

**SECTION 013100 – CONSTRUCTION SCHEDULES**

**PART 1 - GENERAL**

**1.01 REQUIREMENTS INCLUDED**

- A. Milestone Schedule.
- B. Procedures for preparation, development and updating of CONSTRUCTION SCHEDULE.

**1.02 RELATED REQUIREMENTS**

- A. Drawings and general provisions of Contract, including General and Special Conditions.
- B. Section 008400 – MILESTONE SCHEDULE FOR CONSTRUCTION
- C. Section 010100 – SCOPE OF WORK
- D. Section 013400 - SHOP DRAWINGS, SUBMITTALS, PRODUCT DATA, AND SAMPLES

**1.03 MILESTONE SCHEDULE**

- A. The Construction Manager has prepared a milestone schedule for construction. The milestone schedule is hereby made a part of the Bid and Contract documents. See Section 008400 – MILESTONE SCHEDULE FOR CONSTRUCTION for specific schedule details. The schedule includes critical milestones that must be met in order to reasonably complete the Project by the specified Contract completion date and for the coordination of Contractor's and all other contractors' Work. Upon issuance of the Notice to Proceed the overall Project Construction Schedule shall be prepared in accordance with the following.

**1.04 CONSTRUCTION SCHEDULE**

- A. The Construction Schedule network plan including any appropriate milestone dates and computer produced reports shall be made a part of the Owner / Contractor agreement as stipulated herein.
- B. Contractor shall develop and prepare a network plan and the Construction Schedule for the Project.
- C. The purpose of the plan and schedule shall provide for reasonable, efficient and economical performance of the work by Contractor and all other contractors, and to assist the Construction Manager in monitoring the progress of the work and evaluating proposed changes to the Contract and schedule.
- D. The Project management tool commonly called the Critical Path Method (CPM) will be employed for the planning, scheduling and reporting of all Work to be

performed under the Contract. The precedence diagramming method shall be utilized in preparing the Construction Schedule network diagrams. Primavera's Suretrak or similar computer generated scheduling program shall be used by Contractor to computerize the Construction Schedule network.

- E. Contractor and all other contractors shall be aware there may be Work performed by other Contractors under separate Contract with the Owner which will run concurrent or subsequent to work of this Contract. The Construction Schedule will reflect the major interfaces between the Work of this Contract, if any, and the concurrent and succeeding Work of other contracts.
- F. The Construction Manager may request modifications to the Construction Schedule to provide interface points for other contracts for this Project.
- G. Activity time delays shall not automatically mean that an extension of the interim milestone completion date(s) and or Contract Completion date is warranted or due Contractor. A Contract Change Order or delay may not affect the existing critical path activities or cause non-critical activities to become critical. A Contract Change Order or delay may result in only absorbing a part of the available total float that may exist within an activity chain on the network, thereby not causing any affect on any interim milestone date or the Contract Completion date.

#### 1.05 INITIAL SUBMITTAL AND NETWORK PREPARATION

- A. To the extent necessary for Contractor to reflect in a computerized CPM Schedule network diagram, all contractors shall furnish information requested and required by Contractor and shall be prepared to meet with and assist Contractor in the preparation of the Construction Schedule.
- B. Within fifteen (15) days after Notice to Proceed Contractor shall submit a proposed Construction Schedule to the Construction Manager.
- C. Contractor's proposed Construction Schedule shall include, without limitation, the following information.
  - 1. A graphic presentation of the sequence of Contractor's Work which includes, without limitation, Contractor's manpower, material and financial resource loading curve;
  - 2. Shop Drawing review and approval, product procurement, fabrication, shop inspection, and delivery dates including lead times;
  - 3. Each phase of the Work, including Punch List, Project close-out requirements, Contract Completion and occupancy;
  - 4. Milestone dates that are required by the Contract Documents;
  - 5. List of predecessor and successor activities for each identified work activity.

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6. List of proposed work durations for Construction Activities identified in working days. Proposed durations assigned to each activity shall reflect Contractor's best estimate of time required to complete each activity considering the scope and resources planned for the activity.
  7. List of proposed durations for major procurement items identified in working days.
  8. Disruptions and or shutdowns required to other operations, facilities and functions, if any, to allow the performance of Contractor's Work.
- D. In preparing the manual precedence diagram, Contractor will be responsible for assuring that any and all contractor work, as well as his own work, is included and that the Construction Schedule shows a coordinated plan of Work.
  - E. The manually prepared precedence diagram, when fully developed, will show the sequence and interdependence of activities required for complete performance of all Work under all of the contracts. In developing the precedence diagram, the work will be divided into activities with a maximum duration of twenty (20) working days each, unless otherwise directed by the Construction Manager, except for non-construction activities such as procurement of materials, delivery of equipment, and concrete curing.
  - F. Failure by Contractor to include any element of work required for performance of the Contract shall not excuse Contractor from completing all Work within the specified Contract milestone or completion date(s).
  - G. Seasonal weather conditions will be considered in the planning and scheduling of all work influenced by high or low ambient temperatures to insure the completion of all Contract Work within the specified Contract milestone and completion date(s).

### 1.06 REVIEW AND APPROVAL

- A. Within ten (10) days after receipt of the computer produced Construction Schedule and reports provided by Contractor, the Construction Manager will meet with Contractor, if required, for a joint review, correction and or adjustment of the proposed plan and schedule. After this joint meeting, the computer produced Construction Schedule and reports will be revised in accordance with agreements reached during the joint review.
- B. Upon establishment of an agreed upon Construction Schedule, Contractor will sign the Construction Schedule network drawings and computer produced reports, which will then indicate acceptance and approval of the Project schedule, sequence of activities and times for completion. Final review by the Construction Manager will take place after Contractor has approved and signed off the Construction Schedule.

### 1.07 SCHEDULE UPDATING AND REVISIONS

- A. The approved Project Construction Schedule will be updated by Contractor at

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- least once a month for the purpose of recording and monitoring the progress of work.
- B. Upon completion of joint reviews, Contractor will revise the network to reflect progress to date plus any approved revisions to the network, and carry out a computer calculation to determine status which will then be provided to the Construction Manager and each contractor.
  - C. Based on the result of the progress update, when the schedule no longer represents the actual prosecution and progress of the Work, a revision to the schedule logic sequence and the precedence diagram may be required by Contractor or requested by another contractor.
  - D. Contractor may also request revisions to the logic sequence and precedence diagram in the event his planning for the Project is revised. If Contractor desires to make changes in the approved Project Construction Schedule to reflect revisions in his method of operating and scheduling, he shall notify the Construction Manager in writing stating the reasons for the proposed revision.
  - E. All reasonable requests by a contractor for revisions to the Project Construction Schedule will be implemented by Contractor if not reasonably objected to by either Contractor or other contractors.
  - F. Construction Manager directed revisions to the schedule will not be implemented without notice being given to Contractor, who shall respond in writing within ten (10) days, either agreeing with the Construction Manager's proposed revision or setting forth justification why it should not be accomplished. If Contractor's justification for not accomplishing the change is reasonable, such change will not be implemented. Failure on the part of Contractor to respond within the stated time period shall constitute acceptance of the schedule revision at no additional cost to the Owner.
  - G. Updating the schedule to reflect actual progress made up to the date of an update shall not be considered revisions to logic sequence and schedule; in case of disagreements concerning actual progress to date, the Construction Manager's determination shall govern.
  - H. Each updated Project Construction Schedule will be distributed to each contractor for review and comment.
  - I. If a contractor does not record any exceptions to the published Project Construction Schedule update within ten (10) days of its receipt, he will be deemed to have accepted and approved it without conditions and or reservations.

### **1.08 RESPONSIBILITY FOR COMPLETION**

- A. Contractor shall furnish sufficient forces, supervision, plant and equipment, and shall work such hours as necessary including, without limitation, night shift and overtime operations, to ensure the prosecution of the Work is completed in accordance with the approved Construction Schedule. If, in the opinion of the

Construction Manager, Contractor falls behind in their obligations to meet the Construction Schedule, Contractor shall take whatever steps as may be necessary to improve his progress to gain compliance to the Construction Schedule. Failing to do so the Construction Manager may require Contractor to increase the hours of work, the number of shifts, overtime operations and or the amount of construction plant and equipment without additional cost to the Owner in an effort to gain compliance to the Construction Schedule. Any and all additional expenses incurred by the Owner in an effort to gain compliance to the Construction Schedule by Contractor will be deducted from the amount due Contractor. Provisions of this section shall not be construed as prohibiting work on Saturdays, Sundays and holidays if Contractor so elects and if approved by the Construction Manager which approval shall not be unreasonably withheld.

- B. Failure on the part of Contractor to fully comply with the requirements as set forth herein shall be used as a basis for determination by the Construction Manager or Owner that Contractor is not prosecuting the Work with the necessary diligence so as to complete the Work within the time specified in the Contract Documents. Upon such determination, the Owner may elect to pursue their rights to prosecute the Work and backcharge Contractor in accordance with the provisions of the General Conditions or take such other action as the Owner may deem appropriate.
- C. It shall be the responsibility of the each contractor to maintain their progress so as not to delay the progress of the Project or the progress of other contractors. If either Contractor or other contractors delays the progress of the Project or the progress of any other contractor, it shall be the responsibility of contractor causing the delay to increase the number of shifts, days of work, and or to the extent permitted by law, to institute or increase overtime operations all without additional cost to the Owner to regain time lost and to maintain the overall completion schedule. Each contractor is required by virtue of this Contract to cooperate in every way possible with all other contractors in order to maintain the scheduled milestone date(s) and Contract Completion date. No additional compensation will be considered for such cooperation.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

**END OF SECTION 013100**