# SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION

## PART 1 - GENERAL

### 1.1 REQUIREMENTS INCLUDED

A. Procedures for preparation, development and updating of the CPM construction schedule.

### 1.2 RELATED REQUIREMENTS

A. Section 01120 - MULTIPLE CONTRACT SUMMARY

B. Section 01290 - PAYMENT PROCEDURES

C. Section 01330 - SUBMITTAL PROCEDURES

## PART 2 - CPM CONSTRUCTION SCHEDULE

### 3.1 GENERAL

A. The Baseline Construction Schedule (also referred to as the schedule) shall be composed by the Construction Manager, utilizing inputs from the contractors, the Construction Manager, the owner and the design professional. The schedule shall be provided to all Prime Contractors for review and approval. Subsequent updates to the schedule shall be similarly composed, reviewed and approved.

B. The schedule including any appropriate milestone dates and the computer-produced reports shall be part of the Owner/Contractor agreement as stipulated herein.

C. The Prime Contractors shall provide all information required for development of a network plan and schedule for this in accordance with the requirements of this section of the General Requirements.

D. The purpose of the schedule will be to assure adequate planning and execution of the work of all Prime Contractors, and to assist the Construction Manager in monitoring the progress of the work and evaluating proposed changes to the contract and schedule.

E. The project management tool commonly known as the Critical Path Method (CPM) will be employed for the planning, scheduling and reporting of all work to be performed under the contract.

F. The scheduling work shall be performed within the principles and practices described in The Practice Standard for Scheduling and ANSI/PMI 99-001-2004, cited at the end of this specification section. Other reference books cited there will provide additional clarification and instruction.

G. One of the following softwares (the latest release of each) will be used to maintain all schedule data, perform schedule calculations and provide all necessary schedule outputs.

   a. Primavera Project Planner (P3),
   b. Primavera (P6),
   c. Primavera Contractor
   d. SureTrak

H. The schedule shall be composed and maintained by an individual having been employed for at least the past five years primarily as a CPM scheduler or an individual certified as a Planning and Scheduling Professional (PSP) by the Association for the Advancement of Cost Engineering (AACE). The individual must have had primary responsibility for the composition and maintenance of schedules for at least ten successfully completed projects, each having a value of $20 million or greater and a duration of 18 months or greater.

I. The minimum printed schedule presentation shall be in the form of a Gantt Chart (bar chart). The activities shall be organized by phases and work areas, according to the configuration of the specific project. In the column section the displayed data shall include activity description, original duration, remaining duration (on an updated schedule, but not a baseline), (early) start and (early) finish dates, and total float. The title block shall include the Project Name (when using SureTrak or P3) or the Project ID (when using Contractor or P6). Each contractor shall be responsible for understanding the terminology employed.

J. Each time the schedule is transmitted the cover letter shall include the Project Name (when using SureTrak or P3) or the Project ID (when using Contractor or P6), as well as the statement, "If the Prime Contractor does not record any exceptions to the published Project Schedule update or the revised construction schedule within five (5) work days of its receipt, he will be deemed to have accepted and approved it."

K. Float is not for the exclusive use or benefit of either the Owner or any of the Prime Contractors. Extensions of time to interim milestone dates or the Contract Completion Date under the Contract will be granted only to the extent that equitable time adjustment to the activity or activities affected by the Contract Modification or delay exceeds the total float of the affected or subsequent paths and extends any interim milestone date or the Contract Completion Date.

L. Changes to the schedule affecting start and completion dates of activities or durations shall not automatically mean that an extension of the Contract Completion Date is warranted or due the Contractor. A Contract Modification or delay may not affect existing critical activities or may cause non-critical activities to become critical, resulting only in absorbing a part of the available total float that may exist within an activity chain on the network and no change to the interim milestone dates or the Contract Completion Date.

M. In no event shall any progress report or updated schedule constitute an extension or change of the Contract Time, a milestone date or the Contract Sum unless any such adjustment is agreed to by the Owner and authorized pursuant to a change order.

N. The Construction Manager shall lead the schedule discussion at every job conference and superintendents' meeting. That discussion shall include phase completion dates, milestones and work activities for the next two weeks. The Construction Manager shall also arrange and lead special scheduling meetings as needed.

O. The value of creating and maintaining the schedule shall be included in the schedule of values.

3.2 INITIAL SUBMITTAL AND SCHEDULE PREPARATION

A. Following the Contract Award, the Construction Manager will meet with the Prime Contractors and conduct a review of any preliminary schedule information included in the bid documents to assure their understanding of the schedule and contractual milestone dates.

B. At the first job conference the Construction Manager shall provide an interim schedule covering the first three months' work on the project.

C. The baseline construction schedule shall meet all phase and project completion dates shown in the contract documents.

D. To the extent necessary for the Construction Manager to reflect in a computerized CPM schedule the Prime Contractors' proposed plan for completion of their work, the Prime Contractors shall be prepared to meet with and assist the Construction Manager, and furnish information subsequent to award of the contract.

E. Within ten (10) work days after the meeting to review the preliminary schedule information from the bid documents, each Prime Contractor will provide his proposed plans of operation to the Construction Manager. The Contractor's plan of operations shall consist of, but not be limited to, the following:

   a. List of proposed construction activities.
   b. List of proposed durations for construction activities (in work days).
   c. List of proposed durations for major and long-lead procurement items (in work days).
   d. Proposed sequencing of construction activities.

F. The Construction Manager and the Prime Contractors will then meet and jointly develop the schedule, based on all of the Prime Contractors' proposed plans and sequences of operation. Any areas of such plans which, in the opinion of the Construction Manager, conflict with timely completion of the project will be subject to revision by the Construction Manager unless adequate justification for these plans, durations and logic (as determined by Construction Manager) is provided by the Prime Contractor.

G. Each Prime Contractor will be responsible for assuring that any and all subcontractor work, as well as his own work, is included and that the schedule shows a coordinated plan of work.

H. Proposed durations assigned to each activity shall reflect the Prime Contractor's best estimate of time required to complete that activity considering the scope and resources planned for activity.

I. Failure by any of the Prime Contractors or Construction Manager to include any element of work required for performance of the contract shall not excuse any of the Prime Contractors from completing all their work within the Contract Completion Date. If the Construction Manager questions any of the Prime Contractor's proposed durations, said Prime Contractor shall within five (5) work days provide estimates of his labor and intended crew and/or equipment sizes required for the activity which support the proposed duration to the satisfaction of the Construction Manager.

J. The schedule shall include all appropriate work by others, such as abatement, owner moves, temporary partitions, etc. The Construction Manager shall be responsible for gathering this information.

K. The schedule shall include detailed activities for creation of coordination drawings. The HVAC contractor shall supply the information for these activities.

L. The schedule shall include, at the completion of each phase, activities for substantial completion, punch list, final completion and applicable inspections and certificates.

M. 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 allotted contract time milestone completion dates.

3.3. REVIEW AND APPROVAL

A. Within ten (10) work days after receipt of the Baseline Construction Schedule and reports provided by the Construction Manager, each Prime Contractor shall meet with the Construction Manager, if required, for joint review, correction, or adjustment of the proposed plan and

schedule. After these joint meetings, the Baseline Construction Schedule will be revised in accordance with agreements reached during the joint reviews. Two (2) copies each of the schedule and reports will be provided to the Prime Contractors. The revised schedule will be reviewed by the Prime Contractors, and if found to be as previously agreed upon, will be accepted within three (3) working days.

B. Upon establishment of an agreed upon schedule, each Prime Contractor will sign the Baseline Construction Schedule computer produced reports, which will then indicate the acceptance and approval of the project schedule, sequence of activities and times for completion. Acceptance of the approved project schedule by each Prime Contractor will be a condition precedent to the making of any partial payments under the Contract.

C. The process of creation, review and approval of the Baseline Construction Schedule shall be completed within 90 calendar days following notice to proceed.

3.4 SCHEDULE UPDATING AND REVISIONS

A. The approved Baseline Construction Schedule will be updated by the Construction Manager on a regular basis for the purpose of recording and monitoring the progress of work. The Prime Contractors shall meet with the Construction Manager regularly upon request to review actual progress made to date, dates of activities started and completed, and the percentage of work completed to date on each activity started by not completed.

B. The schedule will be updated at intervals of one month through completion of the project, and at completion, an as-built schedule shall be composed and issued. As circumstances warrant, the schedule can be updated more frequently.

C. Each time the schedule is updated it shall be saved as a separate data set, that is, as a separate Project Name (if using P3 or SureTrak) or separate Project ID (P6 or Contractor).

D. Upon completion of the joint reviews, the Construction Manager will revise the schedule to reflect progress of the work to date and provide a copy to the Prime Contractors.

E. Based on the result of the progress update, when the approved project schedule no longer represents the actual prosecution and progress of the work, a revision to the schedule logic sequence may be required by the Construction Manager or requested by the Prime Contractors.

F. Any Prime Contractor may also request revisions to the logic sequence in the event his planning for the project is revised. If any Prime Contractor desires to make changes in the schedule to reflect revisions in this method of operating and scheduling, he shall notify the Construction Manager in writing two weeks prior to the next schedule update, stating the reasons for the proposed revision.

G. The Construction Manager will give consideration to reasonable requests for changes to the schedule logic sequence.

H. The Construction Manager will prepare a revised schedule incorporating the necessary or agreed to changes to the logic sequence and distribute it to all Prime Contractors.

I. 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.

J. If any Prime Contractor does not record any exceptions to the published Project Schedule update or the revised construction schedule within five (5) work days of its receipt, he will be deemed to have accepted and approved it.

3.5 RESPONSIBILITY FOR COMPLETION

A. The Prime Contractor shall furnish sufficient forces, plan and equipment, and shall work such hours including night shift and overtime operations, as necessary to ensure the prosecution of the work in accordance with the most current update of the Project Schedule. If, in the opinion of the Construction Manager, the Prime Contractor falls behind in meeting the schedule as presented in the most current update, the Prime Contractor shall take steps as may be necessary to improve his progress, and the Construction Manger may require him 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. All additional expenses incurred by the Owner due to such work will be deducted from the amount due the Prime Contractor. The provisions of this section shall not be construed as prohibiting work on Saturdays, Sundays, and holidays if the Prime Contractor so elects and if approved by the Construction Manager.

B. The Contractor understands and agrees that time is of the essence and that all schedule dates are minimum performance dates. Notwithstanding anything to the contrary contained in the Contract Documents, should the progress of the Project be ahead of scheduled dates, the Contractor agrees to coordinate and complete its Work in accordance with the actual Project progress and the actual pace of the Project without additional compensation. In said case, contractor waives any right to claim that it has been accelerated.

C. Failure of the Prime Contractor to comply with the requirements of this subsection shall be a basis for determination by the Owner that the Prime Contractor is not prosecuting the work with such diligence as will ensure completion within the time stipulated. Upon such determination, the Owner may terminate the Prime Contractor's right to proceed with the Work or any separable part thereof, in accordance with the provisions of Article 14.2 of the General Conditions, or may take such other actions as may be deemed appropriate.

REFERENCE BOOKS:

A. The Practice Standard for Scheduling. Published by the Project Management Institute, Newtown Square PA, ISBN 13: 978-1-930699-84-7, ISBN 10: 1-930699-84-0.

B. A Guide to the Project Management Body of Knowledge, ANSI/PMI 99-001-2004, Section III, Chapter 6, Project Time Management. Published by the Project Management Institute, Newtown Square PA,

C. Construction Planning and Scheduling Manual. Published by the Association of Construction Managers (AGC)

D. CPM in Construction Management, 5th Edition. Written by James J. O'Brien and Fredric L. Plotnick, published by McGraw-Hill, ISBN 0071344403.

E. Project Management: A Systems Approach to Planning, Scheduling and Controlling, 8th Edition. Written by Harold Kerzner, published by John Wiley & Sons, ISBN 0471225770.

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