceed _____ Dollars (\$_____).

Construction Manager will perform the services in accordance with any schedule attached hereto (attach schedule if applicable), but in any event not later than _____ (_____) days after Design/Build Contractor is authorized to proceed.

If the foregoing is acceptable to you, please so execute by signing the enclosed copy of this letter at the space provided for this purpose and by inserting the date upon which Construction Manager is authorized to commence performance of the Additional Services described in Paragraph 1 above.

Sincerely yours,

Construction Manager

By: _____

Name: _____

Title: _____

Accepted this _____ day of _____, 20_. Construction Manager
is authorized to commence performance of the Additional Services on _____, 20 _

MD Anderson Cancer Center

By: _____

Name: _____

Title: _____

PRE-CONSTRUCTION PHASE SERVICES FEE SUMMARY

ORIGINAL Pre-Construction Phase Fee: (\$ _____)

Previous Additions: (\$ _____)

Previous Deductions: (\$ _____)

NET BALANCE of Pre-Construction Phase Fee: (\$ _____)

THIS Addition / Deduction: (\$ _____)

Adjusted Pre-Construction Phase Fee: (\$ _____)

xc: Contractor
Project Manager
Contract Manager

Accounting
central file

EXHIBIT K
SALES TAX EXEMPTION FORM

Texas Sales and Use Tax Exemption Certification

This certificate does not require a number to be valid.

Name of purchaser, firm or agency The University of Texas M.D. Anderson Cancer Center	
Address (Street & number, P.O. Box or Route number) 1515 Holcombe Blvd, Unit 0186	Phone (Area code and number) (713) 745-6873
City, State, ZIP code Houston, TX 77030	

I, the purchaser named above, claim an exemption from payment of sales and use taxes (for the purchase of taxable items described below or on the attached order or invoice) from:

Seller: _____

Street address: _____ City, State, ZIP code: _____


Description of items to be purchased or on the attached order or invoice:

Purchaser claims this exemption for the following reason:

**EXEMPT UNDER SUBCHAPTER H. SEC. 151.309 GOVERNMENTAL ENTITIES.
PURCHASER IS AN AGENCY OF THE STATE OF TEXAS.
FEDERAL I.D. 74-6001118; TEXAS TAXPAYER I.D. 35065065068**

I understand that I will be liable for payment of all state and local sales or use taxes which may become due for failure to comply with the provisions of the Tax Code and/or all applicable law.

I understand that it is a criminal offense to give an exemption certificate to the seller for taxable items that I know, at the time of purchase, will be used in a manner other than that expressed in this certificate, and depending on the amount of tax evaded, the offense may range from a Class C misdemeanor to a felony of the second degree.

sign here ▶	Purchaser 	Title VP and Chief Financial Officer	Date 2/2/2011
----------------	--	---	------------------

NOTE: This certificate cannot be issued for the purchase, lease, or rental of a motor vehicle.

THIS CERTIFICATE DOES NOT REQUIRE A NUMBER TO BE VALID.

Sales and Use Tax "Exemption Numbers" or "Tax Exempt" Numbers do not exist.

This certificate should be furnished to the supplier. Do **not** send the completed certificate to the Comptroller of Public Accounts.

EXHIBIT L

RIDER 1 TO THE AGREEMENT

RIDER 1 TO THE AGREEMENT

Joint Commission

Quality Assurance. By signing this Agreement, Contractor affirms, certifies, and warrants that by agreeing to provide the contracted services to The University of Texas MD Anderson Cancer Center, Contractor agrees to (a) comply with all applicable standards of the Joint Commission (b) implement and monitor a quality assurance process that complies with Joint Commission standards; (c) comply with applicable Joint Commission privileging standards for licensed independent practitioners; (d) upon request, provide assurance to The University of Texas MD Anderson Cancer Center of a licensed independent practitioner's privileging file; and (e) provide The University of Texas MD Anderson Cancer Center with periodic reports of its quality assurance indicators and/or permit The University of Texas MD Anderson Cancer Center to conduct periodic quality assurance audits of Contractor's services as otherwise specified in this Agreement.

EXHIBIT M

RIDER 105 – CONTRACTOR’S AFFIRMATIONS

RIDER 105
CONTRACTOR'S AFFIRMATIONS AND WARRANTIES

By signing the Agreement, or accepting the Purchase Order, to which this Rider is attached Contractor affirms, certifies, and warrants that the information set forth in this Rider is current, complete, and accurate. Contractor agrees that in the event Contractor makes a false statement by affirming, certifying, or warranting the information set forth in this Rider, MD Anderson may, at its option, terminate the Agreement/Purchase Order to which this Rider is attached without further liability, and Contractor shall be removed from all MD Anderson bid lists.

Contractor agrees to notify MD Anderson in writing within thirty (30) days of any changes in the affirmations, certifications, and warranties made by Contractor under this Rider.

1. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that it has neither given, offered to give, and has no intention 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 this Agreement/Purchase Order.
2. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that neither Contractor nor the firm, corporation, partnership or institution represented by Contractor, or anyone acting for such firm, corporation, or institution, has violated the antitrust laws of the State of Texas, codified in Section 15.01, et. seq. *Texas Business and Commerce Code*, or the federal antitrust laws, nor communicated directly or indirectly Contractor's bid or proposal made to MD Anderson to any competitor or any other person engaged in such line of business. By signing the Agreement, Contractor affirms, certifies, and warrants that it has not received compensation for participation in the preparation of the specifications for this Agreement or of the request for proposal—on which this Agreement is based. (Reference Section 2155.004, *Texas Government Code*.)
3. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that it is not suspended, debarred, or listed in the U.S. General Services Administration's List of Parties Excluded From Federal Procurement or Non-Procurement Programs, or excluded from award by the United States Office of the Inspector General ("OIG") regarding Medicare, Medicaid, or other federal programs. Contractor further acknowledges that MD Anderson is prohibited by federal regulations from allowing any employee, subcontractor or agent of Contractor to work on site at MD Anderson's premises or facilities if that individual is not eligible to work on federal healthcare programs such as Medicare, Medicaid, or other similar federal programs. Therefore, Contractor affirms, certifies, and warrants that it shall not assign any employee, subcontractor or agent that appears on the List of Excluded Individuals/Entities issued by the OIG to work on site at MD Anderson's premises or facilities. Contractor affirms, certifies, and warrants that it shall perform an OIG sanctions check quarterly on each of its employees, subcontractors and agents during the time such employees, subcontractors and agents are assigned to work on site at MD Anderson's premises or facilities. Contractor acknowledges that MD Anderson will require immediate removal of any employee, subcontractor or agent of Contractor assigned to work at MD Anderson's premises or facilities if such employee, subcontractor or agent is found to be on the OIG's List of Excluded Individuals/Entities. The OIG's List of Excluded Individuals/Entities may be accessed through the following Internet website: <http://oig.hhs.gov/fraud/exclusions/listofexcluded.html>.
4. By signing hereon Contractor certifies it qualifies status in one of the below as defined by the State of Texas.

4.1 Contractor, **is a Small Business** (as defined by Chapter 2155 of the Texas Government Code), and claims the following status:

- | | |
|--|---|
| <input type="checkbox"/> (100) Small Business, Non-HUB | <input type="checkbox"/> (160) Non-minority, Female, Small Business |
| <input type="checkbox"/> (100N) Disabled Person, Small Business | <input type="checkbox"/> (171) Asian Pacific American, Male, Small Business |
| <input type="checkbox"/> (141) Black American, Male, Small Business | <input type="checkbox"/> (172) Asian Pacific American, Female, Small Business |
| <input type="checkbox"/> (142) Black American, Female, Small Business | <input type="checkbox"/> (181) Native American, Male, Small Business |
| <input type="checkbox"/> (151) Hispanic American, Male, Small Business | <input type="checkbox"/> (182) Native American, Female, Small Business |
| <input type="checkbox"/> (152) Hispanic American, Female, Small Business | |

4.2 Contractor, **is not a Small Business** as defined above and claims the following status:

- | | |
|--|---|
| <input type="checkbox"/> (900N) Disabled Person | <input type="checkbox"/> (971) Asian Pacific American, Male |
| <input type="checkbox"/> (941) Black American, Male | <input type="checkbox"/> (972) Asian Pacific American, Female |
| <input type="checkbox"/> (942) Black American, Female | <input type="checkbox"/> (981) Native American, Male |
| <input type="checkbox"/> (951) Hispanic American, Male | <input type="checkbox"/> (982) Native American, Female |
| <input type="checkbox"/> (952) Hispanic American, Female | <input type="checkbox"/> (900) None of the above |
| <input type="checkbox"/> (960) Non-minority, Female | |

4.3 Contractor is to indicate below if they are /are not certified by the Texas Procurement and Support Services Division of the Texas Comptroller's Office as a Historically Underutilized Business.

RIDER 105
CONTRACTOR'S AFFIRMATIONS AND WARRANTIES

_____ **YES**, Contractor is certified by the Texas Procurement and Support Services Division of the Texas Comptroller's Office.

_____ **NO**, Contractor is not certified by the Texas Procurement and Support Services Division of the Texas Comptroller's Office.

4.4 Contractor is:

_____ A Non-Resident Contractor (e.g., does not maintain a permanently staffed full time office in Texas).

_____ A Resident Contractor (e.g., does maintain a permanently staffed full time office in Texas).

_____ Anticipating the use of Texas Non-Resident firms as sub-contractors and will provide information of such contracts, when requested.

_____ Not anticipating the use of Texas Non-Resident firms as sub-contractors.

5. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that it will comply with all specifications, requirements, terms, and conditions set forth in this Agreement/Purchase Order and on any rider or attachments to the Agreement/Purchase Order. Contractor affirms, certifies, and warrants that the products or services Contractor provides under this Agreement/Purchase Order will meet or exceed the specifications set forth in this Agreement/Purchase Order.
6. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that all statements and information prepared and submitted under this Agreement/Purchase Order (including all information submitted by Contractor in response to or to verify the affirmations, certifications, and warranties set forth in this Rider) are current, complete, and accurate.
7. If Contractor is a franchise, then
- (a) Contractor affirms, certifies, and warrants that it shall maintain such franchise in full force and effect at all times during the existence of this Agreement/Purchase Order, and
- (b) Contractor shall provide MD Anderson with all data that MD Anderson, in its sole discretion, deems necessary to identify Contractor's franchise, the date on which Contractor's franchise will expire, and to certify that Contractor's franchise remains in good standing at all times during the existence of the Agreement/Purchase Order.
8. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that (1) no relationship (whether by blood, marriage, business association, capital funding agreement or by any other kinship or connection) exists between Contractor and an employee of MD Anderson, and (2) Contractor has not been an employee of MD Anderson within the twelve (12) month period immediately prior to the date of this Agreement/Purchase Order, or (3) in the event such a relationship does exist, full written disclosure of the relationship has been made by Contractor to MD Anderson prior the execution of this Agreement, or acceptance of Purchase Order. Contractor understands that all such disclosures will be subject to administrative review, and approval by MD Anderson prior to MD Anderson's execution of this Agreement/Purchase Order.
9. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that: (1) Contractor is not a party to any agreement with MD Anderson whereby it has licensed from MD Anderson any technology, invention, or other intellectual property that relates to or is used with any goods or services being acquired by MD Anderson hereunder; and (2) as a result of the sale to MD Anderson of the goods or services hereunder, Contractor will not owe, directly or indirectly, any royalties, fees, or other consideration of any kind to MD Anderson or any employee of MD Anderson under the terms of any license agreement with MD Anderson. Contractor will advise MD Anderson in writing of any change in status with respect to the foregoing items (1)-(2), by sending written notice within ten (10) days of such status change to: Legal Services, Unit 537, The University of Texas MD Anderson Cancer Center, P.O. Box 301439, Houston TX 77230-1439, ATTENTION: Chief Legal Officer.

RIDER 105
CONTRACTOR'S AFFIRMATIONS AND WARRANTIES

10. OSHA COMPLIANCE

By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that all goods and services furnished under this Agreement/Purchase Order 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 on which the goods or services are furnished.

11. AFFIRMATIVE ACTION COMPLIANCE

In addition to the Contractor's affirmation, certification, and warranty under Section 10 of this Rider, if this Agreement exceeds \$50,000.00 in value Contractor, shall provide a copy of its written Civil Rights "Affirmative Action Compliance Program" which shall be incorporated into Exhibit A to this Rider. If Contractor is NOT required to have such a written Civil Rights "Affirmative Action Compliance Program", Contractor must state the reasons why it is not required to have such a written program in Exhibit A to this Rider.

CONTRACTOR NAME

DATE

BY (ORIGINAL SIGNATURE)

COMPTROLLER I.D. NO., FEI NO. or SSN

TYPED NAME & TITLE

TELEPHONE NUMBER

CORPORATE CONTRACTORS SHALL FURNISH THE FOLLOWING INFORMATION:

WHERE INCORPORATED

CHARTER NUMBER

SOLE OWNER'S SOCIAL SECURITY NUMBER

EXHIBIT A

Civil Rights "Affirmative Action Compliance Program"

EXHIBIT N

RIDER 106 – PREMISES RULES

RIDER 106 PREMISES RULES

If this Agreement requires Contractor's presence on M. D. Anderson's premises, buildings, grounds, facilities, or campus, whether owned, leased or otherwise controlled by M. D. Anderson (collectively, "M. D. Anderson's campus"), Contractor represents and warrants that it will ensure that its representatives, agents, employees, and permitted subcontractors are aware of, fully informed about and in full compliance with Contractor's obligations under the following rules:

- A. Contractor (and its representatives, agents, employees and permitted subcontractors) will comply with all applicable M. D. Anderson rules and policies, including, without limitation, those related to environmental quality, safety, fire prevention, noise, information security, and architectural barriers issued by M. D. Anderson's Department of Environmental Health and Safety, (713) 792-2888, and those that restrict the use of alcohol on M. D. Anderson's campus.
- B. M. D. Anderson is a smoke-free institution. Smoking, or use of smokeless tobaccos, is prohibited throughout M. D. Anderson's campus.
- C. Contractor will have the right to access only those areas in M. D. Anderson's campus that are public areas or areas that it is necessary for Contractor to access in order to provide the products and perform the services under this Agreement. Cellular telephones and two-way radios are prohibited in some areas of M. D. Anderson's campus and Contractor affirms, certifies, and warrants that its representatives, agents, employees, and permitted subcontractors will abide by such prohibitions.
- D. It is the policy of M. D. Anderson to maintain a safe environment free from violence on M. D. Anderson's campus. Any direct or indirect threats or acts of violent behavior are prohibited. Violence includes, but is not limited to, intimidating, threatening, or hostile behavior; physical or verbal abuse; harassment, stalking, vandalism, arson, sabotage, use of weapons, possession of weapons on institutional property, the threat of any of the above, or any other act inconsistent with M. D. Anderson's campus violence policy. Intentionally bringing a prohibited weapon including a licensed, concealed handgun on M. D. Anderson's campus is a violation of M. D. Anderson's campus violence policy. Furthermore, any violation of a law prohibiting violence and violent behavior (including, but not limited to, the violation of Section 37.125 of the Texas Education Code or of Section 46.03 of the Texas Penal Code) also constitutes a violation of M. D. Anderson's campus violence policy. Violators of M. D. Anderson's campus violence policy or of any law prohibiting violence or violent behavior may be removed from or refused further access to M. D. Anderson's campus. Contractor represents and warrants that Contractor and all of its representatives, agents, employees, and permitted subcontractors will comply with M. D. Anderson's campus violence policy and all laws prohibiting violence and violent behavior. M. D. Anderson reserves the right to pursue criminal or civil actions against violators of M. D. Anderson's campus violence policy or of any law prohibiting violence and violent behavior. Contractor will remove from the performance of any work under this Agreement any Contractor representative, agent, employee, or permitted subcontractor that M. D. Anderson, in its sole discretion, finds has violated M. D. Anderson's campus violence policy or any law prohibiting violence and violent behavior.
- E. Contractor will ensure all personnel sent to work at M. D. Anderson's campus that have direct patient care/contact under this Agreement will be able to show proof of a tuberculosis screening having been completed within ninety (90) calendar days prior to starting work at M. D. Anderson's campus and every two years thereafter. Contractor will also be able to show proof that these same personnel do not have active tuberculosis. The results of the screening will be made available to M. D. Anderson upon request. Contractors with direct patient care/contact will also inform M. D. Anderson whether any of its onsite personnel have had, been exposed to, or been vaccinated against chicken pox. This paragraph does not apply to contractors deemed by M. D. Anderson to not have direct patient care/contact.
- F. Contractor will be solely responsible for ensuring that all of its agents, employees, personnel, permitted subcontractors, or representatives abide by the provisions set forth in this Rider 106.
- G. The University of Texas Police Department ("UTPD") & Security Equipment:

The UTPD is the law enforcement agency of record for all property and premises owned, leased, or otherwise under the control of M. D. Anderson. The UTPD will be notified in matters relating to the following:
 - 1. Reporting of criminal incidents, including those occurring to or involving Contractor property and personnel if the incident occurs on M. D. Anderson campus;
 - 2. The investigation of crimes, including those involving Contractor's property and personnel, if the incident occurs on M. D. Anderson campus; and
 - 3. Reporting of security problems.
- H. Contractor will not retain the services of outside guard or law enforcement services in connection with work on M. D. Anderson's campus without the specific prior written approval of the Chief of the UTPD.
- I. Contractor will not install or operate any system intended to electronically control access and/or detect and report intrusion, hold-up or duress on any M. D. Anderson property, any M. D. Anderson leased premises or any premises otherwise under the control of M. D. Anderson. Where such systems are required due to the nature of the Contractor's operation, the UTPD will be responsible for approval, design and installation. Once approved by UTPD, the system's cost will be Contractor's responsibility.

**RIDER 106
PREMISES RULES**

- J. Installation by Contractor of any security system is subject to the review and approval of UTPD. If Contractor desires to install an electronic security system in accordance with the terms of this Agreement, Contractor will contact the UTPD - Crime Prevention Component of UTPD at (713) 792-2890 and request that UTPD establish design criteria for the application. Contractor will provide written evidence of the estimated cost of the electronic security system to the Technical Services Component of UTPD located at 7777 Knight Road and, if the electronic security system is approved by UTPD, the Technical Services Component of UTPD will coordinate the installation of the approved system. Upon written approval of the UTPD Chief, Contractor may use a commercial installation company to install the electronic security system under the coordination of the UTPD.
- K. All security related systems must be monitored and controlled by the UTPD and UTPD must be the primary monitoring station. If Contractor utilizes the services of a commercial alarm company or a proprietary alarm monitoring station, the system may report to such location after first transmitting the alarm to the UTPD.
- L. Contractor is responsible for the performance of the persons Contractor assigns to provide services for M. D. Anderson on M. D. Anderson's campus. Contractor will not knowingly assign individuals to provide services on M. D. Anderson's campus who have a history of violent, unacceptable, or grossly negligent behavior or who have a felony conviction. Prior to supplying labor services under this Agreement, M. D. Anderson may require Contractor to provide a list identifying the individuals that may be assigned to M. D. Anderson along with a letter signed by an appropriate officer of Contractor that affirms compliance with this Rider. Contractor will revise such letter each time there is a change in Contractor's personnel assigned to M. D. Anderson's campus, but in any case, annually on the anniversary date of this Agreement.
- M. Contractor will ensure that all individuals assigned by Contractor to perform services on M. D. Anderson's campus will display in plain view a photo identification badge provided by M. D. Anderson while on M. D. Anderson's campus.
- N. Contractor will retain resumes of all Contractor's employees assigned to this project. Contractor will ensure the proper maintenance of these documents for a minimum of one (1) year after contract completion. Contractor will maintain all documentation, including the results of any background checks, during the term of this Agreement.
- O. M. D. Anderson will have the right to reject any individual(s) that Contractor offers to assign to M. D. Anderson's account for any reason. In addition, if Contractor and/or its personnel fail to abide by these Premises Rules, M. D. Anderson will have the right to deny Contractor and its personnel access to M. D. Anderson's campus.
- P. M. D. Anderson will not be obligated to pay for labor hours supplied by any individual(s) upon whom a background check and records check is not completed or who fails to meet the standards described in this Rider.

EXHIBIT O

RIDER 107 – TRAVEL POLICY

**Rider 107
TRAVEL POLICY**

All travel and expense costs will be calculated as follows:

1. Vendor must use regular coach (state rate or corporate rate, whichever is lower) air transportation for travel in excess of 200 miles, unless otherwise agreed by MD Anderson. In order to maximize discounted airfares, Vendor, with the cooperation of MD Anderson, will schedule on-site visits far enough in advance to take advantage of most advance-purchase offers. In the event meetings or on-site visits are cancelled by MD Anderson, the Vendor may charge for any advance-purchase cancellation penalties imposed by the airline.
2. Corporate or state, whichever is lower, rate discounts will be used for hotel accommodations.
3. Maximum billable amount per person per day for meals will be \$36.00. Departing from MD Anderson prior to 12:01 p.m. negates any billing for meals for that day. Meal expenses are reimbursable for vendors who travel 50 miles or more, and stay overnight.
4. Rental cars will be the least expensive, air-conditioned, automatic transmission, mid-size car available to the vendor under corporate rate programs. Full coverage collision insurance may be used for rental cars, but personal protection plans will not be reimbursed.
5. Ground transportation, parking costs and tolls may be invoiced at cost.
6. Personal automobile mileage charges will be computed based upon actual miles to and from the appropriate office to and from the client facility. Mileage charges will be invoiced at the standard mileage rate recognized by the State of Texas at the time of invoicing.
7. Miscellaneous expenses (i.e., tips, transfers, etc.) will be invoiced at not-to-exceed \$5.00 per person per day, if deemed reasonable.

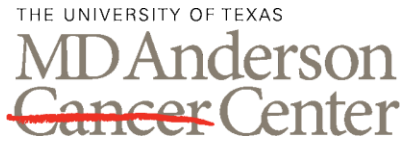
All travel or miscellaneous expenses must receive prior written approval by the Project Coordinator. Vendor will not be reimbursed for expenses which do not receive this prior written approval.

All travel or miscellaneous expenses must be submitted with an original receipt. All approved expenses will be reimbursed at “actual cost” only. Vendor will not be reimbursed for expenses which are not accompanied by original receipts.

EXHIBIT P
EXECUTION OF OFFER

EXHIBIT Q

RIDER 117 – INSTITUTIONAL POLICIES



RIDER 117
Institutional Policies

In accordance with the education requirements set forth in Section 6032 of the Deficit Reduction Act of 2005 (Act), The University of Texas MD Anderson Cancer Center has implemented the following policies, copies of which are enclosed and are hereby incorporated into this agreement **506-1** - ____.

1. [Fraud, Waste, and Abuse Policy \(UTMDACC Institutional Policy # ADM0157\)](#)
2. [Hospital Compliance Plan \(UTMDACC Institutional Policy # ADM0154\)](#)
3. [Non-Retaliation Policy \(UTMDACC Institutional Policy # ADM0254\)](#)

These policies and any updates and amendments to such policies are available via [Terms and Conditions](#).