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SUPPLEMENTAL SPECIFICATION**AMENDMENT TO SECTION 108 -- PROSECUTION AND PROGRESS****AMENDMENT TO SECTION 108.03 – PRE-CONSTRUCTION ACTIVITIES**

Amend the 108.03 to read:

108.03 Pre-Construction Activities.

Prior to commencement of any major work on the Project, a pre-construction conference shall be held to outline the proposed project schedule and coordinate the Work of the Contractor, various utilities, and subcontractors. The Contractor shall be prepared to discuss in detail the proposed schedule; the Storm Water Pollution Prevention Plan (SWPPP) and the Traffic Control Plan particularly as these relate to coordination with schedules of the utilities and subcontractors. In addition, the Contractor shall be prepared to provide details on the sources and delivery of critical materials.

The Contractor shall submit a written SWPPP, and a Traffic Control Plan to the Engineer for approval in accordance with 105.02. The Contractor shall submit a Progress Schedule to the Engineer for documentation in accordance with 105.02; the Engineer reserves the right to approve the form and content of the Construction Schedule. No work shall proceed on the project, other than mobilizing, installation of the permanent construction signs, and installing the field office, until the progress schedule has been submitted and accepted.

The Construction Schedule submission shall include at a minimum a paper copy, and an electronic copy. The New Hampshire Department of Transportation has adopted Microsoft Project Scheduler as the official Department scheduling software. All electronic submissions shall be compatible with MS Project.

A. Progress Schedules

A.1 General. Provide sufficient materials, equipment and labor to guarantee completion of the project within the Contract Time. Provide a schedule using the Critical Path Method as specified in Subsection 108.03.A.2, *except* when the contract specifies a schedule using the Bar Chart Method, in which case, the schedule shall meet the requirements of Subsection 108.03.A.3. If a bar chart is specified, the Contractor may provide a CPM schedule in place of the bar chart schedule. Plan and schedule the project to meet contract-required milestone and final completion dates.

A.1.1 Prosecute the work according to the schedule and ensure that all subcontractors, suppliers, and engineers, at any tier; also prosecute the Work according to the progress schedule. The progress schedule shall show major construction activities, project

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phasing, controlling activities, project required milestones, activity durations by working day or calendar day, and project suspensions that are 3 days or longer. Major activities shall include activities such as installation of cofferdam, excavate bridge footing, pave top at areas designated, etc. Subcontractor work, utility relocation work, submission of any working drawings including the review periods indicated in 105.02 for each submission, and manufacturing of key components shall be included as major activities. The schedule shall also include the proposed utility relocation schedule as outlined in the Prosecution of Work. Controlling activities shall be determined by the Contractor as those activities that, if delayed, would delay project completion. Milestones shall include the start of the project, winter suspensions if planned, project intermediate and final completion dates. All work shall be scheduled to be completed by or prior to project required milestones. No claim for compensation related to loss of time other than as provided for in 104.02, 104.03, and 104.04 will be considered by the Department.

A.1.2 At least [10] calendar days before the preconstruction meeting, submit to the Engineer for review an initial progress schedule that meets the requirements specified in Subsection 108.03.A.2 or 108.03.A.3, as applicable. The Engineer and Contractor will review the initial schedule at the preconstruction meeting. Within [5] working days after the preconstruction meeting, the Engineer will accept the Contractor's initial schedule or request additional information. The type of information requested may include estimated manpower, equipment, unit quantities, and production rates used to determine the duration of an activity or item or work. Provide the requested information and resubmit the revised initial schedule within [5] working days after receiving the Engineer's request.

A.1.3 The Engineer will use the schedule to monitor progress of the work. The Engineer will accept or reject the initial schedule based solely on completeness. Acceptance does not modify the contract or constitute endorsement or validation by the Engineer of the Contractor's logic, activity durations, or assumptions in creating the schedule or relieving the Contractor of obligations to complete the Contract Work within the Contract time allowed for the portion of work, or the entire Contract. The Department may withhold monthly progress payments until the Engineer accepts the initial schedule.

A.1.4 Submit a schedule update to the Engineer on the first working day of each month, or as requested by the Engineer. The Department may withhold monthly progress payments if schedules are not updated as specified or requested. The Contractor shall participate in the Engineer's review of the submittals. Meetings will be held to review progress and planning when requested by the Engineer

A.1.5 All costs relating to the preparation, submittal, and acceptance of the schedule, reports and revisions, and all requirements of this subsection are subsidiary to Contract bid items.

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A.2 *Critical Path Method (CPM).* Use this scheduling method when specified. Develop a CPM schedule using computerized scheduling software that is compatible with that used by the Agency.

Use either Microsoft Project or Primavera Scheduling software to develop and manage the Critical Path Schedule. The Contractor shall notify the Engineer in writing, when submitting the first schedule, which software will be used. This choice cannot be changed after the first submittal. When the Contractor uses Primavera scheduling software, an electronic copy of all required schedule and reports converted to the Microsoft Project format on acceptable media, shall be submitted. This additional information shall be submitted with all schedule submittals and updates. Perform all work required to ensure that the schedule accurately reflects the planned schedule and progress. A copy of the Microsoft Project scheduling software shall be provided for the duration of the project for use by the Contract Administrator.

A.2.1 *Initial Work Plan.* Prepare and complete a schedule for the first [60] calendar days of work that meets the requirements for an initial bar chart as specified in Subsection 108.03.A.2.1. With prior approval, the Engineer may accept activity durations of more than 15 working days. Include a summary bar chart schedule for the balance of the project; activity durations on the summary chart may exceed 15 working days. Submit an updated version of the bar chart every [14] calendar days, until the Department accepts the initial CPM schedule.

A.2.2 *Initial CPM Schedule.* Within [30] calendar days after providing the initial bar chart, submit an initial CPM schedule to the Engineer for review. Define and sequence activities so as to accurately describe the project and to meet contract requirements with respect to the scope of work, phasing, accommodations for traffic, and interim, milestone, and project completion dates. Use working days to create the schedule, beginning with the date of the notice to proceed.

A.2.2.1 *CPM Schedule Requirements.* Ensure that the CPM schedule identifies and includes the following:

- (a) Planned start and completion dates for each activity;
- (b) Duration of each activity (stated in working days, and with activities of more than 15 work days in duration broken into two or more activities distinguished by location or some other feature);
- (c) Finish-to-start relationships among activities, without leads or lags, unless otherwise approved by the Engineer;
- (d) Interim, milestone, and project completion dates specified in the contract as the only constraints in the schedule logic;

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- (e) Activities related to the procurement of significant materials, equipment, and articles of special manufacture;
- (f) Activities related to the submission of working drawings, plans, and other data specified for review or approval by the Engineer;
- (g) Activities related to Department inspections; and
- (h) Activities related to specified activities by the Department and third parties.

A.2.2.2 *CPM Schedule Submission Requirements.* Provide the following items with each schedule submission. Submit [1] paper copy and [1] electronic copy of the schedule to the Engineer.

- (a) A logic diagram in color, depicting no more than 50 activities on each 11 by 17 in. [280 by 430 mm] sheet, and with each sheet including title, match data for diagram correlation, and a key.
- (b) Tabular sorts of activities by early start, predecessor and successor, work area by early start, and total float;
- (c) 60-day look-ahead bar charts by early start; and a
- (d) Narrative report indicating the workdays per week, holidays, number of shifts per day, number of hours per shift, and how the schedule accommodates adverse weather days for each month.

A.2.2.3 *Schedule Updates.* Update the schedule on a monthly basis, or as requested by the Department, to show current progress. Include the following with each update:

- (a) Actual start and finish dates of each activity or remaining durations of activities started but not yet completed; and a
- (b) Narrative report describing progress during the month, shifts in the critical activities from the previous update, sources of delay, potential problem areas, work planned for the next update period, and changes made to the CPM schedule. Changes include additions, deletions, or revisions to activities due to the issuance of a contract revision, changes to an activity duration, changes to relationships between activities, or changes to the planned sequence of work or the method and manner of its performance.
- (c) The revised schedule shall show completion of the Work within the Contract Time and the Contractor shall modify operations to provide such

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additional materials, equipment, and labor necessary to meet the revised schedule.

- (d) Notify the Engineer at least three working days in advance of resuming operations when the prosecution of work is discontinued for any reason.
- (e) Submit the updated schedule electronically to the Engineer. Also provide [1] paper copy of tabular sorts by total float and activity by early start.

A.3 Bar Chart Method. Use this scheduling method when specified.

A.3.1 *Initial Bar Chart Progress Schedule.* The initial bar chart progress schedule shall include the following:

- (a) Activities that describe the essential features of the work, activities that might delay contract completion, and other schedule critical activities;
- (b) The planned start and completion dates for each activity, the duration of each activity (stated in work days, and with activities of more than 15 work days in duration broken into two or more activities distinguished by location or some other feature), and the sequencing of all activities;
- (c) For Contracts without weather day allowances, there shall be indication of how the schedule accommodates adverse weather days for each month;
- (d) Dates related to the procurement of significant materials, equipment, and articles of special manufacture;
- (e) Dates related to the submission of working drawings, plans, and other data specified for review or approval by the Agency;
- (f) Dates related to Department inspections; and
- (g) Dates related to specified activities by the Department and third parties.

A.3.2 *Project Schedule Updates.* Conduct job site meetings with the Engineer to verify schedule accuracy. Hold meetings monthly or as required by the complexity of the project. Update the schedule as required to reflect actual work modifications and progress and to document approved contract revisions, including all time extensions. Include the actual start and finish of each activity, percentage complete, and the remaining duration of activities started and still ongoing.

Submit [2] copies of the schedule update to the Engineer for review within [72] hours of the job site meeting.

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A.4 *Schedule Revisions*. The Engineer may request a revised schedule. Circumstances that may lead to such a request include the following:

- (a) A delay (actual or projected) to scheduled milestone or project completion dates;
- (b) A difference between the actual sequence or duration of work and that depicted in the schedule; and
- (c) Issuance of a contract revision that, by adding, deleting, or revising activities, changes the planned sequence of work or the method and manner of its performance.

A.4.1 Prepare and submit the revised schedule within [10] calendar days after the Engineer's request. Within [10] calendar days of receipt, the Engineer will accept the revised schedule, reject the revised schedule, or request additional information. Address the reasons for rejection and/or submit the information requested no more than [10] calendar days after the Engineer's request.