



**MARICOPA  
INTEGRATED  
HEALTH SYSTEM**

*Count on us to care.*

**EXHIBIT 6**

**JOB ORDER CONTRACTOR (JOC)**

**SECTION 00700**

**GENERAL CONDITIONS  
TO THE CONSTRUCTION CONTRACT**

**CONTRACTS MANAGEMENT DEPARTMENT  
MARICOPA COUNTY SPECIAL HEALTH CARE DISTRICT  
DBA  
MARICOPA INTEGRATED HEALTH SYSTEMS (MIHS)  
JOB ORDER CONTRACTOR (JOC) REQUIREMENTS**

**JOC 90-16-086**

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**EXHIBIT 6**  
**SATUTORY PAYMENT BOND**

SECTION 00700

**GENERAL CONDITIONS TO THE CONSTRUCTION CONTRACT**

**ARTICLE 1: GENERAL PROVISIONS**

**1.1 DEFINITIONS, CORRELATION AND INTENT**

- 1.1.1 Definitions. Unless otherwise provided herein, capitalized terms used in this Contract, and not otherwise defined herein, have the respective meanings set forth in Exhibit A, which is attached hereto and incorporated herein by this reference.
- 1.1.2 Entire Agreement. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral.
- 1.1.3 Contractual Relationship. The Contract shall not be construed to create a contractual relationship of any kind (1) between the Design Professional and the Job Order Contractor, (2) between any Authorized Agent and the Job Order Contractor, (3) between the Owner and a Subcontractor or (4) between any persons or entities other than the Owner and Job Order Contractor. The Job Order Contractor is not a third party beneficiary to any agreement between the Owner and the Design Professional. Performance by the Design Professional of duties under such agreements is solely for the benefit of parties identified as beneficiaries under such agreements.
- 1.1.4 Intent. The intent of the Contract is to include all items necessary for the proper execution and completion of the Work by the Job Order Contractor.
- 1.1.5 Design Professional's Supplemental Instruction. Written interpretations necessary for the proper execution of the Work in the form of a Design Professional's Supplemental Instruction will be issued with reasonable promptness by the Design Professional. Supplemental Instructions may either be instructions, drawings or additional information but shall not change the Contract Sum or Contract Time unless there is a subsequently executed Change Order.
- 1.1.6 Request for Information/Interpretation. The Job Order Contractor shall submit requests for information and/or interpretation of the Contract to the Design Professional or to the Owner's designee, as may be requested by the Owner.
- 1.1.7 Contract Document Order of Precedence. The Drawings, Specifications, Task Orders, and other Contract Documents will govern the Work. The Contract Documents are intended to be complementary and cooperative and to describe and provide for a complete Project. Anything in the Specifications and not on the Drawings, or on the Drawings and not in the Specifications shall be as though shown or mentioned in both.
- 1.1.7.1 If there is a conflict among Contract Documents, the document highest in precedence shall control. The precedence for the Contract Documents shall be from the most restrictive to the lesser restrictive in the following order:
- 1.1.7.1.1 The Contract.

- 1.1.7.1.2 General Conditions.
  - 1.1.7.1.3 General Requirements.
  - 1.1.7.1.4 All applicable codes including, but not limited to Building Codes and Permits from agencies required by law.
  - 1.1.7.1.5 Change Orders.
  - 1.1.7.1.6 Contract Specifications.
  - 1.1.7.1.7 Contract Drawings - Material/Equipment Schedules.
  - 1.1.7.1.8 Contract Drawings - Detailed Plans, elevations, sections and isometrics.
  - 1.1.7.1.9 Contract Drawings - General Plans, elevations, sections and isometrics.
  - 1.1.7.10 Standard Plans, i.e. standard structural details, devices or instructions referred to on the Plans or Specifications by title or number.
  - 1.1.7.11 Reference Specifications, i.e. Test References, etc.
  - 1.1.7.2 The Job Order Contractor shall, upon discovering any error or omission in the Drawings or Specifications, immediately notify the Owner in writing.
- 1.1.8 Discrepancies in Contract. If there is any discrepancy, inconsistency, or ambiguity in the quality or quantity of the Work or materials required under the Contract, the Job Order Contractor shall (1) immediately bring such discrepancy, inconsistency, or ambiguity to the attention of the Owner, and (2) provide the better quality of and/or greater quantity of the Work or materials, without an increase in the Task Order Sum, unless otherwise directed in writing by the Owner. If the Owner accepts the lower quality or quantity of Work or materials, the Job Order Contractor shall remit to the Owner the difference in cost between the better quality or greater quantity and such lower quality or lesser quantity. Such remittance shall be in the form of a deductive Change Order as identified in Article 7.1.1.
- 1.1.9 Organization of Specifications and Drawings Not to Control Division of Work. Organization of the Specifications into divisions and sections, and arrangement of Drawings, shall not control the Job Order Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.
- 1.1.10 Job Order Contractor Solely Responsible for Division of Work. The Job Order Contractor is solely responsible for the division of the Work among Subcontractors. The Owner will not act as arbiter as to which trade or Subcontractor is to furnish or install the various items indicated or required to complete the Work. The Job Order Contractor shall make necessary arrangements to reconcile any and all labor conflicts without delay, damage, or cost to the Owner and without recourse to the Owner. Nothing in this section shall preclude the Owner from specifying that work be done by a specific Sub-Contractor to comply with the Owner's internal policies or requirements.
- 1.1.11 Technical and Industry Meanings. Unless otherwise stated in the Contract, words which have well-known technical or construction industry meanings are used in the Contract in accordance with such recognized meanings.
- 1.1.12 Current Standards. Where a reference in the Contract to an American Society for Testing and Materials Standard (ASTM), American National Standards Institute Standard (ANSI), federal specification, or

other recognized standard does not include the date of the standard, the edition current as of the date of the Contract Documents shall apply. No consideration will be given to claimed ignorance as to what a cited standard contains, since the Job Order Contractor and each Subcontractor is considered to be experienced and familiar with the generally accepted, published standards of quality and workmanship for its own trade. Requirements of such referenced standards form a part of the Specifications to the extent indicated by the references thereto.

## **1.2 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS**

- 1.2.1 Minor Design Services May Be Required For Some Task Orders. For those Task Orders that may require design services the Job Order Contractor shall consult with the Owner who may retain the services of a registered professional or request Job Order Contractor to retain a Design Professional. This section does not apply to fire protections or pre-fabricated metal structures, or any other exceptions as required by the Owner.
- 1.2.2 All Drawings, Specifications, and copies thereof furnished by or to the Job Order Contractor are and shall remain the property of the Owner. The Drawings and Specifications and the design reflected therein shall be kept strictly confidential and shall not be disclosed or released except as necessary for the performance of the Work. Neither the Job Order Contractor nor any Subcontractor shall own or claim a copyright in the Drawings, Specifications, or other documents. The Owner will retain all common law, statutory, and other reserved rights, in addition to the copyright. The Drawings, Specifications, and other documents prepared by the Job Order Contractor are for use solely with respect to this Project. They are not to be used by the Job Order Contractor or any Subcontractor on other projects, or for additions to this Project outside the scope of the Work, without the specific written consent of the Owner. The Job Order Contractor and its Subcontractors are granted a limited license to use and reproduce applicable portions of the Drawings, Specifications, and other documents necessary for execution the Work. All copies made under this license shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Owner's copyright or other reserved rights. Owner hereby releases Job Order Contractor from any and all liability that may arise in connection with the subsequent use of such Drawings and Specifications by the Owner and others. Job Order Contractor and Subcontractors shall not take or disseminate any photographs or videography of parts of the Project or the Project itself without first obtaining written permission of the Owner. This section shall not apply in the instance of the Job Order Contractor or Subcontractors utilizing pictures or videography internally in order to perform the Work.

## **ARTICLE 2: OWNER**

### **2.1 INFORMATION AND SERVICES REQUIRED OF THE OWNER**

- 2.1.1 The Owner shall furnish, for information purposes only, a copy of existing site information and conditions and shall also furnish any Plans and Specifications needed to construct the Project, if such have been prepared.
- 2.1.2 Communication with Job Order Contractor. The Owner shall forward all communications to the Job Order Contractor.
- 2.1.3 Aesthetic Decisions. The Owner's decisions on matters relating to aesthetic effect will be final.

### **2.2 OWNER'S RIGHT TO STOP THE WORK**

- 2.2.1 If the Job Order Contractor fails to perform or correct Work which is not in accordance with the requirements of the Contract, or does not allow other contractors to timely perform their work, the Owner may order the Job Order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Job Order Contractor or any other person or entity.

### **2.3 OWNER'S RIGHT TO CARRY OUT THE WORK**

- 2.3.1 The Owner shall have the right to contact the Job Order Contractor's Surety if the Owner determines that the Job Order Contractor is not performing in accordance with the Contract. If the Job Order Contractor defaults or neglects to carry out the Work in accordance with the Contract, or fails to commence and continue correction of such default or neglect with diligence or promptness, the Owner may, after forty eight (48) hours written notice to the Job Order Contractor and its Surety, require the Surety to promptly assume the obligations of the Contract. Should the Surety fail to assume the obligations within five (5) days after receipt of the written notices then Owner, without prejudice to any other remedy it may have, may correct such nonconforming Work. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Job Order Contractor or the Surety all costs of correcting such nonconforming Work, including but not limited to, compensation for additional services made necessary by such default, neglect, or failure. If the payments then or thereafter due the Job Order Contractor or its Surety are not sufficient to cover such amount, the Job Order Contractor or its Surety shall pay the difference to the Owner within thirty (30) days after receipt of the Owner's invoice.

## **ARTICLE 3 JOB**

### **3.1 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY JOB ORDER CONTRACTOR**

- 3.1.1 Notice of Errors. The Job Order Contractor warrants that he has carefully reviewed the Contract, and all documents pertaining to the Work, and that he is satisfied as to the feasibility and correctness of the Contract to perform the Work within the Contract Time. The Job Order Contractor shall immediately report to the Owner any errors, inconsistencies, or omissions discovered in the Contract Documents prior to submitting its Proposal. Any error, inconsistency, or omission which could have been discovered prior to submitting its Proposal are waived unless reported in written form to the Owner before submitting its Proposal. If the Job Order Contractor performs any construction activity containing an error, inconsistency, or omission that the Job Order Contractor recognized or should have recognized through the exercise of reasonable diligence, without reporting such error, inconsistency, or omission to the Owner, the Job Order Contractor shall assume responsibility for such performance and shall bear the costs for correction.



- 3.1.2 Examination of Site. The Job Order Contractor warrants that he has visited and examined the character of the Site and any existing structures and has satisfied himself as to the nature of the Work and all matters which could in any way affect the Work. The Job Order Contractor warrants that he has reviewed the geotechnical report, if any, included in the Proposal Documents. The Job Order Contractor shall take field measurements and verify field conditions and shall compare such field measurements and conditions and other information known to the Job Order Contractor with the Contract before commencing the Work. Errors, inconsistencies, or omissions discovered shall be reported to the Owner prior to submitting its Proposal. Any error, inconsistency, or omission which could have been discovered by the Job Order Contractor prior to submitting its Proposal are waived unless reported in written form to the Owner before submitting its Proposal. The accuracy of grades, elevations, dimensions, or locations on work installed by other contractors is not guaranteed by the Owner. The Job Order Contractor shall verify the accuracy of all grades, elevations, dimensions, and locations relating to the Work. In cases of interconnection of the Job Order Contractor's Work with other work, it shall verify at the Site all dimensions relating to such other work. Any error due to the Job Order Contractor's failure to verify the accuracy of such grades, elevations, location, or dimensions shall be promptly rectified by the Job Order Contractor without any additional cost to the Owner.
- 3.1.3 Job Order Contractor License. The Job Order Contractor warrants (1) that it is licensed under the laws of the State of Arizona to perform the Work at the time of Proposal submission, and (2) that it is familiar with and will comply with all applicable laws, statutes, ordinances, building codes, rules and regulations, and lawful orders of public authorities in performing the Work, including, but not limited to, environmental laws and A.R.S. Title 34, as amended.
- 3.1.4 Contract Compliance with Law. If the Job Order Contractor observes that portions of the Contract are at variance with applicable laws, statutes, ordinances, building codes, or rules and regulations, the Job Order Contractor shall promptly notify the Owner in writing, and necessary changes shall be accomplished by appropriate modification of the Work. If the Job Order Contractor performs Work it knows or should know to be contrary to laws, statutes, ordinances, building codes, or rules and regulations without such notice to the Owner, the Job Order Contractor shall assume full responsibility for such Work and shall bear all damages, losses, costs, and expenses attributable thereto.
- 3.1.5 Job Order Contractor Compliance with Contract. The Job Order Contractor shall perform the Work in accordance with the Contract and in a first class and workmanlike manner. In the event that the Job Order Contractor fails to do so, the Owner may withhold payments to protect the Owner from loss, regardless of whether payment has previously been made for the Work in question.

## **3.2 SUPERVISION AND CONSTRUCTION PROCEDURES**

- 3.2.1 Job Order Contractor to Supervise Work. The Job Order Contractor shall supervise and direct the Work using the Job Order Contractor's best skill and attention. The Job Order Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, safety, and procedures associated with its Work and for coordinating all portions of the Work under this Contract.
- 3.2.2 Acts and Omissions. The Job Order Contractor shall be responsible to the Owner for acts and omissions of the Job Order Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under a contract with the Job Order Contractor.
- 3.2.3 Duty to Perform. The Job Order Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract either by activities or duties of the Owner in their

administration of the Contract, or by tests, inspections, or approvals required or performed by persons other than the Job Order Contractor.

- 3.2.4 Duty to Inspect. The Job Order Contractor shall inspect portions of the Project related to the Job Order Contractor's Work in order to determine that such portions are in proper condition to receive subsequent Work.
- 3.2.5 Limitation on Liability. Job Order Contractor acknowledges that neither the Owner nor any of their respective agents, employees, successors, or assigns shall control the day-to-day operations of the Job Order Contractor and shall not determine construction means, methods, techniques or procedures, or safety precautions and programs in connection with the Work. Job Order Contractor agrees that neither the Owner nor any of their respective agents, employees, successors, or assigns shall be responsible for the failure of the Job Order Contractor to perform the Work in accordance with the Contract or with the laws, ordinances, rules, permit conditions, regulations, or lawful orders of any governmental agency having regulatory authority over the manner, methods, or means of performance of the Work.
- 3.2.6 Site Protection. The Job Order Contractor shall be responsible for all site protection and security needed during construction.

### **3.3 COST PROPOSALS AND SCHEDULE OF VALUES**

- 3.3.1 The Job Order Contractor shall submit to and have accepted by the Owner, a schedule detailing values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. (*See JOC Pricing and Schedule of Values form.*)
- 3.3.2 The following costs are not eligible for reimbursement pursuant to this Contract and shall not be included in any JOC cost proposal, unless otherwise authorized by the Owner in writing in advance.
  - 3.3.2.1 Cellular telephones
  - 3.3.2.2 Work vehicles
  - 3.3.2.3 Mileage
  - 3.3.2.4 Team building exercises
  - 3.3.2.5 Safety rewards
  - 3.3.2.6 Meals/entertainment
  - 3.3.2.7 Travel expenses,
- 3.3.3 For all CSI division on the JOC Cost Proposal and Schedule of Values, the following scale shall be used when receiving Sub-Contractor quotes for work:
  - \$0 - \$18,000 - 1 Subcontractor Quote Required
  - \$18,001 - \$50,000 - 2 Subcontractor Quotes Required
  - \$50,001 - \$999,999 - 3 Subcontractor Quotes Required
- 3.3.4 For self-performed work under \$18,001, one additional Subcontractor Quote will be required. For self-performed work over \$18,001, two additional Subcontractor Quote will be required. For self-performed work over \$50,001, three additional Subcontractor Quotes will be required.
- 3.3.5 The Task Order consists of both the Notice to Proceed and the Purchase Order. No Work is to begin on any Project unless both documents have been issued.

### **3.4 LABOR AND MATERIALS**

- 3.4.1 Job Order Contractor to Provide.

- 3.4.1.1 The Job Order Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, storage, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.
- 3.4.1.2 The Job Order Contractor shall furnish any and all labor, materials, equipment, transportation, utilities, services and facilities specified in the Task Order for which it is issued a Task Order Notice to Proceed in accordance with this Agreement. MIHS may determine it is in its best interest to furnish materials and equipment for a specific Task Order in accordance with the Task Order.
- 3.4.2 Skilled Labor. The Job Order Contractor shall enforce strict discipline and good order among the Job Order Contractor's employees and other persons carrying out the Contract. The Job Order Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. At the sole discretion and opinion of the Owner, the Job Order Contractor agrees to remove from the site any employee of the Job Order Contractor, Subcontractor, or other person performing under the scope of Work, upon notification by the Owner that any employee does not meet the requirements of this paragraph.
- 3.4.3 Standard of Quality. Wherever materials, products, articles, equipment, systems, or similar items are identified by reference to proprietary terms or by a similar reference, it is intended to establish the minimum standard or measure of quality that has been determined as requisite or intended for the Work.
- 3.4.4 Trade Names or Equals. The Job Order Contractor shall supply materials, processes, or equipment specified, or a prior approved equal. Whenever any particular material, process, or equipment is indicated by patent, proprietary or brand name, or by name of manufacturer, such wording is used for the purpose of facilitating its description and shall be deemed to be followed by the words "or prior approved equal"; unless such material, process, or equipment is specifically indicated as "proprietary". A listing of materials or equipment is not intended to be comprehensive, or in any order of preference.

### **3.5 SUBSTITUTION OF PRODUCTS**

- 3.5.1 Requests for Substitutions. After the Contract has been executed, the Owner may consider, but shall have no obligation to consider, a formal request for the substitution of products in place of those specified under the conditions set forth in Section 012500 of the General Requirements. The decision in the first instance on acceptance or rejection of proposed alternate, substitute or similar materials, products, equipment, or systems shall be vested with the Owner, whose decision shall be final and binding.
- 3.5.2 Conditions for Substitutions. By making requests for substitutions, the Job Order Contractor (1) represents that the Job Order Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified, (2) represents that the Job Order Contractor will provide the same warranty for the substitution that the Job Order Contractor would for that specified, (3) certifies that the cost data presented is complete and includes all related costs under the Contract, and waives all claims for additional costs related to the substitution which subsequently become apparent, and (4) will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
- 3.5.3 Criteria for Acceptance or Rejection of Substitutes. Acceptance or rejection of proposed alternate, substitute, or similar materials, products, equipment, or systems for use may be based on the construction, design, function, type, size, capacity, performance, strength, durability, finish,

aesthetic quality, schedule constraints, redesign costs, the Owner's standard for repair, replacement, and maintenance, or other characteristics or criteria approved by the Owner.

- 3.5.4 Expense for Modification. Any modification to the Contract or Work necessary as a result of the use of an approved alternate or substitute shall be paid by the Job Order Contractor proposing the substitution.
- 3.5.5 Rejection of Substitute. If any alternate or substitute is not approved, the Job Order Contractor shall use the specified material, product, equipment, or system without adjustment to the Contract Sum or Contract Time.

### **3.6 WORK HOURS**

- 3.6.1 Unless otherwise provided in the Task Order, Work shall be performed during regular working hours. Notwithstanding the foregoing, in the event of emergency or when required to complete, the Work may be performed on night shifts, overtime, weekends, or holidays, provided that permission to do so has been obtained from the Owner and confirmed in writing by the Owner twenty-four (24) hours prior to the commencement of such Work. The Job Order Contractor will not be entitled to additional compensation for Work performed outside of regular working hours, except to the extent such compensation is approved by the Owner in advance. If so approved, such compensation shall in such event cover only the direct cost of the premium portion of the time involved and not overhead and profit. In no event will Job Order Contractor be entitled to additional compensation for Work performed outside regular hours where occasioned by delays, need for repairs, or other causes attributable to Job Order Contractor or its Subcontractors, or to concurrent delay. Notwithstanding the foregoing and unless overtime has been requested by the Owner, the Job Order Contractor shall bear all costs of standby contractors, if any. In the event the Job Order Contractor performs any of the Work on night shifts, overtime, weekends, or holidays, the Job Order Contractor shall comply with all laws, ordinances, codes, rules, and regulations applicable thereto (including, without limitation, those relating to noise).

### **3.7 WARRANTY**

- 3.7.1 Free from Defects. The Job Order Contractor warrants to the Owner that (1) materials and equipment furnished under this Contract will be of first quality and new, (2) the Work will be free from defects, and (3) the Work will conform with the requirements of the Task Order. Work not conforming to these requirements, including substitutions not properly approved and authorized, shall be considered defective. This warranty is in addition to and not limited by the provisions of Article 12.2. The warranty period is one (1) year from Substantial Completion unless otherwise stated in the Contract documents.
- 3.7.2 Key System. During the warranty period in the event that any of the key systems in the Project are not functioning properly, the Job Order Contractor will repair those systems within 24 hours of written notice by the Owner. Key systems are defined in the General Requirements.
- 3.7.3 Assignment of Warranties. The Job Order Contractor shall assign to the Owner, before Substantial Completion is due, all manufacturer's warranties relating to equipment, materials, and labor used in the Work.

### **3.8 TAXES**

- 3.8.1 The Task Order Sum includes and the Job Order Contractor shall pay any and all sales, consumer, use, transaction privilege, and similar taxes on all monies owed for the Work or portions thereof provided by the Job Order Contractor.

### **3.9 PERMITS AND FEES**

- 3.9.1 Permits and Fees. The Owner shall secure and pay for the required building permits, plan check fees, and development fees. The Job Order Contractor shall secure and pay for all other permits and governmental fees, licenses, and inspections necessary for proper execution and completion of the Work. Job Order Contractor is required to comply with all Job Order Contractor-secured permit requirements at no additional cost to Owner.
- 3.9.2 Permit Set Copies. Job Order Contractor is required to provide Owner with three (3) copies of all permit sets (hard copy and electronic pdf copy) acquired by Job Order Contractor from any issuing entity, within two (2) business days from acquisition.

### **3.10 JOB ORDER CONTRACTOR KEY PERSONNEL**

- 3.10.1 On Site. The Job Order Contractor shall employ competent key staff as indicated in other Articles who shall be in attendance at the Site during performance of the Work. The competent project representative shall represent the Job Order Contractor, and communications given to the competent project representative shall be as binding as if given to the Job Order Contractor. Important communications shall be confirmed in writing by the Job Order Contractor.
- 3.10.2 Satisfactory to Owner. The Job Order Contractor's competent project representative and staff must be satisfactory to the Owner. The Job Order Contractor, three (3) days prior to the Preconstruction Conference, shall submit to the Owner the names and resumes of the competent project representative and key staff as indicated in other Articles which Job Order Contractor proposes to use for the Work. The competent project representative and key members of the Job Order Contractor's staff shall not change without the prior consent of the Owner. However, the Job Order Contractor agrees to change any competent project representative or member of the Job Order Contractor's staff at the request of the Owner, if in the opinion of the Owner, such person's performance is unsatisfactory.
- 3.9.3 Job Order Contractors Required to Attend Meetings. The Owner will call for meetings of the Job Order Contractor and Subcontractors as it deems necessary. Such meetings shall be held at or near the Site, on regular working days during regular working hours, unless otherwise directed by the Owner. Attendance shall be mandatory for all parties notified to attend, and the Job Order Contractor and Subcontractors so notified are required to have a responsible member of their organizations with full decision making authority in attendance.

### **3.11 JOB ORDER CONTRACTOR'S SCHEDULES**

- 3.11.1 Job Order Contractor Construction Schedule. The Job Order Contractor shall submit to the Owner, the Construction Schedule for the Work ("Job Order Contractor Construction Schedule"). Such Schedule (1) shall not exceed time limits as identified in the Task Order, (2) shall be updated and submitted as often as directed and in a format acceptable to the Owner, and (3) shall provide for expeditious and practicable execution of the Work. Pursuant to (1) above, Job Order Contractor shall make no claim for delay against the Owner for any Owner-caused delay within the Task Order Time.
- 3.11.2 Job Order Contractor shall include a total number of weather related days for the project within the final baseline construction schedule. If delay occurs due to weather related conditions, the Job Order Contractor shall submit a request for the number of days to the Owner for approval within 5 calendar days. Claims for delay due to weather will be deducted from the total number of days approved in the final baseline construction schedule.

- 3.11.3 Updated Schedules. The updated Job Order Contractor Construction Schedule shall not exceed time limits current under the Contract and shall be in accordance with and fully coordinated with all information previously supplied to the Job Order Contractor. Updated schedules shall be submitted as requested.
- 3.11.4 Scheduling Cooperation. The Job Order Contractor shall cooperate with the Owner in providing information and clarification as required to understand the Schedule and performance of the Job Order Contractor's Work to avoid conflict, delay in, or interference with the work of other contractors or the construction or operations of the Owner's own forces.
- 3.11.5 Conform to Most Recent Schedule. The Job Order Contractor shall conform to the most recent Schedule.
- 3.11.6 Selection of Products. Job Order Contractor shall, at the time of submittal of the Job Order Contractor Construction Schedule, advise the Owner of the date when the final selection and purchase of each product or system described by an Allowance must be completed to avoid delaying the Work.
- 3.11.7 Compliance with Schedules. The Job Order Contractor shall be responsible for all costs resulting from its lack of diligence or failure to provide needed labor or materials to meet the requirements of the Task Order. Owner may withhold payments to Job Order Contractor if requested to do so by Job Order Contractor's Surety, or if otherwise necessary to protect the Owner from delay or expense occasioned by the Job Order Contractor's failure to perform under the Contract.

### **3.12 DOCUMENTS AND SAMPLES AT THE SITE**

- 3.12.1 Job Order Contractor to Maintain. The Job Order Contractor shall maintain at the Site for the use of the Owner, one copy of all Drawings, Specifications, Bulletins, Addenda, Change Orders, Field Orders, reviewed Shop Drawings, Design Professional's Supplementary Instructions, Requests for Information/Interpretation, and other Contract-related documents and their modifications, if any, in good order and marked promptly by the Job Order Contractor to record all approved changes made during construction. The Job Order Contractor shall also maintain all available catalog data, price lists, manufacturer's operating and maintenance instructions, schematics, certificates, warranties, guarantees, and other documents as noted in the Construction Documents.
- 3.12.2 Record Documents. The Job Order Contractor shall provide the Owner with Record Documents as a condition of Substantial Completion and they must be updated and finalized before Final Application for Payment. The Job Order Contractor shall stamp and sign a certification statement on each Drawing and page thereof that the Record Documents, as submitted, are true and complete. Any changes after Substantial Completion shall be provided prior to Final Payment Application. Record Documents shall be updated daily and shall include approved changes and any field changes made by the Job Order Contractor. Accurate, updated Record Documents shall be a condition of approval of monthly and final Application for Payment.
- 3.12.3 Preparation of Manuals. Before Substantial Completion, the Job Order Contractor shall furnish to the Owner two (2) sets of hard copy manuals and/or two (2) sets of electronic copy manuals in PDF format on Recorded Compact (CD) disks containing the manufacturers' instructions for maintenance and operation of each item of equipment and apparatus furnished under the Contract and any additional data requested under the Specifications for each division of the Work. The manuals shall be indexed and bound or labeled in a manner acceptable to Owner. Warranties related to the Project shall be provided as required under Article 3.6 above.

### **3.13 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

- 3.13.1 Not Part of Contract. Shop drawings, product data, samples, and similar submittals are not part of the Contract. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the Job Order Contractor proposes to conform to the information given and the design concept expressed in the Contract.
- 3.13.2 Prompt Submittal. The Job Order Contractor shall submit shop drawings, product data, samples, and similar submittals required by the Contract in accordance with General Requirements Sections 013216 and 013300 and with such promptness as to cause no delay in the Job Order Contractor's own Work or in that of any other contractor. The Job Order Contractor shall cooperate with the Owner in the coordination of the Job Order Contractor's shop drawings, product data, samples and similar submittals with related documents submitted by other contractors. Submittals made by the Job Order Contractor which are not required by the Contract may be returned without action.
- 3.13.3 Review Required. The Job Order Contractor shall perform no portion of the Work requiring submittal and review of shop drawings, product data, samples, or similar submittals until the submittal has been reviewed by the Owner. Such Work shall be performed in accordance with reviewed submittals.
- 3.13.4 Representations Made by Submittals. By approving and submitting shop drawings, product data, samples, and similar submittals, the Job Order Contractor represents that the Job Order Contractor has determined and verified materials, field measurements, and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract.
- 3.13.5 Effect of Review. The Job Order Contractor shall not be relieved of responsibility for deviations from requirements of the Contract by the Owner's or Design Professional's review of shop drawings, product data, samples, or similar submittals unless the Job Order Contractor has specifically informed Owner in writing of such deviation at the time of submittal and the Owner have given written approval to the specific deviation. The Job Order Contractor shall not be relieved of responsibility for errors or omissions in shop drawings, product data, samples, or similar submittals by the review thereof.
- 3.13.6 Revisions to Submittals. The Job Order Contractor shall direct specific attention, in writing or on resubmitted shop drawings, product data, samples, or similar submittals, to revisions other than those requested by the Owner on previous submittals.
- 3.13.7 Informational Submittals. Informational submittals upon which the Owner are not expected to take responsive action shall be so identified in the submittals.
- 3.13.8 Professional Certification. When professional certification of performance criteria of materials, systems, or equipment is required by the Contract, the Owner shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.

### **3.14 USE OF SITE**

- 3.14.1 Limits on Use. The Job Order Contractor shall confine operations at the Site to areas permitted by law, ordinances, permits, and the Owner and shall not unreasonably encumber the Site with materials or equipment. Only materials and equipment which are to be used directly in the Work shall be brought to the Site. After equipment is no longer required for the Work, it shall be promptly removed from the Site. See Articles 4.1.1, 6.1.1, and 6.2.1 for requirements governing concurrent Site use.

- 3.14.2 Owner Approval. The Job Order Contractor shall coordinate the Job Order Contractor's operations with, and secure the approval of, the Owner before using any portion of the Site.
- 3.14.3 Display of Signs. The Job Order Contractor shall not display on or about the Site any sign, trademark, or other advertisement without the consent of the Owner.
- 3.14.4 Equipment Location. The Job Order Contractor's field offices, shanties, materials, storage rooms, hoists elevators, etc., if any, will be placed in locations approved by the Owner. When it becomes necessary, due to the progress of the Project, for the Job Order Contractor to relocate the Job Order Contractor's field operations; such relocation will be approved by the Owner and be accomplished in an expeditious manner with no increase in the Contract Sum.
- 3.14.5 Security. The Job Order Contractor's use of the Site is governed by Task Order requirements, if such requirements are included in the Task Order.

### **3.15 CUTTING AND PATCHING**

- 3.15.1 Job Order Contractor Responsible. The Job Order Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly with other work.
- 3.15.2 Consent Required. The Job Order Contractor shall not damage or endanger work performed by the Owner or other contractors by cutting, patching, excavating, or otherwise altering such construction. The Job Order Contractor shall not cut or otherwise alter work performed by the Owner or other contractors except with written consent of the Owner, and such other contractors; such consent shall not be unreasonably withheld. The Job Order Contractor shall not unreasonably withhold from the other contractors or the Owner the Job Order Contractor's consent to cutting or otherwise altering the Work.

### **3.16 CLEAN UP**

- 3.16.1 Daily Clean Up. The Job Order Contractor shall, on a daily basis, clean up after its operation by removing rubbish, including old and surplus materials. The Job Order Contractor shall use its best efforts to prevent dust. All waste materials, rubbish, and debris resulting from Job Order Contractor's Work shall be removed regularly from the Site, minimum once a week, and disposed in accordance with federal, state, and local laws. The Job Order Contractor shall not allow or permit the accumulation of waste, materials, or equipment that may impede or interfere with the safe production of work or with safe access or egress to the work areas, or impede in any way the ongoing Owner operations.
- 3.16.2 Final Clean Up. At the completion of the Work, the Job Order Contractor shall remove all its waste materials and rubbish from and about the Site as well as all its tools, construction equipment, machinery, and surplus materials. The Job Order Contractor shall professionally wash and clean all surfaces and leave the Work neat and clean, ready for occupancy by the Owner, unless higher cleaning standards are required elsewhere in the Contract. The Job Order Contractor shall be responsible for the overall cleanliness and neatness of the Work.
- 3.16.3 Failure to Clean Up. If the Job Order Contractor fails to perform regular daily cleanup or to clean up at the completion of the Work as specified, the Owner may do so or cause such Work to be performed, with the cost paid for by the Job Order Contractor. The Owner shall have the right to retain such costs from payments due Job Order Contractor and reduce the Task Order Sum by Task Order Modification.



- 3.16.4 Clean Up Disputes. If a dispute arises between the Job Order Contractor and other contractors not a party to this Contract as to their responsibility for cleaning up as required by this Article 3.15, or elsewhere in the Contract, the Owner may clean up and equitably charge the cost thereof to the several contractors. The Owner shall have the right to retain such costs from payments due Job Order Contractor and reduce the Task Order Sum by Task Order Modification.

### **3.17 ACCESS TO WORK**

- 3.17.1 The Job Order Contractor shall provide the Owner access to the Work in preparation and progress wherever located. The Job Order Contractor shall provide facilities for such access so that the Owner may perform its functions under the Contract.

### **3.18 ROYALTIES AND PATENTS**

- 3.18.1 Job Order Contractor Responsibility. The Job Order Contractor shall pay all royalties and license fees applicable to the Job Order Contractor's Work. The Job Order Contractor shall indemnify, defend, and hold harmless the Indemnitees from any and all suits, demands, or claims for infringement of any patent rights unless a particular design, process, or product is specified in the Contract. If such specification is made and the Job Order Contractor has reason to believe it is an infringement of a patent, the Job Order Contractor shall be responsible for any loss arising therefrom unless the Job Order Contractor promptly notifies the Owner prior to performing any portion of the Work involving the patented item.
- 3.18.2 Effect of Review by Owner. The review by the Owner of any method of construction, invention, appliance, process, article, device, or material of any kind shall not constitute an approval thereof for use by the Job Order Contractor in violation of any patent or other rights of any third party.
- 3.18.3 After the Contract has been executed, the Owner and Design Professional may consider, but shall have no obligation to consider, Value Engineering Proposals. The decision in the first instance on acceptance or rejection of a Value Engineering Proposal for a proposal to use similar materials, products, equipment or systems shall be vested in the Design Professional, and ultimately with the Owner, whose decision shall be final and binding. If the submission of Value Engineering Proposals will be considered under this Contract, Specific General Requirements Section 012413 will be included in the Contract Documents.

## **ARTICLE 4 ADMINISTRATION AND RESOLUTION OF DISPUTES**

### **4.1 ADMINISTRATION OF THE CONTRACT**

- 4.1.1 Concurrent Site Use. The Owner will provide for coordination of the activities of other contractors and of the Owner's own forces with the Work of the Job Order Contractor, who shall cooperate with them. The Owner will schedule and coordinate all contractors with respect to their use of the Site. The Job Order Contractor shall participate with other contractors and the Owner in reviewing their construction schedules when directed to do so. The Job Order Contractor shall make any revisions to the Job Order Contractor Construction Schedule deemed necessary by the Owner.
- 4.1.2 The Owner will not have control over or change of and will not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Job Order Contractor's responsibility.

### **4.2 CLAIMS AND DISPUTES**

- 4.2.1 Time Limits on Claims. Claims by the Job Order Contractor must be made within the number of days specified herein after the occurrence of the event giving rise to such Claim or after the Job Order Contractor should have recognized, in the exercise of due diligence, the condition giving rise to such Claim. Claims must be made by written notice. An additional Claim made after the

initial Claim has been implemented by Task Modification will not be considered unless submitted in a timely manner.

**4.2.2** Continuing Contract Performance. Pending final resolution of a Claim, including Alternative Dispute Resolution as provided for in Exhibit B of this document, the Job Order Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract other than amounts in dispute.

**4.2.3** Claims for Concealed or Unknown Conditions. If conditions are encountered at the Site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract, (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent at the Site, and (3) could not have been discovered by a thorough inspection and investigation of the Site by the Job Order Contractor, the Job Order Contractor shall give written notice within twenty-four (24) hours of such to the Owner. The Owner will promptly investigate such conditions and, if they differ materially and cause an increase or decrease in the Job Order Contractor's cost of, or time required for, performance of any part of the Work, may arrange for an equitable adjustment in the Task Order Sum or Task Order Time, or both. If the Owner determines that the conditions at the Site are not materially different from those indicated in the Contract and that no change in the terms of the Contract is justified, the Owner shall so notify the Job Order Contractor in writing, stating the reasons. Claims by the Job Order Contractor in opposition to such determination must be made within five (5) days after the Owner has given notice of the decision.

**4.2.4** Claims for Additional Cost.

4.2.4.1 Notice Prior to Execution of Work. If the Job Order Contractor wishes to make Claim for an increase in the Contract Sum, written notice as provided in Article 4.2.4.2 shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Article 10.3. If the Job Order Contractor believes additional cost is involved for reasons including, but not limited to, (1) a written interpretation from the Owner, (2) an order by the Owner to stop the Work where the Job Order Contractor was not at fault, (3) a written order for a minor change in the Work, (4) failure of payment by the Owner, (5) termination of the Contract by the Owner, (6) Owner's suspension, or (7) other reasonable grounds, Claim shall be filed in accordance with Article 4.2.4.2.

4.2.4.2 Five Days After Occurrence. If the Job Order Contractor wishes to make a Claim for an increase in the Contract Sum, the Job Order Contractor shall give the Owner written notice thereof within five (5) days after the occurrence of the event giving rise to such Claim or within fourteen (14) days after the Job Order Contractor should have recognized, in the exercise of due diligence, the condition giving rise to such Claim. The Job Order Contractor shall provide such notice before proceeding to execute the Work. Claim with respect to an emergency shall be made not later than three (3) days after occurrence of the emergency as to which the Work was performed.

4.2.4.3 Waiver of Claim for Additional Cost. Failure to give notice of a Claim for an increase in the Task Order Sum in strict compliance with the requirements of this Article 4.2.4 shall constitute a waiver of such Claim.

4.2.4.4 Claims Against Owner's Authorized Agent. If the Job Order Contractor wishes to make a Claim or allegation based upon actions or omissions of the Owner's designated Authorized Agent in any way related to or touching on the activities, events, losses, or expenses set forth

in a Claim presented pursuant to this Article 4, such Claim shall be set forth and reasonably described in the notice required by Article 4.2.4.1. Failure to set forth and describe such Claim or allegation in such notice shall constitute a waiver of such Claim against the Owner's Authorized Agent. Claim shall be made within fourteen (14) days after the occurrence of the event giving rise to such Claim or within fourteen (14) days after the Job Order Contractor should have recognized, in the exercise of due diligence, the condition giving rise to such Claim.

**4.2.5 Claims for Additional Time.**

- 4.2.5.1 Estimate of Cost and Delay. If the Job Order Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided in Article 4.2.5.4 shall be given. The Job Order Contractor's Claim shall include an estimate of cost, analysis of Schedule and impact on critical path, and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.
- 4.2.5.2 Adverse Weather. If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal (pursuant to NOAA) for the period of time and could not have been reasonably anticipated, and that weather conditions had an adverse effect on the scheduled construction.
- 4.2.5.3 Critical Path. No extension of time shall be granted to the Job Order Contractor for a delay caused by the Owner, any of the other contractors, or other causes beyond the Job Order Contractor's control, unless the delay affects the critical path of the Project, and then only to the extent that the delay affects the critical path. No extension of time shall be granted to the Job Order Contractor to the extent that, notwithstanding the existence of any such circumstance beyond the Job Order Contractor's control, delay would have resulted in any event due to a concurrent unexcused delay by the Job Order Contractor.
- 4.2.5.4 Notice of Claim for Additional Time. Should the Job Order Contractor contend that it is entitled to an extension of time for completion of any portion or portions of the Work, the Job Order Contractor shall, within seven (7) days of the occurrence of the cause of the delay, notify the Owner, in writing, of its Claim, setting forth (1) the cause of the delay, (2) a description of the portion or portions of Work affected by the delay, (3) the specific number of days of delay for which an extension of time is requested, and (4) all details pertaining thereto. Within five (5) Business Days after the expiration of any such delay, if such delay continues after the filing of the Claim pursuant to the foregoing sentence, the Job Order Contractor shall deliver to the Owner a subsequent written application for the specific number of days of extension of time requested.
- 4.2.5.5 Waiver of Claim for Additional Time. Failure to give notice of a Claim for extension of time in strict compliance with the requirements of this Article 4.2.5 shall constitute a waiver of such Claim.

**4.2.6 Injury or Damage to Person or Property.** If the Job Order Contractor suffers injury or damage to person or property because of an act or omission of the Owner, written notice of such injury or damage, whether or not insured, shall be given to the Owner within a reasonable time not exceeding three (3) Business Days after first observance. The notice shall provide sufficient detail to enable the Owner to investigate the matter. If a Claim for additional cost or time related to

this Claim is to be asserted, it shall be filed as provided in Article 4.2.4 or 4.2.5.

**4.2.7** Correspondence Issues. If the Job Order Contractor does not agree with a statement or statements set forth in correspondence from the Owner, the Job Order Contractor must submit a written statement within seven (7) days after receipt, setting forth the facts of the issue. Otherwise, the statement will be deemed to have been accepted.

#### **4.3 ALTERNATIVE DISPUTE RESOLUTION**

4.3.1 Notwithstanding anything to the contrary provided elsewhere in the Contract, the Alternative Dispute Resolution ("ADR") process provided for in Exhibit B attached hereto and incorporated herein by this reference shall be the exclusive means for resolution of claims or disputes arising under this Contract.

### **ARTICLE 5 SUBCONTRACTORS**

#### **5.1 CONTRACTUAL RELATIONSHIP**

5.1.1 Nothing contained in the Contract shall create any contractual relationship between the Owner and any Subcontractor. However, MIHS reserves the right to reject any subcontractor proposed by the Job Order Contractor.

#### **5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK**

5.2.1 Division of Work. The Job Order Contractor shall, prior to execution of the Contract, designate and distinguish in writing to the Owner those portions of the Work to be performed by Subcontractors and the Job Order Contractor's own forces.

5.2.2 Proposed Subcontractors. The Job Order Contractor shall, prior to the start of the Work, furnish in writing to the Owner for review the names of person or entities (including those who are to furnish materials or equipment) proposed for the design, if any, and management portion of the Work.

#### **5.3 SUBCONTRACTUAL RELATIONS**

5.3.1 Subcontractors Subject to Contract. By an appropriate written Agreement, the Job Order Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Job Order Contractor by the terms of the Contract, and to assume toward the Job Order Contractor all the obligations and responsibilities which the Job Order Contractor assumes toward the Owner, except with respect to the ADR provisions of this Contract. The Job Order Contractor shall require its Subcontractors to enter into similar agreements with their Subcontractors, except with respect to the ADR provisions of this Contract. The Job Order Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract, copies of this Contract to which the Subcontractor will be bound, except with respect to the ADR provisions of this Contract. Each Subcontractor shall similarly make copies of this Contract available to their Subcontractors.

5.3.2 Terms to be Included in Subcontracts. All Work performed for the Job Order Contractor by a Subcontractor shall be pursuant to a written agreement between the Job Order Contractor and the Subcontractor. The Job Order Contractor will ensure that each such subcontract contains provisions requiring:

- 5.3.2.1 that the Work be performed and guaranteed in accordance with the requirements of this Contract;
- 5.3.2.2 submission to the Job Order Contractor of Applications for Payment under each subcontract in the manner prescribed by the Owner, and reasonable time to enable the Job Order Contractor to apply for payment in accordance with Article 9;
- 5.3.2.3 that the Subcontractor pay sub-subcontractors in accordance with A.R.S. § 34-221;
- 5.3.2.4 that the Subcontractor purchase and maintain insurance and comply with all insurance provisions as required by Article 11. If any subcontractor is unable to comply with this paragraph the Job Order Contractor shall request a waiver of this requirement in writing, and shall provide justification for a waiver. If the Owner grants the request it shall not constitute a waiver of the Owner's right to strict performance of this contract, including the insurance requirements for all other subcontractors. No waiver of a subcontractor's insurance requirements will be effective unless it is in writing.
- 5.3.2.5 that the Subcontractor consents to an assignment of the subcontract from the Job Order Contractor to the Owner in the event of termination of the Job Order Contractor by the Owner.
- 5.3.2.6 that the Subcontractor complies with all safety requirements.

#### **5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACT**

- 5.4.1 Each subcontract for a portion of the Work is hereby assigned by the Job Order Contractor to the Owner provided that:
  - 5.4.1.1 assignment is effective only after termination of the Task Order or Contract by the Owner for cause pursuant to Article 15.1 and only for those subcontracts which the Owner accepts by notifying the Subcontractor in writing; and
  - 5.4.1.2 assignment is subject to the prior rights of the Surety, if any, obligated under the bond required by the Contract.
- 5.4.2 The Job Order Contractor shall conform to the Subcontractor Plan. The Job Order Contractor's submitted subcontractor selection plan applies to all persons or firms selected to perform the construction services and requires the selection of subcontractors to be based on qualifications alone or on a combination of qualifications and price, but not based on price alone.

### **ARTICLE 6 CONSTRUCTION BY OWNER OR BY OTHER CONTRACTORS**

#### **6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION WITH OWN FORCES AND TO AWARD OTHER CONTRACTS**

- 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, which include persons or entities under separate contracts not administered by the Owner. The Owner further reserves the right to award other contracts in connection with other portions of the Project or other construction or operations on the Site.

#### **6.2 MUTUAL RESPONSIBILITY**

- 6.2.1 Coordination with Owner's Forces. The Job Order Contractor shall afford the Owner's own forces, and other contractor's reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Job Order Contractor's construction and operations with theirs as required by the Contract.

- 6.2.2 Defects in Other Work. If part of the Job Order Contractor's Work depends upon construction or operations by the Owner's own forces or other contractors, the Job Order Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Owner apparent discrepancies or defects in such other construction that would render it unsuitable for proper execution and results. Failure of the Job Order Contractor to so report shall constitute an acknowledgment that the Owner's own forces or other contractors' completed or partially completed construction is fit and proper to receive the Job Order Contractor's Work, except as to defects not then reasonably discoverable.
- 6.2.3 Damage to Other Work. The Job Order Contractor shall promptly remedy damage caused by the Job Order Contractor to the completed or partially completed Project or to the property of the Owner or other contractors.

**ARTICLE 7 CHANGES IN THE WORK**

**7.1 CHANGES IN THE TASK ORDER**

- 7.1.1 The Owner reserves the right to make, at any time during the progress of a Task Order, such alterations as may be found necessary or desirable.
- 7.1.1.1 Such alterations and changes shall not invalidate this Contract or the Task Order nor release the surety and the Job Order Contractor agrees to perform the Task Order as altered, the same as if it has been a part of the original Task Order Documents.
- 7.1.1.2 The Owner will request a proposal for a change in a Task Order from the Job Order Contractor, and an adjustment in the Task Order Price and/or Task Order Time shall be made based on a mutually agreed upon cost and time. The Job Order Contractor may proceed with the modified Work only when a revised Purchase Order and a Notice to Proceed have been issued for the revised Work.
- 7.1.2 Task Order Sum. Adjustments to the Task Order Sum shall be based on actual cost, which is itemized for the purpose of preparing pricing for Task Orders and Task Order Modifications, the Job Order Contractor shall submit to the Owner a complete itemization of all costs required for the Task Order or Task Order Modification in such form and detail as requested by the Owner.
- 7.1.3 Calculating Mark-Up Costs on a Modification. All markups for modifications, additive and deductive shall be calculated in the following manner. When both additive deductive activities exist within the same modification, mark-ups shall be calculated on the net amount. Each trade billing for a modification shall indicate the PCO number and the amount billed against the PCO number.

**Example:**

Direct Cost of the Work	\$1,000.00
Bond (.67%)	\$6.70
General Liability (.53%)	\$5.34
Builders Risk (.13%)	<u>\$1.32</u>
Subtotal	\$1,013.36
Overhead (8.00%)	\$81.07
Fee (5.00%)	<u>\$50.67</u>
Subtotal	\$1,145.10 <sup>1</sup>

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<sup>1</sup> Any/all applicable sales or transaction privilege taxes must be determined by the Job Order Contractor.

- 7.1.4 Actual Costs. Except for modifications based on unit prices included in the Contract, cost changes shall be computed by determining the actual cost enumerated in Article 7.1.2. to which the combined overhead and profit may be added, and then adding the insurance, bonds, and tax to compute the total cost.
- 7.1.5 Labor Prices, General Conditions, Overhead and Profit and Fees in the Contract are in effect for the duration of the Contract not subject to further overhead and profit adjustments. The Contract Sum will be adjusted by the direct extension of the number of units and the unit prices.
- 7.1.6 Final Settlement. Agreement on any Task Order Modification shall constitute a final settlement of all matters relating to the change in the Work which is the subject of the Modification, including, but not limited to, all direct and indirect costs associated with such change, any impact such change may have on the unchanged Work, and any and all adjustments to the Task Sum or the Task Time. In the event a Modification increased the Task Sum, the Job Order Contractor shall include the Work covered by such Modification in Applications for Payment as if such Work were originally part of the Contract. Agreement on any Modification releases the Owner, Design Professional and any other party in privity of Contract with the Owner with respect to the Project from all claims or liabilities arising in any way in connection with, or in any way associated with, such Modification.

## **7.2 NO DAMAGES FOR DELAY**

No claim for damages, or any claim other than for an extension of time, shall be made or asserted against OWNER by reason of any delays unless such delay is one for which the Owner is responsible, which is unreasonable under the circumstances and which was not one within the contemplation of the parties at the time of contracting. Otherwise the Job Order Contractor shall not be entitled to an increase in the Contract Price or payment or compensation of any kind from OWNER for direct, indirect, consequential, impact or other costs, expenses or damages, including, but not limited to, costs of acceleration or inefficiency, arising because of delay, disruption, Eichleay Formula Costs, interference or hindrance from any cause whatsoever, whether such delay, disruption, interference or hindrance be reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable; provided further, however, that this provision shall not preclude recovery of damages by the Job Order Contractor for hindrance or delays due solely to fraud, bad faith or active interference on the part of OWNER or its agents. Otherwise, the Job Order Contractor shall be entitled only to extensions of the Contract Time as the sole and exclusive remedy for such resulting delay, in accordance with and to the extent specifically provided above.

## **ARTICLE 8 TIME**

### **8.1 PROGRESS AND COMPLETION**

- 8.1.1 Consent to Task Order Time. The Job Order Contractor acknowledges that the Task Order Time is a reasonable period for performing the Work, and that it is capable of properly completing the Work within the Task Order Time.
- 8.1.2 Compliance with Task Order Time. The Job Order Contractor shall carry the Work forward expeditiously with adequate forces to maintain progress in accordance with the Job Order Contractor Construction Schedule and to complete the Work within the Task Order Time.
- 8.1.3 Notice Required Before Commencing Work. The Job Order Contractor shall give timely notice before commencement of the Work, to all persons, public utility companies, Owners of property having structures or improvements in proximity to the Site, superintendents, inspectors, or those otherwise in charge of property, streets, water lines, gas lines, sewer lines, telephone cables, communication or data cables, electric cables, railroads, or others who may be affected by Job Order Contractor's operations, in order that they may remove any obstruction for which they are

responsible, and have representation on the Site to see that their property is properly protected in accordance with requirements of the Task Order. Such notice does not relieve the Job Order Contractor of responsibility for any damages, claims, or defense of all actions against the Owner resulting from performance of the Work.

- 8.1.4 Maintenance of Utilities. The Job Order Contractor shall (1) protect utilities encountered whether indicated on Drawings or not; (2) exercise care in excavation around utilities; (3) restore any damaged items to the same condition (or better) as existed prior to starting the Work; and (4) maintain utilities or other services indicated to be abandoned in service until new services are provided, tested, and ready for use. Note: In Owner campuses, use of private utility locator service is required, as Blue Stake has no record of underground utilities in these areas.

## **8.2 DELAYS AND EXTENSIONS OF TIME**

- 8.2.1 Notice of Delays. The Job Order Contractor shall provide prompt written notice to the Owner of the occurrence of any delay, and in no event shall such notice be given later than forty-eight (48) hours after commencement of the delay. The Job Order Contractor agrees that adjustments in the Contract Time will be permitted for a delay only to the extent such delay (1) is not caused or should not have been anticipated by the Job Order Contractor, and (2) could not have been limited or avoided by the Job Order Contractor's timely notice to its suppliers, Subcontractors, or Owner of the delay.
- 8.2.2 Claims for Additional Time. Claims relating to time shall be made in accordance with Article 4.2.5.
- 8.2.3 Recovery of Damages Not Precluded. This Article 8.2 does not preclude recovery of Owner's damages for delay by the Job Order Contractor, if such occurs.

## **8.3 TIME OF ESSENCE AND LIQUIDATED DAMAGES**

- 8.3.1 Time is of the essence with respect to the performance of each of the covenants, conditions, and obligations contained in this Contract.
- 8.3.2 Upon failure of Job Order Contractor to substantially complete the Task Order within the specified period of time, plus approved time extensions, Job Order Contractor shall pay to OWNER the sum identified in the Notice to Proceed for each calendar **day** after the time specified in the Task Order Notice to Proceed, plus any approved extensions for Substantial Completion. After Substantial Completion, should Job Order Contractor fail to complete the remaining work within the time specified in the Task Order Notice to Proceed, plus approved time extensions thereof, for completion and readiness for Final Completion, Job Order Contractor shall pay to OWNER the sum identified in the Notice to Proceed for each calendar **day** after the time specified in the Task Order Notice to Proceed, plus any approved extensions, for completion and readiness for final payment. These amounts are not penalties but are liquidated damages to OWNER for its inability to obtain full beneficial occupancy of the Project.

Liquidated damages are hereby fixed and agreed upon between the parties, recognizing the impossibility or difficulty of precisely ascertaining the amount of damages that will be sustained by OWNER as a consequence of such delay, and both parties desiring to obviate any questions of dispute concerning the amount of said damages and the cost and effect of the failure of Job Order Contractor to complete the Task Order on time. The above-stated liquidated damages shall apply separately to Substantial Completion and Final Completion.

- 8.3.3 OWNER is authorized to deduct liquidated damages from monies due to Job Order Contractor for the work under this contract or as much thereof as OWNER may, at its option, deem just and reasonable.



## ARTICLE 9 PAYMENTS AND COMPLETION

### 9.1 SCHEDULE OF VALUES

- 9.1.1 The Schedule of values, after acceptance by the Owner, shall be used as a basis for reviewing the Job Order Contractor's Applications for Payment.

### 9.2 APPLICATIONS FOR PAYMENT

- 9.2.1 Job Order Contractor shall submit to the Owner an itemized application requesting payment for Work completed, or reasonably projected to be completed by the end of the month, in accordance with the Schedule of Values, substantiating the Job Order Contractor's right to payment as Owner may require, such as copies of requisition from Subcontractors ("Application for Payment").

- 9.2.2 Submission of Applications for Payment.

9.2.2.1 One original of the payment invoice is to be submitted by delivering a complete invoice with all substantiating documentation electronically to: [accountpay@mihs.org](mailto:accountpay@mihs.org).

- 9.2.3 All invoices must include the following information. Failure to include this information may cause the invoice to be rejected and may result in delayed payments.

- Project Name
- Project Number
- Contract Number
- Purchase Order Number
- Vendor Name
- MIHS Vendor Number
- Unique Invoice Number

- 9.2.4 MIHS shall pay Job Order Contractor within fourteen (14) days of receipt of Job Order Contractor's proper statement. To be deemed proper, all invoices must comply with the requirements set forth in this Agreement and must be submitted on the form and pursuant to instructions prescribed by Project Manager. Payment may be withheld for failure of Job Order Contractor to comply with a term, condition, or requirement of this Agreement.

- 9.2.5 Notwithstanding any provision of this Agreement to the contrary, MIHS may withhold, in whole or in part, payment to the extent necessary to protect itself from loss on account of inadequate or defective work which has not been remedied, or resolved in a manner satisfactory to the Project Manager, and/or due to Job Order Contractor's failure to comply with Section 3.2.1 herein. The amount withheld shall not be subject to payment of interest by MIHS.

- 9.2.6 Task Modification Payment. Applications for Payment may not include requests for payment for changes in the Work that have not been properly authorized by Task Modification.

- 9.2.7 Identifying Task Modifications in the Schedule-of-Values. Each modification shall be listed separately in the Job Order Contractor's Schedule-of-Values. Modifications shall be listed by Potential Change Order number, by trade or Subcontractor and include a line item for the JOC's mark-ups associated with the change.

#### **Example:**

A modification occurs including three trades. The Owner issues a Potential Change Order Request #005. Another modification occurs including two trades. The Owner issues Potential Change Order Request #006.

(Schedule-of Values)	Scheduled Value	Previously Paid	This Period.....
Electrical PCO #005	\$1,000.00	0.00	0.00
Mechanical PCO #005	\$1,500.00	0.00	0.00
Framing/Drywall PCO #005	\$1,000.00	0.00	0.00
JOC Markups PCO #005	\$388.72	0.00	0.00
Electrical PCO #006	\$1,000.00	0.00	0.00
Framing/Drywall PCO #006	\$500.00	0.00	0.00
JOC Markups PCO #006	\$166.59	0.00	0.00

- 9.2.8 Disputes with Subcontractors. Applications for Payment may not include requests for payment of amounts the Job Order Contractor does not intend to pay to a Subcontractor because of a dispute or other reason.
- 9.2.9 Payment for Stored Materials. Unless otherwise provided in the Contract, payment may, on a limited basis, be made on account of materials and equipment delivered and suitably stored, either on or off the site, for subsequent incorporation in the Work. Approval for payment of stored materials or equipment is at the sole discretion of the Owner. All off-site materials and equipment shall be stored in a licensed and bonded warehouse. All costs associated with inspection of off-site materials and equipment, exclusive of time, shall be borne by Job Order Contractor, and Job Order Contractor shall be responsible for all arrangements.
- 9.2.10 Lien Waivers. The Job Order Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Job Order Contractor also warrants that upon submittal of an Application for Payment all Work for which payments have been received from the Owner shall be free and clear of liens, claims, security interests, or encumbrances in favor of the Job Order Contractor, Subcontractors, or other persons or entities making a claim by reason of having provided labor, materials, or equipment relating to the Work. All Applications for Payment shall include lien waivers executed by the Job Order Contractor providing labor, equipment, or materials for the Work in the form set forth in A.R.S. § 33-1008. The Job Order Contractor shall indemnify, defend, and hold harmless the indemnitee (the Owner) against any lien by any Subcontractor, Sub-Subcontractor, vendor, supplier, manufacturer or other entity or person supplying labor, equipment, or materials related to the Work.
- 9.2.11 Accounting. The Job Order Contractor shall keep full and detailed accounts and exercise such control as may be necessary for proper financial management under this contract; the accounting and control system shall be satisfactory to the Owner. The Job Order Contractor shall provide access and cooperate fully in the review of all project records. At a minimum, Job Order Contractor shall afford access to Owner, its accountants, auditors, and any other designated agents, to the Job Order Contractor's records books, correspondence, instructions, drawings, payroll records, receipts, subcontracts, proposals, purchase orders, vouchers, memoranda and other data relating to this Project as required by the Owner. The Job Order Contractor shall preserve these records for a period of three (3) years after final payment, or such longer time as may be required by law.
- 9.2.12 Owner may withhold, in whole or in part, any progress payment to Job Order Contractor to such extent as may be sufficient to pay the Expenses the Owner reasonably expects to incur to correct any deficiency in the Work set forth in specific written finding by Design Professional or Owner prepared for those items in the pay application of the estimate of the Work that are not approved for payment in that pay application under the Contract. If Owner in its good faith judgment, determines that the portion of the Task Order Price then remaining unpaid will not be sufficient to

complete the Work in accordance with Contract Documents as set forth in written detail and provided to Job Order Contractor pursuant to A.R.S. § 34-609, no additional payments will be due to Job Order Contractor hereunder unless and until Job Order Contractor, as its sole cost, performs a sufficient portion of the Work so that such portion of the GMP then remaining unpaid is determined by Owner to be sufficient to so complete the Work. It is the intention of this Article 9.2 to provide Owner with the maximum protection afforded an Owner under the Prompt Pay Provisions of A.R.S. § 34-609.

### **9.3 RECOMMENDATION FOR PAYMENT**

- 9.3.1 Timing for Recommendation. The Job Order Contractor's Application for Payment shall be deemed approved and certified for payment within seven (7) days from the date of submission to the Architect/Engineer (hereinafter "A/E"), if utilized, or Owner, unless within seven (7) days from the date of submission, the A/E or Owner issues a written finding to the Job Order Contractor specifying those items in the Application for Payment that will not be approved for payment. The Owner may withhold an amount from the progress payment sufficient to pay the expenses that the Owner reasonably expects to incur in correcting the deficiency set forth in the written finding. Undisputed portions of progress payments shall be paid within fourteen (14) days after approval of the Application for Payment by the Owner. If utilized, the A/E shall recommend payment to the Owner only upon their determination that the Work has progressed to the point indicated in the Job Order Contractor's Application for Payment and that to their knowledge, information, and belief, the quality of the Work is in accordance with the Contract.
- 9.3.2 Recommendation Subject to Later Evaluation. The recommendation of the Architect/Engineer, if utilized, and the decision of the Owner to make a payment is subject to later evaluation of the Work for conformance with the Contract upon Substantial Completion, to results of subsequent tests and inspections, to minor deviations from the Contract correctable prior to completion, and to specific qualifications expressed by the A/E or Owner. The issuance of a recommendation for payment will not be a representation that the A/E or Owner has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed the Job Order Contractor's construction means, methods, techniques, sequences, or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Job Order Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Job Order Contractor has used money previously paid on account of the Contract Sum.

### **9.4 DECISIONS TO WITHHOLD RECOMMENDATION**

- 9.4.1 Criteria for Withholding Recommendation. The Owner may decide not to recommend payment and may withhold a recommendation in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Owner's opinion the representations to the Owner required in Article 9.3.1 cannot be made. If the Owner is unable to recommend payment in the amount of the Application for Payment, the Owner will notify the Job Order Contractor as provided in Article 9.3.1. If the Job Order Contractor and Owner cannot agree on a revised amount, the Owner will promptly issue a recommendation for the amount for which the Owner is able to make such representations to the Owner. The Owner may also decide not to recommend payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a recommendation previously issued, to such extent as may be necessary in the Owner's opinion to protect the Owner from loss because of:
- 9.4.1.1 Defective Work not remedied;
  - 9.4.1.2 Third party claims filed or reasonable evidence indicating probable filing of such claims;
  - 9.4.1.3 Failure of the Job Order Contractor to make payments properly to Subcontractors or for labor, materials, or equipment;

- 9.4.1.4 Reasonable evidence that the Work cannot be completed for the unpaid balance of the Task Order Sum;
  - 9.4.1.5 Damage to the Owner or another contractor or Job Order Contractor;
  - 9.4.1.6 Reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
  - 9.4.1.7 Persistent failure to carry out the Work in accordance with the Contract;
  - 9.4.1.8 Unsatisfactory prosecution of the Work or failure to comply with the Contract Schedule;
  - 9.4.1.9 Failure to supply shop drawings or other required submittals;
  - 9.4.1.10 Erroneous estimates by the Job Order Contractor of the value of the Work performed;
  - 9.4.1.11 The existence of a breach by the Job Order Contractor of any provision in the Contract;
  - 9.4.1.12 Failure to execute an assignment of insurance related proceeds pursuant to Article 11.2.2.10;
  - 9.4.1.13 Failure to provide or submit in a timely manner safety related documentation required by the Contract or Owner.
  - 9.4.1.14 Failure to provide manuals as required by Contract;
  - 9.4.1.15 Failure to submit lien waivers as required by Article 9.2.6;
  - 9.4.1.16 Failure to submit Schedule updates as set forth herein;
  - 9.4.1.17 Failure to submit a Safety Plan per Article 10;
  - 9.4.1.18 Failure to maintain and provide Record Documents as set forth herein.
- 9.4.2 Recommendation Made Upon Compliance. When the above reasons for withholding recommendation are removed, recommendation will be made for amounts previously withheld.

## **9.5 PAYMENTS TO SUBCONTRACTORS**

- 9.5.1 Payment to be Made Within Seven (7) Days. In accordance with A.R.S. § 34-221(E), the Job Order Contractor shall pay each Subcontractor, within seven (7) days of receipt of payment from the Owner, out of the amount paid to the Job Order Contractor on account of such portion of the Work. The amount to which each Subcontractor is entitled shall reflect payments to the Job Order Contractor on account of such Subcontractor's portion of the Work. The Job Order Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to sub-subcontractors in the same manner.
- 9.5.2 No Obligation to Oversee Payments. The Owner shall have no obligation to pay or to see to the payment of money to a Subcontractor.
- 9.5.3 Payment Not Acceptance of Work. A payment recommendation, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract.

## **9.6 INTEREST**

- 9.6.1 If any payment to the Job Order Contractor is delayed after the date due, the Owner shall pay interest at the rate of one and one-half percent (1½%) per month or fraction of a month on such unpaid balance as may be due, provided however, that such charge shall not apply to any disputed portion of an Application for Payment. If any periodic or Final Payment to a Subcontractor is delayed by more than seven (7) days after receipt of the periodic or Final Payment by the Job Order Contractor or Subcontractor, the Job Order Contractor or Subcontractor shall pay interest to his Subcontractor or material supplier, beginning on the eighth day, at the rate of one and one-half percent (1½%) per month or a fraction of a month on such unpaid balance as may be due.

## **9.7 FAILURE OF PAYMENT**

- 9.7.1 If the Job Order Contractor, for any reason not the fault of the Job Order Contractor, is not paid any undisputed amount within fourteen (14) days after the date payment is due, the Job Order Contractor may, upon seven (7) additional days' notice to the Owner, stop the Work until payment of the amount owing has been received. Notwithstanding the preceding, the Job Order Contractor shall not stop the Work during the pendency of a dispute which has been submitted to Alternative Dispute Resolution pursuant to Exhibit B, nor shall the Job Order Contractor stop the Work if the Owner makes payment of any amounts not in dispute within seven (7) days after the Job Order Contractor's notice of nonpayment is received by the Owner.

## **9.8 SUBSTANTIAL COMPLETION**

- 9.8.1 Defined. Substantial Completion is the stage of completion of the Work or area of Work when that portion of the Project or Work for which the Job Order Contractor is responsible is fully usable by the Owner for its intended purpose, without inconvenience to, or risk of harm to, the Owner or the public. The authority to determine whether the Job Order Contractor has achieved Substantial Completion is determined by the Owner, whose decision shall be final and binding.
- 9.8.2 Certificate of Substantial Completion. When the Job Order Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Job Order Contractor shall prepare and submit to the Owner a comprehensive list of items to be completed or corrected. All Owner training, Record Documents, Operation and Maintenance Manuals, warranties, guarantees, reports, and information required for the Owner to operate the facility in accordance with Article 9.8.1 shall be provided in the quantities specified. The Job Order Contractor shall, in the time frame indicated in the Contract Documents, complete and correct all items on the list, unless a longer time is granted by the Owner in writing. Failure to include an item on such list does not alter the responsibility of the Job Order Contractor to complete all Work in accordance with the Contract. Upon receipt of the list, the A/E, if utilized, assisted by the Owner, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the inspection discloses any item, whether or not included on the list, which is not in accordance with the requirements of the Contract, the Job Order Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Owner. The Job Order Contractor shall then submit a request for another inspection by the A/E, if utilized, assisted by the Owner, to determine Substantial Completion. When the Work or designated portion thereof is substantially complete, the A/E, if utilized, will prepare a certificate which shall (1) establish the date of Substantial Completion, (2) establish responsibilities of the Owner and Job Order Contractor for security, maintenance, heat, utilities, and damage to the Work, and (3) shall fix the time within which the Job Order Contractor shall finish all items on the list accompanying the Certificate of Substantial Completion (Certificate). The Certificate shall be submitted to the Owner and Job Order Contractor for their written acceptance of responsibilities assigned to them in such Certificate.

## **9.9 FINAL COMPLETION AND FINAL PAYMENT**

- 9.9.1 Final Inspection. Following the Owner's issuance of a Certificate of Substantial Completion of the Work and upon completion of the Work, the Job Order Contractor shall forward to the Owner a written notice that the Work is ready for final inspection and acceptance, and shall also forward to the Owner a final Application for Payment. The Job Order Contractor's submission of Final Completion Notice shall indicate that all times listed in Substantial Completion have been completed. When the Owner finds the Work acceptable under the Contract and the Task Order fully performed, the Owner will promptly issue a final recommendation stating that to the best of their knowledge, information, and belief, and on the basis of their observations and inspections, the Work has been completed in accordance with the Task Order and that the remaining Task Order Sum is due, including all retainage, less authorized deductions.
- 9.9.2 Conditions to Final Payment. Final Payment to the Job Order Contractor shall be made within thirty-five (35) days after compliance by the Job Order Contractor with Article 9.9.1 and Article 9.9.2. Neither Final Payment nor any remaining retainage shall become due until the Job Order Contractor submits to the Owner (1) an affidavit acknowledging that all Subcontractors, payrolls, bills for materials and equipment, and other indebtedness connected with the Work will be paid or otherwise satisfied once final payment is made, (2) a certificate evidencing that insurance required by Article 11 is currently in effect and will not be cancelled or allowed to expire until at least 30 days prior written notice has been given to the Owner, (3) a written statement that the Job Order Contractor knows of no reason that the insurance will not cover the period required by Article 11, (4) the written consent of the Surety to Final Payment, (5) a full and final release and conditional waiver of liens from the Job Order Contractor. The Job Order Contractor shall also indemnify, defend, and hold harmless the Indemnitees against liens by any Subcontractor (collectively "Final Payment"). Upon final payment for each Task Order, the Job Order Contractor shall provide an unconditional waiver. Release of retention shall not occur until all unconditional lien waivers have been received. After payment of retainage, the Job Order Contractor shall provide an unconditional lien waiver in ten (10) days.
- 9.9.3 Delay of Final Completion. If, after Substantial Completion of the Work, Final Completion thereof is materially delayed through no fault of the Job Order Contractor or by issuance of Task Order Modification affecting Final Completion the Owner shall, upon application by the Job Order Contractor and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. In such case, the Owner will retain at least two times the value of the incomplete or uncorrected parts of the Work, as determined by the Owner. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Task Order the written consent of Surety to payment of the balance of due for that portion of the Work fully completed and accepted shall be submitted by the Job Order Contractor to the Owner prior to recommendation of such payment. Such payment shall be made under terms and conditions governing Final Payment.
- 9.9.4 Waiver of Claims. Acceptance of payment by the Job Order Contractor shall constitute a waiver of claims by that payee, except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

## **ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY**

### **3.5 SAFETY PRECAUTIONS AND PROGRAM**

- 3.5.4 Job Order Contractor's Responsibility. The Job Order Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The Job Order Contractor shall have a written Safety Program for the Work and shall submit two (2) copies of such Safety Program to the Owner. If the Task Order includes work not

contained within the submitted safety program, the Job Order Contractor shall submit the necessary site specific safety precautions and incorporated into the Work.

- 3.5.5 **Remedy for Failure to Maintain Safety.** If the Job Order Contractor fails to maintain the safety precautions required by law or by the Contract, the Owner may take action as necessary and charge the Job Order Contractor therefore. However, the failure of the Owner to take any such action shall not relieve the Job Order Contractor of its obligations set forth in Article 10.1.1. If the Job Order Contractor fails to maintain the safety precautions required by law or by the Owner, the Job Order Contractor shall, if directed by the Owner, remove all forces from the Project without cost or loss to the Owner until the Job Order Contractor complies with such safety precautions. The Job Order Contractor shall not be granted additional time for completion of the Work if the Work is stopped by the Owner due to hazards or non-compliance with these provisions.
- 3.5.6 **Environmental Hazards and Archeological Items** In the event the Job Order Contractor encounters on the Site material reasonably believed to contain asbestos, polychlorinated biphenyls (PCBs), petroleum based substances, or hazardous substances (as defined or regulated under any federal, state, or local law), the Job Order Contractor shall (1) immediately stop Work in the area affected and report the condition to the Owner by the fastest available means and follow up in writing; and (2) take reasonable precautions to prevent or contain the movement, spread, or disturbance of such materials. The Work in the affected area shall not thereafter be resumed except by written consent of the Owner. In no event shall the Owner have any responsibility for any substance or material that is brought to the Site by the Job Order Contractor, any Subcontractor, any material man or supplier, or any entity for whom any of them is responsible. The Job Order Contractor agrees not to use any fill or other materials to be incorporated into the Work which are hazardous, toxic, or comprised of any items that are hazardous or toxic. Job Order Contractor shall indemnify, defend, and hold harmless the Indemnitees from and against any and all liabilities, claims, or demands (including attorney's fees and costs) arising out of or resulting from the presence, uncovering, release of suspected or confirmed asbestos, polychlorinated biphenyls (PCBs), petroleum based substances, or hazardous substances to the extent caused by the negligence of, or failure to comply with, the terms and conditions of the Contract by the Job Order Contractor, any Subcontractor, any material man or supplier, or any entity for whom any of them is responsible. Job Order Contractor may request from the Owner any environmental reports which were completed by Owner's environmental consultant(s) for this Project.
- 3.5.7 **Duty to Stop Work.** If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance encountered on the Site by the Job Order Contractor, the Job Order Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner in writing.

### **3.6 PROTECTION OF PERSONS AND PROPERTY**

- 3.6.4 **Job Order Contractor's Duty to Protect.** The Job Order Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to:
- 3.6.4.1 Employees on the Work and other persons who may be affected thereby;
  - 3.6.4.2 The Work and materials and equipment to be incorporated therein, whether in storage on or off the Site, under care, custody, or control of the Job Order Contractor or the Job Order Contractor's Subcontractors;

- 3.6.4.3 Other property at the Site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction; and
- 3.6.4.4 Construction or operations by the Owner or other contractors.
- 3.6.5 Compliance with Safety Notices and Laws. The Job Order Contractor shall comply with applicable laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury, or loss.
- 3.6.6 Safety Precautions. The Job Order Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying Owners and users of adjacent sites and utilities. The Job Order Contractor shall also be responsible, at the Job Order Contractor's sole cost and expense, for all measures necessary to protect any property adjacent to the Site and improvements thereon. Any damage to such property or improvements shall be promptly repaired by the Job Order Contractor. Without limiting the indemnity provisions elsewhere in the Contract, the Job Order Contractor shall indemnify, defend, and hold harmless the Indemnitees from and against any and all liabilities, claims, or demands (including attorney's fees and costs) arising out of, or resulting from, damage to such property or improvements.
- 3.6.7 Use of Explosives or Hazardous Materials. When use or storage of explosives, or other hazardous materials or equipment, or unusual methods is necessary for execution of the Work, the Job Order Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel. When use or storage of explosives, other hazardous materials or equipment, or unusual methods are necessary, the Job Order Contractor shall secure the Owner's approval prior to their storage or use.
- 3.6.8 Job Order Contractor Liability. The Job Order Contractor shall promptly remedy damage and loss to any property caused in whole or in part by the Job Order Contractor or Subcontractor, or by anyone for whose acts they may be liable.
- 3.6.9 Competent Person. The Job Order Contractor shall designate a competent person or member of the Job Order Contractor's organization at the Site whose duty shall be the prevention of accidents and administration of the Job Order Contractor's written Safety Program
- 3.6.10 Accident Reports. The Job Order Contractor shall report in writing within one (1) working day of the Job Order Contractor's knowledge, to the Owner, all accidents arising out of or in connection with the Work which cause death, personal injury, or property damage, giving full details and statements of any witnesses. In addition, if death or serious personal injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to the Owner.
- 3.6.11 Safety Cooperation. The Job Order Contractor and its Subcontractors shall cooperate fully with the Owner and all interested parties on accident prevention and claim handling procedures.
- 3.6.12 Risk of Loss. The Job Order Contractor shall be fully responsible for, and shall bear the full risk of loss of, all the Job Order Contractor's tools, equipment, materials, and other property.



### 3.7 EMERGENCIES

- 10.3.1 In an emergency affecting safety of persons or property, the Job Order Contractor shall act, at the Job Order Contractor's discretion, to prevent damage, injury, or loss. Additional compensation or extension of time claimed by the Job Order Contractor on account of an emergency shall be determined as provided in Article 4.2 and Article 7.

## ARTICLE 11 INDEMNIFICATION AND INSURANCE

### 4.5 INDEMNIFICATION

- 11.1.1 Job Order Contractor's Duty to Indemnify and Defend. To the fullest extent permitted by law, the Job Order Contractor shall defend, indemnify and hold harmless the Owner, its agents, representatives, officers, directors, officials, and employees from and against all claims, damages, losses, and expenses, including but not limited to attorneys' fees, court costs, expert witness fees, and the cost of appellate proceedings, relating to, arising out of, or alleged to have resulted from the negligent, reckless, or intentionally wrongful acts, errors, omissions or mistakes of the Job Order Contractor, its agents, representatives, employees, or Subcontractors, relating to the performance of this Contract. This duty to defend, indemnify and hold harmless the Owner, its agents, representatives, officers, directors, officials, and employees shall arise in connection with any claim, damage loss or expense that is attributable to bodily injury, sickness, disease, death or injury to, impairment, or destruction of property, including loss of use resulting therefrom, caused by referenced acts, errors, omissions or mistakes in the performance of this Contract, including these made by any person for whose acts, errors, omissions or mistakes, the Job Order Contractor may be legally liable.
- 11.1.2 The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph.

### 4.6 INSURANCE

- 4.6.4 Job Order Contractor at its own expense, shall purchase and maintain the herein stipulated minimum insurance from a company or companies duly licensed by the State of Arizona and possessing a current A.M. Best, Inc. rating of B++. In lieu of State of Arizona licensing, the stipulated insurance may be purchased from a company or companies, which are authorized to do business in the State of Arizona, provided that said insurance companies meet the approval of Owner. The form of any insurance policies and forms must be acceptable to Owner.
- 4.6.5 All insurance required herein shall be maintained in full force and effect until all work or service required to be performed under the terms of the Contract is satisfactorily completed and formally accepted. Failure to do so may, at the sole discretion of Owner, constitute a material breach of this Contract.
- 4.6.6 Job Order Contractor's insurance shall be primary insurance as respects Owner, and any insurance or self-insurance maintained by Owner shall not contribute to it.
- 4.6.7 Any failure to comply with the claim reporting provisions of the insurance policies or any breach of an insurance policy warranty shall not affect the Owner's right to coverage afforded under the insurance policies.

- 4.6.8 The insurance policies may provide coverage that contains deductibles or self-insured retentions. Such deductible and/or self-insured retentions shall not be applicable with respect to the coverage provided to Owner under such policies. Job Order Contractor shall be solely responsible for the deductible and/or self-insured retention and Owner, at its option, may require Job Order Contractor to secure payment of such deductibles or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit.
- 4.6.9 Owner reserves the right to request and to receive, within 5 working days, certified copies of any or all of the herein required insurance policies and/or endorsements. Owner shall not be obligated, however, to review such policies and/or endorsements or to advise Job Order Contractor of any deficiencies in such policies and endorsements, and such receipt shall not relieve Job Order Contractor from, or be deemed a waiver of Owner's right to insist on strict fulfillment of Job Order Contractor's obligations under this Contract.
- 4.6.10 The insurance policies required by this Contract, except Workers' Compensation, and Errors and Omissions, shall name Owner, its agents, representatives, officers, directors, officials and employees as Additional Insureds.
- 4.6.11 The policies required hereunder, except Workers' Compensation, and Errors and Omissions, shall contain a waiver of transfer of rights of recovery (subrogation) against Owner, its agents, representatives, officers, directors, officials and employees for any claims arising out of Job Order Contractor's work or service.
- 4.6.12 Job Order Contractor is required to procure and maintain the following coverage's indicated by a checkmark:
- 4.6.12.1 **Commercial General Liability.** Commercial General Liability insurance and, if necessary, Commercial Umbrella insurance with a limit of not less than \$2,000,000 for each occurrence, \$2,000,000 Products/Completed Operations Aggregate, and \$4,000,000 General Aggregate Limit. The policy shall include coverage for bodily injury, broad form property damage, personal injury, products and completed operations and blanket contractual coverage, and shall not contain any provision which would serve to limit third party action over claims. There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from explosion, collapse, or underground property damage.
- 4.6.12.2 **Automobile Liability.** Commercial/Business Automobile Liability insurance and, if necessary, Commercial Umbrella insurance with a combined single limit for bodily injury and property damage of not less than \$2,000,000 each occurrence with respect to any of the Job Order Contractor's owned, hired, and non-owned vehicles assigned to or used in performance of the Job Order Contractor's work or services under this Contract.
- 4.6.12.3 **Workers' Compensation.** Workers' Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of Job Order Contractor's employees engaged in the performance of the work or services under this Contract; and Employer's Liability insurance of not less than \$1,000,000 for each accident, \$1,000,000 disease for each employee, and \$1,000,000 disease policy limit.
- 4.6.12.4 Job Order Contractor waives all rights against Owner and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the Workers' Compensation and Employer's Liability or commercial umbrella liability insurance obtained by Job Order Contractor pursuant to this agreement.

- 4.6.12.5 **Builder's Risk (Property) Insurance.** Job Order Contractor shall purchase and maintain, on a replacement cost basis, Builders' Risk insurance and, if necessary, Commercial Umbrella insurance in the amount of the initial Contract amount as well as subsequent modifications thereto for the entire work at the site. Such Builders' Risk insurance shall be maintained until final payment has been made or until no person or entity other than Owner has an insurable interest in the property required to be covered, whichever is earlier. This insurance shall include interests of Owner, Job Order Contractor, and all subcontractors and sub-subcontractors in the work during the life of the Contract and course of construction, and shall continue until the work is completed and accepted by Owner. For new construction projects, Job Order Contractor agrees to assume full responsibility for loss or damage to the work being performed and to the structures under construction. For renovation construction projects, Job Order Contractor agrees to assume responsibility for loss or damage to the work being performed at least up to the full Contract amount, unless otherwise required by the Contract documents or amendments thereto.
- 4.6.12.6 Builders' Risk insurance shall be on a special form and shall also cover false work and temporary buildings and shall insure against risk of direct physical loss or damage from external causes including debris removal, demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for architect's service and expenses required as a result of such insured loss and other "soft costs" as required by the Contract.
- 4.6.12.7 Builders' Risk insurance must provide coverage from the time any covered property comes under Job Order Contractor's control and/or responsibility, and continue without interruption during construction, renovation, or installation, including any time during which the covered property is being transported to the construction installation site, and while on the construction or installation site awaiting installation. The policy will provide coverage while the covered premises or any part thereof are occupied. Builders' Risk insurance shall be primary and not contributory. If the Contract requires testing of equipment or other similar operations, at the option of Owner, Job Order Contractor will be responsible for providing property insurance for these exposures under a Boiler Machinery insurance policy.
- 4.6.12.8 Job Order Contractor, if it is licensed to perform and tasked to perform any design services, shall purchase Errors and Omissions Insurance in an amount stated by Owner in the Task Order.
- 4.6.13 Job Order Contractor waives all rights against Owner and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the Workers' Compensation and Employer's Liability or commercial umbrella liability insurance obtained pursuant to this agreement.

#### 4.7 **CERTIFICATES OF INSURANCE**

- 4.7.4 Prior to commencing work or services under this Contract, Job Order Contractor shall furnish Owner with Certificates of Insurance in a form acceptable to Owner, or formal endorsements as required by the Contract in the form provided by MIHS, issued by Job Order Contractor's insurer(s), as evidence that policies providing the required coverage's, conditions and limits required by this Contract are in full force and effect. Such certificates shall identify this contract number and title.

4.7.5 In the event any insurance policy(ies) required by this contract is(are) written on a “claims made” basis, coverage shall extend for two years past completion and acceptance of Job order Contractor’s work or services and as evidenced by annual Certificates of Insurance.

4.7.6 If a policy does expire during the life of the Contract, a renewal certificate must be sent to Owner fifteen (15) days prior to the expiration date.

#### 4.8 **CANCELLATION AND EXPIRATION NOTICE**

4.8.4 Insurance required herein shall not expire, be canceled, or materially changed without thirty (30) days prior written notice to Owner.

#### 4.9 **PERFORMANCE AND PAYMENT BONDS**

4.9.4 A.R.S. § 34-222. Job Order Contractor shall obtain, at its own expense, performance and payment bonds as required by A.R.S. § 34-222 and Section 00610. Job Order Contractor warrants that its payment and performance bonds fully comply with A.R.S. § 34-222. Bonds will be required on an individual task order basis and are required to be submitted within **five** business days (or as otherwise approved by the Office of Procurement Services) of the successful completion of negotiations.

4.9.5 Copies to Potential Beneficiaries. Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Job Order Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

### **ARTICLE 12 UNCOVERING AND CORRECTION OF WORK**

#### **12.1 UNCOVERING OF WORK**

12.1.1 Duty to Uncover Work. If a portion of the Work is covered contrary to the Owner's request or to requirements specifically expressed in the Contract, it must, if required in writing, be uncovered for their observation and be replaced at the Job Order Contractor’s expense without change in the Contract Time.

12.1.2 Cost of Uncovering Work. If a portion of the Work has been covered which the Owner has not specifically requested to observe prior to its being covered, the Owner may request to see such Work and it shall be uncovered by the Job Order Contractor. If such Work is in accordance with the Contract, costs of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work is not in accordance with the Contract, the Job Order Contractor shall pay such costs.

#### **12.2 CORRECTION OF WORK**

12.2.1 Duty to Correct Rejected Work. The Job Order Contractor shall promptly correct all Work rejected by the Owner as defective or failing to conform to the requirements of the Contract, whether observed before or after Substantial Completion of the Work and whether or not fabricated, installed, or completed. The Job Order Contractor shall bear costs of correcting such rejected Work, including the replacement or repair of other work affected by Job Order Contractor’s performance, including additional testing and inspection and compensation for the Owner’s services made necessary thereby. Work rejected before Final Completion shall be corrected prior to Final Payment.

12.2.2 One Year Duty to Correct Work. If within any guarantee period, repairs or changes are required in connection with the guaranteed Work, as the result of the use of materials, equipment or

workmanship, which are defective, or inferior, or not in accordance with the terms of the Contract, the Job Order Contractor is to commence and continue to effect such repairs or changes to, promptly, within 48 hours after receipt of notice from the Owner, except in the case of emergencies, and without expense to the Owner:

12.2.3 Warranty Periods. Nothing contained in this Article 12.2 shall be construed to establish a period of limitation with respect to obligations that the Job Order Contractor has under the Contract or at law, including Article 3.6. Establishment of the time period of one (1) year as described in Article 12.2.2, or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract, relates only to the specific obligation of the Job Order Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Job Order Contractor's liability with respect to Contract obligations.

12.2.3.1 Four (4) hours for emergency repair work. An "emergency repair" is defined as that repair necessitated by life, safety or security issues that will jeopardize the continued operation of that facility, endanger its occupants or the general public.

12.2.3.2 Sixteen (16) hours for urgent repair work. An "urgent repair" is defined as that repair necessitated by issues that may jeopardize the continued operation of that facility, endanger its occupants or the general public.

12.2.3.3 Five (5) days for general service or repairs

12.2.3.3.1 place in satisfactory condition, in every particular, all of such guaranteed work and correct all defects therein;

12.2.3.3.2 make good all changes to the structure or site or equipment or contents thereof, which in the opinion of the Architect, Engineer or Owner, is the result of the use of materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the Contract.

12.2.3.4 Notifications by the Owner of defects will stop the warranty time period. The guarantee or warranty period for that replaced or restored work is to be reinstated for the remaining time period, starting on the date of acceptance of the replaced or restored work.

12.2.3.5 In any case, where, in fulfilling the requirements of the Contract or of any guarantee embraced in or required thereby, the Job Order Contractor disturbs any work guaranteed under another contract, the Job Order Contractor is responsible to restore such work to a condition satisfactory to the Architect, Engineer or Owner and guarantee such restored work to the same extent as it was guaranteed under such other contract.

12.2.3.6 If the Job Order Contractor after notice fails to proceed to commence and continue to comply with the terms of the guarantee and Paragraph 1, the Owner may have the defect corrected, in which case the Job Order Contractor and its Surety are liable for all expenses incurred.

12.2.3.7 All special guarantees or warranties applicable to definite parts of the Work that may be stipulated in the Specifications or other papers forming part of the Contract are subject to the terms of this Article during the life of such special guarantee.

- 12.2.4 **Removal of Nonconforming Work.** The Job Order Contractor shall remove from the Site, at no additional cost, portions of the Work, which are not in accordance with the requirements of the Contract and are neither corrected by the Job Order Contractor nor accepted by the Owner.
- 12.2.5 **Owner's Right to Correct Nonconforming Work.** If the Job Order Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Article 2.3. If the Job Order Contractor does not proceed with correction of such nonconforming Work within a reasonable time fixed by written notice from the Owner, the Owner may remove it and store the salvable materials or equipment at the Job Order Contractor's expense. If the Job Order Contractor does not pay costs of such removal and storage within ten (10) days thereafter, the Owner may sell such materials and equipment at auction or at private sale and shall account for the net proceeds thereof, after deducting the costs that should have been borne by the Job Order Contractor, including compensation for Owner's additional services and expenses made necessary thereby. If such proceeds of sale do not cover costs which the Job Order Contractor should have borne, the Contract Sum shall be reduced by the deficiency. If payments then or thereafter due the Job Order Contractor are not sufficient to cover such amount, the Job Order Contractor shall pay the difference to the Owner.
- 12.2.6 **Cost of Correcting Other Affected Work.** The Job Order Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner, Job Order Contractor, or other contractors caused by the Job Order Contractor's correction or removal of Work which is defective or not in accordance with the requirements of the Contract.

#### **ACCEPTANCE OF NONCONFORMING WORK**

- 12.2.7 If the Owner prefers to accept Work, which is not in accordance with the requirements of the Contract, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable for the difference in value together with an allowance for damage or loss of quality. Such adjustment shall be effected whether or not Final Payment has been made.

#### **ARTICLE 13 MISCELLANEOUS PROVISIONS**

##### **13.1 GOVERNING LAW**

- 13.1.1 The Contract shall be governed by the laws of the State of Arizona.
- 13.1.2 This Contract is made in accordance with and subject to the provision of all applicable laws, statutes, ordinances, rules, regulations, executive orders and codes. To the extent required by applicable law, each party hereto shall comply and require its Subcontractors and suppliers to comply with all then applicable federal, state of Arizona and local nondiscrimination laws, rules, regulations, ordinances and executive orders, including, without limitation, the Civil Rights Act of 1964, as they may be amended, modified, codified, supplemented or repealed from time to time.

##### **13.2 SUCCESSORS AND ASSIGNS**

- 13.2.1 The Owner and Job Order Contractor respectively bind themselves, their successors, assigns, and legal representatives to the other party hereto and to successors, assigns, and legal representatives of such other party in respect to covenants, agreements, and obligations contained in the Contract.

##### **13.3 NOTICES**

- 13.3.1 **Methods of Notice.** All notices pursuant to this Agreement must be in writing and must be sent to the appropriate person and will be deemed properly given if sent by (1) personal delivery, (2) e-

mail, return receipt required, (3) express mail, postage prepaid, return receipt required, or (4) certified United States mail, postage prepaid, return receipt required, addressed as follows:

Owner: Maricopa County Special Healthcare District Db/  
Maricopa Integrated Health Systems  
c/o Contracts Management  
2611 E. Pierce St. 2<sup>nd</sup> Floor  
Phoenix, Arizona 85008  
Attn: Mary Hammer, CPPO, CPPB  
E-mail: [mary.hammer@mihs.org](mailto:mary.hammer@mihs.org)

Job Order Contractor: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Attn: Project Manager  
E-Mail: \_\_\_\_\_

Copy to: Maricopa County Special Healthcare District Db Maricopa  
Integrated Health Systems (MIHS)  
c/o Facilities Management  
2601 E. Roosevelt St.  
Phoenix, Arizona 85008  
Attn.: XXXXXXX, Project Manager  
E-Mail: [XXXXXXX@mihs.org](mailto:XXXXXXX@mihs.org)

Each party may, by notice to the others, specify a different address for subsequent notice purposes. Notice is effective on the date of actual receipt or five (5) days after the date of mailing, whichever is earlier.

#### 13.4 RIGHTS AND REMEDIES

13.4.1 Legal Rights. Duties and obligations imposed by the Contract and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law. This clause shall not be interpreted to permit the Job Order Contractor to recover any costs or damages that are otherwise limited, prohibited, or waived by the Contract.

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

#### 13.5 TESTS AND INSPECTIONS

13.5.1 Job Order Contractor's Duty to Administer. Tests, inspections, and approvals of portions of the Work required by the Contract or by laws, ordinances, rules, regulations, or orders of public authorities having jurisdiction shall be made at the appropriate time. Unless otherwise provided, the Owner shall make arrangements for such tests, inspections, and approvals with the independent testing laboratory. The Job Order Contractor shall give the Owner timely notice of when and where tests and inspections are to be made so the Owner may observe such procedures. Any of the Work requiring testing, inspection, or approval which is covered or otherwise made inaccessible without the consent of those requiring or making the inspection or test shall be uncovered or made accessible by, and at the expense of, the Job Order Contractor. Job Order Contractor shall be responsible for any testing, retesting, or other charges resulting from Job Order Contractor's failure to perform.

13.5.2 Additional Testing and Inspection. If the Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Article 13.5, the Owner will instruct the Job Order Contractor to make arrangements for such additional testing, inspection, or approval by an entity acceptable to the Owner, and the Job Order Contractor shall give timely notice to the Owner of when and where tests and inspections are to be made so the Owner may observe such procedures. The Owner shall bear such costs except as provided in Article 13.5.

13.5.3 Costs for Testing and Inspection. If such procedures for testing, inspection, or approval under Articles 13.5 reveals failure of the portions of the Work to comply with requirements established by the Contract, the Job Order Contractor shall bear all costs made necessary by such failure, including those of repeated procedures and compensation for the Owner's services and expenses.

13.5.4 Certificates. Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract, be secured by the Job Order Contractor and promptly delivered to the Owner.

13.5.5 Prompt Testing and Inspection. Tests or inspections conducted pursuant to the Contract shall be made promptly to avoid unreasonable delay in the Work.

### **13.6 MANUFACTURERS' NAMEPLATES**

13.6.1 Manufacturers' nameplates shall not be permanently attached to ornamental and miscellaneous metal work, doors, frames, millwork, and similar factory fabricated products on which, in the Owner's opinion, the nameplates would be objectionable, if visible after installation of the Work. This provision does not apply to underwriters' labels when required, or to the manufacturers' name and rating plates on mechanical and electrical equipment.

### **13.7 MANUFACTURERS' INSTRUCTIONS**

13.7.1 All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturers' written specifications or instructions. In case of any difference or conflicts between the requirements of the manufacturers' instructions or specifications and the technical sections of the Specifications, the Job Order Contractor shall promptly report any such difference or conflict to the Owner.

### **13.8 SBE REQUIREMENTS**

13.8.1 The Job Order Contractor shall comply with all requirements of the Small Business Enterprise ("SBE") program applicable to the Project as specified in the Maricopa County Small Business Enterprise Construction Contracting Requirements to be posted at a later date.

## **ARTICLE 14 CONTRACT INTERPRETATION:**

### **14.1 HEADINGS**

14.1.1 The subject headings of this Agreement are included for purposes of convenience only and shall not affect the construction or interpretation of any provision of this Agreement.

### **14.2 INTERPRETATION**

14.2.1 In the interest of brevity, the Contract frequently omits modifying words such as "all" and "any" and articles such as "the" and "an", but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement. To the extent permitted by the context in which used, (1) words in the singular member shall include the plural, words in the masculine gender shall include the feminine and neuter, and vice versa; and (2) (unless specified otherwise) references to Articles are to Articles of Section 00700, General Conditions to the Job Order Contract.



## **ARTICLE 15 TERMINATION OR SUSPENSION OF THE CONTRACT OR TASK ORDER**

### **15.1 TERMINATION BY THE OWNER FOR CAUSE**

- 15.1.1 Criteria for Termination for Cause. The Owner may terminate the Contract or terminate a Task Order if the Job Order Contractor:
- 15.1.1.1 Repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
  - 15.1.1.2 Repeatedly disregards laws, ordinances, rules, regulations, or orders of a public authority having jurisdiction;
  - 15.1.1.3 Materially breaches any provision of the Contract or Task Order;
  - 15.1.1.4 Fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Job Order Contractor's ability to complete the Work for the Task Order in compliance with all the requirements of the Contract; or
  - 15.1.1.5 Fails after commencement of the Work to proceed diligently and continuously with the construction and completion of the Work for more than seven (7) days, except as permitted under the Contract.
  - 15.1.1.6 Repeatedly refuses or fails to carry out Safety provisions as required by Contract;
  - 15.1.1.7 Fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Job Order Contractor and the Subcontractors.
- 15.1.2 Effect of Termination for Cause. When any of the above conditions exist, the Owner, may without prejudice to any other rights or remedies of the Owner, and after giving the Job Order Contractor and the Job Order Contractor's Surety, if any, three (3) days' written notice, terminate the Contract or Task Order and may, subject to any prior rights of the Surety:
- 15.1.2.1 Take possession of the Site and all materials, equipment, tools, and construction equipment machinery thereon owned by the Job Order Contractor;
  - 15.1.2.2 Accept assignment of subcontracts pursuant to Article 5.4; and
  - 15.1.2.3 Finish the Work for the Task Order by whatever reasonable method the Owner may deem expedient.
- 15.1.3 Job Order Contractor Right to Receive Payment. When the Owner terminates the Contract or a Task Order for one of the reasons stated in Article 15.1.1, the Job Order Contractor shall not be entitled to receive further payment for the Task Order until the Work is finished.
- 15.1.4 Costs for Finishing Work. If the unpaid balance of the Contract Sum exceeds costs of finishing the Work for the Task Order, including compensation for the Owner's services and expenses made necessary thereby, such excess shall be paid to the Job Order Contractor. If such costs exceed the unpaid balance, the Job Order Contractor shall pay the difference to the Owner. The amount to be paid to the Job Order Contractor or Owner, as the case may be, shall, upon application, be certified after consultation with the Owner, and this obligation for payment shall survive termination of the Contract.

## **15.2 SUSPENSION BY THE OWNER FOR CONVENIENCE**

- 15.2.1 Owner's Right. The Owner may, without cause, order the Job Order Contractor in writing to suspend, delay, or interrupt the Work for a Task Order in whole or in part for such period of time as the Owner may determine.
- 15.2.2 Adjustment in Task Order Sum. An adjustment shall be made for increases in the cost of performance of the Task Order, including profit on the increased cost of performance, caused by suspension, delay, or interruption. No adjustment shall be made to the extent:
  - 15.2.2.1 that performance is, was, or would have been so suspended, delayed, or interrupted by another cause for which the Job Order Contractor is responsible; or
  - 15.2.2.2 that an equitable adjustment is made or denied under another provision of this Contract.
- 15.2.3 Method for Adjustment in Task Order Sum. Adjustments made in the cost of performance may have a mutually agreed fixed or percentage fee.

## **15.3 OWNER'S TERMINATION FOR CONVENIENCE**

- 15.3.1 Effect of Termination for Convenience. The Owner reserves the right to terminate the Contract or a Task Order for convenience and without cause, even if Job Order Contractor has not failed to perform any part of the Contract or a Task Order. Termination of the Task Order Work shall be effected by written notice to the Job Order Contractor. Upon receipt of such notice, Job Order Contractor shall, unless the notice otherwise directs:
  - 15.3.1.1 Immediately discontinue the Work of the Task Order and the placing of all orders and subcontracts in connection with this Contract;
  - 15.3.1.2 Immediately cancel all of the existing orders and subcontracts made hereunder or for the Task Order involved;
  - 15.3.1.3 Immediately transfer to the Owner all materials, supplies, Work in progress, appliances, facilities, machinery, and tools acquired by the Job Order Contractor in connection with the performance of the Contract or the Task Order, and take such action as may be necessary or as the Owner may direct for protection and preservation of the Work relating to this Contract; and
  - 15.3.1.4 Deliver all plans, Drawings, Specifications, and other necessary information to Owner.
  - 15.3.1.5 Job Order Contractor's Exclusive Remedy. If the Owner terminates the Contract or a Task Order for convenience, the following shall be the Job Order Contractor's exclusive remedy:
    - 15.3.1.6 Reimbursement of all actual expenditures and costs approved by the Owner as having been made or incurred in performing the Work;
    - 15.3.1.7 Reimbursement of expenditures made and costs incurred with the Owner's prior written approval in settling or discharging outstanding commitments entered into by the Job Order Contractor in performing the Contract; and
    - 15.3.1.8 Payment of profit, in so far as profit is realized hereunder, of an amount equal to the estimated profit on any Task Order Work underway at the time of termination multiplied by the percentage of completion of the Work. In no event shall the Job Order Contractor be entitled to anticipated fees or profits on Work not required to be performed.

- 15.3.1.9 Warranties, Guarantees, and Indemnities to Remain in Effect. All obligations of the Job Order Contractor under the Contract with respect to completion of the Work, including but not limited to all warranties, guarantees, and indemnities, shall apply to all Work completed or substantially completed by the Job Order Contractor prior to a convenience termination by the Owner. Notwithstanding the above, any convenience termination by the Owner or payments to the Job Order Contractor shall be without prejudice to any claims or legal remedies that the Owner may have against the Job Order Contractor for any cause.
- 15.3.2 Conversion of Termination for Cause to Termination for Convenience. Upon a determination that a termination of this Contract or a Task Order, other than a termination for convenience, under this Article was wrongful or improper for any reason, such termination shall automatically be deemed converted to a convenience termination under this Article 15, and the Job Order Contractor's remedy for such wrongful termination shall be limited to the recoveries specified under Article 15.3.2.
- 15.3.3 Remedy Limited to Damages. In the event that Job Order Contractor is terminated, whether for cause or convenience, the Job Order Contractor's sole remedy shall be for damages. In no event shall Job Order Contractor be entitled to reinstatement or other equitable relief from a court or through Alternative Dispute Resolution as provided in Exhibit B.
- 15.3.4 Notice that Contract is Subject to Termination Provisions of A.R.S. § 38-511. The parties acknowledge, and as required by law, notice is hereby given that this Contract is subject to A.R.S. § 38-511.

**END OF SECTION**

**15.4 NON-DISCRIMINATION:**

CONTRACTOR agrees to comply with all provisions and requirements of Arizona Executive Order 2009-09 including flow down of all provisions and requirements to any subcontractors. Executive Order 2009-09 supersedes Executive order 99-4 and amends Executive order 75-5 and may be viewed and downloaded at the Governor of the State of Arizona's website [http://www.azgovernor.gov/dms/upload/EO\\_2009\\_09.pdf](http://www.azgovernor.gov/dms/upload/EO_2009_09.pdf) which is hereby incorporated into this contract as if set forth in full herein. During the performance of this contract, CONTRACTOR shall not discriminate against any employee, client or any or any other individual in any way because of that person's age, race, creed, color, religion, sex, disability or national origin.

## EXHIBIT A

### DEFINITIONS TO THE GENERAL CONDITIONS TO THE CONSTRUCTION CONTRACT

**Allowance** means funds which are included in the Task Order Bid and designated for uses by the Owner.

**Application for Payment** has the meaning set forth in Article 9.2.1 of the General Conditions to the Construction Contract.

**Article** shall refer to Specifications Section 00700, General Conditions of the Construction Contract.

**Authorized Agent** means any person, which may be an employee of the Owner or a consultant, with written notification who acts on behalf of the Owner for the purposes of managing the Task Order.

**Business Day** means all days of the year except Saturday, Sunday and legal holidays of the United States of America or the State of Arizona.

**Certificate of Substantial Completion** has the meaning set forth in Article 9.8.2 of the General Conditions to the Construction Contract.

**Claim** means a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Job Order Contractor arising out of or relating to the Contract. Claims must be made by written notice. The responsibility to substantiate Claims shall rest with the party making the Claim.

**Contract** means the fully executed Contract document between the Job Order Contractor and MIHS, as may be amended or modified from time to time.

**Contract Documents** are defined in Section 00500, 7 Contract Documents.

**Day or "day"** means calendar day unless otherwise specifically defined.

**Drawings** means the documents referenced in Section 00500, 7 Contract Documents, showing the design, location and dimensions of the Work, generally including but not limited to plans, elevations, sections, details, schedules and diagrams and/or those developed under a specific Task Order

**Employer** means any individual, firm, or corporation who provides direct labor at or from the Project Site either by written or verbal contract, work order, purchase order, or invoice.

**Final Completion** means when all of the Work of the Contract fulfills all of the terms of the Contract in all respects.

**Final Payment** has the meaning set forth in Article 9.9.2 of the General Conditions to the Job Order Contract.

**Furnish or "furnish"** means "furnish only", including delivery of materials to the Site.

**General Requirements** means Division I of the Specifications.

**Indemnitees** means the Owner and all of their respective authorized agents, employees, successors and assigns.

**Install or "install"** means "install only" furnished materials or items. Such materials or items shall be received at the Site, unloaded, stored and/or distributed, protected, and installed in place, including final connections. Minor

items and accessories reasonably inferable as necessary to complete the proper installation shall be provided by the Job Order Contractor whether or not they are specifically called for by the Specifications or Drawings.

**Insurance Carrier** means the carrier providing coverage for any of the insurance programs.

**Insured** means the entity named in a Policy or Certificate of Insurance signed by a duly authorized representative of the Insurers.

**Insurer** means the Insurance Carrier named on a Policy or Certificate of Insurance.

**Job Order Contractor** means the person or entity identified as such in the Job Order Contract.

**JOC Construction Schedule** has the meaning set forth in Article 3.11.1 of the General Conditions to the Contract.

**Material Status Report** has the meaning set forth in Article 3.11.7 of the General Conditions to the Job Order Contract.

**Notice to Proceed** means that written dated document which instructs the Job Order Contractor to proceed and sets forth the date for substantial and final completion of the project outlined in a specific Task Order.

**Owner** means Maricopa County Special Health Care District DBA Maricopa Integrated Health Systems (MIHS), or its Authorized Agent.

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

**Project** means the total construction necessary for the full and efficient use of the facilities and appurtenances described in the individual Task Order Documents.

**Provide or Perform or "provide" or "perform"** means to furnish, install and complete all labor, materials, equipment, services and other items required to complete the referenced tasks.

**Record Documents** has the meaning set forth in Section 3.12.2 of the General Conditions.

**Record Drawings** has the meaning set forth in Section 3.12.2 of the General Conditions.

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

**SBE** has the meanings set forth in Article 13.8 of the General Conditions to the Construction Contract, Maricopa County Small Business Enterprise Construction Contracting Requirements.

**Schedule of Values** has the meaning set forth in Article 9.1 of the General Conditions to the Job Order Contract.

**Scope Documents** means all documents associates with setting forth the scope of Work designated in each Task Order utilized to develop the Task Order Sum.

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

**Site** means that certain real property upon which the Project is to be constructed and which is generally depicted in the Contract Documents.

**Specifications** means the document referenced in each individual Task Order consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services.

**Subcontractor** means any person or entity supplying labor, equipment, or material for a portion of the Job Order Contractor's Work either on or off the Site and all of the respective employees, agents, successors and assigns of such person or entity. The term "Subcontractor" includes sub-subcontractors of the Job Order Contractor but does not include subcontractors of other contractors performing Work for the Project.

**Substantial Completion** is the date certified by the Architect/Engineer, if utilized, and/or the Owner in accordance with Article 9.8.1 of the General Conditions to the Job Order Contract.

**Surety** means the entity providing the performance and payment bonds required under Article 11.4 of the General Conditions to the Job Order Contract.

**Task Order** means that document which identifies and notifies the Job Order Contractor that a task needs to be performed pursuant to the Job Order Contract and all subsequent documents setting forth the scope, time and sum.

**Task Order Modification** has the meaning set forth in Article 7.1 of the General Conditions to the Construction Contract.

**Task Order Sum** is stated in Section 00500, 4.1 and means the total amount payable by the Owner to the Job Order Contractor for performance of the Work under each individual Task Order and pursuant to the terms of the Contract.

**Task Order Time** means the periods of time set forth in each individual Task Order for Substantial Completion and Final Completion of the Work set forth in that Task Order.

**Work** means all administration, labor, equipment and materials, whether on or off the Site, necessary to produce and fully complete the construction required by the Contract or reasonably inferable therefrom. If all or part of the Work involves demolition, the term "Work" shall also mean demolition and all activities related to demolition.

**Work Day** relates to the Job Order Contractor's schedule bases for calculating project activities and durations.

**END OF EXHIBIT**

## EXHIBIT B

### ALTERNATIVE DISPUTE RESOLUTION

- 1.1 Scope.** Notwithstanding anything to the contrary provided elsewhere in the Contract, the alternative dispute resolution (“ADR”) process provided for herein shall be the exclusive means for resolution of claims or disputes arising under, relating to or touching upon the Contract, the interpretation thereof or the performance or breach by any party thereto, including but not limited to original claims or disputes asserted as cross claims, counterclaims, third party claims or claims for indemnity or subrogation, in any threatened or ongoing litigation or arbitration with third parties, if such disputes involve parties to contracts containing this ADR provision.
- 1.2 Neutral Evaluator, Arbitrators.** MIHS will select a Neutral Evaluator to serve as set forth in this ADR process. As needed under § 1.6.2 below, MIHS and Job Order Contractor shall each select an arbitrator to serve as set forth in this ADR process. Each arbitrator selected shall be a member of the State Bar of the State of Arizona and shall have experience in the field of construction law. All arbitrators, once selected, shall serve as neutral arbitrators, even if they are party-appointed. MIHS and the Job Order Contractor shall name their respective arbitrators within five (5) calendar days after the declaration of a failure of mediation or the mutual waiver of mediation.
- 1.3 Discussion and Partnering.** When a claim is made or a dispute arises relating to the Contract, senior representatives of MIHS and the claimant will meet personally within ten (10) days to discuss the claim/dispute and attempt to resolve it. If, after good faith efforts, resolution is not achieved, the claim/dispute (hereafter “dispute”) will proceed to the neutral evaluation process.
- 1.4 Neutral Evaluation Process.** If the parties have been unable to resolve the dispute after discussions and partnering, the following neutral evaluation process shall be used to resolve any such dispute.
- 1.4.1 **Notification of Dispute.** MIHS through its Agent shall promptly notify the Neutral Evaluator in writing of the existence of a dispute within ten days of MIHS or the Job Order Contractor declaring need to commence the neutral evaluation process.
- 1.4.2 **Non-Binding Informal Hearing.** The Neutral Evaluator shall schedule a non-binding informal hearing of the matter to be held within ten (10) calendar days from receipt of notification of the existence of a dispute. The Neutral Evaluator may conduct the hearing in such manner as he deems appropriate and shall notify each party of the hearing of its opportunity to present such evidence as they believe will resolve the dispute. The Neutral Evaluator shall notify each party to the dispute that they shall submit a written outline of the issues and evidence intended to be introduced at the hearing and their proposed resolution of the dispute to the Neutral Evaluator before the hearing commences. Potential Arbitrators shall not participate in such informal hearing or proceedings process. The Neutral Evaluator is not bound by the rules of evidence when admitting evidence in the hearing and may limit the length of the hearing, the number of witnesses or any evidence introduced to the extent deemed relevant and efficient.
- 1.4.3 **Non-Binding Decision.** The Neutral Evaluator shall render a non-binding written decision as soon as possible, but not later than five (5) calendar days after the hearing concludes.
- 1.4.4 **Further proceedings.** In the event that either party declines to accept the Neutral Evaluator’s decision as the resolution of the dispute, the dispute will proceed to mediation.
- 1.5 Mediation.** In the event that a meeting of principals and neutral evaluation have failed, the parties shall engage in mediation (as a condition precedent to arbitration) within fifteen (15) days of a party’s notifying the Neutral Evaluator that the party declines to accept the Neutral Evaluator’s decision as the resolution of



the dispute. The mediator shall be chosen by the parties' agreement. If such agreement is not reached by five (5) days after the neutral evaluator's receipt of a party's notification, then the mediator shall be named by the Neutral Evaluator. In the event that mediation fails (or is waived by both parties) then the matter shall proceed to binding arbitration.

**1.6 Binding Arbitration Procedure.** The following binding arbitration procedure shall serve as the exclusive method to resolve a dispute if any party chooses not to accept the decision of the Neutral Evaluator and mediation has failed or has been waived. A party requesting binding arbitration shall notify the Neutral Evaluator in writing within seven (7) calendar days of the failure or waiver of mediation of the party's demand for arbitration. If the Job Order Contractor requests arbitration it shall post a cash bond with the Neutral Evaluator in an amount agreed upon by the parties or, in the event of no agreement, the Neutral Evaluator shall establish the amount of the cash bond to defray the cost of the arbitration as set forth in paragraph 1.6.11 and the proceeds from the bond shall be allocated in accordance with paragraph 1.6.13 by the Arbitration Panel. The bond must be in the full amount agreed upon or as established by the Neutral Evaluator to pay the potential cost of the full arbitration proceeding. The bond must be posted with and received by the Neutral Evaluator within five (5) calendar days after the demand for arbitration.

**1.6.1 Arbitration Panel and Applicable Law and Rules.** Disputes involving less than \$200,000 shall be heard by one single arbitrator chosen by agreement of the parties. For disputes in excess of \$200,000, the Arbitration Panel shall consist of three arbitrators: MIHS's appointed arbitrator, the Job Order Contractor's appointed arbitrator and a third arbitrator (or "neutral arbitrator") who shall be selected by the parties' arbitrators as set forth in Section 1.5.2. The arbitration is to be convened and administered under the Revised Uniform Arbitration Act ("RUAA") (A.R.S. § 12-3001 et seq.) and the American Arbitration Association Construction Rules shall serve as a guideline for proceedings, thus as a supplement to the RUAA.

**1.6.2 Selection of Neutral Arbitrator.** For disputes in excess of \$200,000, the parties' arbitrators shall choose the Neutral Arbitrator, within ten (10) calendar days of notification of a demand for arbitration having been received by the Neutral Evaluator. The Neutral Arbitrator shall have the same qualifications as those of the arbitrators set forth in paragraph 1.2. above. In the event that the two party selected arbitrators cannot agree on a Neutral Arbitrator as set forth above, the Neutral Arbitrator shall be selected as the Default Neutral Arbitrator. If MIHS and Job Order Contractor cannot agree on the single arbitrator or upon a Default Neutral Arbitrator, then MIHS and the Job Order Contractor shall each submit two names to Judge Eino Jacobson, or his successor as designated by Maricopa County, who shall select one person. The Neutral Arbitrator may submit his invoices for services to the Owner, and the Owner shall pay the amounts invoiced (subject to the provisions of paragraph 1.4.13) unless and until the Job Order Contractor is determined by the Arbitration Panel to be the non-prevailing party and the Arbitration Panel determines per 1.6.11 what party pays such costs.

**1.6.3 Expedited Hearing.** The parties have structured this procedure with the goal of providing for the prompt, efficient and final resolution of all disputes falling within the purview of this ADR process. To that end, any party can petition the Neutral Evaluator to set an expedited hearing. If the Neutral Evaluator determines that the circumstances justify it, the Neutral Evaluator shall contact the selected single arbitrator or Arbitration Panel and arrange for scheduling of the arbitration at the earliest possible date. In any event, the hearing of any dispute not expedited will commence as soon as practical but in no event later than twenty (20) calendar days after notification of request for arbitration having been received. This deadline can be extended only with the consent of all the parties to the dispute, or by decision of the single arbitrator or the Arbitration Panel upon a showing of emergency circumstances.

- 1.6.4 **Procedure.** The single arbitrator or the Arbitration Panel will conduct the hearing in such a manner that will resolve disputes in a prompt, cost efficient manner giving regard to the rights of all parties. Each party shall supply to the single arbitrator or Arbitration Panel a written pre-hearing statement which shall contain a brief statement of the nature of the claim or defense, a list of witnesses and exhibits, a brief description of the subject matter of the testimony of each witness who will be called to testify, and an estimate as to the length of time that will be required for the arbitration hearing. The single arbitrator or the Arbitration Panel shall review and consider the Neutral Evaluator decision. The single arbitrator or the Chairman shall determine the nature and scope of discovery, if any, and the manner of presentation of relevant evidence consistent with deadlines provided herein, and the parties' objective that disputes be resolved in a prompt and efficient manner. No discovery may be had of any materials or information for which a privilege is recognized by Arizona law. The single arbitrator or the Chairman upon proper application shall issue such orders as may be necessary and permissible under law to protect confidential, proprietary or sensitive materials or information from public disclosure or other misuse. Any party may make application to the Maricopa County Superior Court to have a protective order entered as may be appropriate to confirm or enforce such orders of the Chairman.
- 1.6.5 **Hearing Days.** In order to effectuate parties' goals, the hearing once commenced, will proceed from working day to working day until concluded, absent a showing of emergency circumstances.
- 1.6.6 **Award.** The single arbitrator shall within ten (10) calendar days of the conclusion of a hearing issue a reasoned award. The Arbitration Panel shall, within ten (10) calendar days from the conclusion of any hearing, by majority vote issue its reasoned award. The award shall include an allocation of fees and costs pursuant to 1.6.11 herein. The award is to be in accordance with the Contract and the law of the State of Arizona.
- 1.6.7 **Scope of Award.** Regardless of the provisions of the RUAA, the Arbitration Panel shall be without authority to award punitive damages, and any such punitive damage award shall be void. If an award is made against any party in excess of one hundred thousand dollars (\$100,000), exclusive of interest, arbitration fees, costs and attorneys' fees, it shall be supported by written findings of fact, conclusions of law and a statement as to how damages were calculated.
- 1.6.8 **Jurisdiction.** The Arbitration Panel shall not be bound for jurisdictional purposes by the amount asserted in any party's claim, but shall conduct a preliminary hearing into the question of jurisdiction over the claim as regards its amount upon application of any party at the earliest convenient time, but not later than the commencement of the arbitration hearing. If the dispute is in reality one involving less than \$200,000, the arbitration shall continue before the Neutral Arbitrator as a single arbitrator, with the party appointed arbitrators being excused.
- 1.6.9 **Entry of Judgment.** As provided in the RUAA, any party can make application to the Maricopa County Superior Court for confirmation of an award, and for entry of judgment on it.
- 1.6.10 **Severance and Joinder.** To reduce the possibility of inconsistent adjudications, the Neutral Evaluator or the single arbitrator or Arbitration Panel, may: (i) at the request of any party, join and/or sever parties, and/or claims arising under other contracts containing this ADR provision, and (ii) the Neutral Evaluator, on his own authority, or the single arbitrator or Arbitration Panel may, on its own authority, join or sever parties and/or claims subject to this ADR process as deemed necessary for a just resolution of the dispute, consistent with the parties' goal of the prompt and efficient resolution of disputes, provided, however, that the A/E, Owner and Project Professionals shall not be joined as a party to any claim made by a Job Order Contractor. Nothing herein shall create the right by any party to assert claims against another party not germane to the Contract or not recognized under the substantive law as applicable to the dispute. Neither the Neutral Evaluator nor the single arbitrator or Arbitration Panel is authorized to join to

the proceeding parties not in privity with MIHS. Job Order Contractor cannot be joined to any pending arbitration proceeding, without Job Order Contractor's express written consent and unless Job Order Contractor is given the opportunity to participate in the selection of the single arbitrator or non-County appointed arbitrator.

- 1.6.11 **Fees and Costs.** Each party shall bear its own fees and costs in connection with any informal hearing before the Neutral Evaluator and the mediation. All fees and costs associated with any arbitration before the single panel or Arbitration Panel, including without limitation the Arbitrator fees, and the prevailing party's reasonable attorneys' fees, expert witness fees and costs, will be paid by the non-prevailing party, except as provided for herein. In the event that Job Order Contractor is the non-prevailing party, all fees and costs as noted above shall first be paid out of the bond posted with the Neutral Evaluator. In no event shall the Job Order Contractor's obligation to pay fees and costs be limited to the amount of the bond posted herein. In no event shall any Arbitrator's hourly fees be awarded in an amount in excess of \$250 per hour and (i) costs shall not include any travel expenses in excess of mileage at the rate paid MIHS, not to exceed a one way trip of 150 miles, and (ii) all travel expenses, including meals, shall be reimbursed pursuant to the travel policy of MIHS in effect at the time of the hearing. The determination of prevailing and non-prevailing parties, and the appropriate allocation of fees and costs, will be included in the award by the single arbitrator or Arbitration Panel. Fees for the Neutral Evaluator shall be paid by MIHS.
- 1.6.12 **Confidentiality.** Any proceeding initiated under this ADR provision shall be deemed confidential to the maximum extent allowed by Arizona law and, except for disclosures to a party's attorneys or accountants, no party shall make any disclosure related to the disputed matter or to the outcome of any proceeding except to the extent required by law, or to seek interim equitable relief, or to enforce an agreement reached by the parties or an award made hereunder. This provision does not affect MIHS's right to inform MIHS Supervisors of the resolution of the dispute.
- 1.6.13 **Equitable Litigation.** Notwithstanding any other provision of ADR to the contrary, any party can petition the Maricopa County Superior Court for interim equitable relief as may become necessary to preserve the status quo and prevent immediate and irreparable harm to a party or to the Project pending resolution of a dispute pursuant to ADR provided herein. No court may order any permanent injunctive relief except as may be necessary to enforce an order entered by the Arbitration Panel. The fees and costs incurred in connection with any such equitable proceeding shall be determined and assessed in ADR.
- 1.6.14 **Change Order.** Any award in favor of the Job Order Contractor against MIHS or in favor of MIHS against the Job Order Contractor shall be reduced to a Change Order and executed by the parties in accordance with the award and the provisions of the Contract.
- 1.6.15 **Merger and Bar.** Any claim asserted pursuant to this ADR process shall be deemed to include all claims, demands, and requests for compensation for costs and losses or other relief, including the extension of the Contract performance period which reasonably should or could have been brought against any party that was or could have been brought into this ADR process, with respect to the subject claim. The Arbitration Panel shall apply legal principles commonly known as merger and bar to deny any claim or claims against any party regarding which claim or claims recovery has been sought or should have been sought in a previously adjudicated claim for an alleged cost, loss, breach, error, or omission.
- 1.7 **Inclusion in Other Contracts.** The Job Order Contractor shall cooperate with MIHS in efforts to include this ADR provision in all other project contracts. Subject to Job Order Contractor's reasonable agreement, the Job Order Contractor agrees that any modification to this ADR provision that is included in the

construction or other contracts shall also apply to the Job Order Contractor. It is the intent of the parties that any changes to this ADR provision in later contracts will be evolutionary and designed to incorporate the terms of this ADR provision without material changes to the substance or procedure of this ADR provision.

**END OF EXHIBIT**

# EXHIBIT C

## LEGAL WORKER CERTIFICATION

\_\_\_\_\_ (Date)

Maricopa Integrated Health System  
2611 E. Pierce 2<sup>nd</sup> Floor  
Phoenix, AZ. 85008

As required by Arizona Revised Statutes §41-4401, Maricopa Integrated Health System is prohibited from awarding a contract to any contractor who fails, or whose subcontractors/sub-recipients fail, to comply with Arizona Revised Statutes §23-214-A. Contractor warrants that it complies fully with all applicable federal immigration laws and regulations that relate to its employees, that it shall, as applicable or required under Arizona Revised Statutes §23-214A, verify, through the e-verify program as jointly administered by the U.S. Department of Homeland Security and the Social Security Administration or any of its successor programs, the employment eligibility of each employee hired to work on the contract, and that it shall, as applicable or required under Arizona Revised Statutes §23-214A, require its subcontractors and sub-subcontractors to provide the same warranties to Contractor.

A breach of the foregoing warranty shall be deemed a material breach of the contract. In addition to the legal rights and remedies available to Maricopa Integrated Health System hereunder and under the common law, in the event of such a breach, Maricopa Integrated Health System shall have the right to terminate the contract. Upon request, Maricopa Integrated Health System shall have the right to inspect the papers of each contractor, subcontractor or any employee of either who performs work hereunder for the purpose of ensuring that the contractor or subcontractor is in compliance with the warranty set forth in this provision.

\_\_\_\_\_  
(Firm)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Email Address)

\_\_\_\_\_  
(Signature required)

\_\_\_\_\_  
(Phone)

\_\_\_\_\_  
(Print name)

\_\_\_\_\_  
(Print title)

\_\_\_\_\_  
(Federal Taxpayer ID Number)



## EXHIBIT C

MIHS JOC No. \_\_\_\_\_

**REQUEST FOR PROPOSAL**

**FOR**

**TASK ORDER**

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JOB ORDER CONTRACTING

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**Request for Proposal for Task Order (Cont.)**

<b>JOB ORDER</b>	Job Order Number:	Date:
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To: \_\_\_\_\_  
Job Order Contracting Contractor ("**Contractor**")

From: Maricopa Integrated Health System ("**Owner**")

Re: Job Order Project Number:  
Job Order Project Name:

This Job Order is issued pursuant to the Agreement (Job Order Contracting Construction Services) Between Owner and Contractor (Job Order Contracting), dated \_\_\_\_\_, **2016**, and the other JOC Contract Documents. This Job Order is the Notice to Proceed with the subject Job Order Project on the below Job Order Beginning Date. The terms of this Job Order are as follows:

**Part I - Scope of Job Order Work**

Full street or physical address of each location at which Job Order Work will be done under this Job Order:

1. Description of the Scope of Job Order Work :

2. Job Order costs may be determined by one of three (3) methods or by combination-of methods. The determination as to which method will be used is at the discretion of the **Owner** in concert with the **Contractor** at the time a prospective **Job Order** project is identified to the **Contractor**

**A. Unit Price Method:** Pricing using a Unit Price Book (UPB). Contractor will provide an Excel spreadsheet, to the owner explaining the total cost estimate(s). This method utilizes the following Cost Data books RSMMeans CostWorks, as published annually with quarterly updates by Construction Market Data, with local location factors applied to an electronic version of the RSMMeans CostWorks Software for the Year of the contract.

**Means Facility Construction Cost Data (Computer CD Version)\*\*\***

- a. Facilities Construction Cost Data Book**
- b. Facilities & Commercial Renovation Cost Data Book**
- c. Facilities Maintenance and Repair Cost Data Book**

\*\*\* Computer CD Version Normalized to Phoenix Zip Code 850,  
Updated quarterly with inflation data

**B. Three Bid Method:** Pricing consists of obtaining a maximum of three quotes, unless otherwise approved by **Owner**, from a list of pre-qualified subcontractors for each trade, selecting the lowest quote.

1. For each CSI division on the JOC Cost Proposal and Schedule of Values, the following scale shall be used when receiving subcontractor bids for work:

<b>\$0 - \$18,000</b>	1 Subcontractor Bid Required
<b>\$18,001 - \$50,000</b>	2 Subcontractor Bid Required
<b>\$50,001 - \$999,999</b>	3 Subcontractor Bid Required

2. Self-Perform Work: Proposer may self-perform any or all work. The proposed self-performed work is subject to the requirements listed below.

- a. The self-performed work then requires the proposers Bid plus a minimum of two additional Bids from pre-qualified contractors approved by Owner prior to bid solicitation.
- b. Any self-performed work must be submitted, reviewed and approved by Owner's Representative prior to the bidding process.

3. Quote evaluation and selection

- a. All bids will be opened by the JOC Contractor.
- b. Self-performed work shall comply with procedures established in Article 6 of the General Conditions and delivered to MIHS Contracts Management sealed. Selection of the successful subcontractors bid will be decided by the Owner's Representative in accordance with Section Article 5 of the Contractor General Conditions.

**C. Unit Pricing / Three Bid Method:** Pricing using a combination of the two methods above or other unit pricing methods as approved by MIHS.

3. Description, Unit of Measurement, and price of tasks (**Other Tasks**) and their prices (**Other Prices**) not included in the Owner Standard Task and Price Data Base or the Means UPB, if any:

	Task Description	Unit of Measurement	Unit Cost
a.			
b.			
c.			
d.			

4. A list of Drawings and Specifications for the Project is attached as **Attachment X**:

<b>JOB ORDER</b>	Job Order Number:	Date:
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**Part II - Specific Information**

1. Job Order Price		\$
2. Schedule	Job Order Beginning Date: (Date construction must start)	
3. Substantial Completion	Job Order Substantial Completion Date (Date of Owner Occupancy)	
4. Liquid Damages	Liquidated Damages per Day if Substantial Completion is not achieved by the agreed upon date. Damages are assigned on a project per project basis based on the criticality of the project and agreed upon by JOC Contractor,	\$
5. Final Completion Date	Job Order Final Completion Date: (Date construction is complete (including, without limitation, all deficiency, incomplete or correction items (Job Order Punch List)))	

If there are more than sixty (60) days between the Beginning Date and the Final Completion Date or if Owner has requested a Job Order Progress Schedule, a Job Order Progress Schedule is attached as **Attachment X**, or, if not attached, Contractor is to submit a Job Order Progress Schedule on or before the date to the right and when approved by Owner, this Job Order Progress Schedule will be attached as **Attachment X**.

**Part III - Points of Contact**

<i>Owner Representative</i>	Address	Phone Number
Name & Title		Fax Number
<i>Owner Principal Representative</i>	Address	Phone Number
Name & Title		Fax Number
<i>Contractor Principal Representative</i>	Address	Phone Number
Name & Title		Fax Number
<i>Site Manager</i>	Address	Phone Number



Name & Title		Fax Number
<i>Design Professional</i>	Company Name	
Name	Address	Phone Number
Title		Fax Number

**Part IV - Other Requirements**

A Notice Concerning Environmental Matters and Hazardous Substances in the Job Order Work Area is attached as **Attachment X**.

The following checked items are required. The requirements for each are in the Operating Manual

- Submittals
- Shop Drawings
- Samples
- Product Data

**Part V – Approvals**

Owner Representative	Signature	Date
Owner Signature	Signature	Date
JOC Contractor Representative	Signature	Date

## **EXHIBIT E**

### **PERFORMANCE BOND AND PAYMENT BOND**

#### **PART 1 GENERAL**

##### **1.1 DESCRIPTION**

- 1.1.1** All bonds must be pursuant to A.R.S. Title 34, Chapter 6, Article 1, and executed solely by a surety company or companies holding a Certificate of Authority to transact surety business in Arizona, issued by the Director of the State of Arizona Department of Insurance.
- 1.1.2** Bonds executed by an individual surety or sureties are not in compliance with Arizona Revised Statutes.
- 1.1.3** The use of the Owner-supplied bond forms is required.

##### **1.2 SUBMITTALS**

- 1.2.1** Submit a completed copy of the Statutory Performance Bond within **five (5)** days of the date of the Notice of Intent to Award letter.
- 1.2.2** Submit a completed copy of the Statutory Payment Bond within **five (5)** days of the date of the Notice of Intent to Award letter.

**END OF SECTION**

**STATUTORY PERFORMANCE BOND**

PURSUANT TO TITLE 34, CHAPTER 6, ARTICLE 1, OF THE ARIZONA REVISED STATUTES  
(Penalty of this bond must be 100% of the contract amount)

KNOW ALL MEN BY THESE PRESENTS:

That, \_\_\_\_\_(hereinafter called the Principal), as Principal, and the \_\_\_\_\_, a corporation duly organized under the laws of the State of \_\_\_\_\_, with its principal office in the City of \_\_\_\_\_ hereinafter called the Surety), as Surety are held and firmly bound unto Maricopa County Special Healthcare District Db a Maricopa Integrated Health Systems (MIHS) (hereinafter called the Oblige), in the amount of \_\_\_\_\_ (\$\_\_\_\_\_ ) for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Oblige, dated the \_\_\_ day of \_\_\_\_\_,20\_\_\_\_, to construct **Solicitation Title**, Serial No. **Serial Number**, which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THE OBLIGATION IS SUCH, that if the Principal faithfully performs and fulfills all of the undertaking, covenants, terms, conditions, and agreements of the contract during the original term of the contract and any extension of the contract with or without notice to the Surety, and during the life of any guaranty required under the contract, and also performs and fulfills all the undertakings, covenants, terms, conditions, and agreements of all duly authorized modifications of the contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, the above obligation is void. Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 6, Article 1, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of Title 34, Chapter 6, Article 1, Arizona Revised Statutes to the extent as if it were copied at length in this agreement.

The prevailing party in a suit on this bond shall be entitled as part of the judgment reasonable attorney’s fees as may be fixed by the judge of the court.

Witness our hands this \_\_\_\_\_day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
AGENCY OF RECORD, STATE OF ARIZONA

\_\_\_\_\_  
PRINCIPAL

BY: \_\_\_\_\_

\_\_\_\_\_  
AGENCY ADDRESS

TITLE: \_\_\_\_\_

\_\_\_\_\_  
SURETY

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

BOND NUMBER \_\_\_\_\_

**ATTACH SURETY POWER OF ATTORNEY**

**STATUTORY PAYMENT BOND**

PURSUANT TO TITLE 34 CHAPTER 2, ARTICLE 2 OF THE ARIZONA REVISED STATUTES  
(Penalty of this bond must be 100% of the contract amount)

KNOW ALL MEN BY THESE PRESENTS:

That, \_\_\_\_\_(hereinafter called the Principal), as Principal, and the \_\_\_\_\_, a corporation duly organized under the laws of the State of \_\_\_\_\_, with its principal office in the City of \_\_\_\_\_ (hereinafter called the Surety), as Surety are held and firmly bound unto Maricopa County (hereinafter called the Obligee), in the amount of \_\_\_\_\_(\$\_\_\_\_\_) for the payment whereof, the said Principal and Surety, bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Obligee, dated the day of \_\_\_\_\_,20\_\_\_\_, to construct **Solicitation Title**, Serial No. **Serial Number**, which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THE OBLIGATION IS SUCH, that if the Principal faithfully performs and fulfills all of the undertaking, covenants, terms, conditions, and agreements of the contract during the original term of the contract and any extension of the contract with or without notice to the Surety, and during the life of any guaranty required under the contract, and also performs and fulfills all the undertakings, covenants, terms, conditions, and agreements of all duly authorized modifications of the contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, the above obligation is void. Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of Title 34, Chapter 2, Article 2, Arizona Revised Statutes to the same extent as if it were copied at length in this agreement.

The prevailing party in a suit on this bond shall be entitled as part of the judgment reasonable attorney's fees as may be fixed by the judge of the court.

Witness our hands this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

AGENCY OF RECORD, STATE OF ARIZONA PRINCIPAL

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

\_\_\_\_\_  
AGENCY ADDRESS

\_\_\_\_\_  
SURETY

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

BOND NUMBER \_\_\_\_\_ ATTACH SURETY OF POWER OF ATTORNEY



**EXHIBIT F**  
**[SBE Reporting Document]**

**MARICOPA COUNTY SBE PARTICIPATION REPORTING FORM**

**This form is to be submitted with each pay application or invoice.** Any pay application or invoice without this form attached is subject to rejection as not being a completed pay application or invoice pursuant to the terms of the contract.

\_\_\_\_\_  
 Name of Prime Consultant/Contractor

\_\_\_\_\_  
 Contract No.

\_\_\_\_\_  
 Contact Person

\_\_\_\_\_  
 Project No.

\_\_\_\_\_  
 Street Address

\$ \_\_\_\_\_  
 Amount of this Pay Application/Invoice

\_\_\_\_\_  
 City, State ZIP

Complete below with information on the SBE firms utilized as subconsultants/subcontractors for this pay application/invoice. If work was self-performed and your firm, as the prime, is an SBE firm pursuant to A.R.S. § 41-1001, et seq., then you may list your firm as the SBE firm.

SBE Firm Name	SBE Firm Address	Type of Work Performed	\$ Pd to SBE this App/Inv
			\$
			\$
			\$
			\$
			\$
			\$
			\$

A mark in this box certifies that no SBE firms were utilized as the prime, subconsultant or subcontractor with respect to this pay application/invoice.

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Signature

\_\_\_\_\_  
 Printed Name & Telephone Number

# EXHIBIT G

Request for Qualifications Dated  / /2016

# EXHIBIT H

Statement of Qualifications Dated  / /20xx



**EXHIBIT I**  
**MIHS. CERTIFICATE OF INSURANCE - JOB ORDER CONTRACT**  
 SERIAL # [Click here to enter text.](#), [Click here to enter text.](#)

**CERTIFICATE OF LIABILITY INSURANCE**

DATE(MM/DD/YYYY)

**THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.**

**IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. IF SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).**

<b>NAME AND ADDRESS OF INSURANCE AGENCY:</b>	<b>*INSURERS AFFORDING COVERAGES: NAIC#</b>	
	Company Letter	<b>A</b>
	Company Letter	<b>B</b>
<b>NAME AND ADDRESS OF INSURED:</b>	Company Letter	<b>C</b>
	Company Letter	<b>D</b>
	Company Letter	<b>E</b>
	Company Letter	<b>F</b>

**THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM, OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.**

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YY)	POLICY EXP (MM/DD/YY)	LIMITS
	<b>GENERAL LIABILITY:</b> <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> BODILY INJURY <input checked="" type="checkbox"/> BLANKET CONTRACTURAL <input checked="" type="checkbox"/> BROAD FORM PROPERTY DAMAGE GEN'L AGGREGATE LIMIT APPLIES PER <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOCATION	<b>X</b>	<b>X</b>				<b>EACH OCCURENCE</b> <b>PERSONAL &amp; ADV INJURY</b> <b>GENERAL AGGREGATE</b> <b>PRODUCTS/ COMP/OP AGG</b> \$2,000,000 \$2,000,000 \$4,000,000 \$4,000,000
	<b>AUTOMOBILE LIABILITY:</b> <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> ALL NON-OWNED AUTOS	<b>X</b>	<b>X</b>				<b>COMBINED SINGLE LIMIT</b> (EA Accident) <b>BODILY INJURY</b> (Per Person) <b>BODILY INJURY</b> (Per Accident) <b>PROPERTY DAMAGE</b> (Per accident) \$2,000,000
	<input type="checkbox"/> <b>EXCESS/UMBRELLA LIABILIT</b> <input type="checkbox"/> Claims Made <input type="checkbox"/> Occur <input type="checkbox"/> Deductible <input type="checkbox"/> Retention						<b>EACH OCCURENCE</b> <b>AGGREGATE</b>
	<input checked="" type="checkbox"/> <b>WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY</b> Any Proprietor/Partner/Executive Office/Member Excluded <input type="checkbox"/> YES <input type="checkbox"/> NO If Yes describe under Special Provisions	<b>N/A</b>					<input checked="" type="checkbox"/> <b>WC STATUTORY LIMITS</b> E.L: EA ACCIDENT \$1,000,000 E.L. DISEASE: EACH EMPLOYEE \$1,000,000 E.L. DISEASE: POLICY LIMIT \$1,000,000
	<input checked="" type="checkbox"/> <b>BUILDERS' RISK ALL-RISKFORM</b>	<b>X</b>	<b>X</b>				<b>REPLACEMENT COSTS</b>

**SPECIAL PROVISIONS:** The policies required hereunder, except Workers' Compensation, contain a waiver of transfer of rights of recovery (subrogation) against Maricopa County Special Health Care District Dba Maricopa Integrated Healthcare System (MIHS), its agents, representatives, officers, directors, officials, and employees for any claims arising out of Contractors work or service. Except Workers' Compensation, MIHS, its agents, representatives, officers, directors, officials, and employees are named as Additional Insureds. To the extent provided in this Contract, insured shall defend, indemnify, and hold harmless MIHS from liability arising out of any services provided or duty performed by insured as required by statute, law, purchase order or otherwise required, with the exception of liability for loss or damage resulting from the sole negligence of MIHS, its agents, employees, or indemnities. It is agreed that any insurance available to the named insured shall be primary of all other sources that may be available and insurance maintained by MIHS shall not contribute to it. Renewal certificate must be sent to MIHS thirty (30) days prior to expiration date. Builders' Risk insurance shall also cover false work and temporary buildings and shall insure against risk of direct physical loss or damage from external causes including debris removal, demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for architect's service and expenses required as a result of such insured loss and other "soft costs" as required by the Contract. **THIS CERTIFICATE IS NOT VALID UNLESS COUNTERSIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE INSURANCE COMPANY.**

<p align="center"><b><u>CERTIFICATE HOLDER</u></b>  <b>Maricopa County Special Health Care District</b>  <b>Dba</b>  <b>Maricopa Integrated Health Systems</b>  <b>2611 E. Pierce St. 2<sup>nd</sup> Floor</b>  <b>PHOENIX, ARIZONA 850083</b></p>	<p align="center"><b><u>CANCELLATION</u></b></p> <p>It is further agreed that no policy shall expire, be cancelled, or materially changed to affect the coverage available to MIHS without thirty (30) days written notice to MIHS.</p> <p>_____</p> <p>AUTHORIZED REPRESENTATIVE SIGNATURE      DATE ISSUED</p>
--	--





MARICOPA  
INTEGRATED  
HEALTH SYSTEM

*Count on us to care.*

## EXHIBIT J

# GENERAL REQUIREMENTS FOR THE JOB ORDER CONTRACTS

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## DIVISION 01 - GENERAL REQUIREMENTS FOR JOB ORDER CONTRACTS

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<sup>2</sup> \*\*\* In the text indicates an item which the Architect on a particular Project may want to adjust for that Project

**5 SECTION 01 00 00**  
**SITE USE AND SECURITY REQUIREMENTS**

**PART 1 GENERAL**

**1.1 Construction Site**

- 1.1.1** Safety and security must be maintained at all times, on the Construction Site and lay down areas. It is the Job Order Contractor's responsibility to coordinate construction activities that may affect MIHS operations or any surrounding business. A twenty-four (24) hour advance written notice shall be given to the Owner or Owner's Representative for any activities or conditions that may affect operations, personnel, or clients.
- 1.1.2** The Construction Site is the area to be enclosed within temporary construction fences erected by the Job Order Contractor to separate and secure the construction activities from the Public.
- 1.1.3** Access to Construction Site shall be provided in accordance with requirements in Section 01 50 00 – Temporary Facilities and Controls.
- 1.1.4** Internal security for remodeling shall be provided. \*\*\*
- 1.1.5** Job Order Contractor is responsible for hiring a private utility locator to identify all underground utilities in the site.

**PART 2 FACILITY ENTRY/EXIT REQUIREMENTS**

- 2.1** Access for MIHS business must be maintained. \*\*\*
- 2.2** Weapons, drug, tobacco (including e-cigarettes and alcohol cannot be brought onto MIHS property or the Construction Site.
- 2.3** Safety and security for all tools, equipment and stored or in-place materials on the site are the responsibility of the Job Order Contractor. The owner assumes no liability for loss or damage to tools or equipment.
- 2.4** Job Order Contractor must immediately report any major losses or major unexplained damages to equipment to the Owner or Owner's Representative.
- 2.5** Job Order Contractor and construction personnel shall not talk to or interact with the media for any reason without prior written approval for the Owner or Owner's Representative.
- 2.6** MIHS reserves the right to inspect lunch boxes, toolboxes, clothing and equipment of any and all construction personnel permitted into existing secured areas.
- 2.7** MIHS reserves the right to require immediate removal of any worker or employee from areas deemed to be considered secure in nature.
- 2.8** The work hours at the site will be agreed upon by the JOB ORDER CONTRACTOR and Owner.

**PART 3 SITE LIGHTING**

- 3.1** The Job Order Contractor shall provide adequate security lighting for the ground floor of the Construction Site throughout the evening and nighttime non-work hours. \*\*\*

**PART 4 DISRUPTIONS TO ELECTRICAL SERVICE**

- 4.1 Electrical service shall be provided in accordance with Section 01 50 00 – Temporary Facilities and Controls
- 4.2 The Owner or Owner’s Representative must have at least twenty-one (21) days advance written notice prior to the electricity being shut off to any area outside of the construction site. At the discretion of the Owner or Owner’s Representative, more notice may be required.
- 4.3 The length of time electricity is off is to be coordinated with the Owner or Owner’s Representative and kept to the absolute minimum.

**PART 5 EXCAVATIONS**

- 5.1 The Owner or Owner’s Representative must have a minimum of five (5) working days advance written notice prior to any excavation.
- 5.2 Prior to any excavation, the specific location of all known underground utilities shall be marked.
- 5.3 Job Order Contractor is responsible for the location of all known utilities, on-site and off-site in the location of any excavation.
- 5.4 The Job Order Contractor shall be fully aware of the location of all known shut-off valves, and switches prior to commencing excavation.
- 5.5 All excavations must be properly marked and barricaded during daylight hours and adequately illuminated, barricaded, and marked during the hours of darkness. All excavations within City rights of way must comply with requirements of the City in which the excavation is located.
- 5.6 Based on security and safety issues, more stringent controls may be implemented; however, the JOB ORDER CONTRACTOR will be advised prior to revisions to this Section.

END OF SECTION

**6 SECTION 01 06 00**  
**SPECIAL CONDITIONS**

**PART 1 GENERAL**

**1.1 RELATED DOCUMENTS**

**1.1.1** Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

**1.2 GOOD REPAIR**

**1.2.1** Definition: Good repair as defined in General Conditions shall be extended to include:

**1.2.1.1** Site and Drainage Work

**1.2.1.2** Trench Conditions

**1.2.1.3** Landscaping Improvements

**1.2.1.4** Environmental/Process Applications of Work

**1.2.2** If in opinion of Owner, deterioration has taken place, the Owner or Owner's Representative shall notify the Job Order Contractor and his surety of said matter. If the Job Order Contractor does not proceed to remedy such matters called to his attention by written notice within five (5) days of notice, the Owner shall have sufficient cause to correct matters requiring repairs as the Owner deems best, and entire cost shall be paid by Job Order Contractor and surety.

**1.3 SITE MAINTENANCE**

**1.3.1** Maintain in good repair temporary structures, fences, barricades and related items.

**1.3.2** Keep site clean of debris, rubble and paper. Store and stockpile materials in an orderly manner and protect against damage.

**1.4 DRAWINGS AND CONTRACT DOCUMENTS FOR CONTRACTOR USE**

**1.4.1** No Charge Documents: The Owner or Owner's Representative will furnish to Job Order Contractor Contract Documents upon request and as appropriate.

**1.5 TESTING**

**1.5.1** The Owner will engage a qualified independent testing agency to perform quality-control testing normally required for Divisions 02, 03, 04 and 05. \*\*\*

**1.5.1.1** Payment of these services will be made by the Owner.

**1.5.1.2** Retesting of materials failing to meet the specified requirements shall be done at the Job Order Contractor's expense.

**1.5.2** Other Testing: Unless specifically stated otherwise in individual sections of specifications or drawings, required testing, testing procedures, reports, certificates, and costs associated with all phases of securing required satisfactory test information which may be required by individual sections of specifications or drawings are the full responsibility of the Job Order Contractor. \*\*\*

**1.5.3** Fuel costs for startup and testing of the emergency generator shall be included in the Job Order Contractor's construction cost. \*\*\*

**1.6 START-UP AND DEMONSTRATION**

**1.6.1** Pre Start-up Period. Prior to start-up, observe the following procedures by sequence: \*\*\*

- 1.6.1.1** Insure by checklist submitted to Owner or Owner's Representative that all required written statements from manufacturers by individual sections of specifications are received and comply with Contract Documents.
- 1.6.1.2** Insure work is completed before start-up of any unit or system. Certify to Owner or Owner's Representative that specifically required services of respective equipment manufacturer's representative by individual sections of specifications have been performed in accordance with Contract Documents.
- 1.6.1.3** Definition of System. For this project, "system" is defined as the arrangement of items or components of equipment (either process, mechanical or electrical) which form a unit of operation. Separate start-up and demonstration by system.
- 1.6.1.4** Insure systems are tested hydraulically, mechanically, and electrically. Insure systems which require calibration, commissioning, and balancing are fully certified as complete in performance in accordance with Contract Documents. Insure required tagging, identification, and stenciling is complete.
- 1.6.1.5** Schedule start-up a minimum of thirty (30) days prior with written notice issued to, but not necessarily limited to, Owner or Owner's Representative and applicable control agencies. Provide a final notification of the exact date and time for startup a minimum of ten (10) days prior to the startup in accordance with 01 91 13.
- 1.6.1.6** Provide all labor, supervision, chemicals, equipment, vehicles or any other items necessary to start-up, operate, and demonstrate the system.

**1.6.2** Start-Up and Demonstration Period.

- 1.6.2.1** Start-up, operate and demonstrate specified performance of each item of equipment and each system at full operation without interruption of equipment or system, or need of adjustment or repair per the plans and specifications.
- 1.6.2.2** During start-up with equipment in operation, provide knowledgeable personnel to instruct Owner's designated personnel on operation and maintenance of each system. This service shall be in addition to services provided by individual manufacturer's authorized representative(s) prescribed by individual sections of specifications. Instructions during this start-up period shall be overview in nature and not simply repeat previous operation and maintenance instructions.

**1.6.3** Substantial Completion:

- 1.6.3.1** Completion of Paragraphs 1.6.1–1.6.3 above is required prior to Request for Substantial Completion.
- 1.6.3.2** See also Section 01 91 13 – General Commissioning Requirements for items to be completed prior to substantial completion.

**1.7** REMOVAL OF EXISTING FACILITIES

- 1.7.1** All equipment, piping, etc. removed, and not specifically designated for reuse, shall become the property of the Job Order Contractor for salvage or disposal and shall be removed from the site by the Job Order Contractor. All other debris shall be hauled by Job Order Contractor and disposed of in an approved landfill and in accordance with Section 01 74 19 Construction Waste Management.

**1.8** INSPECTION BY PUBLIC AGENCIES

- 1.8.1** Authorized representatives of the City, MIHS, County and State of Arizona, shall have access to the work wherever it is in preparation or progress. The Job Order Contractor shall provide reasonable facilities for such access and inspection.

**1.9** HAZARDOUS SUBSTANCES

- 1.9.1** The Job Order Contractor agrees that it shall not knowingly transport to, use, generate,

dispose of, or install at the project site any Hazardous Substance, (as defined in Section 19.2.3), except in accordance with applicable Environmental Laws. Further, in performing the Work, the Job Order Contractor shall not knowingly cause any release of hazardous substances into, or contamination of, the environment, including the soil, the atmosphere, any water course or ground water, except in accordance with applicable Environmental Laws.

- 1.9.2** In the event the Job Order Contractor encounters on the project site any Hazardous Substance, or what the Job Order Contractor reasonably believes to be a Hazardous Substance, which is being introduced to the Work, in violation of any applicable Environmental Laws, the Job Order Contractor shall immediately stop Work in the area affected and report the condition to the Owner or Owner's Representative if in fact a Hazardous Substance has been introduced and has not been rendered harmless.
- 1.9.3** The Owner or Owner's Representative may direct the Job Order Contractor to remediate and/or render harmless the Hazardous Substance in accordance with applicable permits then in existence, but the Job Order Contractor shall not be required to remediate and/or render harmless the Hazardous Substance absent such direction. If the Job Order Contractor is not so directed, Job Order Contractor shall not be required to resume Work in any area affected by the Hazardous Substance until such time as the Hazardous Substance has been remediated and/or rendered harmless.
- 1.9.4** For purposes of this Contract, the term "Hazardous Substance" shall mean and include, but shall not be limited to, any element, constituent, chemical, substance, compound or mixture, which are defined in or included under or regulated by any local, state, or federal law, rule, ordinance, by-law, or regulation pertaining to environmental Response, Compensation and Liability Act of 1980 (CERCLA), The Resource Conversation and Recovery Act (RCRA), The Toxic Substances Control Act (TSCA), The Clean Water Act (CWA), the Clean Air Act (CAA), The Occupational Safety and Health Act (OSHA), The Superfund Amendments and Reauthorization Act of 1986(SARA), or other state or environmental clean-up or disclosure statues including all state and local counterparts of such laws (all such laws, rules and regulations being referred to collectively as Environmental Laws). It is the JOB ORDER CONTRACTOR's responsibility to comply with the law in effect at the time its services are rendered and to comply with any amendments to those laws for all services rendered after the effective date of any such amendments.

**PART 2            PRODUCTS (Not Used)**

**PART 3            EXECUTION (Not Used)**

END OF SECTION



## 7 SECTION 01 11 00

### SUMMARY OF WORK

#### 1.1 WORK COVERED BY CONTRACT DOCUMENTS

1.1.1 Project: \*\*\*

1.1.2 Sustainable Design Requirements: \*\*\*

1.1.2.1 The building(s) on the site and the site-work adjacent to the building(s) are designed and shall be constructed as sustainable entities.

1.1.2.2 The requirements for sustainable/"green" construction are contained throughout the Contract Documents and in particular are specified in Section 01 81 13 – Sustainable Design Requirements.

1.1.3 BIM Model: If the Job Order Contractor maintains a BIM model, it shall be made available for reference by the Design Professional and Owner. The files shall be compatible with REVIT 2012 and NAVISWORKS. \*\*\*

1.1.4 Subcontractors shall review the Construction Documents in their entirety to ensure that all materials, services, labor and equipment required are included in their bid. Documents are arranged by discipline (e.g. electrical) only as a convenience. It shall not be assumed that work of a specified trade will be contained only within the specifications or drawings that are identified with a specific discipline. Subcontractors are hereby notified that the work of their trade may be contained on any or all of the documents. No additional cost(s) will be paid by the Owner for work that is construed to be performed by another trade because the work is specified or indicated on a document which is not specifically identified for their trade.

#### 1.2 DEFINITIONS PERTAINING TO THE CONTRACT DOCUMENTS

1.2.1 Furnish: To purchase and deliver.

1.2.2 Install: To place into final position and connect.

1.2.3 Provide: To furnish and install.

1.2.4 "As shown", "as detailed", "as indicated" or words of similar import mean as indicated on the drawings

1.2.5 "As selected", "as approved" or words of similar import mean as selected by, as approved by, or as accepted by the Design Professional and Owner.

1.2.6 "Approved equal", "or equal" shall mean as approved and accepted by the Design Professional and Owner.

1.2.7 "Shall" means mandatory.

1.2.8 "As required" means as required by the contract documents.

1.2.9 "As necessary" means essential to the completion of the work.

1.2.10 "Concealed" means not visible in the finished work.

1.2.11 "Exposed" means visible in the finished work.

1.2.12 "Days" means calendar days, unless specifically indicated otherwise.

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

### 1.3 WORK BY OWNER

1.3.1 Items noted 'NIC' (Not in Contract) will be furnished and installed by Owner.

1.3.2 Fixtures, Furnishings and Equipment (FFE) items to be provided by Owner include: \*\*\*

1.3.2.1 Technology Hardware and Software, including cabling, terminations and commissioning.

1.3.2.2 Furniture and Equipment throughout the building.

### 1.4 OWNER FURNISHED ITEMS \*\*\*

1.4.1 Products furnished to the site and paid for by Owner shall be as noted on Drawings.

1.4.2 Owner's Responsibilities:

1.4.2.1 Arrange for and deliver Owner reviewed Shop Drawings, Product Data, and Samples, to Job Order Contractor for Owner-Furnished Job Order Contractor Installed (OFCI) items.

1.4.2.2 Arrange and pay for product delivery to site.

1.4.2.3 On delivery, inspect products jointly with Job Order Contractor.

1.4.2.4 Submit claims for transportation damage and replace damaged, defective, or deficient items.

1.4.2.5 Arrange for Manufacturers' warranties, inspections and service.

1.4.3 Job Order Contractor's Responsibilities:

1.4.3.1 Job Order Contractor shall give Owner written notice a minimum of 30 calendar days in advance stating dates when Owner-furnished items must be received at the job site to insure Project completion in accordance with established schedule.

1.4.3.2 Review Owner-reviewed Shop Drawings, Product data, and Samples

1.4.3.3 For OFCI items, receive and unload products at site; inspect for completeness or damage, jointly with Owner.

1.4.3.4 For OFCI items, handle, store, assemble, install, connect and finish such products, including furnishing lubricants and fluids and procedures required to render product serviceable and operative.

1.4.3.5 Job Order Contractor is responsible for the coordination and interface of Owner-Furnished and Installed work with Work of this Contract to provide all required mechanical and electrical rough-ins, openings, supports, dimensions, etc., as required for a complete installation

### 1.5 JOB ORDER CONTRACTOR USE OF SITE

1.5.1 General: Job order Contractor shall have full use of the site within Contract Limit Lines indicated for construction operations during the construction period.

1.5.2 Use of site shall allow for:

1.5.2.1 Owner occupancy and usage of adjacent buildings.

1.5.2.2 Work by Other Contractors and Work by Owner.

1.5.3 Owner Operations:

1.5.3.1 At no time during the work shall Job Order Contractor place, or cause to be placed, materials or equipment, or other items, at a location which would impede or impair access to or from the present facilities for customers, employees or delivery personnel.

1.5.3.2 Job Order Contractor shall cooperate with the Owner in providing traffic control during course of construction in order to minimize inconvenience to Owner's customers. Job Order Contractor shall provide these traffic control service at no additional cost to Owner.

1.5.4 Emergency Building Exits During Construction: Provide protection of emergency exits for adjacent

buildings as directed by and approved by Owner during the entire course of construction.

**1.5.5** Time Restrictions for Performing Work:

**1.5.5.1** Construction hours as directed by Owner. \*\*\*

**1.5.5.2** Restrictions may be placed on certain types of work and areas of site activity depending on Owner needs.

**1.5.6** Utility Outages and Shutdown: Non-emergency interruption of utility services to the existing building(s) is not permitted without advance written twenty-one (21) day minimum notice. Job Order Contractor shall schedule pre- activity meeting with affected stakeholders with written plan of shutdown activities, affected areas/systems. Include job hazard analysis, procedures, execution plan and activity durations.

**1.6** PERMITS, FEES AND NOTICES

**1.6.1** Plan check fees will be paid by the Owner.

**1.6.2** The Job Order Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authority bearing on the performance of the Work.

**1.6.3** It is the responsibility of the Design Professional to make certain that the Contract Documents are in accordance with applicable laws, statutes, building codes and regulations. If the Job Order Contractor observes that any of the Contract Documents are at variance therewith in any respect, he shall promptly notify the Design Professional and Owner in writing, and any necessary changes shall be accomplished by appropriate Modification.

**1.6.4** If the Job Order Contractor performs Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Design Professional and Owner, the Job Order Contractor shall assume full responsibility therefor and shall bear attributable costs.

**1.7** SPECIAL SITE CONDITIONS \*\*\*

**1.7.1** The Job Order Contractor shall be solely and completely responsible for protecting the existing buildings from damage and/or injury due to this Work and shall repair at his expense and to the Design Professional's satisfaction, all areas damaged as a result of his Work.

**1.7.2** Job Order Contractor shall make consideration of dust and debris. Means for maintaining operations shall be discussed with, an approved by the Owner prior to commencing work.

**1.7.3** Job Order Contractor shall make consideration of providing a visual screen as part of, or in addition, the site fencing wherever, in the opinion of the Owner, additional privacy is needed for adjacent building patrons.

**1.8** APPROVED APPLICATORS

**1.8.1** Where specific instructions in the Specifications require that a particular product and/or material be applied and/or installed by an "approved applicator" it shall be the Job Order Contractor's responsibility to insure that any Subcontractor used for such work is in fact currently certified, or otherwise approved in writing, by the particular Manufacturer for this type of installation or application.

**1.9** APPROVED MANUFACTURERS

**1.9.1** Each Section of the Specifications may include a list of Manufacturers whose equipment is acceptable as to manufacture, subject to conformance with the Contract Documents. Careful checking must be made by the Job Order Contractor and the manufacturer or equipment supplier to verify that the equipment will meet all capacities, requirements, space allocations is suitable to the intended purpose, and will be installed in accordance with the Construction Schedule. \*\*\*

**1.10 REFERENCE DATA**

- 1.10.1** Reference data made available to the Job Order Contractor is for the Job Order Contractor's information only, and neither the Owner nor the Design Professional assume any responsibility for the Job Order Contractor's conclusions.
- 1.10.2** The Job Order Contractor shall establish and maintain all buildings and construction grades, lines, levels, and bench marks. This Work shall be performed by a licensed Civil Engineer or Surveyor under the employ of the Job Order Contractor, who shall certify to the Design Professional that he has performed this service.
- 1.10.3** The Job Order Contractor shall not remove any property line markers or monuments or data established by the Owner.

**1.11 NO DISCRIMINATION**

- 1.11.1** It is the desire of the Owner that the facilities and improvements constructed under this Contract meet or exceed the intent of applicable public law concerning prohibition of discrimination, and that no individual be discriminated against on the basis of disability in the full and equal enjoyment of the goods, services, facilities, privileges, advantages, or accommodations of this completed Project.
- 1.11.2** The designers and drafters of these Documents have intended to incorporate those Owner's intentions into these Documents.
- 1.11.3** The Owner hereby solicits those providing elements of this Project to bid and contract for the Project as required by these Documents, but at the time of submitting Shop Drawings, or sooner when appropriate, and without causing delay in the Project, to also submit proposals for improving the accessibility of the Project to physically or mentally impaired persons.

END OF SECTION

# 8 SECTION 01 24 13

## VALUE ENGINEERING PROCEDURES

### PART 1 GENERAL

#### 1.01 SUMMARY

- A. Section Includes: Administrative requirements for value engineering.

#### 1.02 DEFINITIONS

- A. Value Engineering: 1) To effect economy in the cost of constructing a project, and; 2) Evaluating and bettering of materials and systems in terms of dollars and functional objectives.

#### 1.03 ADMINISTRATIVE REQUIREMENTS FOR VALUE ENGINEERING OPTIONS

- A. Whenever a material or system is specified, the specified item shall be understood as establishing type, function, dimension, appearance, and quality desired. Other materials and systems will be accepted as value engineering options, provided sufficient information is submitted to allow the Design Professional to determine that proposed value engineering option materials and systems will meet the functional objectives of the specified materials and systems.
- B. Requests for approval of value engineering options:
1. Job Order Contractor shall request approval of each value engineering option, in writing, to the Design Professional.
  2. The request shall specifically state what specified materials and systems are being substituted and shall state what materials and systems are being proposed as value engineering options.
  3. Design Professional will approve or reject value-engineering options in writing, and in such form, as the Design Professional or Owner directs. Owner has final authority regarding approval of value engineering items.
  4. Value engineering options will not be considered if they are indicated or implied on submittals (shop drawings, product data or samples).
  5. Value engineering options are encouraged and will be treated confidential as proprietary to the Job Order Contractor making the value engineering option.
- C. Job Order Contractor shall provide descriptive brochures, drawings, samples and other data as is necessary to allow comparison to the specified materials and systems. Value engineering information and data shall be well-marked and identified as to types and kind of the items being proposed for value engineering option. Reference to catalogs will not be acceptable unless catalog is included with proposal.
- D. In proposing a value engineering option, the Job Order Contractor makes the following representations:
1. Proposed value engineering option has been fully investigated and determined to will meet the functional objectives of the specified materials and systems.
  2. Maintenance service and source of replacement parts, as applicable, is available.
  3. Cost data included on the value engineering option is complete. Claims for additional costs related to accepted value engineering options which may subsequently become apparent are to be waived.
  4. Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.
  5. Implementation of the value engineering option will not adversely affect other systems.
- E. Value engineering options which are accepted and require revisions to the Contract Documents shall have the cost of the modifications to the Contract Documents deducted from the savings proposed for the value engineering option. There will be a deductive Task Modification to the Task Order.

END OF SECTION

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JOC # \_\_\_\_\_; Project Title \_\_\_\_\_.

# 9 SECTION 01 25 00

## SUBSTITUTION PROCEDURES

### PART 1 GENERAL

#### 1.1 Description

- 1.1.1 Furnish all work and services for furnishing, submitting, processing, and handling of requests for substitution and product options. Any substitution or option shall be in accord with provisions of Contract Documents.
- 1.1.2 Completely coordinate with work of other trades.
- 1.1.3 See appropriate sections of the Specifications for specific items.
- 1.1.4 Address submissions to Design Professional and Owner's Representative.

#### 1.2 Product Selection-General

- 1.2.1 Base bids on materials, equipment and procedures specified.
- 1.2.2 Certain types of equipment and kinds of material are described in Specifications by means of trade names, catalog numbers and/or manufacturer's names. This is not intended to exclude from consideration other items which may be capable of accomplishing the purpose indicated. The words "or equal" allow submission under Section 01 33 00 of products considered to be capable of accomplishing the Specification criteria.
- 1.2.3 Prior Approvals for "or equal" products will be permitted in accordance with the submittal requirements of this Section.
- 1.2.4 Other types of equipment and kinds of material may be acceptable to Owner. A Substitution request (see 1.6 below) or Value Engineering request (see Section 01 24 13) will be required to initiate review of these items.
- 1.2.5 Listing of a manufacturer implies acceptance of them only as the supplier of a product which complies with specified item.
- 1.2.6 The Owner or Owner's Representative, and DP reserve the right to require substitute items to comply color- and pattern-wise with base specified items.

#### 1.3 Job Order Contractor's Options

- 1.3.1 For products specified only by reference standards, any product meeting standards may be used.
- 1.3.2 For products specified by naming several products or manufacturers and "or equal", use any product or manufacturer named, or any product or manufacturer which meets all the Specification criteria. Job Order Contractor may request Prior written Approval of an "or equal" product or manufacturer in accordance with this Section.
- 1.3.3 For products specified by naming one manufacturer and product, and indicating product is proprietary, select the product and manufacturer named.

#### 1.4 Requests for Approval Prior

- 1.4.1 Only written requests a minimum of twenty-one (21) days prior to shop drawing submittals with complete submittal data will be considered.
- 1.4.2 In making request for prior approval, or in using a prior approved item, Job Order Contractor acknowledges it:
  - 1.4.2.1 Has investigated proposed product or method, and has determined that it is equal or superior in all respects to that specified, and that it will perform the intended function and not impact adversely other systems.

- 1.4.2.2 Will provide same guarantee for prior approved item as for product or method specified.
- 1.4.2.3 Will coordinate installation of accepted prior approval into Work, to include building modifications if necessary; making such changes as may be required for Work to be complete and timely in all respects.
- 1.4.2.4 Waives all claims for additional costs related to any requested and/or approved prior approval which may subsequently become apparent.
- 1.4.2.5 Shall pay for all Job Order Contractor requested modifications and/or revisions to the Drawings and/or Specifications at no expense to the Owner, including any resulting fees for added Design Professional services.
- 1.4.3 Job Order Contractor shall acknowledge acceptance of the foregoing provisions in request form.
- 1.4.4 If the request for prior approval requires any change to equipment, materials, and methods of construction, such must be specifically indicated, and approved by the DP and be agreed upon by Owner as part of the approval process.
- 1.4.5 Prior approval does not automatically mean equipment is approved. Final submittals and shop drawings shall be made as required by the specifications for final approval of all equipment and materials. Any changes required due to substitution are the Job Order Contractor's responsibility.

## 1.5 Submittal Data

- 1.5.1 Complete data substantiating compliance of proposed prior approval with Contract Documents. Job Order Contractor shall request approval of such substitution, in writing, to the Design Professional using Document 00 63 25 - Substitution Request form contained in the Project Manual. \*\*\*
- 1.5.2 For products:
  - 1.5.2.1 Products identification, including manufacturer's name.
  - 1.5.2.2 Manufacturer's literature, marked to indicate specific model, type, size, and options to be considered:
    - 1.5.2.2.1 Product description.
    - 1.5.2.2.2 Performance and test data.
    - 1.5.2.2.3 Reference standards.
    - 1.5.2.2.4 Difference in power demand, air quantities, etc.
    - 1.5.2.2.5 Dimensional differences from specified unit.
  - 1.5.2.3 Full size samples if requested. DP reserves the right to impound sample until physical units are installed on project for comparison purposes. Requester will pay all costs of furnishing and return of samples. DP is not responsible for loss of, or damage to, samples not under their direct control.
  - 1.5.2.4 Name and address of similar projects and name of Owner's Representative who can be contacted to discuss product, installation, and field performance data.
- 1.5.3 For construction methods:
  - 1.5.3.1 Detailed description of proposed method.
  - 1.5.3.2 Illustrate on drawings.
- 1.5.4 Itemized comparison of proposed prior approval to specified item.
- 1.5.5 Data relating to changes in construction schedule.

- 1.5.6 Relation to separate contracts.
- 1.5.7 Cost of proposed prior approval in comparison with product or method specified.
- 1.5.8 Any change to equipment, materials, and methods of construction must be specifically indicated.

**1.6 Substitutions**

- 1.6.1 A Substitution is defined as a minor change in the type of materials operation of equipment or method of manufacture or production of a specified item. Submission of an item considered to be “or equal” under the Specifications is not a Substitution and should be submitted as a Shop Drawing, Product Data, or Sample under Section 01 33 00.
- 1.6.2 Substitutions will be considered after Contract execution provided data as required in 1.5 above is received by Owner or Owner’s representative a minimum of twenty-one (21) days prior to show drawings submittals. A Substitution may be submitted as Value Engineering request, per Section 01-24-13, if significant costs savings may be realized.
- 1.6.3 Substitutions will also be allowed for non-availability of specified item due to strikes, lockouts, bankruptcy, discontinuance of production, proven shortage, or similar occurrences.
- 1.6.4 Notify Owner or Owner’s Representative, in writing with substantiating data as soon as non-availability becomes apparent, to avoid delay in construction. Only written requests made a minimum of twenty-one (21) days prior to shop drawing submittals with complete submittal data will be considered.
- 1.6.5 Forward submittal data as required for Prior Approvals in 1.5 above.

**1.7 Rejection of Substitution or Optional Items**

- 1.7.1 Substitutions and/or options will not be considered if:
  - 1.7.1.1 They are indicated or implied on shop drawings, or project data submittals, without a timely formal request having been submitted in accordance with this section.
  - 1.7.1.2 Request for substitution does not indicate specific item for which request is submitted. Acceptance of a manufacturer only will not be made.

**PART 2: PRODUCTS (Not Used)**

**PART 3: EXECUTION (Not Used)**

END OF SECTION



# 10 SECTION 01 26 13

## REQUESTS FOR INTERPRETATION

### PART 1 GENERAL

#### 1.01 SUMMARY

- A. Section Includes: Administrative requirements for requests for information interpretation.

#### 1.02 DEFINITIONS

A. Request For Information / Interpretation (RFI):

1. A document submitted by the Job Order Contractor to the Architect and Owner requesting clarification of a portion of the Contract Documents, hereinafter referred to as RFI.
2. A properly prepared request for information / interpretation shall include a detailed written statement that indicates the specific Drawings or Specification in need of clarification and the nature of the clarification requested. RFI shall indicate if cost and/or schedule may be impacted.
  - a. Drawings shall be identified by drawing number and location on the drawing sheet.
  - b. Specifications shall be identified by Section number, page and paragraph.
3. Requests for Information: Request made by Job Order Contractor concerning items not indicated on drawings or contained in Project Manual that is required to properly perform the work.
4. Requests for Interpretation: Request made by Job Order Contractor in accordance with Owner's Representative's third party obligations to the contract for construction.

B. Improper RFI's:

1. RFI's that are not properly prepared.
2. Hand-written RFI's are not acceptable.
3. Improper RFI's will be processed by the Design Professional after receiving corrected or clarified RFI forms. The Job Order Contractor will be notified by the Design Professional prior to the processing of improper RFI's.

C. Frivolous RFI's:

1. RFI's that request information that is clearly shown on the Contract Documents.
2. Frivolous RFI's may be returned unanswered or may be voided. The Job Order Contractor will be notified by the Design Professional prior to the processing of frivolous RFI's.

#### 1.03 JOB ORDER CONTRACTOR'S REQUESTS FOR INFORMATION

A. RFI's shall be submitted on a form acceptable to the Owner. \*\*\*

1. Forms shall be completely filled in, and; shall be fully legible after photocopying or transmission by facsimile (fax).
2. RFI's shall be submitted in numerical order with no breaks in the consecutive numbering.
3. Each page of attachments to RFI's shall bear the RFI number and shall be consecutively numbered in chronological order.
4. Job Order Contractor's may use their own form which must include, at a minimum, the information required in Document 00 63 13.
5. RFI's may be submitted by E-Mail or via online project management system.
  - a. Address for E-Mail will be distributed by the Design Professional at the Pre-Construction Conference.
  - b. Digitally issued RFI's shall be prepared using a standard form. Requests issued without using the standard form will not be considered a formal RFI
  - c. An electronic version of Document 00 63 13 will be provided upon request.

- B. When the Job Order Contractor is unable to determine from the Contract Documents, the material, process or system to be installed, the Design Professional shall be requested to make a clarification of the indeterminate item.
1. Wherever possible, such clarification shall be requested at the next appropriate project meeting, with the response entered into the meeting minutes. When clarification at the meeting is not possible, either because of the urgency of the need, or the complexity of the item, Job Order Contractor shall prepare and submit an RFI to the Design Professional.
  2. RFI requesting clarification of an item required of a document, known to have been prepared by a consultant to the Design Professional, may be sent directly to the consultant with a simultaneous copy to the Design Professional, if this direct communication is approved by the Design Professional.
- C. Job Order Contractor shall endeavor to keep the number of RFI's to a minimum. In the event that the process becomes unwieldy, in the opinion of the Design Professional (and validated by Owner), because of the number and frequency of RFI's submitted, the Design Professional may request that the Owner require the Job Order Contractor to abandon the process and submit future requests as either submittals, substitutions or requests for change.
- D. RFI's shall be originated by the Job Order Contractor.
1. RFI's from subcontractors or material suppliers shall be submitted through, reviewed by, and signed by the Job Order Contractor prior to submittal to the Design Professional.
  2. RFI's from subcontractors or material suppliers sent directly to the Owner's Representative, Design Professional or the Design Professional's consultants shall not be accepted and will be returned unanswered.
- E. Job Order Contractor shall carefully study the Contract Documents to assure that the requested information is not available therein. RFI's which request information available in the Contract Documents will be deemed either "improper" or "frivolous" as noted above.
- F. In cases where RFI's are issued to request clarification of coordination issues, for example, pipe and duct routing, clearances, specific locations of work shown diagrammatically, and similar items, the Job Order Contractor shall fully lay out a suggested solution using drawings or sketches drawn to scale, and submit same with the RFI. RFI's which fail to include a suggested solution will be returned unanswered with a requirement that the Job Order Contractor submit a complete request.
- G. RFI's shall not be used for the following purposes:
1. To request approval of submittals
  2. To request approval of substitutions,
  3. To request changes which are known to entail additional cost or credit. (A Task Order Modification Request form shall be used.)
  4. To request different methods of performing work than those drawn and specified.
- H. In the event the Job Order Contractor believes that a clarification by the Design Professional results in additional cost or time, Job Order Contractor shall not proceed with the work indicated by the RFI until a Change Order (or Construction Change Directive, if applicable to project) is prepared and approved. RFI's shall not automatically justify a cost increase in the work or a change in the project schedule.
1. Answered RFI's shall not be construed as approval to perform extra work.
  2. Unanswered RFI's will be returned with a stamp or notation: Not Reviewed.
- I. Job Order Contractor shall prepare and maintain a log of RFI'S, and at any time requested by the Design Professional, Job Order Contractor shall furnish copies of the log showing outstanding RFI'S. Job Order Contractor shall note unanswered RFI's in the log.
- J. Job Order Contractor shall allow up to 7 days for review and response time for RFI'S, unless review is required of multiple consultants, then the review and response period shall be 10 working days.

1. The Design Professional will endeavor to respond in a timely fashion to RFI's.
  2. RFI shall state requested date/time for response, however, this requested date/time for response is not a guarantee that the RFI will be answered by that date/time if that date/time is too expeditious
- 1.04 DESIGN PROFESSIONAL'S RESPONSE TO RFI'S

A. Design Professional will respond to RFI's on one of the following forms:

1. Properly prepared RFI's:
  - a. Response directly upon Request for Information / Interpretation form.
  - b. Design Professional's Supplemental Instruction.
  - c. Request for Proposal.
2. Improper or Frivolous RFI's
  - a. Notification of Processing Fee(s).
  - b. Unanswered RFI's will be returned with a stamp or notation: Not Reviewed.
3. Answers to properly prepared RFI's may or may not be made directly upon the RFI form as deemed appropriate by the Design Professional.
4. Design Professional will reference the RFI number when appropriate for tracking purposes.

1.05. CONFIRMING RFI'S

- A. The Job Order Contractor shall provide confirming RFI's or other acceptable means of tracking verbal directives and their resolution, whether initiated by the Design Professional, Job Order Contractor or Owner.

**PART 2: PRODUCTS (Not Used)**

**PART 3: EXECUTION (Not Used)**

END OF SECTION

# 11 SECTION 01 26 63

## TASK ORDER MODIFICATION PROCEDURE

### PART 1 GENERAL

#### 1.1 DESCRIPTION

**1.1.1** Only such changes in the Work, in the Task Order Sum, in the Task Order Time of Completion, in the Contract or Task Order language, or any combination thereof, as are described in written Task Order Modifications signed by the Job Order Contractor, Owner or Owner's Representative and the DP and issued after execution of the Contract, in accordance with the provisions of this Section.

#### 1.2 OWNER REQUESTED REVISIONS

**1.2.1** If Owner requests a revision, Owner will submit a Proposed Task Order Modification to the Job Order Contractor.

**1.2.2** Owner will review the proposed modification and issue to Job Order Contractor a Proposed Task Order Modification Order ("PTOMO").

**1.2.3** Within fifteen (15) days the Job Order Contractor shall respond in writing to the PTOMO, in the form of a Task Order Modification detailing all costs and time and schedule impacts.

**1.2.4** Job Order Contractor shall take no action until Owner has issued a written Task Order Modification.

#### 1.3 PROCESSING CHANGES INITIATED BY THE OWNER

**1.3.1** Should the Owner contemplate making a change in the work or a change in the Task Order Time of Completion, the Owner will issue a Potential Change Order (PCO) describing the modification and may include a proposal request ("P.R.") from Design Professional, if applicable.

**1.3.1.1** Each PTOMO will be dated and will be numbered in sequence.

**1.3.1.2** The PCO will describe the contemplated revision.

**1.3.1.3** Upon receipt of a PCO the Job Order Contractor shall promptly respond with a Change Order Request advising the Owner or Owner's Representative as to credit or cost and time proposed for the described change. This is not an authorization to proceed with the change.

**1.3.1.4** Upon agreement the Owner will issue a Task Modification to the Job Order Contractor. The Job Order Contractor shall immediately proceed with the modification.

**1.3.2** If the Job Order Contractor disputes any aspect of the Task Modification and the Job Order Contractor wishes to make a claim for a portion of such change, the Job Order Contractor shall proceed with the Task Order Modification and shall notify the Owner and/or Owner's Representative as provided for in Contract for Construction Services. Job Order Contractor will track the labor and material used for the disputed work.

**1.3.3** If the Job Order Contractor has been directed by the Owner or Owner's Representative to make the described Task Order Modification subject to later determination of cost or credit in accordance with the Contract for Construction Services, the Job Order Contractor shall:

**1.3.3.1** Take such measures as needed to make the change.

**1.3.3.2** Consult with the Owner and Owner's Representative and reach agreement on the most appropriate method for determining credit or cost or time or schedule impact for the modification, then submit a Task Order Modification Order Request.

**1.3.4** If the Job Order Contractor has been directed by the Owner or Owner's Representative to promptly advise him as to credit or cost or time or schedule impact proposed for the described modification, the Job Order Contractor shall:

- 1.3.4.1 Analyze the described change and its impact on costs and time.
- 1.3.4.2 Secure the required information and forward it to the Owner or Owner's Representative for review as a Change Order Request.
- 1.3.4.3 Meet with the Owner or Owner's Representative as required to explain costs and, when appropriate, determine other acceptable ways to achieve the desired objective.
- 1.3.4.4 Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the Owner's cost for making the change, advising the Owner or Owner's Representative in writing when such avoidance no longer is practicable.

#### **1.4 PROCESSING CHANGES INITIATED BY THE JOB ORDER CONTRACTOR**

- 1.4.1 Should the Job Order Contractor discover a discrepancy among the Contract Documents, a concealed condition or other cause for suggesting a Task Order Modification in the Work, a change in the Task Order Sum, or a change in the Task Order Time of Completion, he shall notify the Owner or Owner's Representative as required by Article 6 of the Contract for Construction Services.

#### **1.5 PROCESSING JOB ORDER CONTRACTOR CHANGES**

- 1.5.1 Job Order Contractor shall promptly provide a Change Order Request to the Owner or Owner's Representative. The Owner will assign a PCO number to the proposed change.
  - 1.5.1.1 State proposed modification to the Task Order Sum, and/or Time and Schedule if any.
  - 1.5.1.2 Clearly describe other modifications in the work, if required by the proposed modification, or desirable therewith, if any.
  - 1.5.1.3 Include full backup data such as subcontractor's proposal. At a minimum the subcontractor's supporting data shall provide a breakdown of labor, labor rates, materials, taxes, delivery costs, indirect costs, and overhead and profit as well as Time and Schedule impacts, including a schedule analysis.
  - 1.5.1.4 Submit this Change Order Request in single copy.
  - 1.5.1.5 Each Change Order Request will be dated and will be numbered in sequence
- 1.5.2 When cost or credit or time or schedule impact for the modification has been agreed between Owner and the Job Order Contractor, or the Owner has directed that cost or credit be determined in accordance with provisions of Article 7 of the Contract for Construction Services, the Owner or Owner's Representative will issue a "Task Order Modification" to the Job Order Contractor. No work shall be performed prior to issuance of a signed Task Order Modification.

#### **1.6 LOGS**

- 1.6.1 Maintain a Log of Change Order Requests and Task Order Modifications at the job site, accurately reflecting current status of all pertinent data.
- 1.6.2 Make the Log available to the DP, Owner or Owner's Representative for review upon request.

**PART 2 PRODUCTS (Not Used)**

**PART 3 EXECUTION (Not Used)**

END OF SECTION

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JOC # \_\_\_\_\_; Project Title \_\_\_\_\_.

# 12 SECTION 01 29 73

## SCHEDULE OF VALUES

**PART 1 GENERAL**

**1.1 DESCRIPTION**

**1.1.1** Work Included: Provide a detailed breakdown, of the agreed Task Order Sum showing values allocated to each of the various parts of the Work as directed by the Owner or Owner’s Representative, as specified herein and in other provisions of the Contract Documents.

**1.1.2** Related Work

**1.1.2.1** Schedule of Values is required under Article 9.1 of the General Conditions to the Job Order Contract.

**1.1.2.2** Schedule of Values is required to be compatible with AIA Document G703, "Continuation Sheet" and accompany AIA Document G702, "Application and Certificate for Payment", as described in Section 01 29 76.

**1.2 QUALITY ASSURANCE**

**1.2.1** Assure arithmetical accuracy of the sums described.

**1.3 SUBMITTALS**

**1.3.1** Submit a proposed Schedule of Values to the Owner or Owner’s Representative for approval.

**1.3.1.1** The Schedule of Values shall subdivide the work into component parts in sufficient detail to serve as the basis for progress payments during construction.

**1.3.1.2** Meet with the Owner, or Owner’s Representative, and determine additional data, if any, required to be submitted.

**1.3.1.3** Secure the Owner or Owner’s Representative's approval of the Schedule of Values prior to submitting first Application for Payment.

**1.4** Identifying Changes in the Schedule-of-Values. Each change shall be listed separately in the Job Order Contractor’s Schedule-of-Values. Changes shall be listed by Potential Change Order number, by trade or subcontractor and include a line item for the Job Order Contractor’s mark-ups associated with the change.

Example:

A change occurs including three trades. The Owner issues a Potential Change Order Request #005. Another change occurs including two trades. The Owner issues any Potential Change Order Requests #006.

(Schedule-of Values)	Scheduled Value	Previously Paid	This Period.....
Electrical PCO #005	\$1,000.00	0.00	0.00
Mechanical PCO #005	\$1,500.00	0.00	0.00
Framing/Drywall PCO #005	\$1,000.00	0.00	0.00
JOC Markups PCO #005	\$388.72	0.00	0.00
Electrical PCO #006	\$1,000.00	0.00	0.00
Framing/Drywall PCO #006	\$500.00	0.00	0.00
JOC Markups PCO #006	\$166.59	0.00	0.00

**PART 2 PRODUCTS (Not Used)**

**PART 3 EXECUTION (Not Used)**

END OF SECTION

# 13 SECTION 01 29 76

## PROGRESS PAYMENT PROCEDURES

### PART 1 GENERAL

#### 1.1 DESCRIPTION

##### 1.1.1 General

- 1.1.1.1** Furnish all Applications for Payment as indicated, in accordance with provisions of Article 8 of the Contract for Construction Services.

### PART 2 PRODUCTS (Not Used)

### PART 3 EXECUTION

#### 3.1 GENERAL

- 3.1.1** On the first (1<sup>st</sup>) of the month or the next business day if the first (1<sup>st</sup>) is a legal holiday or weekend, the Job Order Contractor shall submit to the Project Manager an itemized Application for Payment for the work completed to that date. This application will be reviewed for content by the Program Manager. The Application for Payment shall be based on the accepted Schedule of Values, per Section 01 29 73.
- 3.1.2** Provide supporting data substantiating the Job Order Contractor's right to payment as the Owner or Owner's Representative may require. See 3.2 below for requirements.
- 3.1.3** Submit estimates of the cost of work to be completed during the current calendar month with the Application for Payment.
- 3.1.4** Submit Progress Photographs.
- 3.1.5** Submit Record Photographs.
- 3.1.6** Submit updated monthly Schedule.
- 3.1.7** Submit conditional and unconditional lien waivers from Job Order Contractor and subcontractors.
- 3.1.8** Submit documentation per the Contract for Construction Services for off-site stored materials.
- 3.1.9** Submit SBE forms per the Contract for Construction Services.
- 3.1.10** Comply with other Specification Sections which contain requirements related to the Job Order Contractor's Application for Payment.
- 3.1.11** Demonstrate as built project documents are up to date.

#### 3.2 APPLICATIONS FOR PAYMENT \*\*\*

- 3.2.1** Submit the Application for Payment on AIA Document G702, "Application and Certificate for Payment" to the Owner's Representative. The Schedule of Values shall be submitted in a format similar to AIA Document G703, "Continuation Sheet."
- 3.2.2** Furnish electronically one (1) original Application for Payment with a schedule update in P6 format.
- 3.2.3** The Application for Payment will serve as a certification of the status of project.
- 3.2.4** The notarized Signature on the Application for Payment shall be that of a duly authorized agent of the Job Order Contractor.
- 3.2.5** Base Application for Payment upon 100 percent of value of work installed and materials and equipment suitably stored at site and materials and equipment suitably stored off-site in insured and/or a bonded warehouse.

- 3.2.6** Itemize Applications for Payment:
  - 3.2.6.1** Submit Applications for Payment
  - 3.2.6.2** Heading completed in full
  - 3.2.6.3** Original contract sum
  - 3.2.6.4** Change order summary completed
  - 3.2.6.5** Net change by Change Order
  - 3.2.6.6** Contract sum to date
  - 3.2.6.7** Total completed and stored to date
  - 3.2.6.8** Total earned, less retainage
  - 3.2.6.9** Amount of previous payments
  - 3.2.6.10** Current payment due
  - 3.2.6.11** Balance to finish
  - 3.2.6.12** Notarized section completed
  - 3.2.6.13** Completed Schedule of Values as identified in 3.2.1 above

END OF SECTION



# 14 SECTION 01 31 19

## PROJECT MEETINGS

### PART 1 GENERAL

#### 1.1 DESCRIPTION

- 1.1.1 Project Meetings are held to enable an orderly review of the Work as it progresses on a weekly basis. It also provides an opportunity for systematic discussion of cost, schedule, problems and solutions. The Owner's Representative shall schedule and conduct project meetings throughout the construction period. \*\*\*
- 1.1.2 The Job Order Contractor's relationship with his Subcontractors and materials suppliers, and discussions relative thereto, are the Job Order Contractor's responsibility and are not a part of project meetings content.
- 1.1.3 Persons designated by the Job Order Contractor to attend and participate in the project meetings shall have all required authority to commit the Job Order Contractor to solutions agreed upon in the project meetings.

#### 1.2 SUBMITTALS

- 1.2.1 To the maximum extent possible, advise the Owner's Representative at least three (3) working days in advance of project meetings regarding all items to be added to the agenda.
- 1.2.2 The Job Order Contractor will compile minutes of each project meeting and will furnish a draft to the Project Manager for approval within 3 days of the meeting. Job Order Contractor shall distribute approved minutes to the identified distribution list within 5 days of the meeting.

### PART 2: PRODUCTS (Not Used)

### PART 3: EXECUTION

#### 3.1 MEETING SCHEDULE

- 3.1.1 Project meetings will be held on a weekly basis or more frequently if required. Meeting dates and times will be coordinated in an effort to include all parties whose participation is essential.

#### 3.2 MEETING LOCATION

- 3.2.1 To the maximum extent practicable, meetings will be held at the job site.

#### 3.3 PROJECT MEETINGS

- 3.3.1 To the maximum extent practicable, assign the same person or persons to represent the Job Order Contractor at project meetings throughout progress of the Work. Subcontractors, materials suppliers, and others may be invited to attend those project meetings in which their aspects of the Work are involved.
- 3.3.2 Minimum Agenda:
  - 3.3.2.1 Review, revise as necessary, and approve minutes of previous meeting.
  - 3.3.2.2 Review site safety issues.
  - 3.3.2.3 Review progress of the Work since last meeting, including status of submittals for approval.
  - 3.3.2.4 Present and discuss Job Order Contractor's updated 3-week schedule.
  - 3.3.2.5 Identify problems which impede planned progress.
  - 3.3.2.6 Develop corrective measures and procedures to regain planned schedule.
  - 3.3.2.7 Discuss changes in the work.
  - 3.3.2.8 Review RFI, RFP, COR, and CO logs, and identify outstanding items.
  - 3.3.2.9 Complete other current and new business.

END OF SECTION  
**15 SECTION 01 32 16**

**CONSTRUCTION PROGRESS SCHEDULE**

**PART 1 GENERAL**

**1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

1.2.1 General

1.2.1.1 This Section specifies administrative and procedural requirements for preparation and reporting of Job Order Contractor's preferred sequence of construction of the Work and other possible sequences of construction of the Work, for monitoring and reporting of actual performance of the Work, for incorporation of changes and unexpected events for determination of possible impact to the timely completion of the Work and for determination of means and method necessary for time completion of performance of the Work.

**1.3 PROJECT SCHEDULE**

1.3.1 Detailed Construction Schedule

1.3.1.1 The Job Order Contractor shall develop and maintain the overall Detailed Construction Schedule, (referred to hereafter as Schedule or Construction Schedule). The Schedule shall be computer generated in precedence format using the Critical Path Method (CPM). The Job Order Contractor shall perform its obligations in accordance with the sequence and time frame provided by the Schedule. The Job Order Contractor shall update the Schedule and shall modify and change the Schedule as may be required as provided by this Section and notify the Owner or Owner's Representative in writing of changes to the schedule. Any change made in the schedule at any time shall require an explanation in writing as to reasons for the change.

1.3.2 Purpose of the Schedule

1.3.2.1 Provide additional assurance by the Job Order Contractor of its adequate planning, scheduling, and reporting during the execution of the construction and related activities so they may be prosecuted in an orderly and expeditious manner, within the Contract time and the milestones stipulated herein.

1.3.2.2 Provide additional assurance by the Job Order Contractor of its coordination of the Work of the Contractors and the various Subcontractors and suppliers at all tiers.

1.3.2.3 Assist the Owner or Owner's Representative in monitoring the progress of the Work.

1.3.2.4 Assist the Owner or Owner's Representative in evaluation of the monthly progress payments requests.

1.3.2.5 Assist the Owner or Owner's Representative evaluating the potential impact of proposed changes to the Task Order.

1.3.2.6 Assist and be utilized by the Job Order Contractor in the coordination of its forces, subcontractors and vendors.

1.3.2.7 Assist in detecting problems for the purpose of taking timely corrective action and to provide a mechanism or tool for determining and monitoring such corrective actions.

1.3.3 General Requirements of Submitted Schedules

1.3.3.1 The Work shall proceed at a rate as will meet the specified Milestone Dates, Substantial Completion and Final Completion dates within the Contract Time. By execution of the Contract, the Job Order Contractor represents that he has analyzed the Work, the materials and methods involved, the systems of the building, availability of qualified mechanics and labor, restrictions of the site, constraints imposed, their own work load and capacity to perform the Work, and agrees that the specified times are reasonable considering the existing

conditions prevailing in the locality of the Work, including weather conditions, and other factors, with reasonable allowance for variations from average or ideal conditions.

- 1.3.3.2 The Schedule shall clearly identify the activities illustrating accomplishment of the time(s) for completion of the Project set forth in the Contract. If the Schedule indicates earlier completion time(s) than that set forth in Contract, the float between the Schedule and the Contract dates shall be considered to be part of the total float available.
  - 1.3.3.3 In developing the Schedule, the Job Order Contractor shall be responsible for assuring that Subcontractor Work at all tiers, as well as Job Order Contractor's own Work, is included in the Schedule.
  - 1.3.3.4 The Schedule as developed shall show the sequence and interdependence of activities required for complete performance of the Work. The Job Order Contractor shall be responsible for assuring all Work sequences are logical and the Schedule shows a coordinated plan of the Work.
  - 1.3.3.5 Failure by the Job Order Contractor to include any element of Work required for performance of the Contract or failure to properly sequence the Work shall not excuse the Job Order Contractor from completing all Work within the Contract Time.
  - 1.3.3.6 Contractor shall include a total number of weather related days for the project within the final baseline construction schedule. If delay occurs due to weather related conditions, the Contractor shall submit a request for the number of days to the Owner for approval within 5 calendar days. Claims for delay due to weather will be deducted from the total number of days approved in the final baseline construction schedule.
- 1.3.4 Use of Float and Reasonable Limitations Upon Resources
- 1.3.4.1 Float time within the schedule is jointly owned. The Job Order Contractor shall limit its use of logic restraints based upon use of a resource such that it equally reserves float for the limited resources of the Owner, other entities under the Owner's control and other entities beyond the control of either the Job Order Contractor or Owner, and that the Job Order Contractor reserves float for the various types of unexpected events which may be anticipated on a construction project of this magnitude.
  - 1.3.4.2 The Job Order Contractor acknowledges and agrees that actual delays to specific activities that do not exceed available total float time of such activities will not have any effect upon Contract completion times and Job Order Contractor will take all actions necessary to maintain the overall schedule.
- 1.3.5 Requirement for Additional Resources
- 1.3.5.1 The Job Order Contractor shall provide adequate resources, including but not limited to manpower and construction equipment, to perform its obligations in a timely manner. The Job Order Contractor shall be required to provide additional resources for additional unanticipated Work or events which may be anticipated on a construction project of this magnitude.
  - 1.3.5.2 If the Job Order Contractor and Owner or Owner's Representative agree to a Task Order Modification, such agreement shall be construed as stating that the Job Order Contractor is capable of supplying additional resources as may be required to effectuate such Task Order Modification without the need to reduce the resources available for other Work on the project, without disruption of other Work on the project and without additional cost for provision of additional resources other than as may be included in the agreed Change Order
- 1.3.6 Entitlement to Extension of Time and Acceleration
- 1.3.6.1 Entitlement to extensions of time for performance as described in the Contract Documents will be granted only to the extent that time adjustments for the activity or activities affected by any condition or event which entitles the Job Order Contractor to a time extension exceed the total float along the current critical path of activities affected.
  - 1.3.6.2 If the Owner or Owner's Representative does not provide an extension of time at the request of the Job Order Contractor, the Job Order Contractor shall in a timely manner provide a Recovery Schedule and itemized estimate of costs to effectuate such or shall be deemed to waive its claim for additional compensation therefore.

## **PART 2 PRODUCTS**

### **2.1 TECHNICAL REQUIREMENTS OF SUBMITTED SCHEDULES \*\*\***

- 2.1.1 Job Order Contractor shall plan, schedule, execute, and report on the Work using the Critical Path Method (CPM). The principles used herein shall be as set forth in the text CPM in Construction

Management, current edition, McGraw Hill and the Associated General Contractors of America (AGC) publication “The Use of CPM in Construction, a Manual for General Contractors and the Construction Industry”, except that in case of conflict, the provisions of these Contract Documents shall govern.

- 2.1.2 The Job Order Contractor shall be responsible for maintaining the Project’s Schedule.
- 2.1.3 The Schedule shall be developed utilizing the Precedence Diagramming Method. Job Order Contractor shall use Microsoft Project or Primavera 6 software or some program acceptable to the Owner with scheduling options set for retained logic, calculate start-to- start lag from actual start, schedule durations as interruptible, show open ends as critical and calculate the total float as the most critical.
- 2.1.4 Milestone Dates, including Notice to Proceed, Substantial Completion, and Final Completion must be adhered to and shall be clearly identified on the Schedule. Milestone Dates may not be changed without the written consent of the Owner or Owner’s Representative. Final Completion and Substantial Completion shall be mandatory finish constrained dates.
- 2.1.5 The Schedule shall be developed utilizing activities of specified duration of whole days between one (1) and fifteen (15) work days. Working days are defined as on a five day per week calendar, less recognized holidays as provided by the Owner or Owner’s Representative. Milestones or other zero duration activities shall not be permitted except to indicate milestones set forth in this Specification. Submissions including use of Expected Finish constraints to calculate durations shall not be permitted.
- 2.1.6 Exceptions to the requirements above for the purpose of improving the Owner or Owner’s Representative’s ability to monitor the Schedule and permitting the use of durations larger than fifteen (15) work days, multiple calendars, milestones or other zero duration activity, calculated durations, logic relationships other than finish to start or durations between activities (lags) may be permitted on a case by case basis at the sole discretion of the Owner or Owner’s Representative.
- 2.1.7 The level of detail of the Schedule shall be a function of the complexity of the Work involved. The level of detail and total number of activities shall be subject to approval by the Owner or Owner’s Representative. No construction activity shall have duration of longer than fifteen (15) work days without prior acceptance of the Owner or Owner’s Representative. Non-construction activities (such as procurement and fabrication) may have durations in excess of fifteen (15) work days.
- 2.1.8 Normal weather conditions shall be considered and included in the planning and scheduling of all Work influenced by high or low ambient temperatures and/or precipitation to ensure completion of all Work within the Contract Time. Normal weather conditions shall be determined by an assessment of average historical climatic conditions based upon the preceding ten (10) year records published for the locality by the National Ocean and Atmospheric Administration (NOAA).
- 2.1.9 Activity descriptions shall be clear and concise. The beginning and end of each activity shall be readily verifiable. All activity starts and finishes, with the exception of Milestones, must be tied into the schedule by logical restraints.
- 2.1.10 Proposed duration assigned to each activity shall be the Job Order Contractor’s best estimate of time required to complete the activity considering the scope and resources planned for the activity.
- 2.1.11 Responsibility for each activity shall be identified with a single performing organization.
- 2.1.12 Each activity shall be identified with codes including as a minimum:
  - 2.1.12.1 The party responsible for performance of the Work.
  - 2.1.12.2 Where Work is to be subcontracted, the subcontractor to be responsible for the Work,
  - 2.1.12.3 Building, Floor and Location of the Work.
- 2.1.13 For all major equipment and materials fabricated or supplied for this project, the Schedule shall show a sequence of activities including:
  - 2.1.13.1 Preparation of shop drawings and sample submissions.
  - 2.1.13.2 Review of shop drawings and samples.
  - 2.1.13.3 Shop fabrication and delivery.
  - 2.1.13.4 Erection or installation.
  - 2.1.13.5 Testing of equipment and materials.

## **PART 3 EXECUTION**

### **3.1 PRESENTATION AND REVIEW CYCLE**

- 3.1.1 Job Order Contractor’s Representative Designation

3.1.1.1 (3) working days after date of Notice to Proceed, Job Order Contractor shall designate the person in its employ preparing the Schedule and Schedule updates.

### 3.1.2 Initial Schedule Conference

3.1.2.1 The Owner or Owner's Representative will schedule and conduct an initial schedule conference within five (5) working days of Notice to Proceed. Job Order Contractor shall be prepared to review and discuss the schedule and sequence of operations. The conference shall be attended by:

3.1.2.1.1 Job Order Contractor's Project Manager, Superintendent, and any Scheduler employee.

3.1.2.1.2 Other Job Order Contractor key personnel, defined as any individual reporting to the Job Order Contractor's Project Manager or Superintendent, and being in responsible charge of more than 20% of field efforts as defined by cost.

3.1.2.1.3 The Project Manager, Superintendent or person in responsible charge of each Subcontractor expected to perform more than 10% of field efforts as defined by cost.

3.1.2.1.4 A representative in responsible charge of the fabrication and delivery of materials for this project for each major supplier including each supplier of more than 10% of the total contract value as defined by cost.

3.1.2.1.5 Owner or Owner's Representative.

3.1.2.2 Procedures will be reviewed by the Owner or Owner's Representative for the following:

3.1.2.2.1 Development of preliminary Schedule by Job Order Contractor.

3.1.2.2.2 Procedures for updating and revisions.

3.1.2.2.3 Data exchange and Communications.

3.1.2.2.4 Procedures for assessing schedule impacts, schedule delays, and time extensions.

3.1.2.1.5 Development of recovery schedules.

### 3.1.3 Preliminary Schedule

3.1.3.1 Immediately after the Notice to Proceed, the Job Order Contractor shall submit for the Owner or Owner's Representative's review and acceptance a Preliminary Schedule.

3.1.3.2 The Preliminary Schedule shall cover the following project phases and activities

3.1.3.2.1 Proposed Procurement Activities to be accomplished during the first ninety (90) days of the Contract. Procurement activities shall include mobilization, key shop drawing and sample submittals, reviews and the fabrication and delivery of key and long-lead procurement elements. Indicate planned submittal dates and delivery dates for fabrication and delivery activities.

3.1.3.2.2 Proposed Construction Activities to be accomplished during the first ninety (90) days of the Contract

3.1.3.2.3 Summary Activities not included above which are necessary to properly indicate the approach to scheduling the remaining Work areas or phases of the Work. The Work for each phase or area must be represented by at least one summary activity such that they cumulatively indicate the entire Construction Schedule. Summary Activities may exceed the duration limitations listed above and may be connected by Start-to-Start and Finish- to-Finish logic relationships as well as Finish-to-Start logic relationships and such logic relationships may include durations between activities (lag.)

3.1.3.2.4 The Preliminary Schedule shall otherwise conform to the requirements outlined in the "Technical Requirements for Job Order Contractor-submitted Schedules" in this specification section.

3.1.3.3 The submission shall consist of:

3.1.3.3.1 A Schedule in Scheduling Program File Backup Disk.

3.1.3.3.2 A logic diagram of the entire Preliminary Schedule in electronic format.

- 3.1.3.3.3 Time scaled logic diagrams of:
  - 3.1.3.3.3.1 The entire Preliminary Schedule.
  - 3.1.3.3.3.2 The first 90 days of the Preliminary Schedule.
  - 3.1.3.3.3.3 Time scaled diagrams shall be Adobe electronic format.
- 3.1.3.3.4 Tabular listings of:
  - 3.1.3.3.4.1 All Procurement Activities grouped by Submissions, Review and Fabrications, then sorted by Early Start, then Total Float.
  - 3.1.3.3.4.2 All Construction Activities to be performed in the first ninety (90) days, sorted by Early Start, then Total Float.
  - 3.1.3.3.4.3 All Summary Activities sorted by Early Start, then Total Float.
  - 3.1.3.3.4.4 Tabulations shall include Activity ID, Description, Original Duration, Remaining Duration, Activity Codes, Early Dates, Late Dates, Total Float, Predecessors and Successors.
- 3.1.3.3.5 Electronic copies of all diagrams and tabulations shall be required.
- 3.1.3.3.6 Within seven (7) calendar days after receipt by the Owner or Owner's Representative of the Preliminary Schedule, the Owner or Owner's Representative will notify the Job Order Contractor of any concerns the Owner or Owner's Representative may have in regard to the Preliminary Schedule. The Job Order Contractor shall provide a response to the concerns of the Owner or Owner's Representative, to the satisfaction of the Owner or Owner's Representative, before the submittal of the Detailed Construction Schedule.
- 3.1.3.3.7 Upon the submittal of the changes to the Preliminary Schedule by the Job Order Contractor, final review and acceptance by the Owner or Owner's Representative will take place within seven (7) days. The Preliminary Schedule shall be updated on a monthly basis while the Baseline Schedule is being developed. The monthly updating of the Preliminary Schedule shall be consistent with the procedures and requirements described in the "Schedule Updating" section of this specification section.

#### 3.1.4 Baseline Schedule

- 3.1.4.1 Within fifteen (15) days following Notice to Proceed, Job Order Contractor shall submit to the Owner or Owner's Representative a detailed Baseline Schedule in precedence format for the Job Order Contractor's construction Work scope.
- 3.1.4.2 The Baseline Schedule shall conform to the requirements outlined in the "Technical Requirements for Job Order Contractor-submitted Schedules" in this specification section.
- 3.1.4.3 The submission shall consist of:
  - 3.1.4.3.1 A Scheduling Backup disk.
  - 3.1.4.3.2 A logic diagram of the entire Baseline Schedule.
  - 3.1.4.3.3 Time scaled logic diagrams of:
    - 3.1.4.3.3.1 The entire Baseline Schedule.
    - 3.1.4.3.3.2 Activities on the critical path and those having ten (10) days or less float relative to the critical path.
    - 3.1.4.3.3.3 Diagrams shall have the critical path highlighted and activities for which responsibility is other than the Job Order Contractor highlighted in a different color and pattern.
    - 3.1.4.3.3.4 Diagrams shall be in a format acceptable to the Owner.
  - 3.1.4.3.4 Tabular listings of:
    - 3.1.4.3.4.1 All Procurement Activities organized by Submissions, Review and Fabrications, then sorted by Early Start, then Total Float.
    - 3.1.4.3.4.2 All Construction Activities sorted by Early Start, then Total Float.

- 3.1.4.3.4.3 Tabulations above shall include Activity ID, Description, Original Duration, Remaining Duration, Percent Complete, Cost Percent Complete, Activity Codes, Early Dates, Late Dates, Total Float, Predecessors, Successors and Assigned Cost. The column for Assigned Cost shall be totaled.
- 3.1.4.3.4.4 All activities in activity identification number order, listing the activity identification number, activity title, successor identification number, successor title, logic relationship type, lag, activity calendar number and reason for the logic relationship.
- 3.1.4.4 The Baseline Schedule shall be reviewed in the following manner:
  - 3.1.4.4.1 Within fifteen (15) days after receipt by the Owner or Owner's Representative of the Baseline Schedule, the Owner or Owner's Representative shall notify the Job Order Contractor of any concerns the Owner or Owner's Representative may have in regard to the Baseline Schedule.
  - 3.1.4.4.2 If the Owner or Owner's Representative questions the Job Order Contractor's proposed activities, logic, duration, the Job Order Contractor, within seven (7) days after receipt of the Owner or Owner's Representative's request, provide a satisfactory revision to, or adequate justification for, these activities, logic, duration, to the satisfaction of the Owner or Owner's Representative.
  - 3.1.4.4.3 The Owner or Owner's Representative and the Job Order Contractor shall meet within seven (7) days after receipt of the Job Order Contractor's response for a joint review, correction, or adjustment of the Job Order Contractor's proposed Baseline Schedule.
  - 3.1.4.4.4 In the event the Job Order Contractor fails to define any element of Work, activity, or logic and the Owner or Owner's Representative review does not detect this omission or error, such omission or error, when discovered by the Job Order Contractor or Owner or Owner's Representative, shall be corrected by the Job Order Contractor at the next monthly Schedule Update (discussed hereinafter) and shall not affect the Contract Time.
  - 3.1.4.4.5 Within seven (7) days after the joint review between the Job Order Contractor and Owner or Owner's Representative, the Job Order Contractor shall revise the Baseline Schedule in accordance with agreements reached during the joint review and re-submit it to the Owner or Owner's Representative.
- 3.1.4.5 Acceptance of Job Order Contractor's Baseline Schedule:
  - 3.1.4.5.1 Upon the submittal of the changes to the Baseline Schedule by the Job Order Contractor, final review and acceptance by the Owner or Owner's Representative will take place within seven (7) days. Upon the Owner or Owner's Representative's acceptance of the changes to the Baseline Schedule, the Job Order Contractor shall sign on the face of the Baseline Schedule which shall then indicate the Job Order Contractors acceptance and approval of the Baseline Schedule.
  - 3.1.4.5.2 The electronic files for Accepted Baseline Schedule shall be saved as Project ID Number/Version "BASELINE" and not further modified. A copy of this file shall be renamed as Project ID Number/Version "UPDATE <date>" and used for subsequent updates and shall reference this file as its target. A copy of the "UPDATE" file shall be renamed as Project ID Number/Version "INTERIM <date>" and shall reference the most recent "UPDATE" file.
  - 3.1.4.5.3 Acceptance by the Owner or Owner's Representative of the Job Order Contractor's accepted Baseline Schedule shall be a condition precedent to the making of any progress payments under the Contract after the first ninety (90) days of the Contract.
  - 3.1.4.5.4 Upon acceptance of the Baseline Schedule by the Owner or Owner's Representative, the Baseline Schedule shall be used as a basis for determining progress payments. Monthly progress payments shall be based upon information developed at the monthly Schedule Update.

3.1.4.5.5 Acceptance by the Owner or Owner's Representative of the Job Order Contractor's Construction Schedule does not relieve the Job Order Contractor of any of Job Order Contractor's responsibility whatsoever for the accuracy or feasibility of the Construction Schedule, or of the Job Order Contractor's ability to meet the Contract completion date or Milestone Dates, nor does such acceptance acknowledge or admit the reasonableness of the activities, logic and duration of the Job Order Contractor's Construction Schedule.

## 3.2 USE OF SCHEDULE FOR PROJECT COORDINATION

### 3.2.1 Weekly Progress Meetings

3.2.1.1 Once each week at the progress meeting, the progress achieved by the Job Order Contractor during previous work week will be assessed. The Job Order Contractor shall update the most recent "INTERIM" Schedule with the Actual Start date of activities started in the past week, the Remaining Duration of those activities in progress and the Actual Finish date of activities completed during the past week. The Job Order Contractor shall submit a progress schedule in electronic tabular/bar-chart format indicating the information used to perform this update for the previous week and the activities scheduled for the succeeding three (3) weeks. A bar chart directly derived from the most recent "INTERIM" Schedule shall be used to generate the four (4) week window. All activities shown in this short interval schedule will be identified by the same activity numbers and descriptions as shown in the Construction Schedule.

3.2.1.2 The Job Order Contractor shall mark on this computer generated bar-chart schedule the choice and timing of those activities it intends to actually perform during the upcoming three weeks. The Job Order Contractor may add further details to monitor this short interval Schedule.

3.2.1.3 A copy of this short interval schedule shall be submitted to the Owner or Owner's Representative.

### 3.2.2 Minor Revisions to the Schedule for Unanticipated Events

3.2.2.1 If the Job Order Contractor and Owner or Owner's Representative agree to a Task Order Modification, such agreement shall include an Impact Analysis and agreement on the acceptance for such impact (in part or whole by each party) and costs for mitigation thereof. In the event that such agreement is not part of the agreement for the price of the Task Order Modification, the Job Order Contractor shall treat such Task Order Modification as a directive for purposes of the schedule.

3.2.2.2 If the Job Order Contractor believes that any change to the Work identified through an accepted Project document may impact its Work, the Job Order Contractor shall perform an Impact Analysis upon a copy of the most recent "UPDATE" file and submit such to the Owner or Owner's Representative, with a written explanation of the changes, as soon as practicable (not more than seven (7) days) after determination of such belief. The failure to so promptly notify the Owner or Owner's Representative shall be deemed a waiver of any compensation or extension of time due to such cause. Where the parties are in disagreement over the responsibility of the delaying event, the Job Order Contractor shall use a description for such which is responsibility neutral.

3.2.2.3 As part of its Impact Analysis, the Job Order Contractor shall suggest means of mitigation including but limited to use of greater resources, modification or deletion from the logic network of selected restraints and selective overtime. If the Job Order Contractor believes that its efforts to mitigate such impact will entitle it to additional compensation, the Job Order Contractor shall submit an estimate of the unmitigated and mitigated impact and cost consequences of each. The failure to provide such a submittal in a timely manner shall be deemed a waiver of any additional compensation.

### 3.2.3 Monthly Schedule Update Meetings

3.2.3.1 On a monthly basis, the Job Order Contractor shall meet with the Owner or Owner's Representative for the purpose of updating the Schedule. The Job Order Contractor shall submit its assessment of the Actual Start date of activities started since the last update, Remaining Duration of those activities in progress, Actual Finish date of activities completed and Cost Percent Complete of activities in progress or complete. The Owner or Owner's Representative will either assent to the Job Order Contractor's assessments or direct the Job



Order Contractor to use other dates. The Owner or Owner's Representative may request the Job Order Contractor to provide additional assurance of a Remaining Duration of Work in progress. If the Job Order Contractor does not agree to the direction of the Owner or Owner's Representative, it shall so state in the log field of the activity and in comments to the Minutes of the meeting.

3.2.3.2 The information shall be entered to a copy of the most recent "UPDATE" file which will then be saved and not further modified.

3.2.3.3 Monthly Update Reports submission shall consist of:

3.2.3.3.1 An electronic Back up disc.

3.2.3.3.2 Electronic time scaled logic diagrams of:

3.2.3.3.2.1 The entire Baseline Schedule including indication of progress to date.

3.2.3.3.2.2 Activities not yet completed on the critical path and those having ten (10) days or less float relative to the critical path.

3.2.3.3.2.3 Diagrams shall have the critical path highlighted and activities for which responsibility is other than the Job Order Contractor highlighted in a different color and pattern.

3.2.3.3.2.4 Diagrams shall be provided in an electronic format approved by the Owner.

3.2.3.3.3 Electronic tabular listings of:

3.2.3.3.3.1 All Procurement Activities organized by Submissions, Review and Fabrications, then sorted by Early Start, then Total Float.

3.2.3.3.3.2 All Construction Activities sorted by Early Start, then Total Float.

3.2.3.3.3.3 Tabulations above shall include Activity ID, Description, Original Duration, Remaining Duration, Activity Codes, Early Dates or Actual Dates, Late Dates (if applicable), Total Float, Predecessors and Successors.

3.2.3.4 If there have been any Minor Revisions to the Schedule for Unanticipated Events during the past reporting period, such shall be incorporated into a copy of most recent "UPDATE" file and rescheduled. This file will be renamed as Project ID Number/Version "REVISED <date>". The file will then be saved as the new "UPDATE" file and not further modified.

3.2.3.5 Minor Revision Reports submission shall consist of:

3.2.3.5.1 All reports required for an Update.

3.2.3.5.2 Those portions of the logic diagram required for the Baseline Schedule submission which have been modified with the modifications highlighted.

3.2.3.6 After updating and (if required) revising the schedule, it shall be copied to the next UPDATE file and to a new INTERIM file.

### **3.3 MAJOR REVISIONS TO THE SCHEDULE**

3.3.1 In the event that, pursuant to a Task Order Modification, a Revised Baseline Schedule is adopted for the Work remaining on the project, such revised baseline Schedule shall be used as the target for further update to the project.

### **3.4 RECOVERY SCHEDULE**

3.4.1 In the event that the Job Order Contractor determines that it can no longer perform according to the schedule, the Job Order Contractor shall prepare and submit a Recovery Schedule.

- 3.4.2 In the event that the Most Recent Update indicates that the project is more than ten (10) days behind schedule, or that a major subcontractor performing more than ten percent (10%) of the labor on the site leaves for any reason without completion of its Work, or that a specialty subcontractor employing proprietary means and methods leaves the site for any reason without completion of its Work, or the Job Order Contractor becomes aware of an anticipated delay of specially ordered materials or equipment calculated to delay the project more than ten (10) days behind schedule or the Job Order Contractor anticipates for any reason that the project is likely to be delayed more than ten (10) days behind schedule, and upon notice of such to and subsequent request of the Owner or Owner's Representative, the Job Order Contractor shall prepare and submit a Recovery Schedule.
- 3.4.3 The Recovery Schedule submittal may include, without limitation:
- 3.4.3.1 Revisions to the Original Durations of Activities not yet started, which are to individually be supported with a narrative of the actual productivity to date.
  - 3.4.3.2 Revisions to the Calendar, including indicating Work on Saturdays, Sundays or holidays, subject to approval by the Owner or Owner's Representative.
  - 3.4.3.3 Splitting of activities to indicate more precise coordination, which are to be individually supported with a narrative of how a portion of the previously indicated activity may now suffice for a successor activity.
  - 3.4.3.4 Revisions to Logic Relationships, deleting restraints, as may be required.
- 3.4.4 The Recovery Schedule shall be prepared to indicate, where practicable, recovery within one month or within ten percent (10%) of the remaining duration until the mandated deadlines threatened.
- 3.4.5 Recovery Schedule Reports submission shall consist of:
- 3.4.5.1 All reports required for an Update.
  - 3.4.5.2 The logic diagram required for the Baseline Schedule submission, highlighted, where practicable, to indicate where the Recovery Schedule differs from the Baseline Schedule. A narrative explanation shall be provided as to the reasons for the changes in the schedule.
- 3.4.6 Where the Recovery Schedule has been ordered by the Owner or Owner's Representative, it shall be submitted within five (5) working days. The Job Order Contractor and all parties under its control called to the Initial Schedule Conference shall be prepared to attend, upon forty-eight (48) hours' notice, a Recovery Schedule Meeting which may be called by the Owner or Owner's Representative within the next three (3) to seven (7) work days. The Owner or Owner's Representative may also request the Job Order Contractor's Surety to attend the Recovery Schedule Meeting.
- 3.4.6.1 If a Recovery Schedule Meeting is called, the parties attending shall provide additional assurances to, or revise the proposed Recovery Schedule to the satisfaction of the Owner or Owner's Representative.
  - 3.4.6.2 Once approved by the Owner or Owner's Representative, the Recovery Schedule shall be treated as a Minor Revision to the Schedule or a Major Revision to the Schedule as may be directed by the Owner or Owner's Representative.
  - 3.4.6.3 Once approved by the Owner or Owner's Representative, failure by the JOB ORDER CONTRACTOR to strictly follow the Recovery Schedule until back on schedule shall be deemed a Material Breach of the Contract.

END OF SECTION

**\*\*\* SUBMITTALS \*\*\***

**PART 1 GENERAL**

1.01 CONSTRUCTION SCHEDULE

- A. In accordance with Section 01 32 16 and as specified herein.
- B. Based upon the Project Schedule, provide a separate submittal schedule indicating anticipated product and shop drawing submittal dates along with critical dates by which approvals must be provided. Schedule shall make accommodation for full review times and at least one resubmittal.

1.02 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. In accordance with Section 01 33 23 and as specified herein.
- B. UL Assemblies:
  - 1. Job Order Contractor shall submit 3 copies of each UL Listed fire rated assembly that is to be used for the project for approval by the Design Professional, including; but not limited to:
    - a. Fire rated wall and ceiling construction, including shaft wall construction.
    - b. Fire rated roof construction.
    - c. Spray applied fire resistive materials
    - d. Fire rated penetrations (including dampers) through fire rated wall, ceiling and roof construction, including pipe, duct and expansion joint assemblies.
    - e. Fire rated openings, glazing and frames (interior and exterior doors and windows).
    - f. Other fire rated assemblies as noted on Drawings or as specified in the specifications.
  - 2. Copies shall be compiled into loose-leaf notebooks with tabbed dividers identifying the location of each UL assembly.
- C. Submit Shop Drawings and Samples for only those items specifically mentioned in the Specifications. Job Order Contractor shall be responsible for obtaining Shop Drawings required for the progress of the Work, even though such Shop Drawings may not require the Design Professional's review.
- D. Environmentally Sensitive Materials (Green Products):
  - 1. Specifications are based upon the use of environmentally sensitive materials.
  - 2. In some cases, manufacturer's standard products may contain materials that do not comply with specified requirements for the usage of environmentally sensitive materials and compliance with the specified requirements may not be possible.
  - 3. Job Order Contractor shall submit product data for any products that are proposed for use that failed to comply with specified requirements for the usage of environmentally sensitive materials.
  - 4. Design Professional and Owner reserve the right to disapprove the submittal (and subsequent usage) for a n d products that are proposed for use that fail to comply with specified requirements for the usage of environmentally sensitive materials.

1.03 QUALITY CONTROL SUBMITTALS

- A. Mockups: In coordination with submittal and prior to start of Work represented by mockup, construct full scale mockup(s) as indicated on Drawings and as required by the Owner
  - 1. General requirements:
    - a. Mockups shall provide a standard of workmanship.
    - b. Provide required structural support for mockups and include concrete slab with required footings as mock-up base.
    - c. Construct with all anchors, fasteners, sealants, and other components proposed for actual installation.

- d. Construct successive and/or modify mockups until standard is approved.
  - e. When accepted, sample panel shall be standard of comparison for remainder of Work and will function as a reference base for acceptance or rejection of final work.
  - f. Submit report describing tests, results, and any modifications made to correct deficiencies or to improve performance.
  - g. Mockups shall be reviewed by the Design Professional's contract administrator and Owner's Representative for joint acceptance. Do not proceed with installation of materials included on mockups on the building until mock-up has been inspected and accepted by Design Professional and Owner's Representative.
  - h. Upon acceptance of final work at completion of Project, if directed by Owner's Representative, remove sample panel from site and dispose of in a legal manner, in accordance with Waste Management Plan per Section 01 74 19.
- B. Field Samples: In addition to mockups described above, provide the field samples as specified in the various technical sections for review and joint acceptance by Design Professional and Owner's Representative.
- 1. Job Order Contractor shall provide field samples for all finishes (interior and exterior) that will remain exposed to view in the final work.
    - a. Field samples shall be constructed of actual materials to be used in the final work, including actual mix for concrete and other such materials.
    - b. Include testing for exterior components as specified in the various sections.
    - c. Field samples shall not be incorporated into the final work
  - 2. Size(s) of field samples shall be sufficient to show the characteristics of the finish.
  - 3. Approved field samples will serve as standard for approval of building construction.
  - 4. Construct in location where directed.
  - 5. Bracing and supports shall be adequate to support field samples throughout construction period.
  - 6. Modify field samples as directed by Design Professional to satisfy appearance and performance requirements.
  - 7. Obtain approval of field samples before commencing construction of exposed work.
  - 8. Upon acceptance of final work at completion of Project, remove sample panel from site and dispose of in a legal manner, in accordance with Waste Management Plan per Section 01 74 19, if directed by Owner's Representative.
- C. Equipment Lists: Following Job Order Contractor's review and approval, submit to the Design Professional and Owner's Representative 3 complete lists of major items of mechanical, plumbing and electrical equipment and materials. Submit all items at one time. Partial lists will not be acceptable. Submittals shall include the Manufacturer's Specifications, weights, space requirements, physical dimensions, rating of equipment and supplemental information requested by the Design Professional. Submit performance curves for pumps and fans. Where a submittal sheet describes items in addition to that item being submitted, delete such items. Clearly note equipment and materials which deviate from those shown or specified in size, weight, required clearances, and location of access. Modifications to the Work as shown or specified in submittals shall be indicated and shall be provided by the Job Order Contractor as a part of the Work.
- D. Manufacturer's Instructions: Where Specifications require Work to be furnished, installed or performed in accordance with a specified product Manufacturer's instructions, distribute copies of such instructions to concerned parties.

#### 1.04 LEED SUBMITTALS \*\*\*

- A. Prior to start of construction: The following shall be submitted a minimum of 15 calendar days prior to the start of construction for review and acceptance.
- 1. Erosion and Sedimentation Control Plan (SSp1)
  - 2. Construction IAQ Management Plan as specified in Section 01 50 00-Temporary Facilities and Control.

3. Construction Waste Management Plan as specified in Section 01 74 19.
- B. Prior to installation of products: The following shall be submitted a minimum of 7 calendar days prior to the installation of the applicable product.
  1. Product Form: Prior to installation of a product into the work, submit a completed form for each product which contributes to the points required for LEED™ Certification. Information contained on the Product Form shall be used to complete the information required for the LEED Submission.
- C. During the course of construction:
  1. Submittals with applications for payment as specified in Section 01 29 76 – Progress Payment Procedures.
- D. Prior to Substantial Completion:
  1. The Job Order Contractor shall complete required LEED-NC 2009 forms and supporting data required by LEED-Online as required for the “Construction Submittal” in accordance with Section 01 81 13. Provide required Project Data and calculation information for each respective credit template to document credit compliance using LEED-NC 2009 requirements.
  2. Requirements of IAQ management (during construction and before occupancy) shall be in accordance with Section 01 50 00 and 01 77 00.

END OF SECTION

# 16 SECTION 01 33 23

## SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

### PART 1 GENERAL

#### 1.1 Description

##### 1.1.1 General

**1.1.1.1** Furnish all shop drawings, product data and samples as indicated, in accordance with Contract Documents.

**1.1.1.2** Completely coordinate with work of all other trades.

**1.1.1.3** See Sections of the Contract and Task Order for additional requirements.

**1.1.2** See Specification Sections for items for which shop drawings, product data, and samples are required.

#### 1.2 Submittal-General

**1.2.1** Job Order Contractor shall be responsible for and make all submissions.

**1.2.1.1** Transmit all items on an approved shop drawing transmittal form.

**1.2.1.2** Identify each transmittal using the 6-digit specification number with a dash and an added number (i.e. metal handrails might be numbered 05 50 00-1. If returned for re-submission, second submission would be 05 50 00-1A) or other mutually agreed upon numbering system.\*\*

**1.2.1.3** After the second rejection, a meeting may be required by the Owner or Owner's Representative between the Job Order Contractor, Owner or Owner's Representative, and Design Professional (hereafter "DP") to review the submittal.

**1.2.3.** Job Order Contractor shall review all Subcontractor submittals prior to submission.

**1.2.4.** Provide written statement that the submittals are consistent with the Construction Documents or if not totally consistent, indicate all deviations. Unless such departures are accepted as indicated in Section **1.7.6** below, such departures will not be permitted.

**1.2.5.** Submittals without written statement will be returned and considered as not having been submitted.

**1.2.6.** By reviewing or submitting submittals and/or shop drawings, the Job Order Contractor thereby represents that it has determined and verified availability, field measurements, field construction criteria, materials, catalog numbers and similar data, or will do so, and that it has checked and coordinated each submittal and/or shop drawing with the requirements of the Construction Documents and other Job Order Contractor Construction Contract Documents.

**1.2.7.** If any specified material item or part is not available, the Job Order Contractor shall so indicate to the DP.

**1.2.8** Make submittals sufficiently in advance of date required to allow the DP reasonable time, in accordance with the requirements of the Contract, for review and additional resubmission and review cycles if necessary.

**1.2.9** Items not submitted in accordance with provisions of this Section will be returned, without action, for resubmission.

**1.2.10** Submittals on items not approved for use by specifications, addenda or substitution request will be rejected.

**1.2.11** Drawings transmitted to the Owner or Owner's Representative by other than the Job Order Contractor will be returned to the Job Order Contractor without action of any kind unless agreed to previously. Drawings will not be returned to subcontractors.

**1.2.12** Provide Operation-Maintenance Manuals, and warranties in a separate transmittal. Refer to Section 01 91 13 for operation and maintenance manual requirements. Transmittal numbers for Operation-

Maintenance Manuals shall be original number for Operation- Maintenance "O-M" or other mutually agreed to numbering system.

### **1.3 Submittal Schedule**

- 1.3.1** Per the requirements of the Contract and the Task Order, submit an itemized schedule, indicating proposed submittal dates for all items.
  - 1.3.1.1** Include all shop drawings, data, samples and other items required to be submitted including operations and maintenance data.
  - 1.3.1.2** All items requiring DP action should be submitted, when possible during the first 25 percent of the construction period.
  - 1.3.1.3** No extension of time will be granted to the Job Order Contractor because of its failure to submit submittals or shop drawings in ample time to allow for review, possible resubmittals and approval.

### **1.4 Product List**

- 1.4.1** Submit six (6) copies \*\*\* of a list of products, equipment and subcontractors proposed for use. Electronic submittals may be utilized in lieu of hard copies upon consent of Design Professional.
- 1.4.2** Tabulate by Specification Section.
- 1.4.3** Only items which have been specified, approved by addenda or substitution request may be used.
- 1.4.4** No partial Applications for Payment will be processed until this data and other submissions required by Contract Documents are received.
- 1.4.5** For products specified under reference standards, approved equal products, or products of optional manufacturers, include with listing of each product:
  - 1.4.5.1** Name and address of manufacturer.
  - 1.4.5.2** Trade name.
  - 1.4.5.3** Model or catalog designation.
  - 1.4.5.4** Manufacturer's data.
    - 1.4.5.4.1** Performance and test data.
    - 1.4.5.4.2** Reference standards.

### **1.5 Submittals–Shop Drawings**

- 1.5.1** Identify drawings with manufacturer, item, use, type, project designation, specification section or drawing detail reference.
- 1.5.2** In the event hard copies are submitted, submit six (6) copies of each drawing, or as otherwise indicated in the specification section. Electronic submittals may be utilized in lieu of hard copies upon consent of Design Professional.
  - 1.5.2.1** Marks on drawings by Job Order Contractor shall not be in red. Any marks by Job Order Contractor shall be duplicated on all copies submitted.
  - 1.5.2.1** Submit drawings 24 x 36 inches, or 30 x 42 inches, unless size of items depicted makes such size impractical or as agreed to by the Owner or Owner's Representative, the DP and the Job Order Contractor .
  - 1.5.2.3** Allow clear space of approximately 40 square inches for stamping on right hand side.
- 1.5.3** Submit six (6) copies \*\*\*of standard items such as equipment brochures, catalog cuts of fixtures, or standard catalog items. Electronic submittals may be utilized in lieu of hard copies upon consent of Design Professional.
  - 1.5.3.1** Indicate exact item or model and all proposed options.
  - 1.5.3.2** Include scale details, sizes, dimensions, performance characteristics, capacities, wiring diagrams, controls and other pertinent data.

### **1.6 Submittals–Samples**

- 1.6.1** The Job Order Contractor shall furnish product samples of all items requested or required by the specifications in accordance with Contract for Construction Manager at Risk Project.
  - 1.6.1.1** Product samples shall be properly identified and submitted with such promptness as to cause no delay in Construction Work or in the work of any other contractor and to allow time for consideration by the DP and the Owner.
  - 1.6.1.2** Job Order Contractor shall submit product samples to the DP and Owner for review and approval.
  - 1.6.1.3** Any product or material substitutions must be submitted for DP's prior written approval, subject to Owner's review and written approval.
  - 1.6.1.4** Each product sample must be accompanied by a letter of transmittal containing: (i) Date of submission; (ii) Name of Project; (iii) Location of Project; (iv) Branch of Construction Work (specification section number); (v) Project number; (vi) Name of submitting Job Order Contractor; and (vii) Name of Subcontractor.
  - 1.6.1.5** The Job Order Contractor shall furnish to the DP a certificate stating that material or equipment submitted complies with the Construction Documents and the other Contract Documents. If a certificate originates with the manufacturer, the Job Order Contractor shall endorse it and submit it to the DP together with a statement of compliance in its own name.
- 1.6.2** Submit six (6) samples \*\*\* to address indicated with transmittal letters, or construction site, if required.
  - 1.6.2.1** Include brochures, shop drawings, and installation instructions with transmittal.
  - 1.6.2.2** Submit transmittal for site-built samples to address indicated.
- 1.6.3** DP, Owner or Owner's Representative may retain samples for comparison purposes until completion of Work.
  - 1.6.3.1** Samples will be returned or may be used in the Work unless the Specification Section specifically indicates otherwise.
  - 1.6.3.2** Remove samples when directed.
  - 1.6.3.3** Pay all costs of furnishing or constructing, and removing samples as specified within the Contract Documents.
  - 1.6.3.4** Unless the DP is requested at the time of submittal to return samples at the Job Order Contractor's expense, rejected samples will be destroyed.
- 1.6.4** Resubmit samples of rejected items.

## **1.7 Design Professional Review**

- 1.7.1** Reproduce and distribute submittals that the DP reviews and stamps. The DP will review and stamp the submittal as follows, to indicate the action taken:
  - 1.7.1.1** REVIEWED: Where a submittal is marked "REVIEWED", that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
  - 1.7.1.2** FURNISH AS CORRECTED: When a submittal is marked "FURNISH AS CORRECTED", that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
  - 1.7.1.3** REJECTED Submit Specified Item: When a submittal is marked "REJECTED Submit Specified Item", information submitted is not in compliance with Contract Documents. Provide a written statement to the Job Order Contractor as to why the item is rejected. Job Order Contractor shall resubmit submittal as required by Contract Documents.
  - 1.7.1.4** REVISE AND RESUBMIT: When a submittal is marked "REVISE AND RESUBMIT", do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.





# 17 SECTION 01 33 33

\*\*\* DEFERRED PERMIT - SUBMITTALS \*\*\*

## PART 1 GENERAL

### 1.1 DESCRIPTION

- 1.1.1 Design deferred to the Contractor for completion of the design due to the complexity and associated Code impacts. Typical Deferred Submittals may include, but are not limited to Curtain Wall Systems, Stairs, Precast, Fire Alarm, and Fire Protection Systems.
  - 1.1.2 On occasion, Design Professionals, with the consent of Owner's Representative, may provide for "deferred permit submittals" which will comply with the procedures and requirements of the permitting agency.
  - 1.1.3 In the event of the AE having provided (with the Owner's consent) for deferred permit submittals, the costs of such shall be borne by the Job Order Contractor (except for the permitting cost which will be paid by the Owner).
- 1.2 The deferred permit submittals are as indicated on the drawings.

END OF SECTION

# 18SECTION 01 35 43

## ENVIRONMENTAL PROCEDURES (Sustainable Design Projects)

### PART 1 GENERAL

#### 1.01 SUMMARY

- A. Section Includes: Procedures for achieving the most environmentally conscious Work feasible within the limits of the Construction Schedule, Contract Sum, and available materials, equipment, and products.
  - 1. Participate in promoting efforts of Owner and Design Professional to create an energy-efficient and environmentally sensitive structure.
  - 2. Use recycled-content, toxic-free, and environmentally sensitive materials, equipment, and products.
  - 3. Use environmentally sensitive procedures.
    - a. Protect the environment, both on-site and off-site, during construction operations.
    - b. Prevent environmental pollution and damage.
    - c. Effect optimum control of solid wastes.
- B. Related Sections:
  - 1. Section 01 33 00 – Submittal Procedures: Submittals for "non-green" products.
  - 2. Section 01 60 00 – Product Requirements Product substitution procedures.
  - 3. Section 01 77 00 – Closeout Procedures: Cleaning and final submittals.

#### 1.02 SUBSTITUTIONS

- A. Notify Owner when Job Order Contractor is aware of materials, equipment, or products that meet the aesthetic and programmatic intent of Contract Documents but are more environmentally sensitive than materials, equipment, or products specified or indicated in the Contract Documents.
- B. Substitution requirements of Section 01 60 00, apply except as follows:
  - 1. Prior to submitting detailed information required under Section 01 60 00, submit the following for initial review by Owner and Design Professional:
    - a. Product data including manufacturer's name, address, and phone number.
    - b. Description of the differences of the proposed substitution from specified product. Include description of environmental advantages of proposed substitution over specified product.
    - c. MSDS Sheets (for information only, not for verification of conformance under OSHA requirements.)
  - 2. Submit additional information as directed by Design Professional.

#### 1.03 PRECONSTRUCTION MEETING

- A. After award of Contract and prior to the commencement of the Work, schedule and conduct meeting with Owner and Design Professional to discuss the proposed Solid Waste Management and Environmental Protection Plan and to develop a mutual understanding relative to details of environmental protection, recycling, and rebate programs.

#### 1.04 SUBMITTALS

- A. Environmental Protection Plan:
  - 1. List of federal, state, and local laws, regulations, and permits concerning environmental protection, environmental pollution and damage, hazardous materials, construction waste, chemical waste, sanitary waste, sediment, water, air, and noise pollution that are applicable to the Job Order Contractor's proposed operations.
  - 2. List species of fish and wildlife (as applicable to this project) that require specific attention, along with measures for their protection.
  - 3. Procedures to be implemented to provide the required environmental protection and to comply with the applicable laws and regulations. Document existing conditions.
  - 4. Procedures for Recycling/Reuse Program, including:
    - a. Name, location, and phone number.

- b. Copy of permit or license for each facility.
- B. Environmental Cleaning Plan: Submit cleaning / housekeeping policies and environmental cleaning solution product data sheets.
  - 1. Provide written program for training and implementation.
  - 2. Provide written plan for integrating the Green Housekeeping program into the overall project Environmental Protection Plan
  - 3. Material Safety Data Sheets (MSDS) on chemicals approved for use within the building.
  - 4. Develop list of approved and prohibited chemicals and practices.

1.05 QUALITY ASSURANCE

- A. Regulatory requirements:
  - 1. Cleaning materials and methods shall meet federal mandates including Executive Order 13101 on Greening the Government through Waste Prevention, Recycling and Federal Acquisition and Section 23.703 of the Federal Acquisition Regulation which requires federal agencies to consider environmental factors when purchasing products and services.
  - 2. Comply with the CURRENT criteria of Green Seal standard GS-37 (see www.greenseal.org).

**PART 2 PRODUCTS**

2.01 MATERIALS

- A. Furnish environmentally responsible materials as defined above and as specified in the various specification sections of this Project Manual.
- B. Cleaning Materials:
  - 1. Utilize non-hazardous chemicals that have no or greatly reduced impacts upon the environment.
  - 2. Provide Green Seal approved ENVIRCARE chemical line, or approved equivalent, which consists of products that are non-hazardous and have a low environmental impact.
  - 3. Utilize concentrated cleaning products when available.

**PART 3 EXECUTION**

3.01 ENVIRONMENTAL GOALS IMPLEMENTATION

- A. Job Order Contractor shall designate an on-site party (or parties) responsible for overseeing the Environmental Goals for the project and instructing workers and subcontractors in the means and methods of achieving those goals.
- B. Distribution: The Job Order Contractor shall distribute copies of the Environmental Goals to the Job Site Foreman, each Subcontractor, the Owner, and the Design Professional.
- C. Meetings: Job Order Contractor shall discuss the implementation of the Environmental Goals at the following meetings:
  - 1. Pre-construction meeting.
  - 2. Regular job-site meetings.

3.02 ENVIRONMENTAL CONTROLS

- A. Protection of natural resources: Preserve the natural resources within the project boundaries and outside the limits of permanent work performed under this Contract in their existing condition or restore to an equivalent or improved condition as approved by Owner, upon completion of the Work.
  - 1. Confine construction activities to work area limits indicated on the Drawings.
    - a. Temporary construction: As specified in Section 01 50 00.
    - b. Disposal operations for demolished and waste materials that are not identified to be salvaged, recycled, or reused:
      - 1) Remove debris, rubbish, and other waste materials resulting from construction operations from site.
      - 2) No burning permitted.
      - 3) Transport materials with appropriate vehicles, and dispose off-site to areas that are approved for disposal by governing authorities having jurisdiction.
      - 4) Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways. Remove spillage and sweep, wash, or otherwise clean project site, streets, or highways.
      - 5) Comply with applicable regulations.

2. Land resources: Prior to construction, identify land resources to be preserved within the Work area. Do not remove, cut, deface, injure, or destroy land resources, including trees, shrubs, vines, grasses, topsoil, and land forms without permission from Owner.
  - a. Earthwork: As specified in Section \_\_\_\_\_ \*\*\* —Earthwork and as follows:
    - 1) Erodible soils: Plan and conduct earthwork to minimize the duration of exposure of unprotected soils, except where the constructed feature obscures borrow areas, quarries, and waste material areas. Clear areas in reasonably sized increments only as needed to use the areas developed. Form earthwork to final grade as shown. Immediately protect side slopes and back slopes upon completion of rough grading.
    - 2) Erosion and sedimentation control devices: Construct or install temporary and permanent erosion and sedimentation control features as required. Provide "biofence" ([www.biofence.com](http://www.biofence.com)), or approved equivalent or hay bales, or other methods as required to provide silt control into adjacent washes, creeks, rivers, lakes and other wetlands as directed by Design Professional and/or Civil Engineer.
  - b. Tree and plant protection: Prior to start of construction, tag each tree and plant scheduled to remain with value as identified by Owner. In the event of damage to tree or plant, Owner may, at Owner's discretion, deduct the indicated value of the damaged tree or plant from the Contract Sum.
3. Air Resources: Prevent creation of dust, air pollution, and odors.
  - a. Use water sprinkling, temporary enclosures, and other appropriate methods to limit to lowest practical level dust and dirt rising and scattering in air.
    - 1) Dust mitigation shall be as required by local Environmental Health Department.
    - 2) Do not use water when it may create hazardous or other adverse conditions such as flooding and pollution.
  - b. Store volatile liquids, including fuels and solvents, in closed containers.
  - c. Properly maintain equipment to reduce gaseous pollutant emissions.
  - d. Interior final finishes: Schedule construction operations involving wet products prior to packaged dry products to the greatest extent possible, in accordance with approved Solid Waste Management and Environmental Protection Plan.
  - e. Temporary Ventilation: As specified in Section 01 50 00—Temporary Facilities and Controls, and as follows:
    - 1) Provide adequate ventilation during and after installation of interior wet products and interior final finishes.
    - 2) Provide adequate ventilation of packaged dry products prior to installation. Remove from packaging and ventilate in a secure, dry, well-ventilated space free from strong contaminant sources and residues. Provide a temperature range of 60 degrees F minimum to 90 degree F maximum continuously during the ventilation period. Do not ventilate within limits of Work unless otherwise approved by Design Professional.
    - 3) Preoccupancy ventilation: After final completion and prior to initial occupancy, provide adequate ventilation for minimum five days. Preoccupancy ventilation procedures:
      - a) Use supply air fans and ducts only.
      - b) Temporarily seal exhaust ducts.
      - c) Temporarily disable exhaust fans.
      - d) Provide exhaust through operable windows or temporary openings.
      - e) Provide temporary exhaust fans as required to pull exhaust air from deep interior locations. Stair towers may be used for exhausting air from the building during the temporary ventilation.
      - f) After preoccupancy ventilation and prior to final testing and balancing of HVAC system, replace air filters and make HVAC system fully operational.
      - g) Provide clean air filters.

### 3.03 INDOOR AIR QUALITY

- A. Verify ventilation requirements for indoor air quality. "Adequate" requirements for one material may not be "adequate" for another; for example, carpet can contain over 100 chemicals, including possible carcinogens, and may require more complex ventilation to accelerate off-gassing prior to installation. Materials/products that generally require temporary ventilation for off gassing include:
1. adhesives
  2. wood preservatives
  3. composite wood products
  4. plastics
  5. waterproofing
  6. insulation
  7. fireproofing
  8. sealants/caulking
  9. acoustical ceilings
  10. resilient flooring
  11. carpet
  12. painting
  13. sealers/coatings
  14. wall coverings
  15. manufactured casework
  16. furniture
- B For more information and information on current Federal activities for IAQ, contact: EPA Indoor Air Quality Information Clearing House, National Pesticides Telecommunication Network, National Institute for Occupational Safety and Health, The Department of Energy (DOE) Office of Conservation, and Renewable Energy.

END OF SECTION

# 19 SECTION 01 42 00

## REFERENCES

### 1.01 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents.
- C. Obtain copies of standards when required by Contract Documents.
- D. Should specified reference standards conflict with Contract Documents, request clarification from Design Professional/Engineer before proceeding.
- E. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

### 1.02 MIHS DESIGN GUIDELINES AND STANDARDS

- A. The following list represents MIHS Departmental and User-specific Design Guidelines and Standards. Project teams must incorporate the requirements of these guidelines into their project approach. The information in these specific design guidelines takes precedence over the information of the Technical Design Standards unless directed otherwise by the FMD Project Manager.
- B. Discrepancies between MIHS Technical Design Standards and the specific departmental guidelines must be brought to the attention of the MIHS Project Manager for review with O & M and user group staff.
- C. The MIHS Project Manager will assist the Design Team in obtaining the latest versions of the following design guidelines:
  - 1. Maricopa County Green Government Program
  - 2. MCSO Cabling Standards
  - 3. Maricopa County Structured Cabling Standard
  - 4. Maricopa County Security System Requirements
  - 5. Maricopa County Superior Court – Court Facility Planning Guidelines
  - 6. Maricopa County Justice Court – Facility Planning Guidelines
  - 7. Maricopa County Locksmith Guidelines
  - 8. Maricopa County Ergonomics Guidelines
  - 9. MCSO Detention Facility Design Guidelines
  - 10. Maricopa County Commissioning Requirements
  - 11. Maricopa County Space Guidelines
  - 12. Maricopa County CAD Layering Standards
- D. Sustainable Design is a priority to MIHS. New projects shall be designed to achieve a minimum LEED – Certification level as defined by the U.S. Green Building Council, unless specified otherwise by MIHS Project Manager. \*\*\*
  - 1. MIHS may elevate desired LEED –Certification levels on certain projects.
  - 2. Credits that increase operating efficiencies and reduce Life Cycle Costs are strongly desired.
  - 3. Building Commissioning is required on all projects regardless of LEED. MIHS Project Manager will hire and additional commissioning agent under separate contract.
  - 4. Design shall incorporate lighting, motors, and HVAC equipment that are eligible for rebate or incentive programs from local utility companies such as APS or SRP.

1.03 SCHEDULE OF REFERENCES (telephone numbers, addresses, or URL's may not be current):

AA	Aluminum Association 900 19th St. N.W., Suite 300 Washington, DC 20006 <a href="http://www.aluminum.org">www.aluminum.org</a>	(202) 862-5100
AABC	Associated Air Balance Council 1518 K. Street, N.W. Washington, DC 20005 <a href="http://www.aabchq.com">www.aabchq.com</a>	(202) 737-0202
AACPA	Autoclaved Aerated Concrete Product Association 3701 C.R. 544 E Haines City, FL 33844 <a href="http://www.aacpa.org">www.aacpa.org</a>	(863) 419-2058
AAMA	American Architectural Manufacturers Association 1540 E. Dundee Rd., Suite 310 Palatine, IL 6067-8321 <a href="http://www.aamanet.org">www.aamanet.org</a>	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials 444 North Capitol Street, N.W., Suite 249 Washington, DC 20001 <a href="http://www.aashto.org">www.aashto.org</a>	(202) 624-5800
ACI	American Concrete Institute P. O Box 9094 Farmington Hills, MI 48999-9094 <a href="http://www.aci-net.org">www.aci-net.org</a>	(248) 848-3700
ADC	Air Diffusion Council 230 North Michigan Avenue Chicago, IL 60601 <a href="http://www.flexibleduct.org">www.flexibleduct.org</a>	(312) 201-0101
AFPA	American Forest and Paper Association (Formerly: National Forest Products Association) 1111 19 <sup>th</sup> St., NW, Suite 800 Washington, DC 20036 <a href="http://www.afandpa.org">www.afandpa.org</a>	(202) 463-2700
AI	Asphalt Institute 2696 Research Park Dr P.O. Box 14052 Lexington, KY 40512-4052 <a href="http://www.asphaltinstitute.org">www.asphaltinstitute.org</a>	(606) 288-4960
AIA	American Institute of Architects 1735 New York Avenue, N.W. Washington, DC 20006-5292 <a href="http://www.aia.org">www.aia.org</a>	(202) 626-7300
AISC	American Institute of Steel Construction 1 E. Wacker Dr., Suite 3100 Chicago, IL 60601 <a href="http://www.aisc.org">www.aisc.org</a>	(312) 670-2400
AISI	American Iron and Steel Institute 1101 17th Street, N.W., Suite 1300 Washington, DC 20036 <a href="http://www.steel.org">www.steel.org</a>	(202) 452-7133
AITC	American Institute of Timber Construction 7012 S. Revere Pky, Suite 140	(303) 792-9559



	Englewood, CO 80112 <a href="http://www.aitc-glulam.org">www.aitc-glulam.org</a>	
AMCA	Air Movement and Control Association 30 West University Drive Arlington Heights, IL 60004 <a href="http://www.amca.org">www.amca.org</a>	(847) 394-0150
AMG	Arizona Masonry Guild 5225 N. Central Ave., Suite 400 Phoenix, AZ 85014 <a href="http://www.azmasonryguild.org">www.azmasonryguild.org</a>	(602) 265-5999
ANSI	American National Standards Institute 11 West 42nd Street, 13 <sup>th</sup> Fl New York, NY 10036 <a href="http://www.ansi.org">www.ansi.org</a>	(212) 642-4900
APA	Engineered Wood Association (Formerly: American Plywood Association) P.O. Box 11700 Tacoma, WA 98411 <a href="http://www.apawood.org">www.apawood.org</a>	(253) 656-6600
API	American Petroleum Institute 1220 L Street, N.W. Washington, DC 20005 <a href="http://www.api.org">www.api.org</a>	(202) 682-8000
AQMD	Air Quality Management District 21865 E. Copley Drive Diamond Bar, CA 91765 <a href="http://www.aqmd.gov">www.aqmd.gov</a>	(909) 396-2000
ARI	Air-Conditioning and Refrigeration Institute 4301 N. Fairfax Dr., Suite 425 Arlington, VA 22203 <a href="http://www.ari.org">www.ari.org</a>	(703) 524-8800
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, N.E. Atlanta, GA 30329 <a href="http://www.ashrae.org">www.ashrae.org</a>	(800) 527-4723 (404) 636-8400
ASME	American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017 <a href="http://www.asme.org">www.asme.org</a>	(800) 843-2763 (973) 882-1167
ASTM	American Society for Testing and Materials 100 Barr Harbor Drive West Conshohocken, PA 19428 <a href="http://www.astm.org">www.astm.org</a>	(610) 832-9585
AWI	Architectural Woodwork Institute 1952 Isaac Newton Square West Reston, VA 20190 <a href="http://www.awinet.org">www.awinet.org</a>	(703) 733-0600
AWPA	American Wood Preservers Association PO Box 5690 Granbury, TX 76049 <a href="http://www.awpa.com">www.awpa.com</a>	(817) 326-6300

AWS	American Welding Society 8669 NW 36 St.,#130 Miami,FL 33166-6672 <a href="http://www.amweld.org">www.amweld.org</a>	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235 <a href="http://www.awwa.org">www.awwa.org</a>	(303) 794-7711
BHMA	Builders Hardware Manufacturer's Association 355 Lexington Ave., 17th Floor New York, NY 10017	(212) 661-4261
BIA	Brick Institute of America 11490 Commerce Park Drive Reston, VA 22091 <a href="http://www.bia.org">www.bia.org</a>	(703) 620-0010
CDA	Copper Development Association 260 Madison Ave. New York, NY 10016 <a href="http://www.copper.org">www.copper.org</a>	(212) 251-7200
CFPC	Certified Forest Products Council 14780 SW Osprey Drive, Suite 285 Beaverton, OR 97007 <a href="http://www.certifiedwood.org">www.certifiedwood.org</a>	(503) 590-6600
CISCA	Ceilings and Interior Systems Construction Association 1500 Lincoln Highway, Suite 202 St. Charles, IL 60174 <a href="http://www.cisca.org">www.cisca.org</a>	(630) 584-1919
CLFMI	Chain Link Fence Manufacturers Institute 9891 Broken Land Pkwy, Suite 300 Columbia, MD 21046 <a href="http://www.chainlinkinfo.org">www.chainlinkinfo.org</a>	(301) 596-2584
CRI	The Carpet and Rug Institute Box 2048 Dalton, GA 30722-2048 <a href="http://www.carpet-rug.com">www.carpet-rug.com</a>	(706) 278-3176
CRSI	Concrete Reinforcing Steel Institute 933 Plum Grove Road Schaumburg, IL 60173 <a href="http://www.crsi.org">www.crsi.org</a>	(847) 517-1200
CSSB	Cedar Shingle and Shake Bureau(Formerly: Red Cedar Shingle and Handsplit Shake Bureau) 515 116th Avenue Bellevue, WA 98004	(425) 453-1323
DCAT	Development Center for Appropriate Technology P.O. Box 41144 Tucson, AZ 85717 <a href="http://www.dcat.net">www.dcat.net</a>	(520) 624-6628
DHI	Door and Hardware Institute 14170 Newbrook Drive Chantilly, VA 20151 <a href="http://www.dhi.org">www.dhi.org</a>	(703) 222-2010
DOE	U.S. Department of Energy 1000 Independence Ave., SW Washington, DC 20585 <a href="http://www.energy.gov">http://www.energy.gov</a>	(800) 342-5363
EEBA	Energy and Environmental Building Association 10740 Lyndale Avenue South, 10W, Bloomington, MN 55420-5615 <a href="http://www.eeba.org/">http://www.eeba.org/</a>	(952) 881-1098

EBN	Environmental Building News 122 Birge St., Suite 30 Brattelboro, VT 05301 <a href="http://www.BuildingGreen.com">www.BuildingGreen.com</a>	(802) 257-7300
EJMA	Expansion Joint Manufacturers Association 25 North Broadway Tarrytown, NY 10591 <a href="http://www.ejma.org">www.ejma.org</a>	(914) 332-0040
EPA	U.S. Environmental Protection Agency 401 M St. WS, 6202J Washington, DC 20460 <a href="http://www.epa.gov">www.epa.gov</a>	(202) 775-6650
FSC	Forest Stewardship Council - U.S. 1155 30th Street NW Suite 300 Washington, DC 2007 <a href="http://www.fscus.org">www.fscus.org</a>	(877) 372-5646
FM	FM Global (Formerly: Factory Mutual System) 1151 Boston-Providence Turnpike P.O. Box 688 Norwood, MA 02062 <a href="http://www.factorymutual.com">www.factorymutual.com</a>	(781) 762-4300
GA	Gypsum Association 125 S Franklin St Chicago, IL 60606 <a href="http://www.usg.com">www.usg.com</a>	(312) 606-4000
GANA	Glass Association of North America (Formerly: Flat Glass Marketing Association) 3310 SW Harrison St Topeka, KS 66611 <a href="http://www.glasswebsite.com/gana">www.glasswebsite.com/gana</a>	(785) 266-7013
ICC	International Code Council <i>Headquarters</i> 5203 Leesburg Pike, Suite 600 Falls Church, VA 22041  <i>Los Angeles District Office</i> 5360 S. Workman Mill Road Whittier, CA 90601 <a href="http://www.iccsafe.org/">http://www.iccsafe.org/</a>	703-931-4533  800-284-4406
IEEE	Institute of Electrical and Electronics Engineers 3 Park Ave 17 <sup>th</sup> Floor New York, NY 10016 <a href="http://www.ieee.org">www.ieee.org</a>	(212) 419-7900
ISRI	Institute of Scrap Recycling Industries 1325 G St. NW, Suite 1000 Washington, DC 20005-3104 <a href="http://www.isri.org">www.isri.org</a>	(202) 737-1770
MAG	Maricopa Association of Governments 302 N. 1 <sup>st</sup> Street, suite 300 Phoenix, AZ 85003 <a href="http://www.mag.maricopa.gov">www.mag.maricopa.gov</a>	(602) 254-6300
MBMA	Metal Building Manufacturer's Association 1300 Sumner Ave. Cleveland, OH 44115	(216) 241-7333
MIL	Military Specification Naval Publications and Forms Center 5801 Tabor Avenue Philadelphia, PA 19120	

ML/SFA	Metal Lath/Steel Framing Association (A Division of the NAAMM) 8 South Michigan Ave., Suite 1000 Chicago, IL 60603	(312) 456-5590
NAAMM	National Association of Architectural Metal Manufacturers 8 South Michigan Ave, Suite 1000 Chicago, IL 60603 <a href="http://www.naamm.org">www.naamm.org</a>	(312) 456-5590
NCMA	National Concrete Masonry Association 2302 Horse Pen Rd. Herndon, VA 22071 <a href="http://www.ncma.org">www.ncma.org</a>	(703) 713-1900
NEBB	National Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877 <a href="http://www.nebb.org">www.nebb.org</a>	(301) 977-3698
NEMA	National Electrical Manufacturers Association 1300 N 17 <sup>th</sup> Street, Suite 1847 Rosslyn, VA 22209 <a href="http://www.nema.org">www.nema.org</a>	(703) 841-3200
NFPA	National Fire Protection Association 1 Battery March Park Quincy, MA 02269 <a href="http://www.nfpa.org">www.nfpa.org</a>	(800) 344-3555 (617) 770-3000
NRCA	National Roofing Contractors Association 10255 W. Higgins Rd., Suite 600 Rosemont, IL 60018 <a href="http://www.roofonline.org">www.roofonline.org</a>	(847) 299-9070
NTMA	National Terrazzo and Mosaic Association 110 E Market St, Ste 200A Leesburg, VA 20176 <a href="http://www.ntma.com">www.ntma.com</a>	(800) 323-9736 (703) 779-1022
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077 <a href="http://www.portcement.org">www.portcement.org</a>	(847) 966-6200
PCI	Precast/Prestressed Concrete Institute 209 W. Jackson Blvd Chicago, IL 60606 <a href="http://www.pci.org">www.pci.org</a>	(312) 786-0300
PDCA	Painting and Decorating Contractors of America 3913 Old Lee Hwy., Suite 33B Fairfax, VA 22030 <a href="http://www.pdca.com">www.pdca.com</a>	(703) 359-0826
PS	Product Standard U. S. Department of Commerce Washington, DC 20203	
RIS	Redwood Inspection Service 405 Enfrente Rd Novato, CA 94949	(415) 382-0662
RCSHSB	Red Cedar Shingle and Handsplit Shake Bureau	Refer to CSSB
RFCI	Resilient Floor Covering Institute 966 Hungerford Dr., Suite 12B Rockville, MD 20850 <a href="http://www.buildernet.com/rfc">www.buildernet.com/rfc</a>	(301) 340-8580

SDI	Steel Deck Institute P.O. Box 25 Fox River Grove, IL 60021-0025 <a href="http://www.sdi.org">www.sdi.org</a>	(847) 462-1930
SDI	Steel Door Institute 30200 Detroit Rd. Cleveland, OH 44145 <a href="http://www.steeldoor.org">www.steeldoor.org</a>	(440) 899-0010
SIGMA	Sealed Insulating Glass Manufacturers Association 401 N. Michigan Ave Chicago, IL 60611 <a href="http://www.sigmaonline.org">www.sigmaonline.org</a>	(312) 664-6610
SJI	Steel Joist Institute 3127 10 <sup>th</sup> Ave Extension North Myrtle Beach, SC 29582 <a href="http://www.steeljoist.org">www.steeljoist.org</a>	(843) 626-1995
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 4201 Lafayette Center Drive Chantilly, VA 20151 <a href="http://www.smacna.org">www.smacna.org</a>	(703) 803-2980
SSPC	The Society for Protective Coatings (Formerly: Steel Structures Painting Council) 4516 Henry St., 6 <sup>th</sup> Floor Pittsburgh, PA 15222 <a href="http://www.sspc.org">www.sspc.org</a>	(412) 281-2331
TCA	Tile Council of America, Inc. 100 Clemson Research Blvd Anderson, SC 29625 <a href="http://www.tileusa.com">www.tileusa.com</a>	(864) 646-8453
UL	Underwriters' Laboratories, Inc. 333 Pfingston Road Northbrook, IL 60062 <a href="http://www.ul.com">www.ul.com</a>	(800) 704-4050
USGBC	US Green Building Council 1825 I St. NW, Suite 400 Washington, DC 20006 <a href="http://www.usgbc.org">www.usgbc.org</a>	(202) 429-2081
WCLIB	West Coast Lumber Inspection Bureau Box 23145 Portland, OR 97281 <a href="http://www.wclib.org">www.wclib.org</a>	(503) 639-0651
WDMA	Window and Door Manufacturing Association (Formerly: National Woodwork Manufacturers Association) 1400 E. Touhy Avenue, Suite 470 Des Plaines, IL 60018 <a href="http://www.wdma.com">www.wdma.com</a>	(800) 223-2301
WWPA	Western Wood Products Association 522 S.W. 5th Ave., Ste 500 Portland, OR 97204 <a href="http://www.wwpa.org">www.wwpa.org</a>	(503) 224-3930

END OF SECTION

# 20 SECTION 01 42 15

## TERMINOLOGY

### PART 1 GENERAL

#### 1.01 DESCRIPTION

- A. Work included: Terminology used on drawings and within specifications and the meanings intended. The following list is limited to those words which experience indicates are most often misused and sources of confusion. Words, which are consistently properly used and understood, are not included.

#### 1.02 DEFINITIONS PERTAINING TO THE CONTRACT DOCUMENTS

- A. In accordance with Section 01 11 00, Exhibit A contains acronyms and definitions related to the Summary of Work. \*\*\*

#### 1.03 COMMON ABBREVIATIONS (MARICOPA COUNTY)

- A. FMD-Facilities Management Department
- B. IT-Information Technology
- C. JOC-Job Order Contracting
- D. MIHS-Maricopa County Special Healthcare District Db a Maricopa Integrated Health System
- E. O&M-Operations and Maintenance
- G. OET-Office of Enterprise Technology
- H. OMB-Office of Management and Budget
- I. PM-MIHS Project Manager
- I. D.P. or A.E.-Design Professional or Architect/Engineer
- J. P&D-Planning and Development Department
- K. MCDEQ-Maricopa County Department of Environmental Quality

#### 1.04 TERM (“GREEN” BUILDING RELATED)

- A. **ADEQUATE VENTILATION:** Ventilation, including air circulation and air changes Required to cure materials, dissipate humidity, and prevent accumulation of dust fumes, vapors, or gases. See Section 01 81 13 - for requirements relating to Indoor Environmental Quality (EQ) Prerequisite No. 1 - Minimum IAQ Performance.
- B. **AIR BARRIER SYSTEM:** The assembly of components used in building construction to create a plane of air tightness throughout the building envelope and to control air leakage.
- C. **ADAPTIVE REUSE:** Renovation of a building or site to include elements that allow a particular use or uses to occupy a space that originally was intended for a different use.
- D. **ALTERNATIVE ENERGY:** Energy from a source other than the conventional fossil-fuel sources of oil, natural gas and coal (i.e., wind, running water, the sun). Also referred to as “alternative fuel.”
- E. **BAKE-OUT:** Process by which a building is heated in an attempt to accelerate VOC emissions from furniture and materials.
- F. **BIODEGRADABLE:** Waste material composed primarily of constituent parts that occur naturally, are able to be decomposed by bacteria or fungi, and are absorbed into the ecosystem. Wood, for example, is biodegradable, while plastics are not.
- G. **BUILDING ENVELOPE:** The external elements walls, floor, ceiling, roof, windows and doors of a building that encloses conditioned space; the building shell.
- H. **BUILDING FOOTPRINT:** The area on a project site that is used by the building structure and is defined by perimeter of the building plan. Parking lots, landscape and other non- building facilities are not included in the building footprint.
- I. **BROWNFIELDS:** Abandoned, idled or underused industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.

- J. CHAIN OF CUSTODY: A tracking procedure to document the status of a product from the point of harvest or extraction to the ultimate consumer end use. (*from LEED™ Reference Guide Version 2.0, June 2001, Pg. 188*)
- K. CHEMICAL WASTE: Includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals, and inorganic wastes.
- L. CLOSED-LOOP RECYCLING: When a used product is recycled into a similar product; a recycling system in which a particular mass of material (possibly after upgrading) is remanufactured into the same product (e.g., glass bottles into glass bottles).
- M. COMPOST: Process whereby organic wastes, including food wastes, paper and yard wastes, decompose naturally, resulting in a product rich in minerals and ideal for gardening and farming as a soil conditioner, mulch, resurfacing material or landfill cover.
- N. CONSTRUCTION [AND DEMOLITION] WASTE: Includes solid wastes, such as building materials, packaging, rubbish, debris, and rubble resulting from construction, remodeling, repair. [and demolition operations].
1. Rubbish: Includes both combustible and noncombustible wastes, such as paper, boxes, glass, crockery, metal and lumber scrap, metal cans, and bones.
  2. Debris: Includes both combustible and noncombustible wastes, such as leaves and tree trimmings that result from construction or maintenance and repair work.
- O. CRADLE-TO-CRADLE: A term used in life-cycle analysis to describe a material or product that is recycled into a new product at the end of its defined life and disposal. Also refers to a system that handles a product from creation through disposal.
- P. DAYLIGHTING: Daylighting optimizes the use of natural light through design considerations to illuminate the interior of buildings during the day. Common daylighting strategies include the proper orientation and placement of windows, use of light wells, light shafts or tubes, skylights, clerestory windows, light shelves, reflective surfaces, and shading, and use of interior glazing to allow light into adjacent spaces.
- Q. DEVELOPMENT FOOTPRINT: The area on the project site that has been impacted by any development activity. Hardscape, access roads, parking lots, non-building facilities and building structure are all included in the development footprint.
- R. ENVIRONMENTAL FOOTPRINT: For an industrial setting, this is a company's environmental impact determined by the amount of depletable raw materials and nonrenewable resources it consumes to make its products, and the quantity of wastes and emissions that are generated in the process. Traditionally, for a company to grow, the footprint had to get larger. Today, finding ways to reduce the environmental footprint is a priority for leading companies.
- S. ENVIRONMENTALLY RESPONSIBLE MATERIALS:
1. Products made from environmentally attractive materials such as "salvaged products" and "products with post-consumer recycled content."
  2. Products that are green because of what isn't there, such as alternative to products made from PVC and polycarbonate.
  3. Products that reduce environmental impacts during construction, renovation, or demolition.
  4. Products that reduce environmental impacts of the building operation, such as equipment that conserves energy and products that prevent pollution or reduce waste.
  5. Products that contribute to a safe, healthy indoor environment such as products that remove indoor pollutants.
- T. ENVIRONMENTAL TOBACCO SMOKE: Secondhand tobacco smoke exposure. U. FLY ASH
1. A fine, glass-powder recovered from the gases of burning coal during the production of electricity. These micron- sized earth elements consist primarily of silica, alumina and iron. When mixed with lime and water the fly ash forms a cementitious compound with properties very similar to that of Portland cement. Because of this similarity, fly ash can be used to replace a portion of cement in the concrete, providing some distinct quality advantages. The concrete is denser resulting in a tighter, smoother surface with less bleeding. Fly Ash concrete offers a distinct architectural benefit with improved textural consistency and sharper detail.
  2. Fly ash with a low LOI (carbon content) is used as a substitute for Portland cement in concrete. Regulations vary from state to state, however, ASTM suggests that fly ash must not contain more than 6% unburned carbon to be used for its cementitious qualities.

Otherwise, concrete companies use it as a fine aggregate in concrete block. Others use it for filling old coal mines, seaside docking areas and as a lining for hazardous waste dumps.

- V. **GREEN BUILDING:** Green Building refers to the process of designing and constructing buildings in ways that minimize their negative ecological impacts. This includes concern for the full life cycle impacts of buildings from the acquisition of resources and materials, transportation, processing, manufacture, distribution, installation, use, maintenance, repair, and ultimate disposal. Green building usually also includes efforts to ensure energy efficiency, material and resource efficiency and healthy and safe indoor environment in terms of the toxicity of materials and indoor air quality.
- W. **GREEN DEVELOPMENT:** Green development is a development approach that benefits or has minimal negative impacts to the local and larger environment, uses resources efficiently (including community resources), and is sensitive to the existing local culture and community.
- X. **GREEN MATERIALS, PRODUCTS, AND SYSTEMS:** Green materials, products, and systems have many of the following characteristics: are durable, are low-maintenance, have low-embodied energy (energy required to acquire, transport, manufacture and install), are locally available, are made from recycled or renewable resources and can be recycled or renewed, have low toxicity, produce little pollution or waste, and have minimal negative ecological impacts.
- Y. **GREENFIELD:** Undeveloped land or land that has not been impacted by human activity.
- Z. **GREENWASH:** Disinformation disseminated by an organization so as to present an environmentally responsible public image.
- AA. **INDOOR AIR QUALITY (IAQ):** ASHRAE defines acceptable indoor air quality as air in which there are no known contaminants at harmful concentrations as determined by cognizant authorities and with which 80% or more people exposed do not express dissatisfaction.
- AB. **INTEGRATED WASTE MANAGEMENT:** The complementary use of a variety of practices to handle solid waste safely and effectively. Techniques include source reduction, recycling, composting, combustion and landfilling.
- AC. **LIFE CYCLE OF A PRODUCT:** All stages of a product's development, from extraction of fuel for power to production, marketing, use and disposal.
- AD. **LIFE CYCLE ANALYSIS (LCA):** The assessment of a product's full environmental costs, from raw material to final disposal, in terms of consumption of resources, energy and waste.
- AE. **MATERIAL SAFETY DATA SHEET (MSDS):** A standard formatted information sheet, prepared by a material manufacturer, describing the potential hazards, physical properties, and procedures for safe use of a material.
- AF. **OPEN-LOOP RECYCLING:** A recycling system in which a product made from one type of material is recycled into a different type of product (e.g., used newspapers into toilet paper). The product receiving recycled material itself may or may not be recycled.
- AG. **PASSIVE SOLAR DESIGN:** Passive solar design of buildings maximizes the use of the sun for heating during cool weather and minimizes solar gain from the sun in warm weather. Design features typically include south-facing orientation of windows for winter sun (in the northern hemisphere), general east-west orientation of the building, roof and overhangs that provide shade from the summer sun but allow the winter sun through the windows, and thermal mass in the interior to store heat or coolness and maintain more constant temperatures within the structure. Good insulation is typical also for most of the building envelope, to control heat loss and gain.
- AH. **POST-CONSUMER MATERIAL:** Any household or commercial product that has served its original, intended use.
- AI. **POST-CONSUMER RECYCLE CONTENT:** A product composition that contains some percentage of material that has been reclaimed from the same or another end use at the end of its former, useful life.
- AJ. **POST-INDUSTRIAL MATERIAL:** Industrial manufacturing scrap or waste; also called pre-consumer material.
- AK. **POST-INDUSTRIAL RECYCLE CONTENT:** A product composition that contains some percentage of manufacturing waste material that has been reclaimed from a process generating the same or a similar product. Also called pre-consumer recycle content.



- AL. RECLAMATION: Restoration of materials found in the waste stream to a beneficial use that may be other than the original use.
- AM. RECYCLE: A strategy to process material in order to extend the usable life of that material.
- AN. REDUCE: A strategy to use less of a material or to use it more efficiently.
- AO. RENEWABLE RESOURCES: A resource that can be replenished at a rate equal to or greater than its rate of depletion; i.e., solar, wind, geothermal and biomass resources.
- AP. RESOURCE CONSERVATION: Practices that protect, preserve or renew natural resources in a manner that will ensure their highest economic or social benefits.
- AQ. RETROFIT: The modification of an existing building or facility to include new systems or components.
- AR. REUSE:
1. A strategy to return a material to achieve use in the same or a related capacity.
  2. Using a product or component of municipal solid waste in its original form more than once.
- AS. SALVAGED MATERIALS: Construction materials recovered from existing building and reprocessed for reuse in other buildings. Common salvaged materials include structural beams and posts, flooring, doors, cabinetry, brick and decorative items. *(from LEED™ Reference Guide Version 2.0, June 2001, pg 188)*
- AT. SEDIMENT: Soil and other debris that has been eroded and transported by storm or well production runoff water.
- AU. SOLAR THERMAL WATER HEATING: Here the energy of the sun is used to provide or supplement a building's hot water supply. This can be both domestic hot water and for building heat, usually through radiant heat systems.
- AV. SOURCE REDUCTION.
1. The design, manufacture, purchase or use of materials to reduce the amount or toxicity of waste in an effort to reduce pollution and conserve resources (i.e., reusing items, minimizing the use of products containing hazardous compounds, extending the useful life of a product and reducing unneeded packaging).
  2. Practices that reduce the amount of any hazardous substance, pollutant or contaminant entering any waste stream or otherwise being released into the environment. Such practices also reduce the risk to public health and the environment associated with such releases. Term includes equipment or technology modifications, substitution of raw materials, and improvements in housekeeping, maintenance, training or inventory control.
- AW. TIPPING FEE:
1. Charge for the unloading or dumping of waste at a recycling facility, composting facility, landfill, transfer station or waste-to-energy facility.
  2. Fees charged by the landfill for dumping large volumes of disposable waste. The fee is usually quoted for one ton of waste.
- AX. TOTAL VOLATILE ORGANIC COMPOUNDS: The total mass, typically in milligrams per cubic meter, of the organic compounds collected in air.
- AY. VAPOR RETARDER: A layer of moisture resistant material usually which controls moisture diffusion (defined as less than 1 perm) to prevent moisture build up in the walls.
- AZ. VOLATILE ORGANIC COMPOUNDS (VOC): Any compound containing carbon and hydrogen or containing carbon and hydrogen in combination with other elements.
- BA. WASTE TO ENERGY: Burning of industrial waste to provide steam, heat or electricity. Sometimes referred to as waste-to-fuel process.

1.04 TERMS (ELECTICITY, HVAC AND VENTILATION RELATED)

- A. AIR CHANGES PER HOUR (ACH): An expression of ventilation rates - the number of Times in an hour that a home's entire air volume is exchanged with outside air.
- B. BATTERY POWER STORAGE SYSTEMS: Battery systems that are designed to store power in batteries that has been generated by solar photovoltaic, wind, micro- hydroelectric, or other site-based power generation systems.
- C. BLOWER DOOR: Diagnostic equipment consisting of a fan, removable panel and gauges, used to measure and locate air leaks.
- D. COMBUSTION EFFICIENCY: A measure of useful heat extracted from a fuel source by an operating heating appliance. For example a furnace with a combustion efficiency of 60 percent converts 60 percent of the fuels energy content into useful heat. The rest is lost as exhaust gases.
- E. CONDUCTION TRANSMISSION: of energy (heat /sound) through a material or from one material to another by direct contact. Materials with low rates of conductive heat transfer make good insulation.
- F. CONVECTION TRANSMISSION: of energy (heat /sound) from one place to another by movement of a fluid such as air or water.
- G. DEW POINT: The temperature at which a vapor begins to condense.
- H. EXFILTRATION: Uncontrolled leakage of conditioned air from inside the home to the outside.
- I. HEAT RECOVERY VENTILATION SYSTEM: A mechanical ventilation system that recovers energy from exhausted indoor air and transfers it to incoming air. This system usually incorporates an air-to-air heat exchanger which transfers the heat from exhaust air to the incoming air or vice versa.
- J. HUMIDISTAT: A humidity sensitive control device that signals the ventilation system to operate if the humidity goes above a preset limit.
- K. MICRO-HYDROELECTRIC SYSTEMS: Micro hydroelectric systems generate electricity by harnessing the flow of a stream or some other small scale flowing water source. Surplus electricity is often stored in a battery storage system for later use.
- L. PASSIVE VENTILATION: Passive ventilation relies typically on using both convective air flows that result from the tendency of warm air to rise and cool air to sink and taking advantage of prevailing winds. Many passive ventilation systems rely on the building users to control window and vents as dictated by site conditions and conditions within the building.
- M. RELATIVE HUMIDITY: The ratio expressed as a percentage of the amount of moisture air actually contains to the maximum amount it could contain at that temperature.
- N. SOLAR PHOTOVOLTAIC SYSTEMS: These systems harness the energy of the sun and convert it into electricity. This electricity can be used as either direct current (DC) power or alternating current (AC) power if an inverter is used. Surplus electricity is often stored in a battery storage system for later use.
- O. SOLAR THERMAL AIR HEATING: This uses the energy of the sun to heat air either for direct space heating or to heat the thermal mass of the building or heat storage systems (such as water tanks, rock pits).
- P. THERMAL BRIDGE: A thermally conductive material which penetrates or bypasses an insulation system;
- Q. THERMAL RESISTANCE: (R) An index of a material's resistance to heat flow.
- R. WIND POWER SYSTEMS: These convert the energy of the wind into electricity. Surplus electricity is

1.05 TERMS (WATER RELATED)

- A. GREYWATER SYSTEMS: Greywater systems take water used once for washing clothes or bodies and distribute that water for secondary use, typically for substrate irrigation of landscaping.
- B. WATER HARVESTING SYSTEMS: These systems collect rainwater for use after a rain event. Features in the system include catchment/storage systems such as gutters and cisterns, landscaping features (swales, basins, etc.) to direct the rainwater to plants and/or hold the water to slow the infiltration rate.

1.06 TERMS (UNITS RELATED)

- A. BTU: British Thermal Unit - The amount of energy that is required to raise 1 lb. of water up 1° F.
- B. BTUH: A rate of energy transfer - can be expressed as Btu's/hour.

- C. KILOWATT-HOUR (kWh): Standard unit for measuring electrical energy consumption- kilowatts X hours.
- D. PERM: A unit of water vapor transmission defined as 1 grain of water vapor per square foot per hour per inch of mercury pressure difference (1 inch mercury = 0.49 psi). Metric unit of measure is  $\text{ng/m}^2 \text{ s Pa}$ . 1 perm = 55  $\text{ng/m}^2 \text{ s Pa}$ .
- E. PH: A measure of acidity/alkalinity of aqueous mixtures. A measure of pH 7 is neutral, lower is more acidic, higher is more alkaline.
- F. PSI: Pounds per square inch.
- G. R A: unit of measurement of resistance to heat flow in  $\text{hr. ft}^2 \text{ }^\circ \text{F/BTU.in}$ .
- H. RSI: A unit of measurement of resistance to heat flow in  $\text{m}^2 \text{ }^\circ \text{C/W}$  per 25 mm.  $R = 0.176 \text{ RSI}$
- E. ~~AS VALUE DRAWING: A drawing or print authorized by the Job Order Contractor of the Rheoluxinal system (Condition) constructed. For Architect's drawing, see RECORD DRAWING.~~
- 1.07 F. ~~TERMS (GENERAL)~~  
 BACKING: A continuous material behind entire area of finish, as opposed to intermittent or edge support.
- A. ACCESS DOOR: Small doors not included in door schedules which are typically a prefabricated assembly
- G. BATT INSULATION: Roll type insulation for installation between studs or joists, either pressed fit or stapled. See also BLANKET INSULATION.
- B. ACCESS PANEL: A section of finish which can be opened.
- H. BLANKET INSULATION: Roll type insulation for installation over suspended ceiling or on plane
- C. ACOUSTICAL SEALANT: Non-hardening caulking or sponge tape used to seal partitions to structural ceiling, wall surfaces. Either laid loose or secured with stick clips. See also BATT INSULATION.
- D. BUILDING PAPER: Sheathing paper or felt.
- D. ANCHOR BOLT: A bolt that is embedded in masonry or cast-in-place in concrete.
- J. CAULK, CAULKING: Non-elastomeric fillers and joints subject to little movement, generally indoors.
- K. CASING BEAD: Plaster stop.
- L. CEMENT PLASTER: Portland cement plasters used at interior spaces.
- M. COLD JOINT: Use to describe a joint where the material on one side of the joint is to be set or hard before the other side is installed and no particular bonding is expected.
- N. CONTROL JOINT: A joint to limit cracking, or a joint which is necessary to the construction process but continuity or bonding is required.
- O. DAMPPROOFING: A coating intended to resist vapor transmission and dampness, but not designed to resist a head of water.
- P. DELETE: Something to be taken out by intention. See also OMIT.
- Q. DOWNSPOUT: A rain water conduit made of sheet metal or plastic. See also LEADER.
- R. ELASTOMERIC: A material which is inherently rubbery, typically used to describe sealant, flashing, membrane, etc.
- S. EXPANSION BOLT: Single unit bolt with integral anchoring device, such as Wej-it or Kwik Bolt.
- T. EXPANSION JOINT: A joint designed for structural movement, both expansive and contractive.
- U. EXPANSION SHIELD: Use for devices that receive a separate screw or bolt and also note type of screw or bolt.
- V. FURRED CEILING: Any ceiling not directly attached to the floor or roof framing above except suspended acoustical ceiling.
- W. FURRING: Any ceiling not directly attached to the floor or roof framing above except suspended acoustical ceiling.
- X. FURRING CHANNEL: Cold rolled steel channel. For hat-shaped 25 gauge steel channels see METAL FURRING.
- Y. GLAZED OPENING: Used at interior partitions.
- Z. GROOVE: A long, narrow indentation. In wood, use only when parallel to the grain. See also RABBET.
- AA. GROUT: Any cementitious material used to fill, level or set other materials.
- AB. GYPSUM BOARD: Wall and ceiling finish material. Abbreviation is GYP.BD.

- AC. HANDRAIL: Single rail. For protective barricade type rails see RAILING.
- AD. HANGER: Any suspended structural member by which other members are attached.
- AE. HARDWOOD: No specific species. Wood from broadleaved evergreen or deciduous trees. See also WOOD for softwood.
- AF. HEAVYGAUGE FRAMING: Weldable load bearing metal studs and joists.
- AG. HOISTWAY: Use for elevators and dumbwaiters.
- AH. HOISTWAY BEAM: Beams supporting guiderails between multiple hoistways.
- AI. JOINT BACKER: Material behind sealant which establishes depth of sealant. Generally shown on drawings but not noted.
- AJ. JOINT FILLER: Material which fills entire joint. May also be used with sealant.
- AK. LEADER: A rain water conduit made of pipe or tubing. See also DOWNSPOUT.
- AL. LIGHTGAUGE FRAMING: 20 and 25 gauge non-loadbearing interior framing assemblies. For weldable loadbearing assemblies see HEAVYGAUGE FRAMING.
- AM. LIGHTWEIGHT AGGREGATE CONCRETE: Concrete of lightweight aggregates not designed to provide insulation.
- AN. METAL FRAME: Pressed metal frames used with doors and panel or glazed openings.
- AO. METAL FURRING: Hat-shaped, 25 gauge steel channels used to furr out walls and for furring ceilings. For cold rolled steel channels see FURRING CHANNEL.
- AP. OMIT: To leave out by intention. See also DELETE.
- AQ. PANELING: Sheet or board material for interior use.
- AR. PANELS: Sheet material, with some sort of joint or trim for exterior or interior use.
- AS. PARTITION: Non-loadbearing vertical panel subdividing interior spaces, either rated or non-rated. For loadbearing see WALL.
- AT. PATCH: Replacement or repair of material or finish to match existing conditions.
- AU. PLASTER: Specifications shall define type, i.e., gypsum plaster, Keenes Cement, etc.
- AV. PROVIDE: Denotes "Furnish and Install."
- AW. RABBET: Groove at edge of member only.
- AX. RAILING: Multiple railed barrier. See also HANDRAILS.
- AY. RECORD DRAWING: Drawings revised to include construction changes. See "AS- BUILT DRAWING" for drawings prepared by the Job Order Contractor.
- AZ. REFINISH: To put a finish back into its original condition.
- BA. RELOCATE: To move from one location and install in another location.
- BB. REPLACE: To provide a substitute or equivalent for.
- BC. RUNNER CHANNEL: 1-1/2 inch cold rolled steel channel.
- BD. SCREED: Metal or wood strip placed at intervals to gauge thickness of applied materials.
- BE. SCRIBE STRIP: Strip to make tight closure to adjoining surfaces.
- BF. SEALANT: Elastomeric materials at joints subject to movement or weather penetration at outdoors or indoors. If purpose is acoustical use ACOUSTICAL SEALER.
- BG. SEAMLESS FLOORING: Sheet material with joints field welded or sealed, or field installed materials finished to provide a homogenous flooring material.
- BH. SECTION:
1. Drawing showing cut through an object.
  2. Subdivision of a Division of the specifications as defined by the CSI MasterFormat.

- BI. SELF-EDGE: Application to edge of plywood or particleboard of plastic laminate of same pattern as face surface.
- BJ. SERVICE SINK: Wall or floor mounted sink.
- BK. SHEET: Thin construction material.
- BL. SHEET FLOORING: Resilient flooring installed in lengths, generally wall to wall with joints depending upon manufactured widths of roll material.
- BM. SHEET METAL: General term on drawings with specifications defining particulars.
- BN. SOUND DEADENING BOARD: High density wallboard, wood fiber or gypsum, not suitable for painting or finishing.
- BO. STAGGER: To offset building elements in a horizontal or vertical plane as stagger studs, stagger joints.
- BP. STOCK: Raw material, i.e. 2x4 stock.
- BQ. STUD: Upright framing member of wood or metal.
- BR. SUBFLOORING: Usually of different grade and thickness than used for wall or roof sheathing.
- BS. THRU: Short version of THROUGH on drawings only.
- BT. TOE BOARD: Raised protective edge at balconies, landings, etc. (OSHA requirement).
- BU. TOE SPACE: Recess at base of cabinets.
- BV. TYPICAL: Representative example, characteristic of a kind.
- BW. UNDERLAYMENT: A smooth, hard sheet material, placed over rougher substrates to achieve a surface suitable for the application of such finishes as resilient tile.
- BX. WAINSCOT: Finish on the lower part of a partition when it differs from that of the upper wall.
- BY. WALL: Vertical panel enclosing a building or that serves as an occupancy separation. Generally loadbearing.
- BZ. WATERPROOFING: Designed to resist a head of water.
- CA. WOOD: Used to describe solid stock softwoods. See also HARDWOOD.

# 21 SECTION 01 45 00

## \*\*\* QUALITY CONTROL \*\*\*

### PART 1 GENERAL

#### 1.1 Description

**1.1.1** Provide and maintain an effective Job Order Contractor Quality Control (JOCQC) program and perform sufficient and adequate inspections and testing of all items of Work, including those of Subcontractors, to ensure compliance with Contract Documents. Including, but not limited to, the surveillance and tests specified in the technical sections of the Specifications. Furnish appropriate facilities, instruments, and testing devices required for performance of the quality control function. Controls must be adequate to cover construction operations and be scheduled with the construction sequence.

**1.1.2** The individual selected by the Job Order Contractor to manage the Job Order Contractor Quality Control Program must be approved by the Owner or Owner's Representative following an approved resume indicating the experience of the proposed manager.

#### 1.2 Control of On-Site Construction

**1.2.1** Perform inspections prior to beginning work on any definable feature of Work. The JOCQC Manager shall monitor and review the Contract requirements; check to assure that materials, products, and equipment have been tested, submitted, and approved; check to assure that provisions have been made for required control testing; examine the Work area to ascertain that preliminary Work has been completed; physically examine materials and equipment to assure that they conform to shop drawing data and that the materials and equipment are on hand.

**1.2.2** Perform initial inspections as soon as Work commences on a representative portion of a particular feature of Workmanship; monitor and review control testing for compliance with Contract requirements.

**1.2.3** Perform follow-up inspections on a regular basis to assure continuing compliance with Contract requirements until completion of that particular Work.

#### 1.3 Control of Off-Site Operations

**1.3.1** Perform factory quality control inspections for items fabricated or assembled off-site as opposed to "off-the-shelf" items as required in the specifications. The JOCQC representative at the job site shall receive the item and note any damage incurred during shipment. The Job Order Contractor shall be responsible for protecting and maintaining the item in good condition throughout the period of on-site storage and during erection or installation. Although any item found to be faulty may be rejected before it is used, final acceptance of an item by the Owner is based on its satisfactory incorporation into the Work and acceptance of the completed project.

### PART 2 PRODUCTS (Not Used)

### PART 3 EXECUTION (Not Used)

END OF SECTION



## 22 SECTION 01 45 29

### \*\*\* TESTING LABORATORY SERVICES \*\*\*

#### **PART 1: GENERAL**

##### **1.1 DESCRIPTION**

- 1.1.1 The Job Order Contractor shall cooperate with the Owner or Owner's Representative, DP, and the approved testing laboratory and all others responsible for testing and inspecting the Work.
- 1.1.2 The provisions of other testing and inspecting, as specified, will be furnished as directed by this Section and/or in the Specifications. .
- 1.1.3 Where no other testing requirements are described, but the Owner decides that testing is required, the Owner may direct that such testing be performed under current standards for testing. Payment for such testing will be made as described in this Section.
- 1.1.4 All services of the testing laboratory will be paid for as further described in this Section.

##### **1.2 QUALITY ASSURANCE**

- 1.2.1 The Owner has selected the testing laboratory in accordance with the applicable ASTM Section.
- 1.2.2 Codes and Standards: Testing, when and where required, will be in accordance with pertinent codes and regulations and with selected standards of the American Society for Testing and Materials (ASTM).

##### **1.3 PRODUCT HANDLING**

- 1.3.1 The testing laboratory will promptly process and distribute required copies of test reports and related instructions to ensure necessary retesting and replacement of materials with the least possible delay.
  - 1.3.1.1 Retests of all work shall be specifically indicated by the term "Retest" and shall be sufficiently descriptive to designate the date, location, and original test information indicating why the original was not in compliance with documents.
  - 1.3.1.2 The Laboratory shall send all test reports to the Owner, or Owner's Representative, Job Order Contractor, and DP.

#### **PART 2: PRODUCTS**

##### **2.1 PAYMENT FOR TESTING**

###### **2.1.1 Initial Services**

- 2.1.1.1 The Owner or Owner's Representative will pay for testing services as specified in each Division of the Specifications as applicable.
- 2.1.1.2 When initial tests indicate non-compliance with the Contract Documents, the costs of initial tests associated with that non-compliance will be paid by the Owner.

- 2.1.2 Retesting: When initial tests indicate non-compliance with the Contract Documents, all subsequent retesting occasioned by the non-compliance shall be performed by the same testing agency and the costs thereof will be paid by the Job Order Contractor.

##### **2.2 CODE COMPLIANCE TESTING**

- 2.2.1** Inspections and tests required by codes or ordinances, or by a plan approval authority, and which are made by a legally constituted authority, shall be the responsibility of, and shall be paid for by, the Job Order Contractor unless otherwise provided in the Contract Documents.

### **2.3 JOB ORDER CONTRACTOR'S CONVENIENCE TESTING**

- 2.3.1** Inspecting and testing performed exclusively for the Job Order Contractor's convenience shall be the sole responsibility of the Job Order Contractor and at the sole expense of the Job Order Contractor.

## **PART 3: EXECUTION**

### **3.1 COOPERATION WITH TESTING LABORATORY**

- 3.1.1** Representatives of the testing laboratory shall have access to the Work at all times. The Job Order Contractor shall accommodate such access in order that the laboratory may properly perform its function.

### **3.2 TAKING SPECIMENS**

- 3.2.1** Specimens and samples for testing, unless otherwise provided in the Contract Documents, will be taken by the testing personnel. Sampling equipment and personnel will be provided by the testing laboratory. Deliveries of specimens and samples to the testing laboratory will be performed by the testing laboratory.

### **3.3 SCHEDULES FOR TESTING**

#### **3.3.1 Establishing the schedule**

- 3.3.1.1** By advance discussion with the testing laboratory, the Owner or Owner's Representative, Job Order Contractor and testing laboratory shall determine the time required for the laboratory to perform its tests and to issue each of its findings.
- 3.3.1.2** Job Order Contractor shall provide for required time within the construction schedule.
- 3.3.1.3** Job Order Contractor shall provide twenty-four (24) hours' notice to the testing laboratory of required tests.

- 3.3.2** Revising the schedule: When changes of construction schedule are necessary during construction, coordinate such changes of schedule with the testing laboratory as required.

- 3.3.3** Adherence to schedule: When the testing laboratory is ready to test according to notification by the Job Order Contractor, but is prevented from testing or taking specimens due to incompleteness of the Work or weather, all extra charges for testing attributable to the delay will be paid by the Job Order Contractor and shall not be borne by the Owner.

### **3.4 ALTERNATIVE AND ADDITIONAL INSPECTION PROCEDURE**

- 3.4.1** Owner or Owner's Representative and DP, subject to the Owner's approval, shall have the right, to require alternative and/or additional inspection or testing procedures other than as specified when, in the Owner or Owner's Representative and DP's judgment, other inspections or testing services are required to demonstrate compliance with the Contract requirements. Costs of such alternative and/or additional inspections or testing services will be borne by the Owner if products are found to comply; otherwise, costs shall be borne by the Job Order Contractor.

END OF SECTION



## 23 SECTION 01 50 00

### TEMPORARY FACILITIES AND CONTROLS

#### 24 PART 1 GENERAL

##### 1.18 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification Sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to minimize damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, elevators, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

##### 1.19 PROTECTION OF EXISTING FACILITIES

In the event that that the Project involves nearby existing MIHS facilities, Job Order Contractor shall provide appropriate protection for such facilities. If such facilities are to be used by Job Order Contractor, Owner shall approve in writing the Job Order Contractor's protection plan concerning such use.

##### 1.20 CONSTRUCTION IAQ MANAGEMENT PLAN (LEED EQ Credit No. 3.1)

- A. Job Order Contractor shall reduce indoor air quality problems resulting from the construction process, to help sustain the comfort and well-being of construction works and building occupants.
- B. Job Order Contractor shall develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and preoccupancy phases of the building as follows:
  1. During construction meet or exceed the recommended Control Measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 2nd Edition 2007, ANSI/SMACNA 008-2008 (Chapter 3).
  2. Protect stored on-site or installed absorptive materials from moisture damage
  3. If permanently installed air handlers are used during construction, filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 shall be used at each return air grille, as determined by ASHRAE 52.2-1999 (with errata but without addenda). Replace all filtration media immediately prior to occupancy.
- C. Refer to Section 01 77 00 for Construction IAQ Management Plan – Before Occupancy (LEED EQ Credit No. 3.2).
- D. Submittals:
  1. Contractor shall submit a completed LEED-NC 2009 form with supporting data for LEED EQ Credit No. 3.1 to Design Professional, to be included with the comprehensive construction submittal. The following project data and calculation

information is required to document credit compliance using LEED-NC 2009 credit templates

2. Provide the following in accordance with the requirements of LEED Submittals in accordance with applicable requirements of Section 01 33 00 – Submittal Procedures. Verify these requirements with LEED-Online and include any additional submittals required for EQ Credit No. 3.1 as per LEED-Online.
  - a. Submit copy of the Construction IAQ Management Plan highlighting the 5 requirements of SMACNA IAQ Guideline for Occupied Buildings under Construction, 1995, Chapter 3 prior to start of construction.
  - b. Provide confirmation if permanently installed air handling equipment was used during construction prior to substantial completion.
  - c. Provide photographs (digital format preferable), acceptable to Design Professional, documenting construction IAQ management measures such as protection of ducts and on-site stored or installed absorptive materials prior to substantial completion.
  - d. Prior to substantial completion provide cut sheets of filtration media used during construction and installed immediately prior to occupancy with MERV values highlighted. Include list outlining all filtration media (manufacturer, model number, MERV rating, location of installed filter and confirm that each was replaced prior to final occupancy.
  - e. Provide a narrative describing any special circumstances or non-standard approaches taken by project.

25 PART2 PRODUCTS (Not Used)

26 PART3 EXECUTION (Not Used)

**END OF SECTION**

## 27 SECTION 01 57 13

### \*\*\*TEMPORARY EROSION AND SEDIMENT CONTROL \*\*\*

#### 28 PART 1: GENERAL

##### 1.01 SUMMARY

###### A. LEED™ Certification:

1. Job Order Contractor shall ensure that the work provided under this section will provide the construction activity pollution prevention required by the US Green Building Council (USGBC) LEED (Leadership in Energy & Environmental Design) "Sustainable Sites" Prerequisite. Achievement of this prerequisite requires the creation and implementation of an Erosion and Sedimentation Control (ESC) Plan for all construction activities associated with the project. The ESC Plan shall conform to the erosion and sedimentation requirements of the 2003 EPA Construction General Permit, OR local erosion and sedimentation control standards and codes, whichever is more stringent. The Plan shall describe measures implemented to accomplish the following objectives:
  - a. Prevent loss of soil during construction by Stormwater runoff and/or wind erosion, including protecting topsoil by stockpiling for reuse.
  - b. Prevent sedimentation of storm sewer or receiving streams.
  - c. Prevent polluting the air with dust and particulate matter.
2. The Construction General Permit (CGP) outlines the provisions necessary to comply with Phase I and Phase II of the National Pollutant Discharge Elimination System (NP-DES) program. While the CGP only applies to construction sites greater than 1 acre, the requirements are applied to all projects for the purposes of this prerequisite. Information on the EPA CGP is available at <http://cfpub.epa.gov/npdes/stormwater/cgp.cfm>.

##### 1.02 SUBMITTALS - LEED

- A. Submit documentation to the Design Professional regarding erosion and sedimentation control procedures followed, including; but not limited to; memos, letters, drawings, sketches and photographs.

#### 29 PART 2: PRODUCTS

##### 2.01 MATERIALS

- A. In accordance with Civil Drawings and Specifications

#### 30 PART 3: EXECUTION

##### 3.01 EXECUTION

- A. In accordance with Civil Drawings and Specifications

**END OF SECTION**



## 31 SECTION 01 60 00

### \*\*\* PRODUCT REQUIREMENTS \*\*\*

## 32 PART 1: GENERAL

### 1.01 DELIVERY, STORAGE AND HANDLING

- A. In accordance with Section 01 66 00 and as follows:
  - 1. Deliver manufactured materials in the original packages, containers or bundles, with the seals unbroken, identified by the name and mark of the Manufacturer.
  - 2. Deliver fabrications in as large assemblies as practicable. Fabrications specified to be shop-primed or shop-finished shall be packaged or crated as required to preserve such priming or finish intact and free from abrasion.
  - 3. Store materials in a manner to properly protect from damage. Materials or equipment damaged by handling, weather, dirt or other cause will not be acceptable.
  - 4. Store materials so as to cause no obstructions. Store off sidewalks, roadways and underground services. The Job Order Contractor shall be responsible for protecting materials and equipment furnished under the Contract.
  - 5. When a room in the Project is used as a shop or store room, the Job Order Contractor shall be responsible for all repairs, patching or cleaning necessary due to such use. Location of such storage space shall be subject to approval of the Design Professional.
- B. Packaging shall be minimized whenever possible but shall not be reduced so as to cause damage to materials or products. Packaging shall be recycled in accordance with the requirements of Section 01 74 19 - Construction Waste Management.

### 1.02 SUBSTITUTIONS AND PRODUCT OPTIONS

- A. Whenever a product is specified by using a proprietary name or the name of a particular Manufacturer or Vendor, the specific item mentioned shall be understood as establishing type, function, dimension, appearance, and quality desired.
- B. Other manufacturers' products will be accepted provided sufficient information is submitted with prior approval to allow the Design Professional to determine that products proposed are equivalent to those named.
- C. Substitutions (Prior Approvals and requests for approval after award of a contract): In accordance with Section 01 25 00 – Substitution Procedures.

### 1.03 RECYCLED CONTENT

- A. LEED™ Certification: Job Order Contractor shall ensure that the work provided will include recycled content materials to achieve Materials & Resources Credit 4.1 and 4.2 and Innovation in Design Credit 1.2 as outlined in Section 01 81 13.
  - 1. Credit 4.1 (one point) requires that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project.
  - 2. Credit 4.2 (one point) requires that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes and additional 10% beyond MR Credit 4.1 (total of 20% based on cost) of the total value of the materials in the project.

3. Credit IDc1.2 (one point) requires that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes an additional 10% beyond MR Credit 4. 2 (total of 30% based on cost) of the total value of the materials in the project.
- B. Submittals: In accordance with Section 01 81 13 – Special Procedures – LEED Certification.
- C. Materials Containing Recycled Content:
1. Concrete and cementitious materials containing fly ash as specified in Section 03 05 05:
    - a. Section 03 30 00 - Cast-In Place Concrete
    - b. Section 04 05 15 - Mortar and Masonry Grout
    - c. Section 04 22 00 - Concrete Masonry Units
    - d. Section 09 24 00 - Portland Cement Plaster (Stucco).
  2. Materials containing recycled steel:
    - a. Section 03 20 00 – Concrete Reinforcement
    - b. Section 05 10 00 – Structural Metal Framing
    - c. Section 05 31 00 – Steel Deck
    - d. Section 05 41 00 – Load Bearing Metal Stud System
    - e. Section 05 50 00 – Metal Fabrications
    - f. Section 07 60 00 – Flashing and Sheet Metal
    - g. Section 08 11 13 – Steel Doors and Frames
    - h. Section 09 22 16 – Metal Support Assemblies.
  3. Other materials as specified throughout the Project Manual. (The following are examples)
    - a. Section 06 10 53 – Miscellaneous Carpentry
    - b. Section 06 40 00 – Architectural Woodwork
    - c. Section 07 53 16 – Single Ply Membrane Roofing
    - d. Section 08 41 13 - Aluminum Entrances and Storefronts
    - e. Section 08 44 00 – Glazed Aluminum Curtain Walls
    - f. Section 09 29 00 - Gypsum Board
    - g. Section 09 30 00 - Tile
    - h. Section 09 65 16 – Resilient Flooring
    - i. Section 09 51 00 – Acoustical Ceilings
    - j. Section 09 68 00 – Carpet Tile
    - k. Section 09 91 00 – Paint.
  4. Other materials as recommended by Job Order Contractor to achieve requirements specified in Section 01 81 13.
  5. Mechanical and electrical components shall not be included in the calculations for this Credit.

#### 1.04 REGIONAL MATERIALS

- A. LEED™ Certification: Job Order Contractor shall ensure that the work provided will include regional Materials to achieve Materials & Resources Credit 5.1 [and 5.2], and Innovation in Design Credit 1.2 as outlined in Section 01 81 13.
1. Credit 5.1 (one point) requires that 10% of building materials (based on cost) have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project.
    - a. Mechanical, electrical and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation.
    - b. Only include materials permanently installed in the project.
    - c. Furniture may be included, providing it is included consistently in MR Credits 3-7.
  2. Credit 5.2 (one point) is to be achieved which requires that an additional 10% of the building materials beyond MR Credit 5.1 (total of 20% based on cost) have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project.
  3. Credit IDc1.3 (one point) requires that an additional 10% of the building materials beyond MR Credit 5.2 (total of 30% based on cost) have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project.

B. Submittals: In accordance with Section 01 81 13 – Special Procedures – LEED Certification

C. Regional Materials

1. Earthwork and site utilities as specified in Section 31 01 00 - Earthwork.
2. Concrete and cementitious materials as specified in:
  - a. Section 03 30 00 – Cast-In Place Concrete
  - b. Section 04 05 15 – Mortar and Masonry Grout
  - c. Section 04 22 00 – Concrete Masonry Units
  - d. Section 09 24 00 – Portland Cement Plaster (Stucco).
3. Materials containing steel components that are locally fabricated:
  - a. Section 03 20 00 – Concrete Reinforcement
  - b. Section 05 10 00 – Structural Metal Framing
  - c. Section 05 31 00 – Steel Deck
  - d. Section 05 41 00 – Heavy-Gauge Metal Stud System
  - e. Section 05 50 00 – Load-Bearing Metal Stud System
  - f. Section 07 60 00 – Flashing and Sheet Metal
  - g. Section 08 11 13 – Steel Doors and Frames
  - h. Section 09 22 16 – Metal Support Assemblies.
4. Other materials as specified throughout the Project Manual. (The following are examples)
  - a. Section 06 10 53 – Miscellaneous Carpentry
  - b. Section 06 40 00 – Architectural Woodwork
  - c. Section 07 53 16 – Single Ply Membrane Roofing
  - d. Section 08 41 13 – Aluminum Entrances and Storefronts
  - e. Section 08 44 00 – Glazed Aluminum Curtain Walls
  - f. Section 09 29 00 – Gypsum Board
  - g. Section 09 30 00 – Tile
  - h. Section 09 51 00 - Acoustical Ceilings
  - i. Section 09 65 16 – Resilient Sheet Flooring
  - j. Section 09 68 00 - Carpet
  - k. Section 09 91 00 - Paint.
5. Other materials as recommended by Job Order Contractor to achieve requirements specified in Section 01 81 13.
6. Mechanical and electrical components shall not be included in the calculations for this Credit.

#### 1.05 FSC WOOD

A. In accordance with Section 06 05 13 – FSC Certified Wood.

#### 1.06 LOW-EMITTING MATERIALS

A. LEED™ Certification: Job Order Contractor shall ensure that the work provided under this section will provide Low-Emitting Materials to achieve Indoor Environmental Quality Credit 4.1, 4.2, 4.3, and 4.4.

1. Credit EQc 4.1 requires that adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing systems and applied on-site) shall comply with the requirements of the following reference standards:
  - a. Adhesives, Sealants and Sealant Primer: South Coast Air Quality Management District (SCAQMD) Rule #1168. Job Order Contractor shall comply with VOC limits as required by LEED OnLine to achieve this credit.
  - b. Aerosol Adhesives: Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000. Job Order Contractor shall comply with VOC limits as required by LEED OnLine to achieve this credit.
  - c. Materials that must comply with these requirements include, but are not limited to:
    - 1) Adhesives specified in various sections of the specifications.
    - 2) Sealants as specified in Section 07 92 00

2. Credit EQc 4.2 requires that paints and coatings used on the interior of the building (defined as inside of the weatherproofing systems and applied on-site) shall comply with the requirements of the following criteria:
  - a. Architectural paints, coatings and primers applied to interior walls and ceilings: Do not exceed the VOC content limits established in Green Seal Standard GS-11, Paint, First Edition, May 20, 1993. Job Order Contractor shall comply with VOC limits as required by LEED OnLine to achieve this credit.
  - b. Anti-corrosive and anti-rust paints applied to interior ferrous metal substrate: Do not exceed the VOC content limit of 250 g/L established in Green Seal Standard GC-03, anti-Corrosive Paints, Second Edition, January 7, 1997. Job Order Contractor shall comply with VOC limits as required by LEED OnLine to achieve this credit.
  - c. Clear wood finishes, floor coatings, stains, sealers and shellacs applied to interior elements: Do not exceed the VOC content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coating, rules in effect on January 1, 2004. Job Order Contractor shall comply with VOC limits as required by LEED OnLine to achieve this credit.
  - d. Materials that must comply with these requirements include, but are not limited to:
    - 1) Primers for steel specified in Sections 05 20 00 and 05 50 00.
    - 2) Stains and sealers specified in Section 06 40 00
    - 3) Game line paints for athletic flooring specified in Sections 09 64 66 and 09 65 66.
    - 4) Interior paints as specified in Section 09 91 00.
    - 5) Other clear wood finishes, floor coatings, sealers and stains specified elsewhere in the Project Manual.
3. Credit EQc 4.3 requires that:
  - a. Carpet installed in the building interior shall meet the testing and product requirements of the Carpet and Rug Institute's Green Label Plus program.
  - b. Carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.
  - c. Carpet adhesive shall meet the requirements of EQ Credit 4.1. Job Order Contractor shall comply with VOC limits as required by LEED OnLine to achieve this credit.
  - d. All hard surface flooring must meet the requirements of the FloorScore standard (current as of the date of this rating system, or more stringent version) as shown with testing by an independent third-party. Mineral-based finish flooring products such as tile, masonry, terrazzo, and cut stone without integral organic-based coatings and sealants and unfinished/untreated solid wood flooring qualify for credit without any IAQ testing requirements. However, associated site-applied adhesives, grouts, finishes and sealers must be compliant for a mineral-based or unfinished/untreated solid wood flooring system to qualify for credit.
  - e. Concrete, wood, bamboo and cork floor finishes such as sealer, stain and finish must meet the requirements of South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004.
  - f. Tile setting adhesives and grout must meet South Coast Air Quality Management District (SCAQMD) Rule 1168. VOC limits correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005.

4. Credit EQc 4.4 requires that wood and agrifiber products used on the interior of the building (defined as inside of the weatherproofing systems and applied on-site) must contain no added urea-formaldehyde resins and that laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies shall contain no added urea-formaldehyde resins.
  - a. Materials that must comply with these requirements include, but are not limited to:
    - 1) Composite wood products applied on-site inside the building weatherproofing systems such as sheathing, doors, and other structural and non-structural applications.
    - 2) Wood doors as specified in Section 08 14 00.
- B. Submittals: In accordance with Section 01 81 13– Special Procedures – LEED Certification.

END OF SECTION





# 33 SECTION 01 70 00

## CLOSEOUT REQUIREMENTS

### PART 1 GENERAL

#### 1.1 DESCRIPTION

##### 1.1.1 General

- 1.1.1.1 Complete project closeout as indicated in accordance with the provisions of the Contract Documents.

#### 1.2 SUBSTANTIAL COMPLETION AND FINAL INSPECTION

- 1.2.1 Substantial Completion will not be certified until all Tests, Training, and Demonstrations specified have been executed, and the provisions of the Contract for Construction Manager at Risk and requirements established by individual Specification Sections have been successfully completed.
- 1.2.2 The Final Application for Payment will not be accepted and processed until the Owner or Owner's Representative is satisfied that the Work is satisfactorily completed, including "punch list" items and Commissioning Issues List; and that all manuals, documents, warranties, guarantees, and Record Documents, as required by the Specifications, have been received and accepted by the Owner or Owner's Representative. The executed AIA Documents G706 entitled "Contractor's Affidavit-Payment of Debts/Claims" (or equivalent) and G707 entitled "Consent of Surety to Final Payment (or equivalent)" shall accompany final Application for Payment.

#### 1.3 FINAL ADJUSTMENT AND TESTS

- 1.3.1 Tests: When the Job Order Contractor is satisfied that all systems and equipment meet performance and operational requirements directed by applicable codes, safety standards and these specifications, the Job Order Contractor shall arrange a demonstration and test of all mechanical, electrical and other operable equipment furnished for operating efficiency and for conformance to all specified requirements and to all applicable regulations of any governing agency. Equipment shall be tested under operating conditions; where possible, all safety devices shall be tested under simulated emergency conditions. Where test results indicate a need for final adjustments, Job Order Contractor shall make such adjustments and retest until test results indicate compliance.
- 1.3.2 All tests shall be scheduled through the Owner or Owner's Representative, and shall be witnessed by the Owner or Owner's Representative and DP. The Job Order Contractor shall notify the Owner or Owner's Representative and Design Professional of any scheduled tests at least seven (7) working days in advance
- 1.3.3 Testing shall be in accordance with written procedures as described or developed by the Owner, the DP or the Commissioning Authority.
- 1.3.4 Certificate of Occupancy: All required certificates of inspection, tests, or final approvals shall be secured by the Job Order Contractor from the governing authority. Promptly deliver the Certificate of Occupancy to the Owner or Owner's Representative.

#### 1.4 WARRANTIES AND BONDS

- 1.4.1 Job Order Contractor's warranty will commence for all portions of the Construction Work upon Substantial Completion of the entire Construction Work, unless stated otherwise in the Contract.
- 1.4.2 Job Order Contractor shall provide written warranties, guarantees, and bonds in favor of the Owner, as required by respective sections of these Specifications, and arrange to commence at the date of Substantial Completion of the project or date of installation of warranted item(s), whichever is later.

1.4.3 During the period of any warranty or guarantee, the Job Order Contractor shall provide services within a reasonable time following a request by the Owner to do so in accordance with the Job Order Contractor Contract. When the complete breakdown of a system or a piece of equipment occurs, the service shall be performed promptly. The service shall be provided during normal working hours, unless otherwise specified herein. Should the listed service agency fail to perform the service in a reasonable amount of time, the Job Order Contractor shall provide the service through any other agency that will comply.

**1.5 EXTRA MATERIAL INVENTORY**

1.5.1 Upon Substantial Completion of the Contract Work, provide the Owner with extra materials (i.e., spare parts, etc.) as identified in respective sections of the Specifications. Deliver to the Owner when and as directed by the Owner or Owner’s Representative, providing a written detailed inventory including a signed receipt from the Owner or Owner’s Representative.

**1.6 MAINTENANCE AND OPERATION MANUALS**

1.6.1 Job Order Contractor shall review the Operation and Maintenance Manuals required in the Specifications and provide two (2) hard copies and four (4) CD Disk sets of final information reflecting any changes from the initial submittal.

**1.7 PROJECT RECORD DOCUMENTS**

1.7.1 The Job Order Contractor shall provide a complete set of Project As-Built Documents, as defined in Section 01 78 39.

1.7.2 The set of Project As-Built Documents shall be maintained at the job site and readily available for inspection by the Owner or Owner’s Representative, and DP. All changes shall be legibly marked and kept current.

1.7.3 Upon Substantial Completion of the project Work, submit one (1) copy of the As-Built hardcopies and one (1) copy of as-builts electronically as PDF’s to the Design Professional for review, approval and incorporation into the electronic record documents. The electronic file shall be full color scans (if applicable) of As-Built hardcopies. If available, supply auto-cad and BIM models. \*\*\*

**1.8 PROJECT DIRECTORY**

1.8.1 Provide a hardcopy list and a Microsoft Excel 2007 compatible spreadsheet of all known major material/equipment suppliers and subcontractors, identified by name, address, telephone number, and contact person. Excel file shall be submitted on archival quality media as specified by the Owner. \*\*\*

**1.9 DEMONSTRATIONS AND TRAINING**

*See Section 01 79 00 (Equipment Demonstration and Owner Personnel Instruction).*

**1.10 PROJECT CLOSEOUT SUBMITTALS**

1.10.1 At the time of Substantial Completion, the Job Order Contractor shall deliver to the Owner or Owner’s Representative, the following items as described previously in this section:

- 1.10.1.1 Project Directory
- 1.10.1.2 As-Built Drawings
- 1.10.1.3 Maintenance and Operation Manuals
- 1.10.1.4 Extra Material Inventory
- 1.10.1.5 Warranties and Bonds
- 1.10.1.6 Certificate of Occupancy
- 1.10.1.7 Record photographs
- 1.10.1.8 Owner Training.



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### **1.11 POST CONSTRUCTION INSPECTION**

1.11.1 Two (2) months prior to expiration of the warranty period, the DP will make visual inspection of the Project in company of the Owner or Owner's Representative, and Job Order Contractor to determine whether correction of Work is required.

1.11.2 The DP will promptly notify Job Order Contractor of any observed deficiencies.

**PART 2: PRODUCTS (Not Used)**

**PART 3: EXECUTION (Not Used)**

END OF SECTION



## SECTION 01 71 23

### \*\*\* FIELD ENGINEERING \*\*

#### **PART 1 GENERAL**

##### 1.1 RELATED DOCUMENTS

1.1.1 Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

##### 1.2 DESCRIPTION

1.2.1 This Section describes requirements for verifying, establishing and maintaining construction grades, lines, levels and monuments as indicated within the contract documents.

##### 1.3 GENERAL

1.3.1 The Job Order Contractor shall, before commencing Work, verify all grades, lines, levels and dimensions indicated and report any errors or inconsistencies to the Owner or Owner's Representative. The Job Order Contractor shall not proceed until such errors or inconsistencies are corrected or meet Owner or Owner's Representative's modified requirements.

1.3.2 Provide construction staking and surveying from base lines, grades, and benchmarks shown on the plans. Under no circumstances will the Job Order Contractor be granted a time extension to this contract due to the lack of construction survey information. Any discrepancies in design of base lines and grades revealed in construction operations shall be brought to the Owner or Owner's Representative's attention immediately for correction or clarification.

1.3.3 The Job Order Contractor shall establish and maintain all construction grades, lines, levels and bench marks and shall be responsible for the accuracy and protection of the same. This work shall be accomplished by a licensed civil engineer or surveyor. Protect all temporary bench marks and maintain them in place for the duration of the Contract or until such time as their removal does not affect completion of the Project.

1.3.4 Do not remove any property line markers or monuments or data established by the Owner. If such are damaged or removed, the Job Order Contractor shall bear cost of replacement.

**PART 2: PRODUCTS (Not Used)**

**PART 3: EXECUTION (Not Used)**

END OF SECTION



## 34 SECTION 01 73 29

### CUTTING AND PATCHING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Cutting, fitting and patching, including attendant excavation and backfill required to complete Work, and for:
  - 1. Making several parts fit together properly.
  - 2. Uncovering portions of Work to provide for installation of ill-timed Work.
  - 3. Removing and replacing defective and non-conforming Work.
  - 4. Removing samples of installed Work required for testing, as directed by Design Professional.
  - 5. Providing routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
  - 6. Attaching new materials to existing remodeling areas, or removing existing materials / assemblies / finishes.

##### 1.02 SUBMITTALS

- A. In advance of executing any cutting or alterations, submit written request to Design Professional and Owner requesting consent to proceed with cutting which affects:
  - 1. Work of Owner or other trades.
  - 2. Structural value or integrity of any element of Project.
  - 3. Areas of existing building outside the described limit of work as may be required for connecting to existing utilities.
  - 4. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
  - 5. Efficiency, operational life, maintenance or safety of operational elements.
  - 6. Visual qualities of sight-exposed elements.
- B. Include in Request
  - 1. Identification of Project.
  - 2. Description of affected Work including affected drawings and specifications.
  - 3. Necessity for cutting, alteration or excavation.
  - 4. Effect on Work of Owner or other trades, or structural or weatherproof integrity of Project
  - 5. Description of proposed Work:
    - a. Scope of cutting, patching, alteration, or excavation.
    - b. Trades which will execute Work.
    - c. Products proposed to be used.
    - d. Extent of refinishing to be done.
  - 6. Alternatives to cutting and patching.
  - 7. Cost proposal, when applicable.
  - 8. Written permission of trades whose Work will be affected.
  - 9. If structure is to be affected, include engineer's sealed approval.
- C. Submit advanced written notice to Design Professional designating reasonable time Work will be uncovered to provide for observation.

##### 1.03 PAYMENT FOR COSTS

- A. Cost caused by ill-timed or defective Work or Work not conforming to Contract Documents, including costs for additional services of Design Professional and Engineer to be paid by Job Order Contractor.



- B. Cost of Work done on written instructions of Design Professional, other than defective or nonconforming Work, will be paid by Owner on approval of written Change Order. Provide C.O.R. prior to proceeding with cutting and patching.

## **PART 2 PRODUCTS**

### 2.01 MATERIALS

- A. Provide for replacement of Work removed. Comply with Contract Documents for type of Work standards and Specification requirements for each specific product involved.
- B. If preexisting facilities are affected, replace or repair with identical (or approved) materials and workmanship.

## **PART 3 EXECUTION**

### 3.01 INSPECTION

- A. Inspect existing conditions of Work, including elements subject to movement or damage during cutting and patching, and excavating and backfilling. After uncovering Work, inspect conditions affecting installation of new products and verify procedures with Design Professional.
- B. Report unsatisfactory or questionable conditions in writing to Design Professional. Do not proceed with Work until further instructions are received.

### 3.02 PREPARATION

- A. Provide shoring, bracing and supports as required to maintain structural integrity of Work. B. Provide devices and methods to protect other portions of Work from damage, including elements which may be exposed by cutting and patching Work. Maintain excavations free from water.

### 3.03 ERECTION, INSTALLATION AND APPLICATION

- A. Performance:
  - 1. Execute fitting and adjustment of products to provide finished installation to comply with and match specified tolerances and finishes.
  - 2. Execute cutting and demolition by methods which prevent damage to other Work to provide proper surfaces to receive installation of repairs and new Work.
  - 3. Execute excavating and backfilling by methods which prevent damage to other Work and settlement as specified in Section 31 01 00. \*\*\*
- B. Employ original installer or fabricator to perform cutting and patching for:
  - 1. Weather-exposed surfaces and moisture-resistant elements such as roofing, sheet metal, sealants and waterproofing.
  - 2. Sight-exposed finished surfaces.
- C. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes as shown on Drawings and as specified.
- D. Fit Work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces. Conform to fire code requirements for penetrations and maintain integrity of fire walls and ceilings.
- E. Restore Work which has been cut or removed. Install new products to provide completed Work in accordance with requirements of Contract Documents and as required to match surrounding areas and surfaces.
- F. Refinish entire surfaces as necessary to provide an even, matching finish as follows:
  - 1. Painted Walls or Ceilings: To nearest intersection with another finish or corner.



2. Where Applied Finishes Occur (i.e wallcovering, tile, wood paneling): To nearest intersection of finish without damage to adjacent material. Where match of pattern, grain, texture, or similar finish cannot be made, refinish area to intersection with other finish or corner.
3. Manufactured or Shop Fabricated Materials: Replace entire affected surface or material.

END OF SECTION



## 35 SECTION 01 74 00

### \*\*\* CLEANING \*\*\*

#### **PART 1 GENERAL**

##### **1.1 DESCRIPTION**

###### **1.1.1 General**

- 1.1.1.1 Furnish all labor, materials, tools, equipment, and services for clean up as required in conjunction with Work performed, in accordance with provisions of Contract Documents.
- 1.1.1.2 Coordinate with Work of all other trades.
- 1.1.1.3 Although such Work is not specifically indicated, furnish and install supplementary or miscellaneous items, appurtenances, and devices incidental to or necessary for a complete clean up.

###### **1.1.2 Fire Protection**

- 1.1.2.1 Store volatile waste in covered metal containers.
- 1.1.2.2 Remove volatile waste from premises daily.

#### **PART 2 PRODUCTS**

##### **2.1 CLEANING MATERIALS**

- 2.1.1 Use materials recommended by manufacturers of surfaces to be cleaned.
- 2.1.2 Use cleaning materials only on surfaces recommended by cleaning material manufacturer or by the manufacturer of surface to be cleaned.

#### **PART 3 EXECUTION**

##### **3.1 GENERAL**

- 3.1.1 Clean all items installed under this Contract and any affected preexisting facilities.
  - 3.1.1.1 Leave free of stains, damage, or other defects prior to final acceptance.
  - 3.1.1.2 Include washing; sweeping and polishing of all finished wall surfaces, floors, windows, hardware, mirrors, lighting fixtures and equipment items.
  - 3.1.1.3 Replace damaged or defaced items not acceptable to Owner or Owner's Representative, to Owner's or Owner's Representative's satisfaction at no additional expense to Owner.
- 3.1.2 See Specification Sections for additional cleaning requirements. \*\*\*

##### **3.2 DURING CONSTRUCTION**

- 3.2.1 Each Contractor must:
  - 3.2.1.1 Clean up all waste materials, rubbish, and debris resulting from Contractor's operations daily.





- 3.2.1.2 Oversee cleaning and ensure that the construction site is maintained free from accumulations of debris.
- 3.2.1.3 At reasonable intervals, minimum once a week, clean up entire site of excess debris and dispose of debris off-site.
- 3.2.1.4 Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from interior and exterior surfaces of fixtures, hardware, and equipment.
- 3.2.1.5 Repair, patch, and touch-up marred surfaces to match adjacent finishes damaged by Job Order Contractor's operations.
- 3.2.1.6 Comply with additional requirements defined in specifications.
- 3.2.1.7 Vacuum interior areas when ready for painting.
- 3.2.1.8 Schedule cleaning operations so that contaminants resulting from cleaning do not fall on wet painted surfaces.
- 3.2.1.9 Should the Job Order Contractor fail to keep the Site free from debris, trash and construction wastes as required, after written request by the Owner or Owner's Representative, then the Owner, after twenty-four (24) hours, shall have the authority to provide clean-up services and deduct said services from the Job Order Contractor's Contract.

### **3.3 FINAL CLEANING**

- 3.3.1 At completion of construction, just prior to acceptance or occupancy, perform final cleaning.
- 3.3.2 Use cleaning products that meet the Green Seal GS-37 standard, if applicable, OR if GS-37 is not applicable (e.g., for products such as carpet cleaners, floor finishes or strippers), use products that comply with the California Code of Regulations maximum allowable VOC levels, or equivalents.
- 3.3.3 Use Vacuum cleaners that meet the requirements of the Carpet & Rug Institute "Green Label" Testing Program–Vacuum Cleaner Criteria and are capable of capturing 96% of particulates 0.3 microns in size
- 3.3.4 Use experienced workmen or professional cleaners for final cleaning.
- 3.3.5 Remove dirt, stains, labels, and foreign materials.
- 3.3.6 Repair and touch-up marred areas.
- 3.3.7 Broom clean paved surfaces; rake clean other surfaces of grounds; vacuum and mop floors.

END OF SECTION



## 36 SECTION 01 74 19

### \*\*\* CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL \*\*\*

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. The Owner has established that this Project shall minimize the creation of construction demolition waste on the job site.
  - 1. Factors that contribute to waste such as over packaging, improper storage, ordering error, poor planning, breakage, mishandling, and contamination, shall be minimized.
  - 2. Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled.
  - 3. Waste disposal in landfills shall be minimized.
- B. LEED™ Certification: Job Order Contractor shall ensure that the work provided under this section will provide Construction Waste Management to achieve Materials & Resources Credit 2, options 1 and 2 and Innovation & Design Process Credit 1.2.
  - 1. Credit MRc2 , option1 (one point) requires recycling and/or salvaging at least 50% of non-hazardous construction and demolition. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or commingled.
  - 2. Credit MRc2, option 2 (one point) requires recycling and/or salvaging of an additional 25% beyond MR Credit 2, option1 (75% total) of non-hazardous construction and demolition debris.
  - 3. Credit IDc1.2, exemplary performance (one points) requires recycling and/or salvaging of an additional 20 % beyond MR Credit 2, option 2 (95% total of non- hazardous construction and demolition debris.
  - 4. Excavated soil and land-clearing debris does not contribute to this credit.
  - 5. Calculations can be done by weight or volume, but must be consistent throughout.

##### 1.02 DEFINITIONS

- A. Construction Waste: Debris that is either the result of demolition, or is discarded material generated in the construction process. (Note that for LEED documentation excavated soil, land clearing debris, and hazardous waste are excluded from consideration in the calculations.)
- B. Diversion from the waste stream: For the purposes of LEED MR Credit 2–Construction Waste Management, waste is considered diverted if it is transported to a recycling facility. The weight of crushed asphalt and concrete may be tallied as diverted material if it is used in another project, including as fill; note that an inert landfill is not currently considered to be a diversion.
- C. Recycling Facility: A business that specializes in collecting, sorting, handling, processing, distributing or remanufacturing waste materials into products or materials that can be used by others. A materials recovery facility (MRF) is a type of recycling facility that typically sorts and stockpiles co-mingled recyclables for pick-up and reuse by others.
- D. Co-Mingled Recyclables: Recyclable materials that are collected together in a single bin or dumpster and which are sorted into separate materials offsite, typically by an MRF.
- E. Recovery Rate: The percentage of co-mingled recyclables that is actually recovered, sorted and made available for reuse. Recovery rates (also called diversion rates) differ among MRFs.
- F. Contamination: A load of waste material may be rejected due to contamination by containing too much foreign matter including moisture. Each recycling facility sets its own standards and conditions for accepting collected waste materials. Contaminated recyclables typically become trash and end up being dumped in the land fill.

##### 1.03 SUBMITTALS

- A. Construction Waste Management Plan: Within 15 days from date of Notice To Proceed submit a draft of the Plan for review by the Owner’s LEED consultant and approval by the Owner. Utilize the plan template furnished by the LEED Consultant or a comparable plan template with elements congruent with this Section. Submit the completed, approved plan prior to or concurrent with the first payment application. The approved Plan establishes the approved Construction Waste Management Program and will identify the following items:
1. Responsible Parties: Identify Personnel who will manage the program, research diversion options, educate on-site personnel, collect and coordinate data, prepare monthly reports, and compile the final report including the LEED-Online template.
  2. Materials Diverted: Identify the types of waste created on the project which may include Asphalt, Concrete, Masonry, Metal, Wood Pallets, Plastics, Glass, Cardboard, and Paper, Gypsum Wallboard, Carpet and Pad Paint and Salvaged items.
  3. Method of Diversion: Identify who the hauler will be and requirements for “Condition of Material” for example whether wood must be free of nails. For reusable materials identify the location and method of removing the materials from the site.
  4. Space and collection requirements: Determine number and type of collection bins required and storage areas needed for the separate materials to be collected, and prepare a site plan showing the layout. Plan the layout to optimize vehicular and pedestrian access, to encourage compliance with the program goals, and to discourage contamination of recyclables.
  5. Signage: Describe signage for the collection areas to maximize effectiveness of program.
  6. Training of Subcontractors.
  7. Method of evaluating progress and identifying non-compliance issues.
  8. Determine government requirements applicable to waste management, especially for hazardous waste
- B. Diversion Rate Reports: At project meetings each month, present a one page overview report on the program’s progress to help the project team assess whether the CWM Program is on track. Progress Reports will contain the following information:
1. Current rate of diversion as a percentage of the total waste
  2. Projections estimating future diversions
  3. Upcoming tasks requiring team collaboration
  4. Possible opportunities for reuse of materials
- C. LEED Closeout Submittals: Upon substantial completion of the Project, Contractor shall:
1. Provide Final Waste Diversion Rate
  2. Upload to LEED Online narrative summary of measures used to recycle construction waste
  3. Upload to LEED Online the types of waste diverted, the amount and method of removal for all waste.
  4. Narrative of insights gained for managing future CWM Programs

#### 1.04 MEETINGS

- A. Refer to Meetings in Section 01 81 13 - LEED Requirements for details regarding training and orientation for both the Contractor and Subcontractors.

#### 1.05 SUBMITTALS – LEED

- A. The Contractor shall submit a completed LEED-NC 2009 form and supporting documentation for LEED MRc2.1, MRc2.2 and IDc1.2 to the Design Professional to be included with the comprehensive “Construction Submittal.” The following project data and calculation information is required to document credit compliance using LEED-CI version 2.0 credit templates:
1. Complete the construction waste calculation tables in the submittal template. The following info will be required to complete these tables: general description of each type/category of waste



generated; location of receiving agent (recycler/landfill) for water; quantity of waste diverted (by category) in tons, or cubic yards.

2. Provide a narrative describing the project’s construction waste management approach. The narrative shall include the project’s Construction Waste Management Plan. Provide additional comments or notes to describe special circumstances or considerations regarding the project’s credit approach.

**PART 2 PRODUCTS (Not Used)**

**PART 3 EXECUTION**

**3.01 WASTE MANAGEMENT PLAN IMPLEMENTATION**

- A. Plan Distribution: The Contractor shall provide copies of the Waste Management Plan to the Job Site Foreman, each Subcontractor, the Owner, and the Design Professional.
- B. Instruction: The Contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.
- C. Meetings: Contractor shall conduct Construction Waste Management meetings. Meetings shall include subcontractors affected by the Waste Management Plan. At a minimum, waste management goals and issues shall be discussed at the following meetings:
  1. Pre-bid meetings.
  2. Pre-construction meeting.
  3. Regularly scheduled job-site meetings.
- D. Separation facilities: The Contractor shall designate a specific area or areas to facilitate separation of materials for potential reuse, salvage, recycling, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid commingling of materials. Bins shall be protected during non-working hours from off-site contamination.
- E. Materials Handling Procedures: Materials to be recycled shall be protected from contamination, and shall be handled, stored and transported in a manner that meets the requirements set by the designated facilities for acceptance.
  1. Clean contaminated materials prior to placing in collection containers.
  2. Deliver materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to recycling process.
  3. Arrange for collection by or delivery to the appropriate recycling or reuse facility.
- F. Hazardous wastes: Hazardous wastes shall be separated, stored and disposed of according to local regulations.
- G. Food Wastes: Food wastes (including packaging and wrappers) shall be properly disposed of immediately and shall be removed daily to minimize or eliminate the attraction of animals.

**3.02 WASTE MANAGEMENT OPERATIONS**

- A. The following waste categories, at a minimum, shall be separated and diverted from landfill. Appropriately sized, separate collection bins or containers, labeled (in both English and Spanish) for the particular waste categories identified below, shall be provided as follows:
  1. Wood:
    - a. Clean dimensional wood, palette wood
    - b. Plywood, OSB, and particleboard

2. Concrete, Bricks and Concrete Masonry Units (CMU). Materials in this category shall be crushed on-site and reused as aggregate when feasible
  3. Asphaltic Concrete
  4. Cardboard, paper, packaging
  5. Cement fiber products (shingles, panels, siding)
  6. Asphalt roofing shingles
  7. Metals
    - a. Ferrous
    - b. Aluminum
    - c. Other\non-ferrous
  8. Gypsum Drywall (unpainted). (This is may be used on site as compost)
  9. Paint
  10. Rigid Foam
  11. Glass
  12. Plastics (#1 and #2)
    - a. Polyethylene terephthalate (PET) (#1)
    - b. High-density polyethylene (HDPE) (#2)
  13. Carpet and Pad
  14. Acoustical ceiling tiles
  15. Beverage containers
  16. Insulation
  17. Others as appropriate.
- B. Recycling/Reuse Centers: Implement a recycling/reuse program that includes separate collection of Reusable building materials, including (but not necessarily limited to) lumber, structural steel, miscellaneous hardware and plumbing and electrical fixtures. The following is a partial list for contractor's information only. For more information, contact the Integrated Solid Waste Management Office, Arizona Department of Environmental Quality.
1. Reusable Building Materials
    - a. Stardust Bldg Supplies, Inc. (non-profit), 1720 West Broadway Road, Mesa, AZ; (480) 668-0566.
    - b. Salvage Depot, 6516 NW Grand Ave, Phoenix, AZ 85031; (602) 931- 4115.
    - c. Habitat for Humanity, (800) HABITAT.
  2. Asphalt: For information on recycling/reuse of asphalt, contact the Asphalt Recycling and Reclaiming Association (410) 267-0023.
  3. Concrete and other paving materials
    - a. (occasionally) Western Block Co., 4021 S. 19th Ave, Phoenix, AZ; (602) 243-9275
    - b. (occasionally) United Metro Materials, 3640 S. 19th Ave, Phoenix, AZ; (602) 262-1466
  4. Metals
    - a. National Metals Co., 320 S. 19th Ave., Phoenix, AZ; (602) 258-8074
    - b. Phoenix Metals Trading, 610 S. 19th Ave., Phoenix, AZ; (602) 257-4660
    - c. Davis Salvage Co , 3337 E Washington St, Phoenix, AZ 85034; (602) 267-7208
  5. Wood (lumber)
    - a. UE Recycling, 3330 W. Broadway, Phoenix, AZ; (602) 268-8849
    - b. (occasionally) Stone Container, 6902 W. Northern, Glendale, AZ; (602) 264-4655
    - c. Wood Recycling, Inc. ([www.woodrecycling.com](http://www.woodrecycling.com))



6. Wood (trees, etc.)
  - a. Wood Industries Co., Phoenix, AZ; (602) 237-3131
  - b. Wood Recycling, Inc. ([www.woodrecycling.com](http://www.woodrecycling.com))
7. Office paper: Arizona Pacific Pulp & Paper, 302 S 28th St, Phoenix, AZ 85034; (602) 220-9200.
8. Plastic and mixed paper: Arizona Center for the Blind and Visually Impaired Recycling Center (non-profit) 302 S 28th St, Phoenix, AZ 85034; (602)267-8740.
9. Cardboard, Newsprint and some plastics: Weyerhaeuser Co, 301 S 30th St, Phoenix, AZ 85034; (602) 225-0560.
10. Plastics Only:
  - a. Plastic Recovery Industries Inc. 2101 NW Grand Ave, Phoenix, AZ (602) 340-0040
  - b. National Environmental Waste, 4330 N. 39th Ave, Phoenix, AZ (602) 415-8229
  - c. (information) Vinyl Environmental Resource Center of the Vinyl Institute; (800) 969-8469
  - d. (information) American Plastics Council (800) 2-HELP-90.
11. Plastic “peanut” packing materials:
  - a. Mail Boxes Etc, 2303 N 44th St, Phoenix, AZ 85008; (602) 840-3020
  - b. (information) The Association of Foam Packaging Recyclers (202) 974-5351.
12. Mixed Office (Jobsite) Recyclables: Curbside Recycling, 3027 E. Madison, Phoenix, AZ; (602) 225-0020.
13. Rechargeable batteries: Milwaukee Electric Tool Corp, 405 E Watkins, Phoenix, AZ 85004; (602) 256-7210.
14. Glass bottles: BIRP, 619 S 3rd St, Phoenix, AZ 85004; (602) 253-6920.
15. Used Paint and Used Paint Cans:
  - a. Green Paint Company (800) 527-8866.
  - b. (public and private agencies only) Major Paint Company (310) 542-7701.
  - c. (paint cans only - information) Steel Can Recycling Institute (SCRI); (800) 937-1226
16. Fluorescent and HID lamps and ballasts.
  - a. AERC.com, Inc., Hayward, CA (800) 628-3675, [www.aerc recycling.com](http://www.aerc recycling.com)
  - b. Ecolights Northwest, Seattle, WA (206) 343-1247, [www.ecolights.com](http://www.ecolights.com)
  - c. Environmental Light Recyclers, Inc., Fort Worth, TX (800) 755-4117.
  - d. Full Circle Recyclers, Bronx, NY (800) 775-1516, [www.fc recyclers.com](http://www.fc recyclers.com)
  - e. HTR-Group, Lake Ozark, MO (888) 537-4874, [www.htr-group.com](http://www.htr-group.com)
  - f. Institution Recycling Network, Concord, NH (603) 229-1962, [www.ir- network.com](http://www.ir- network.com).
  - g. Northeast Lamp Recycling, Inc., East Windsor, CT (860) 292-1992
  - h. Onyx special Services, Port Washington, WI (800) 556-5267, [www.superiorserv.com](http://www.superiorserv.com).

END OF SECTION



## 37 SECTION 01 77 00

### \*\*\* CLOSEOUT PROCEDURES - IAQ \*\*\*

#### PART 1 GENERAL

##### 1.01 CONSTRUCTION IAQ MANAGEMENT PLAN (LEED EQ Credit No. 3.2)

- A. Flush-out (Option 1): In conjunction with the Design Professional and the Mechanical Engineer, develop and implement an Indoor Air Quality (IAQ) Management Plan for pre- occupancy phase **per one of the following**:
1. After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total air volume of 14,000 cu. ft. of outdoor air per sq. ft. of floor area while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60%.
  2. If occupancy is desired prior to completion of the flush-out, the space may be occupied following delivery of a minimum of 3,500 cu. ft. of outdoor air per square foot of floor area to the space. Once a space is occupied, it shall be ventilated as a minimum rate of 0.30 cfm / sq.ft. of outside air or the design minimum outside air rate determined by EQ Prerequisite 1, whichever is greater. During each day of the flush-out period, ventilation shall begin a minimum of 3 hours prior to occupancy and continue during occupancy. Those conditions shall be maintained until a total of 14,000 cu. ft./sq. ft. of outside air has been delivered to the space.
- B. Air Quality Testing (Option 2):
1. Conduct baseline indoor-air-quality testing, after construction ends and prior to occupancy, using testing protocols consistent with the EPA's "Compendium of Methods for the Determination of Air Pollutants in Indoor Air," and as additionally detailed in the USGBC's "Green Building Design and Construction Reference Guide."
  2. Demonstrate that the contaminant maximum concentrations listed below are not exceeded:
    - a. Formaldehyde: 27 ppb.
    - b. Particulates (PM10): 50 micrograms/cu. m.
    - c. Total Volatile Organic Compounds (TVOC): 500 micrograms/cu. m.
    - d. 4-Phenylcyclohexene (4-PH): 6.5 micrograms/cu. m.
    - e. Carbon Monoxide: 9 ppm and no greater than 2 ppm above outdoor levels.
  3. For each sampling point where the maximum concentration limits are exceeded, conduct additional flush-out with outside air and retest the specific parameter(s) exceeded to indicate the requirements are achieved. Repeat procedure until all requirements have been met. When retesting noncomplying building areas, take samples from same locations as in the first test.
  4. Air-sample testing shall be conducted as follows:
    - a. All measurements shall be conducted prior to occupancy but during normal occupied hours, and with building ventilation system starting at the normal daily start time and operated at the minimum outside air flow rate for the occupied mode throughout the duration of the air testing.



- b. Building shall have all interior finishes installed including, but not limited to, millwork, doors, paint, carpet, and acoustic tiles. Non-fixed furnishings such as workstations and partitions are encouraged, but not required, to be in place for the testing.
  - c. Number of sampling locations varies depending on the size of building and number of ventilation systems. For each portion of building served by a separate ventilation system, the number of sampling points shall not be less than one per 25,000 sq. ft. or for each contiguous floor area, whichever is larger, and shall include areas with the least ventilation and greatest presumed source strength.
  - d. Air samples shall be collected between 3 and 6 feet from the floor to represent the breathing zone of occupants, and over a minimum four- hour period.
- C. The Job Order Contractor shall submit a completed LEED-NC 2009 form and supporting documentation for LEED EQc3.2 to the Design Professional to be included with the comprehensive "Construction Submittal." (see Section 01 81 13). The following project data and calculation information is required to document credit compliance:
- 1. Confirmation regarding the approach taken by the project (pre-occupancy flush-out, flush-out with early occupancy; IQ testing.)
  - 2. A copy of the Project's IAQ Report (if applicable).
  - 3. A narrative describing the project's specific flush-out procedures and/or IAQ testing process and results.

END OF SECTION





# 38 SECTION 01 78 36

## WARRANTIES

### PART 1 GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 DESCRIPTION

- A. Provide written warranties, guarantees, bonds or service contracts for products and installations, for the period(s) indicated.
- B. Provide manufacturer's warranties or guarantees for products.
  - 1. Where manufacturer's standard warranties or guarantees expire before expiration date required by Contract Documents, obtain and pay for warranty or guarantee extensions, at no additional cost to Owner.
- C. Provide all warranties, guarantees, bonds or service contracts prior to final acceptance.
- D. Provide Owner or Owner's Representative a copy of each warranty, guarantee, bond or service contract issued. Submit with each of the foregoing an information sheet for Owner's personnel which includes:
  - 1. Effective dates or period.
  - 2. Proper procedures in the event of failure.
  - 3. Instances which might affect the validity of warranties, bonds or service contracts.
  - 4. Identify of contract persons in the event of claims.
- E. Submit all warranties, guarantees, bonds or service contracts identified by specification section and equipment identification used in operating and maintenance data.
- F. In the event of a warranty-work-notice to the Job Order Contractor, requiring work to be done, Job Order Contractor will coordinate with Subcontractors and Suppliers to accomplish the work.

#### 1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Technical Specifications: Divisions 02 through 48.
- B. Execution and Closeout Requirements: Section 01 70 00 - (especially ¶ 1.81 therein).
- C. Project Record Documents: Section 01 78 39.
- D. Equipment Demonstration and Owner Personnel Instruction: Section 01 79 00.

### PART 2 PRODUCTS (Not Used)

### PART 3 EXECUTION (Not Used)

END OF SECTION



## 39 SECTION 01 78 39

### \*\*\* PROJECT AS-BUILT AND RECORD DOCUMENTS \*\*\*

#### PART 1 GENERAL

##### 1.1 Description

###### 1.1.1 Work Included:

- 1.1.1.1 Throughout progress of the Work of this Contract, the Job Order Contractor shall timely maintain an accurate record of all changes in the Construction Documents (drawing and specifications) per Contract, and as described in Part 3.1 below.
- 1.1.1.2 For the purpose of this Section, the updated set of Construction Documents (drawing and specifications) per Paragraph 1.1.1.1 above shall be known as the Project As-Built Documents.
- 1.1.1.3 As-Built Drawings are produced by the Job Order Contractor and shall refer to all changes recorded on the As-Built Drawings, as defined in relevant sections of the Contract.
- 1.1.1.4 Record Drawings and Specifications as defined in Section 2.1.2 are produced by the Design Professional.

###### 1.1.2 Related Work described elsewhere:

- 1.1.2.1 Shop Drawings, Project Data, and Samples: Section 01 33 23.
- 1.1.2.2 Progress Payment Procedures: Section 01 29 76 \*\*\*
- 1.1.2.3 Execution and Closeout Requirements: Section 01 70 00.

##### 1.2 Quality Assurance

- 1.2.1 General. Maintenance of the Project As-Built Documents shall be the responsibility of one person on the Job Order Contractor's staff as approved in advance by the Owner or Owner's Representative.
- 1.2.2 Accuracy of Records: Thoroughly coordinate all changes within the Project As- Built Documents, making adequate and proper entries in red ink on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to properly show the change. The Project As-Built Documents shall reflect all changes due to Addenda issued at bidding time and Change Order items during construction, whether added or deleted. The Change Order and Addenda items shall be properly referenced by number. Accuracy of records shall be such that future searches for items shown in the Contract Documents may reasonably rely on information obtained from the approved Project Record Documents.
- 1.2.3 Timing of Entries: Make all entries within three days following completion of change.
- 1.2.4 The DP, and the Owner or Owner's Representative shall examine the Project As- Built Documents at selected intervals to assure Job Order Contractor compliance for updating entries. Should the Job Order Contractor fail to satisfy the requirements of this Section, the Owner may withhold the Job Order Contractor's monthly Application for Payment until said requirements are satisfied.



1.3 Submittals

- 1.3.1 General: The DP and the Owner or Owner’s Representative’s approval of the current status of Project As-Built Documents will be a prerequisite to the DP and Owner’s or Owner’s Representative’s acceptance of Job Order Contractor’s Progress Payment Applications and final Application for Payment under the Contract.
- 1.3.2 Final Submittal. Prior to submitting final Application for Payment, submit the final Project As-Built Documents required by Contract to the DP and secure DP’s approval.

1.4 As Built Documents

- 1.4.1 Use all means necessary to maintain the job set of Project As-Built Documents completely protected from deterioration and from loss and damage until completion of the Work and transfer of the recorded data to the final Record Documents. In the event of loss of recorded data, use all means necessary to secure the data to the Owner’s or Owner’s Representative’s approval; such means shall include, if necessary in the opinion of the Owner or Owner’s Representative, removal and replacement of concealing materials and, in such case, all replacements shall be to the standards originally specified in the Contract Documents.

**PART 2 PRODUCTS**

**2.1 As-Built Drawings \*\*\***

- 2.1.1 The DP will provide the Job Order Contractor with a set of reproducible drawings, of the Construction Documents, at Job Order Contractor’s expense. Seals and signatures of Registrants shall be completely removed and/or permanently obscured. The DP will furnish the Job Order Contractor one set of the REVIT model and AutoCAD Drawings bound with all external reference of the Construction Drawings for use in recording information.
  - 2.1.2.1 Seals and signatures of Registrants shall be completely removed and/or permanently obscured.
  - 2.1.2.2 DP makes no representations as to the accuracy or completeness of CAD Drawings as they relate to the Contract Drawings
  - 2.1.2.3 The Contact Drawings are available in REVIT and AutoCAD for Microsoft Windows XP. As Built Drawings prepared by the Job Order Contractor shall be in the same software version.
  - 2.1.2.4 Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.
- 2.1.2 Final Record Documents:
  - 2.1.2.1 Upon Substantial Completion of the Work, submit the job set of Project As-Built Documents to the DP for review.
  - 2.1.2.2 Record Drawings: Upon DP’s approval of the Project As-Built Documents, the DP shall prepare a full set of corrected drawings of the Contract Drawings, CAD Drawings, Shop Drawings, and RFI’s. These corrected drawings shall be called the “Record Drawings.”
    - 2.1.2.2.1 DP shall incorporate changes and additional information previously marked on As Built Drawings. Erase, redraw, and add details and notations where applicable.
    - 2.1.2.2.2 DP shall organize into unbound sets matching As-Built Drawings.



- 2.1.2.2.3 DP shall prepare Record Drawings in AutoCAD and REVIT for the project per the requirements of the Design Professional Contract.
- 2.1.2.2.4 Seals and signatures of the registrant Design Professional shall not be placed on Record Drawings and Specifications.
- 2.1.2.2.5 Record Documents shall be free of revision clouds.
- 2.1.2.3 Record Specifications: Submit one copy of Project Specifications, including addenda and contract modifications. Where Owner selects one of several alternates specified or installation varies from that indicated, mark copy to indicate the actual product installed. Bind in volumes as appropriate.
  - 2.1.2.3.1 Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  - 2.1.2.3.2 Note related Change Orders and Record Drawings.
  - 2.1.2.3.3 In addition to the requirements of 2.1.3.3, submit the Record Specifications in Adobe Acrobat format on electronic media formatted for Windows XP. Also submit one set of back-up media.
  - 2.1.2.2.4 Seals and signatures of the registrant Design Professional shall not be placed on Record Drawings and Specifications.
  - 2.1.2.2.5 Record Documents shall be free of revision clouds.
- 2.1.2.4 Miscellaneous Record Submittals: Bind or file miscellaneous records with identification labels clearly visible.

**PART 3 EXECUTION**

**3.1 Maintenance of Job Set**

- 3.1.1 Identification. Immediately upon receipt of the job set described in 2.1.1 above, identify each of the Documents with the title "AS-BUILT DRAWINGS–JOB SET".
- 3.1.2 Preservation
  - 3.1.2.1 Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examination, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set to the approval of the Owner or Owner’s Representative.
  - 3.1.2.2 Do not use the job set for any purpose except entry of new data and review by the DP and Owner or Owner’s Representative, until start of transfer of data to final Record Drawings.
  - 3.1.2.3 Maintain the job set at the site of Work as designated by the Owner or Owner’s Representative.
- 3.1.3 Making entries on As-Built Drawings. Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by note and by graphic lines, as required. Date all entries and incorporate entry from Subcontractor following completion of change. Call attention to the entry by a "cloud" around the area or areas affected. In the event of overlapping changes, different colors may be used for each of the changes.
- 3.1.4 Making Entries on other Project Documents

- 3.1.4.1 Where changes are caused by directives issued by the DP, or Owner, or Owner's Representative clearly indicate the change by note in ink, colored pencil, or rubber stamp.
- 3.1.4.2 Where changes are caused by Job Order Contractor -originated proposals approved by the Owner or Owner's Representative, or DP, including inadvertent errors by the Job Order Contractor, which have been accepted by the Owner, clearly indicate the change by note in erasable colored pencil.
- 3.1.4.3 Make entries in the pertinent Project Documents as approved by the Owner or Owner's Representative.
- 3.1.5 Conversion of schematic layouts:
  - 3.1.5.1 In most cases on the Drawings, arrangement of conduits and circuits, piping, ducts, and other similar items, is shown schematically and is not intended to portray precise physical layout. Final physical arrangement is as determined by the Job Order Contractor, subject to the DP's approval. However, design of future modifications of the facility may require accurate information as to the final physical arrangement of items which are shown only schematically on the Drawings.
  - 3.1.5.2 Information contained in the As-Built Drawings shall include, but not be limited to:
    - 3.1.5.2.1 Actual installation where actual installation varies from original drawings
    - 3.1.5.2.2 Location of underground pipes, conduits, ducts, cables and similar work, dimensioned horizontally to permanent points of reference and located vertically by indicating depth of burial. Dimensions shall be accurate within +6 inches.
    - 3.1.5.2.3 Location of plumbing piping, sprinkler piping, control valves, heating and air conditioning equipment, mechanical piping, ductwork, major conduit runs, power, control and alarm wiring, etc., dimensioned horizontally to permanent points of reference. Dimensions shall be accurate within 6 inches.
    - 3.1.5.2.4 Modifications made to accommodate field conditions.
    - 3.1.5.2.5 Location of mechanical and electrical control devices and shut-off valves.
    - 3.1.5.2.6 Final circuiting of electrical fixtures and equipment.
    - 3.1.5.2.7 Record and check the markup before enclosing concealed installations.
    - 3.1.5.2.8 Change Order numbers and similar identification where applicable.
  - 3.1.5.3 The DP may waive the requirements for conversion of schematic data where, in the DP's judgment, such conversion serves no beneficial purpose. However, no such waivers are effective unless specifically issued in writing by the DP.
- 3.1.6 Timing of entries. Be alert to changes in the Work from how it is shown in the Contract Documents. Promptly, within three days following completion of the change, make the entry or entries required.
- 3.1.7 Accuracy of entries. Use all means necessary, including the proper tools and necessary labor for measurement, to determine actual locations of the installed items.

## 3.2 Final Project As-Built Documents

- 3.2.1 The purpose of the final Project As-Built Documents is to provide factual information regarding all aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.



3.2.3 The Owner shall not authorize final payment to the Job Order Contractor until all Final Project As-Built Documents have been submitted and approved by the Owner and DP.

**3.3 Record Drawings**

3.3.1 Upon approval of the Project As-Built Documents, the DP shall prepare Record Drawings.

END OF SECTION



## 40 SECTION 01 78 43

### \*\*\* SPARE PARTS AND MAINTENANCE MATERIALS \*\*\*

#### **PART 1 GENERAL**

##### 1.1 RELATED DOCUMENTS

- 1.1.1 Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections (General Requirements), apply to this Section.

##### 1.2 DESCRIPTION

###### 1.2.1 General:

- 1.2.1.1 This Section describes methods for documenting spare parts and maintenance materials as indicated, in accordance with the provisions of the Contract Documents.
- 1.2.1.2 See Specification Sections for items required.

##### 1.3 SUBMITTALS (SEE SECTION 01 33 23)

- 1.3.1 Spare parts and tools.
- 1.3.2 Maintenance.
- 1.3.3 Extra materials (attic stock).

#### **PART 2 PRODUCTS**

##### 2.1 SPARE PARTS AND TOOLS

- 2.1.1. Package in clearly identified boxes, as follows:
  - 2.1.1.1 Indicate manufacturer's name, part name and stock number.
  - 2.1.1.2 Indicate what the piece of equipment part or tool is for.
  - 2.1.1.3 Indicate name, address, and phone number of closest supplier.

##### 2.2 MAINTENANCE MATERIALS

- 2.2.1. Package in clearly identified boxes.
  - 2.2.1.1 Indicate trade name and stock number.
  - 2.2.1.2 Indicate which item material is to be used with.
  - 2.2.1.3 Indicate name, address, and phone number of closest supplier.

##### 2.3 EXTRA MATERIALS (ATTIC STOCK)

- 2.3.1 Package in clearly identified container, or install where indicated.
  - 2.3.1.1 Indicate trade name, stock number, size, color, etc.
  - 2.3.1.2 Indicate where product is to be used.
  - 2.3.1.3 Indicate name, address, and phone number of closest supplier.
- 2.3.2. Coordinate extra stock for specific items per the instruction of the Owner or Owner's Representative.

#### **PART 3 EXECUTION**

##### 3.1 DELIVERY



- 3.1.1. Deliver to Owner at time of substantial completion, unless Owner requests earlier delivery.
- 3.1.2. Extra stock materials are not to be used for completion of punch list items.

END OF SECTION





## 41 SECTION 01 79 00

### \*\*\* EQUIPMENT DEMONSTRATION AND OWNER PERSONNEL INSTRUCTION \*\*\*

#### PART 1 GENERAL

##### 1.1 RELATED DOCUMENTS

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

##### 1.2 DESCRIPTION

- 1.2.1 Provide demonstrations and instructions for all equipment and systems for which operating and maintenance data is required. See individual sections.

##### 1.3 QUALITY ASSURANCE

- 1.3.1 Instructors Member(s) of installers' staff and authorized representative(s) of component, assembly, or system manufacturer(s). See individual sections for additional requirements.

##### 1.4 SUBMITTALS

- 1.4.1 Schedule of Demonstrations. Submit to Owner or Owner's Representative for approval at least two (2) weeks prior to first demonstration. The schedule shall be approved by the Owner, (taking into account the availability of personnel to be trained).
- 1.4.2 List of instructors and schedule of instruction. Submit to Owner or Owner's Representative for approval at least two (2) weeks prior to first instruction period.

##### 1.5 JOB CONDITIONS

- 1.5.1 Complete demonstrations prior to Substantial Completion. Coordinate with procedures for Substantial Completion to provide separate demonstrations.
- 1.5.2 Complete all instruction prior to Final Completion.

#### PART 2: PRODUCTS (Not Used)

#### PART 3: EXECUTION

##### 3.1 PREPARATION

- 3.1.1 Do not begin demonstrations until the component, assembly or system being demonstrated has been tested as specified and is in satisfactory operating condition. The Owner may elect to videotape any and/or all demonstrations.
- 3.1.2 Do not begin instruction until demonstration is complete.
- 3.1.3 Assemble instructional aids.
- 3.1.4 Have operating and maintenance manuals available for use during instruction per the requirements of Section 01 93 13.

##### 3.2 DEMONSTRATION

- 3.2.1 Operate satisfactorily, in presence of Owner or Owner's Representative, and Design Professional, each system and item of equipment, including accessories.

- 3.2.2 Replace defective work or material.
- 3.2.3 Repeat demonstration until defects are eliminated.

### 3.3 INSTRUCTION

- 3.3.1 Instruct Owner's personnel in operation and maintenance of equipment and systems.
  - 3.3.1.1 Provide all necessary instruction to satisfaction of Owner.
- 3.3.2 Explain use of operating and maintenance manuals.
- 3.3.3 Tour building areas involved and identify:
  - 3.3.3.1 Maintenance points and access.
  - 3.3.3.2 Control locations and equipment.
- 3.3.4 Explain operating sequences.
  - 3.3.4.1 Identify location and show operation of all necessary parts used to start, stop and adjust systems.
  - 3.3.4.2 Explain use of flow diagrams, operating sequence diagrams.
  - 3.3.4.3 Demonstrate operation through complete control cycle and full range of operation in all modes, including testing and adjusting relevant to operation.
- 3.3.5 Explain use of control equipment, including temperature settings, switch modes, available adjustments, ring of gauges and functions that must be serviced only by authorized factory representatives.
- 3.3.6 Explain troubleshooting procedures.
  - 3.3.6.1 Demonstrate commonly occurring problems.
  - 3.3.6.2 Note procedures that must be performed by factory personnel
- 3.3.7 Explain maintenance procedures and requirements.
  - 3.3.7.1 Point out items requiring periodic maintenance.
  - 3.3.7.2 Demonstrate typical preventive maintenance procedures and recommended typical maintenance intervals.
  - 3.3.7.3 Demonstrate other commonly occurring maintenance procedures not part of preventive maintenance program.
  - 3.3.7.4 Identify maintenance materials to be used.
- 3.3.8 Furnish all tools required.
- 3.3.9 For each trade or system involved in Equipment Demonstration and Owner Personnel Instruction, provide sixteen (16) working-time hours allowance for call- back training and/or consultation. The sixteen (16) hours are to be considered actual on-site training time regardless of the number of experts and/or technicians required. If and when needed, these additional training sessions will be scheduled by the Owner.
- 3.3.10 Document attendance at all training sessions



**3.3.11** Record all training sessions on digital video, per Owner's requirements. \*\*\*

END OF SECTION



## 42 SECTION 01 81 13

### \*\*\* SUSTAINABLE DESIGN REQUIREMENTS \*\*\*

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section Includes: Procedures required of the Job Order Contractor to ensure that construction procedures and documentation required for US Green Building Council (USGBC) / Green Building Certification Institute (GBCI) LEED Certification are provided.

##### 1.02 DEFINITIONS

- A. LEED Green Building Rating System:
  - 1. "LEED": Leadership in Energy and Environmental Design.
  - 2. "USGBC": US Green Building Council. See Section 01 42 00 - References.
  - 3. "GBCI": Green Building Certification Institute.
- B. Prerequisite: Requirements which must be met in order to achieve LEED™ Certification. Non-compliance with any prerequisite may be cause for failure of Certification and is not acceptable.

##### 1.03 SYSTEM DESCRIPTION

- A. LEED™ Certification:
  - 1. The LEED Green Building Rating System™ is a voluntary, consensus-based, market-driven building rating system based on existing proven technology. It evaluates environmental performance from a whole building perspective over a building's life cycle, providing a definitive standard for what constitutes a "green building".
  - 2. The development of LEED Green Building Rating System™ was initiated by the USGBC Membership, representing all segments of the building industry and has been open to public scrutiny.
  - 3. In 2008, the review of the submittals for building certification was changed to the GBCI.
  - 4. LEED™ is a measurement system designed for rating new and existing commercial, institutional, and residential buildings. It is based on accepted energy and environmental principles and strikes a balance between known established practices and emerging concepts. It is a performance-oriented system where credits are earned for satisfying criterion designed to address specific environmental impacts inherent in the design, construction and O&M of buildings. Different levels of green building certification are awarded based on the total credits earned. The system is designed to be comprehensive in scope, yet simple in operation.
  - 5. There are a total of 110 points available in the LEED-NC v3 (2009) rating system.
    - a. 40 points are required for a building to be LEED Certified.
    - b. 50 points: "Silver Level" rating.
    - c. 60 points: "Gold Level" rating.
    - d. 80 points: "Platinum Level" rating
  - 6. The Owner of this project intends to achieve a Silver Level rating, however, achievement of a higher rating may be possible.
  - 7. Some prerequisites/credits are related to the design of the project (or are not applicable to the project) and are not related to materials and workmanship during the course of construction and therefore are not included in the requirements for this specification section, including:
    - a. Sustainable Sites Credit No. 1 - Site Selection.
    - b. Sustainable Sites Credit No. 2 – Development Density & Community Connectivity
    - c. Sustainable Sites Credit No. 3 - Brownfield Redevelopment: (Not applicable)
    - d. Sustainable Sites Credit No. 4.1 - Alternative Transportation, Public Transportation Access.

- e. Sustainable Sites Credit No. 4.4 - Alternative Transportation, Parking Capacity.
- f. Sustainable Sites Credit No. 5.1 – Protect or Restore Habitat.
- g. Sustainable Sites Credit No. 5.2 – Site Development, Maximize Open Space.
- h. Sustainable Sites Credit No. 7.1 – Heat Island Effect, Non-Roof.
- i. Sustainable Sites Credit No. 8.0 - Light Pollution Reduction. (Not applicable)
- j. Water Efficiency Credit No. 1.2 – Water Efficient Landscaping, No Potable Use or No Irrigation. (Not applicable)
- k. Energy and Atmosphere Credit No. 4 – Enhanced Refrigerant Management. (Not applicable)
- l. Energy and Atmosphere Credit No. 5 - Measurement and Verification. (TBD)
- m. Energy and Atmosphere Credit No. 6 - Green Power. (TBD)
- n. Materials and Resources Prerequisite - Storage and Collection of Recyclables.
- o. Materials and Resources Credit No. 1.1 - Building Reuse. (Not applicable)
- p. Materials and Resources Credit No. 1.2 - Building Reuse. (Not applicable)
- q. Materials and Resources Credit No. 3 – Materials Reuse. (Not applicable)
- r. Materials and Resources Credit No. 6 – Rapidly Renewable Materials. (Not applicable)
- s. Indoor Environmental Quality (EQ) Prerequisite No. 2 –Environmental Tobacco Smoke (ETS) control: Zero exposure of nonsmokers to ETS will be provided by prohibition of smoking in the building.
- t. Indoor Environmental Quality (EQ) Credit No. 2 - Increased Ventilation. (Not applicable)
- u. Indoor Environmental Quality (EQ) Credit No. 7.2 - Thermal Comfort, Verification.
- v. Indoor Environmental Quality (EQ) Credit Nos. 8.1 and 8.2 – Daylighting & Views. (TBD)
- w. Innovation and Design Process Credit No. 1.1. Exemplary Performance - Materials and Resources Credit No. 2 – Construction Waste Management -95% (in accordance with Section 01 74 19).
- x. Innovation and Design Process Credit No. 1.2. Exemplary Performance – Materials and Resources Credit No. 4 – Recycled Content – 30% (in accordance with Section 01 60 00).
- y. Innovation and Design Process Credit No. 1.3. Exemplary Performance – Materials and Resources Credit No. 5 – Regional Materials – 30% (in accordance with Section 01 60 00).
- z. Innovation and Design Process Credit No. 1.4. Educational Display.
- aa. Innovation and Design Process Credit No. 1.5. (TBD).
- ab. Innovation and Design Process Credit No. 2 - LEED™ Accredited Professional.
- ac. Regional Priority Credit No 1.1 – SSc2 – Community Connectivity.
- ad. Regional Priority Credit No 1.2 – Wec3 – Water Use Reduction (30%).
- ae. Regional Priority Credit No 1.3 – SSc4.4 – Parking Capacity.
- af. Regional Priority Credit No 1.4 – SSc7.1 – Heat Island Effect – Non-roof.

**B. LEED Prerequisites: Job Order Contractor shall provide construction procedures and documentation required to ensure US Green Building Council (USGBC) / Green Building Certification Institute (GBCI) LEED Certification can be achieved for each of the following prerequisites.**

1. Sustainable Sites Prerequisite – Construction Activity Pollution Prevention: In accordance with requirements of Section 01 57 13 - Erosion and Sedimentation Control and Civil Engineering drawings and specifications.
2. Water Efficiency Prerequisite No. 1 - Water Use Reduction. This project is designed with numerous innovative water usage reduction technologies as indicated on the Drawings and as specified in the applicable sections of the Civil and Plumbing specifications. To achieve this prerequisite it is the intent of the design to employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building (not including irrigation) after meeting Energy Policy Act of 1992 fixture performance requirements. Note that this 20% aggregate is exceeded to achieve the requirements for Water Efficiency Credits 3.1 and 3.2.
3. Energy and Atmosphere Prerequisite 1 - Fundamental Commissioning of the Building Energy Systems: In accordance with Section 01 91 00 - Commissioning.

4. Energy and Atmosphere Prerequisite No. 2 - Minimum Energy Performance: This project is designed with numerous technologies to minimize energy usage as indicated on the Drawings and as specified in the applicable sections of the specifications. **Job Order Contractor** shall be aware that it is the intent of the design to demonstrate a 10% improvement in the proposed building performance rating compared with the baseline building performance rating required by ASHRAE/IESNA 90.1-2007 or the local energy code, whichever is more stringent. Note that this 10% is exceeded to achieve the requirements for Energy and Atmosphere Credit 1.
  5. Energy and Atmosphere Prerequisite No. 3 – Fundamental Refrigerant Management: This project is designed to have zero use of CFC-based refrigerant in new base building HVAC&R systems as indicated on the Drawings and as specified. Job Order Contractor shall be aware that NO SUBSTITUTION will be allowed for equipment using CFC-based refrigerant.
  6. Indoor Environmental Quality (EQ) Prerequisite No. 1 - Minimum IAQ Performance. This project is designed with numerous technologies to establish minimum indoor air quality (IAQ) performance to enhance indoor air quality in the buildings, as indicated on the Drawings and as specified in the applicable sections of the specifications. Job Order Contractor shall be aware that it is the intent of the design to meet (or exceed as may be required to achieve additional points) the minimum requirements of Sections 4 through 7 of voluntary consensus standard ASHRAE 62.1-2004, Ventilation for Acceptable Indoor Air Quality.
- C. LEED Credits: Job Order Contractor shall provide construction procedures and documentation required to ensure US Green Building Council (USGBC) / Green Building Certification Institute (GBCI) LEED Certification can be achieved for each of the following credits, unless noted "not applicable to this project."
1. Sustainable Sites Credit No. 4.2 - Alternative Transportation, Bicycle Storage and Changing Room: In accordance with Section 12 93 13 – Bicycle Racks, Division 22 (Plumbing) and as indicated on Drawings.
  2. Sustainable Sites Credit No. 4.3 - Alternative Transportation, Low-Emitting & Fuel Efficient Vehicles.
    - a. In accordance with Pavement Markings and Signage as indicated on Drawings.
    - b. In accordance with Section 10 14 00 – Signage.
  3. Sustainable Sites Credit No. 7.2 – Heat Island Effect – Roof: In accordance with Section 07 52 16.
  4. Water Efficiency Credit No. 1.1 - Water Efficient Landscaping: Reduce by 50%: In accordance with Landscape Drawings and Specifications.
  5. Water Efficiency Credit No. 2 - Innovative Wastewater Technologies. (TBD)
  6. Water Efficiency Credit No. 3 - Water Use Reduction. This project is designed with numerous innovative water usage reduction technologies as indicated on the Drawings and as specified in the applicable sections of the Civil and Plumbing specifications. Job Order Contractor shall be aware that it is the intent of the design to employ strategies that in aggregate use a minimum of 30% (40% if possible) less water than the water use baseline calculated for the building (not including irrigation) after meeting Energy Policy Act of 1992 fixture performance requirements. If possible, water use reduction up to 40% should be achieved.
  7. Energy and Atmosphere Credit No. 1 - Optimize Energy Performance: This project is designed with numerous technologies to minimize energy usage as indicated on the Drawings and as specified in the applicable sections of the specifications. Job Order Contractor shall be aware that it is the intent of the design to reduce design energy cost compared to energy cost budget for regulated energy components described in the requirements of ASHRAE/IESNA 90.1-2007 by a minimum of 22% as demonstrated by a whole building simulation. If possible, energy savings up to 48% should be achieved.



8. Energy and Atmosphere Credit No. 2 – On-Site Renewable Energy. In accordance with Section 48 14 00 – Solar Energy Electrical Power Generation Equipment. It is anticipated that up to 5% of the building annual energy cost will be provided.
9. Energy and Atmosphere Credit No. 3 – Enhanced Commissioning: In accordance with Section 01 91 00 – Commissioning.
10. Materials and Resources Credit No. 2 - Construction Waste Management: In accordance with Section 01 74 19 - Construction Waste Management and Disposal.
11. Materials and Resources Credit No. 4 – Recycled Content: In accordance with Section 01 60 00 – Product Requirements.
12. Materials and Resources Credit No. 5 – Regional Materials: In accordance with Section 01 60 00 – Product Requirements.
13. Materials and Resources Credit No. 7 - Certified Wood: In accordance with Section 06 05 13 - FSC Certified Wood
14. Indoor Environmental Quality (EQ) Credit No. 1 – Outdoor Air Delivery Monitoring: In accordance with Mechanical Drawings and Specifications.
15. Indoor Environmental Quality (EQ) Credit No. 3.1 - Construction IAQ Management Plan, During Construction: In accordance with construction IAQ management plan as specified in Section 01 50 00 – Temporary Facilities and Controls.
16. Indoor Environmental Quality (EQ) Credit No. 3.2 - Construction IAQ Management Plan, Before Occupancy: In accordance with Section 01 77 00– Closeout Procedures.
17. Indoor Environmental Quality (EQ) Credit No. 4.1, 4.2, 4.3 and 4.4 - Low Emitting Materials: In accordance with Section 01 60 00– Product Requirements.
18. Indoor Environmental Quality (EQ) Credit No. 5 - Indoor Chemical and Pollutant Source Control: (TBD)
  - a. This credit requires that permanent entryway systems be provided which is at least 10 feet long in the primary direction of travel to capture dirt and particulates entering the building at regularly used exterior entrances.
  - b. Where hazardous gases or chemicals may be present or used (including garages, housekeeping/laundry areas and copying/printing room), exhaust each space sufficiently to create negative pressure with respect to adjacent spaces with the doors to the room closed. For each of these spaces, provide self-closing doors and deck to deck partitions or a hard lid ceiling. The exhaust rate shall be at least 0.5 cfm/sq.ft., with no air re- circulation. The pressure differential with the surrounding spaces shall be at least 5 Pa (0.02 inches of water gauge) on average and 1 Pa (0.004 inches of water) at a minimum when the doors to the rooms are closed.
  - c. In mechanically ventilated building, provide regularly occupied areas of the building with air filtration media prior to occupancy that provide a Minimum Efficiency Reporting Value (MERV) of 13 or better. Filtration shall be applied to process both return and outside air that is to be delivered as supply air.
  - d. Provide containment (i.e. a closed container for storage for off-site disposal in regulatory compliant storage area, preferably outside the building) for appropriate disposal of hazardous liquid wastes in places where water and chemical concentrate mixing occurs (e.g., housekeeping, janitorial and science laboratories).
19. Indoor Environmental Quality (EQ) Credit No. 6.1 - Controllability of Systems, Lighting: Provide lighting controls as indicated on Drawings and as specified in Division 26. (TBD)
20. Indoor Environmental Quality (EQ) Credit No. 7.1 - Thermal Comfort: Comply with ASHRAE Standard 55-2004, Thermal Comfort Conditions for Human Occupancy in accordance with Mechanical Drawings and Specifications.

#### 1.04 SUBSTITUTIONS



- A. In accordance with Section 01 35 43.

1.05 PRECONSTRUCTION MEETING

- A. In accordance with Section 01 35 43.

1.06 SUBMITTALS

- A. LEED™ Submittal Documentation:

1. Upon completion of the Project, the Owner will be making a submission to the GBCI for certification. This submission will require documentation provided by the Job Order Contractor.
2. Throughout the Project Manual, various submission requirements are specified that shall be collected and compiled into a separate file by the Job Order Contractor prior to, during, and after the course of construction.
3. The documentation shall be neatly organized and tabbed according to the listing outlined under "System Description" specified herein and as identified in the each specification section.

4. LEED-Online:

- a. At the time of Project Registration during the design phase of the project, the project team identified a Project Administrator, who has assigned design team members to each applicable LEED prerequisite/credit.
- b. Upon execution of Contract, the Job Order Contractor will be invited to participate in the LEED-Online process. Job Order Contractor shall accept the assignments and shall cooperate and participate in the preparation of the LEED Templates at no additional cost to the Owner.
- c. Once each prerequisite/credit is completed, the responsible team member shall upload the data required for that prerequisite/credit's form on LEED-Online. The Project Administrator will track the status of all attempted credits in "Credit Scorecard & Status" and submit the project for review at the appropriate time. The Project Administrator will provide familiarization assistance to the Job Order Contractor, however, the Job Order Contractor will be responsible for the training of Job Order Contractor's personnel in the usage of LEED-Online.
- d. Credits marked as "Construction" will be submitted and reviewed by USGBC/GBCI after the substantial completion of construction. The USGBC/GBCI will review and mark each credit as either "Credit Achieved" or "Credit Denied". Project submittals will be reviewed and project teams may be contacted for clarification or a short explanation of the rationale for claiming the credit and meeting the credit intent.
- e. Should clarification be required of a prerequisite or credit assigned to the Job Order Contractor, the Job Order Contractor shall provide the required response to that clarification request by GBCI.
- f. The design/construct team will receive a ruling on every credit that is submitted, with a brief explanation of why any credits were denied. The certification review process will be documented in the LEED-Online exclusively.
- g. Appeals: If a Prerequisite assigned to the Job Order Contractor be denied, the Job Order Contractor shall appeal the denial at no additional cost to Owner. The appeal process shall be completed so that the prerequisite is attained.

- B. Fundamental Commissioning of the Building Energy Systems- Energy and Atmosphere Prerequisite: Provide submittals in accordance with Section 01 91 13 – Commissioning General Requirements.

- C. Construction Waste Management - Materials and Resources Credit 2: Provide submittals as specified in Section 01 74 19 - Construction Waste Management and Disposal.

- D. Recycled Content:



1. Materials and Resources Credit 4.1: Provide the following.
    - a. Product data submittals, in accordance with the requirements of Section 01 33 00– Submittals and as specified in the various specification sections, highlighting recycled content (as defined in Section 01 60 00) materials.
    - b. Provide spreadsheet of all materials used on the project highlighting recycled content materials. Include the percentage of post-consumer and post-industrial recycled content for recycled content materials, the costs of all materials for the project, and calculations demonstrating that sum of post-consumer recycled content plus one-half of the pre- consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project.
  2. Materials and Resources Credit 4.2: Provide the following.
    - a. The submittals required for Credit 4.1.
    - b. Provide spreadsheet of all materials used on the project highlighting recycled content materials. Include the percentage of post-consumer and post-industrial recycled content for recycled content materials, the costs of all materials for the project, and calculations demonstrating that sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes an additional 10% beyond MR Credit 4.1 (total of 20% based on cost) of the total value of the materials in the project.
  3. Innovation and Design Process Credit 1.2: Provide submittals listed for MRc4.1 and 4.2 showing that 30% total (based on cost) of the materials provide recycled content as stipulated above.
  4. Mechanical, electrical and plumbing components and specialty items such as elevators shall not be included in calculations for this credit. Only include materials permanently install in the project.
- E. Regional Materials:
1. Materials and Resources Credit 5.1: Provide the following.
    - a. Product data submittals, in accordance with the requirements of Section 01 33 00– Submittals and as specified in the various specification sections, highlighting regional (as defined in Section 01 60 00) materials.
      - 1) Location of the manufacturer must be verified by a product cut sheet or letter from the manufacturer.
      - 2) Manufacturer information shall state the location of extraction, harvest or recovery of all components used in the material or product.
    - b. Provide spreadsheet of all materials used on the project highlighting regional materials. Include the location of the material manufacturer, the distance from the manufacturer to the project site, the costs of all materials for the project, and calculations demonstrating that 10% of building materials (based on cost) have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project.
  2. Materials and Resources Credit 5.2: Provide the following.
    - a. The submittals required for Credit 5.1.
    - b. Provide spreadsheet of all materials used on the project highlighting regional materials. Include the location of the material manufacturer, the distance from the manufacturer to the project site, the costs of all materials for the project, and calculations demonstrating that an additional 10% of the building materials beyond MR Credit 5.1 (total of 20% based on cost) have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project.
  3. Innovation and Design Process Credit 1.3: Provide submittals listed for MRc5.1 and 4.5 showing that 30% total (based on cost) of the materials provide regional materials as stipulated above.



4. Mechanical, electrical and plumbing components and specialty items such as elevators shall not be included in calculations for this credit. Only include materials permanently install in the project.

F. Low Emitting Materials -

- 1. Indoor Environmental Quality Credit 4.1: Provide the following
  - a. Provide a cut sheet and / or material safety datasheet (MSDS) for all adhesives used, with VOC levels highlighted. No other information contained on MSDS sheet shall be reviewed.
  - b. Provide in accordance with Section 01 60 00– Product Requirements.
- 2. Indoor Environmental Quality Credit 4.2: Provide the following
  - a. Provide a cut sheet and / or material safety datasheet (MSDS) for all coating applied on-site in the building, with VOC levels highlighted. No other information contained on MSDS sheet shall be reviewed.
  - b. Provide in accordance with Section 01 60 00– Product Requirements.
- 3. Indoor Environmental Quality Credit 4.3: Provide the following
  - a. Provide a cut sheet and / or material safety datasheet (MSDS) for all carpet systems used in the building, with VOC levels highlighted. No other information contained on MSDS sheet shall be reviewed.
  - b. Provide product data for all hard surface flooring showing compliance with requirements of the FloorScore standard (current as of the date of this rating system, or more stringent version) as shown with testing by an independent third-party.
  - c. Provide product data for concrete, wood, bamboo and cork floor finishes such as sealer, stain and finish showing compliance with requirements of South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004.
  - d. Provide product data for tile setting adhesives and grout showing compliance with South Coast Air Quality Management District (SCAQMD) Rule 1168. VOC limits correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005.
  - e. Provide in accordance with Section 01 60 00– Product Requirements.
- 4. Indoor Environmental Quality Credit 4.4: Provide the following
  - a. Provide a cut sheet and / or material safety datasheet (MSDS) for all composite wood products used in the building, with VOC levels highlighted. No other information contained on MSDS sheet shall be reviewed.
  - b. Provide in accordance with Section 01 60 00 - Product Requirements.

**PART 2            PRODUCTS (Not Used)**

**PART 3            EXECUTION (Not Used)**

END            OF  
SECTION



## 43 SECTION 01 91 13

### \*\*\* GENERAL COMMISSIONING REQUIREMENTS \*\*\*

#### PART 1 – GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Owner’s Project Requirements and Basis of Design documentation are included by reference for information only.

##### 1.02 SUMMARY

- A. This section describes the scope of the formal commissioning process and the general requirements for the building systems outlined herein.
- B. Related Sections
  - 1. Division 22, Section 220800, Commissioning of DHW Systems
  - 2. Division 23, Section 230800, Commissioning of HVAC Systems
  - 3. Division 26, Section 260800, Commissioning of Emergency Power and Lighting Control Systems

##### 1.03 REFERENCES

- A. USGBC:
  - 1. LEED – NC 3.0: EA Prerequisite 1, Fundamental Commissioning.
  - 2. LEED – NC 3.0: Credit 3, Enhanced Commissioning.

##### 1.04 DEFINITIONS

- A. Basis of Design (BOD): The documentation of design criteria and assumptions for systems, components, and methods chosen to meet the Owner’s Project Requirements and applicable regulatory requirements, standards, and guidelines. The document includes narrative descriptions of the systems to be commissioned. The BOD is prepared by the Design Professionals.
- B. Building Automation System (BAS): The automated building system providing control and user interaction with select building systems, such as the HVAC, domestic hot water and lighting systems.
- C. Commissioning Authority (CxA): An independent agent hired directly by the Owner and not otherwise associated with the Design Professional(s) or the Construction Manager at Risk. The CxA assists the Construction Manager at Risk with coordinating commissioning activities and witnesses the activities on behalf of the Owner.
- D. Commissioning Issue (Cx Issue): A condition that affects, prevents or inhibits commissioning, and must be resolved to complete the commissioning process.
- E. Commissioning Issues List (Cx Issues List): A log maintained by the CxA listing all Deficiencies and Cx Issues documented during the commissioning process. All issues require action, correction and closure.
- F. Commissioning Report (Cx Report): The final report issued at the conclusion of the commissioning process. The report will include an executive summary abbreviating the outcome of the commissioning process and identifying all outstanding issues. The report also contains all commissioning documentation collected throughout all phases of the project.
- G. Commissioning Plan (Cx Plan): A document that outlines the organization, coordination, and requirements of the commissioning process in more detail.
- H. Commissioning Coordinator (CxC): Individual within the Job Order Contractor firm who plans, schedules, directs and coordinates all the Trade Sub-Contractor’s commissioning activities, and serves as the CxA’s single point of contact for all administrative, documentation and coordination functions.

- I. Deferred Testing: Testing performed at a later time, due to partial occupancy, equipment, load, seasonal requirements, design or other site conditions that disallow the test from being performed prior to substantial completion.
- J. Deficiency: A condition in the installation or function of a component, piece of equipment or system that is not in compliance with the Contract Documents. A Deficiency will be considered a Cx Issue and documented on the Cx Issues List.
- K. Design Professional (DP): Architects, engineers and other consultants involved in the design of the over project scope.
- L. Functional Performance Test (FPT): A test of the dynamic function, operation and control of the equipment and systems to verify system performance to the fullest extent. Systems are tested under various operating modes and control sequences including failure modes. The FPTs are performed using manual (direct observation) or monitoring methods. The FPTs can include sequence of operation tests, performance verification tests, trend analysis and integrated systems tests.
- M. Installation Verification (IV): Field verification and documentation of proper installation of system equipment, assemblies and components prior to Startup. IV process is complete when systems are ready for Startup. IV's are organized and documented under the System Readiness Checklist (SRC) forms.
- N. Job Order Contractor: The contractor directly contracted to the Owner with overall responsibility for the project and all commissioning activities described herein.
- O. Monitoring: The recording of parameters (flow, current, status, pressure, etc) of equipment operation, which shall be completed using data-loggers or the Trending capabilities of BAS or control systems.
- P. Owner's Project Requirements (OPR): A document describing the operational and functional requirements of a project, the expectations of how the facility will be used and operated, and the equipment and system expectations and requirements, as defined by the Owner. This document provides an explanation of the ideas, concepts, goals, success criteria, and supporting information for the project.
- Q. Percent Sampling: Witnessing the Startup or testing of a selected fraction of the total number of identical or near-identical pieces of equipment such as VAV boxes.
- R. Pre-Functional Checks & Tests (PFCs): These are various checks and tests performed on a piece of equipment or system just before, during, or after the initial Startup and operation. They are performed to confirm that the equipment and individual components were installed correctly and are working properly. Examples include checking fan rotation, sensor calibration, actuator testing, and spot temperature, pressure and electrical measurements. They also include system specific tests such as pipe system pressure tests, duct leakage tests, mechanical system test and balance and electrical equipment NETA testing. They are organized under the System Readiness Checklist (SRC) forms and must be completed prior to FPTs.
- S. Startup: Initial starting or activating of equipment usually performed by the Trade Sub- Contractor or the Manufacturer's authorized representative.
- T. Systems Manual: The CxA will complete a LEED Systems Manual for the systems and equipment commissioned, with assistance provided by the CxC and Trade Sub- Contractors. The Systems Manual will provide the operating staff the information needed to understand and optimally operate the commissioned systems and includes the final BOD, single line diagrams, as-built controls drawings and sequences of operation and O&M manuals.
- U. System Readiness Checklist (SRC): A summary checklist, typically one page per equipment, covering the necessary commissioning tasks and required documentation to verify that a system is ready for FPTs, or system operation if no FPTs are performed. The tasks covered in the SRC include IV, Startup and PFC, and the Trade Sub-Contractor completed forms for these tasks are attached to the equipment specific SRC. The SRC must be completed and signed by the Job Order Contractor prior to conducting the FPTs.

- V. TAB: Testing, Adjusting, and Balancing work on the air and water systems to ensure design flow conditions are met. Performed by the TAB Trade Sub-Contractor.
- W. Trade Sub-Contractor: Typically a subcontractor to the Job Order Contractor who provides and installs specific building components and systems and/or provides certain services.
- X. Trending: Monitoring using the Building Automation System (BAS) or a control system, to aid in functional testing and to verify system operation and performance under actual operating conditions.
- Y. Warranty Phase: The phase of the project immediately after the initiation of the building equipment warranty which spans the entire length of the equipment warranty.

#### **1.05 SYSTEMS TO BE COMMISSIONED**

- A. This specification section is applicable to the following systems and equipment to be commissioned in this project:
  - 1. All equipment and controls of the HVAC systems (does not include any process refrigeration equipment).
  - 2. Building Automation System / HVAC system controls
  - 3. Lighting controls
  - 4. Domestic hot water heating systems
  - 5. Emergency Power Systems, including:
    - a. Emergency Generators with a fuel oil system and storage tank
    - b. Paralleling Switchgear
    - c. Automatic Transfer Switches (ATS's)
    - d. Uninterruptable Power Supply (UPS) equipment

#### **1.06 SUMMARY DESCRIPTION OF COMMISSIONING**

- A. Commissioning is a quality assurance process for achieving, verifying and documenting that building systems are installed and perform functionally as intended according to the OPR, BOD, and the requirements of the Contract Documents.
- B. Commissioning during the construction phase is intended to achieve the following specific objectives:
  - 1. Commissioning review of the Trade Sub-Contractor submittals for systems to be commissioned, concurrent with the Design Professional's review.
  - 2. Finalize the commissioning specific details within the Cx Plan.
  - 3. Verify that applicable equipment and systems are installed according to the manufacturer's recommendations and to industry-accepted minimum standards and that they receive the required operational checkout and testing by the Trade Sub- Contractors.
  - 4. Verify and document proper performance of equipment and systems.
  - 5. Verify that operation and maintenance documentation is provided by the Trade Sub- Contractors and is complete.
  - 6. Develop a systems manual (for energy-related systems per LEED) that provides future operating staff the information necessary to optimally operate the commissioned systems.
  - 7. Verify that the Owner's facilities and operations personnel are trained according to Contract Document requirements.
- C. The commissioning process does not take away from or reduce the responsibility of the Job Order Contractor to provide a finished and fully functioning building. The Job Order Contractor has overall responsibility to assure that all systems are properly tested and commissioned, and that all required commissioning documents are completed and provided to the Owner.
- D. The Project will meet the Commissioning Requirements of LEED-NC v3.0, Energy & Atmosphere, Prerequisite 1 (Fundamental Commissioning) and Credit 3 (Enhanced Commissioning). The Job Order



Contractor, Trade Sub-Contractors, and suppliers are responsible to ensure all requirements for commissioning are met in their respective work.

### 1.07 GENERAL COMMISSIONING PROCESS

- A. Unless otherwise noted in the trade specific commissioning specification sections, the general commissioning process is as follows. See the trade specific commissioning specification sections for additional details on the commissioning process.
- B. Submittal Reviews by the CxA (concurrent with the Design Professional reviews)
  - 1. The Job Order Contractor shall include the CxA on the distribution of the Trade Sub-Contractor issued submittals to the Design Professionals, for the systems to be commissioned. The CxA will provide review comments to the Design Professionals.
- C. Cx Plan and Form Development
  - 1. The CxA prepares a Cx Plan that provides guidance in the execution of the commissioning process during construction.
  - 2. The CxA develops the SRC and FPT forms and provides them to the JOB ORDER CONTRACTOR and Trade Sub-Contractors for review and comment.
- D. System Readiness Activities
  - 1. The Trade Sub-Contractors shall perform IV, Startup and PFC activities. The Trade Sub-Contractors and the CxC shall document completion of these activities on the SRC forms and attach the completed IV, Startup, and PFC forms to the SRC.
  - 2. The CxA will perform various observation inspections during the installation phase and back-checks of the completed IV. The CxA will also witness a percent sampling of the Startups and PFCs, including TAB procedures and back-checks after PFCs are completed.
    - a. The Trade Sub-Contractor shall resolve any PFC results deemed unacceptable by the CxA. The Trade Sub-Contractor shall execute a new sample of the PFCs, witnessed by the CxA per their discretion. The CxA shall deem the PFCs acceptable after resolution of all issues and any witnessed sampling results in no issues.
- E. Functional Testing
  - 1. Once the c Job Order Contractor Completes the SRC forms, the Trade Sub-Contractors execute all FPTs and the CxA witness a sample as defined in the Cx Plan. The FPTs may be achieved by any combination of manual testing, monitoring or trending.
    - a. Any witnessed sampling of the FPTs that do not pass shall require the Trade Sub-Contractor to resolve the issue for all equipment and a new sample of the FPTs shall be executed and witnessed by the CxA. The CxA shall deem the FPTs acceptable after resolution of all issues and any witnessed sampling of tests has passed.
  - 2. The Cx Plan will define any deferred testing.
- F. Deficiencies and Commissioning Issues
  - 1. Throughout the process, the CxA records Cx Issues on the Cx Issues List and distributes the list to the team. The Job Order Contractor and Trade Sub-Contractors shall correct Cx Issues and retest the system(s) without delay at no additional cost to the Owner. The CxA will verify the completion of the issues and make all amendments to the issues list.
- G. O&M Manuals, Training Verification and Final Documentation
  - 1. The CxA will verify the Trade Sub-Contractors provides complete operation and maintenance (O&M) manual documentation to the Owner.
  - 2. The Job Order Contractor shall submit to the CxA and Owner a training schedule and specific training agendas (for each training class), for review prior to conducting any training. The



CxA will also verify completion of the training by receiving a copy of the training class sign-in sheets and any training materials / handouts, provided by the Job Order Contractor.

3. The CxA will develop the Systems Manual (per LEED requirements) with assistance from the Job Order Contractor and Trade Sub-Contractors. The systems to be included are the HVAC systems and controls, lighting controls, domestic hot water systems and controls, and any renewable energy systems (none in project).
4. The CxA will complete the Final Construction Phase Commissioning Report and documentation for the Owner with assistance from the Job Order Contractor and Trade Sub-Contractors.

H. Post-Occupancy Warranty Phase Commissioning

1. The CxA will report any identified performance issues, warranty items or problems to the CxC via a Warranty Phase Cx Issues List for correction by the Job Order Contractor and Trade Sub-Contractors during or prior to the end of the warranty period.
2. The CxA will review trend data during the Warranty Phase and will report any identified issues.
3. No later than 90 days prior to the expiration of the first 12 month warranty period of building occupancy, the CxA will return to the facility to interview facility O&M staff, walk the facility and review systems operation and trend data where applicable. Key representatives from the Job Order Contractor and Trade Sub-Contractors shall attend a site walk-through and meeting, as determined by the CxA.

**1.08 GENERAL COMMISSIONING PROCESS**

- A. The Commissioning Team is responsible for performing the process and achieving successful commissioning results. The Commissioning Team is comprised of the following:
1. Owner’s Representatives
  2. Design Professionals (DP).
  3. Commissioning Authority (CxA).
  4. Construction Manager at Risk (Job Order Contractor)
  5. Job Order Contractor’s Commissioning Coordinator (CxC)
  6. Trade Sub-Contractors responsible for specific types of systems being commissioned:
    - a. Mechanical Contractor
    - b. Electrical Contractor
    - c. HVAC Controls Contractor
    - d. Testing and Balance (TAB) Contractor
    - e. Plumbing Contractor

**1.09 RESPONSIBILITIES**

- A. General:
1. The Commissioning Team and all others involved in the commissioning process shall follow the Cx Plan, attend the commissioning kickoff meeting, and attend additional commissioning meetings as necessary.
- B. Commissioning Authority (CxA)
1. The primary role of the CxA is to oversee, organize and lead the commissioning team and assist the Job Order Contractor and Trade Sub-Contractors in executing the commissioning process.
    - a. Prepare the Cx Plan and develop the SRC and FPT forms.
    - b. Work with the Job Order Contractor to schedule commissioning activities.
    - c. Lead commissioning team meetings, prepare meeting agendas and distribute meeting minutes.
    - d. Observe on a sampling basis the system and equipment installation, start-up, checkout, and testing for compliance with the OPR, BOD, and Contract Documents; and review completion of commissioning documentation.

- e. Sample witness the execution of the FPTs by the Trade Sub-Contractors. The CxA will witness one (1) re-test of any commissioned equipment or system.
  - f. Be the authority on commissioning test results and other commissioning program elements completion. Prepare, maintain and distribute the Cx Issues List.
  - g. Review and comment on training agendas and verify that training is completed and O&M manuals are delivered.
  - h. Lead the effort in developing the Systems Manual for energy-related systems in accordance with LEED requirements.
  - i. Assemble the commissioning documents and prepare the Commissioning Report.
2. The CxA is not responsible for:
- a. Design concept or design criteria
  - b. Review for code compliance
  - c. Inspector of record services
  - d. Design and construction scheduling
  - e. Cost estimating
  - f. Construction management
  - g. Providing tools and test equipment used for commissioning.
  - h. Scheduling startup and testing
  - i. Coordinating the work of Trade Contractors and any special testing agents
  - j. Performing startup and testing
- C. Construction Manager at Risk:
- 1. The Job Order Contractor is responsible for performing all commissioning tasks, including tasks assigned to Trade Sub-Contractors and ensures that all Trade Sub-Contractors execute their commissioning responsibilities according to the Contract Documents, Cx Plan, and schedule.
    - a. Include the cost for commissioning in the project cost.
    - b. Assign a CxC for the duration of the project with responsibilities outlined herein.
      - 1) The CxC shall have at least five years' experience within the disciplines of construction.
      - 2) The Job Order Contractor shall submit the name of the person(s) assigned as the CxC to the CxA within a month of contract award.
    - c. Schedule and coordinate the commissioning meetings with the CxA.
    - d. Plan, schedule, coordinate and facilitate the commissioning work performed by the Trade Sub-Contractors. Provide sufficient lead time of at least 10 days to notify the CxA in advance of commissioning activities. Update the master construction schedule periodically with commissioning progress and activities.
    - e. Review, comment and accept the Cx Plan prepared by the CxA.
    - f. Furnish continual updates of any construction related documents such as change orders, submittals, shop drawings, ASIs and RFIs to the CxA. Electronic files are acceptable.
      - 1) The CxC shall ensure the issuance of the requested submittals for review by the CxA when also issued to the Design Team.
    - g. Obtain and review the Trade Sub-Contractor IV, Startup and PFC forms prior to use.
    - h. Using IV, Startup, PFC, SRC and FPT forms, document and certify the completion of all work and all systems are installed, operational, and functionally tested.
    - i. Organize all Trade Sub-Contractor-completed Cx forms to be submitted to the CxA for review.
    - j. Evaluate deficiencies identified on the Cx Issues List. The CxA will track the issues according to the responsible entity. Collaborate with Trade Sub-Contractors and recommend corrective action. Assure resolution of all Cx Issues.
    - k. Prepare a training schedule along with the Trade Sub-Contractor training agendas and submit to CxA and Owner for review. Execute training of Owner's personnel per approved training schedule and agendas.





- l. Prepare O&M Manuals in accordance with the Contract Documents.
  - m. Assist the CxA in developing the Systems Manual.
- D. Trade Sub-Contractors:
- 1. See the trade specific commissioning specification sections for the Trade Sub- Contractor responsibilities.

**PART 2 –PRODUCTS**

**2.01 TEST EQUIPMENT**

- A. The responsible Trade Sub-Contractor shall furnish all standard testing equipment required to perform Startup, PFCs and FPTs.
- B. All testing equipment shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerance specified in the Contract Documents. If not otherwise specified, the following minimum requirements apply:
  - 1. All equipment shall be calibrated according to the manufacturer’s recommended intervals (or within one year if not otherwise specified) and recalibrated when dropped or damaged.
  - 2. Calibration tags shall be affixed to or certificates readily available for all test equipment.

**PART 3 – EXECUTION**

**3.01 SCHEDULING AND COORDINATION**

- A. The CxA will provide an initial list of commissioning milestones and deliverables to the CxC for scheduling purposes.
- B. The JOB ORDER CONTRACTOR shall integrate all commissioning activities, milestones and deliverables into the master construction schedule with assistance and input from the CxA.
- C. The CxC shall provide sufficient notice to the CxA and Owner for scheduling and coordinating commissioning activities. A minimum 10 days’ notice shall be provided to the CxA for witnessing equipment Startups, PFCs, and FPTs.
- D. The Commissioning Team shall address scheduling problems and make necessary modifications in a timely manner in order to expedite the commissioning process.

**3.02 MEETINGS**

- A. When commissioning team member attendance is required, as determined by the CxA and CxC, be punctual and attentive during the meeting.
  - 1. The CxA will conduct a commissioning kick-off meeting, usually within 60 days of the commencement of construction. All team members involved in the commissioning process shall attend the kick-off meeting.
  - 2. The CxA will plan other commissioning meetings as deemed necessary as construction progresses. These meetings will cover planning and coordination, and Cx Issues resolution.
  - 3. The frequency of meetings will vary through construction, but generally increase during Startup and commissioning activities.
- B. The CxA will write and distribute meeting minutes documenting the meeting discussion, conclusions, and actions for each team member.

**3.03 COMMISSIONING ISSUES, BACK-CHECKS AND RE-TESTING**

- A. All Deficiencies and Cx Issues shall be corrected promptly. The responsible party shall correct the issue and inform the CxC and CxA of the resolution and completion date. The CxA will record completion on the Cx Issues List after a successful back-check or verification.
  - 1. For all Cx Issues identified during the pre-functional system readiness activities, the CxA will back-check and verify the completion of the issues where appropriate.



2. For all Cx Issues identified during FPT, the Trade Sub-Contractor shall retest to verify the resolution of the issue and to complete the FPT.
3. Where sampling is used for witnessing PFCs and FPTs, the results shall be deemed acceptable once all noted issues are resolved and any new sample set of tests or checks have passed. The CxA will witness one (1) re-test for each equipment and will perform one (1) back-check verification of any completed system readiness issue. The Owner may back-charge the Job Order Contractor for any additional fees from the CxA, resulting from any re-testing or repeated system readiness issues list back-checks beyond the first re-test or back-check.

#### **3.04 COMMISSIONING ACCEPTANCE, CLOSEOUT AND REPORTING**

- A. Completion of the System Readiness Checks (which include installation verification, startups and pre-functional checks) shall be accomplished as a prerequisite for substantial completion. Completion of all functional performance testing, training, delivery of O&M manuals, and correcting all Cx Issues including any re-testing shall be completed prior to final acceptance of commissioning by the Owner.
- B. After completion of the commissioning activities and following review of the completed commissioning documents that includes the draft Cx Report executive summary, all test results and the latest Cx Issues List with all remaining Cx Issues and deficiencies, the Owner will provide a formal written acceptance of the project construction phase commissioning. At that point, the CxA will transfer any remaining construction phase Cx Issues or seasonal/deferred testing to the warranty phase and will be tracked by the CxA as part of the LEED Post-Occupancy Warranty Phase Commissioning.
- C. Upon completion of all commissioning activities, the CxA will prepare and submit to the Owner a Final Cx Report detailing all completed commissioning activities and documentation. The CxC shall support this effort by providing all Job Order Contractor and Trade Sub- Contractor commissioning documentation.
- D. The Final Cx Report will include the Owner's written acceptance of construction phase commissioning.

**END OF SECTION**