

ITEM 108 PROSECUTION AND PROGRESS OF WORK**108.01 Subletting of Contract****108.02 Preconstruction Conference****108.03 Prosecution and Progress****108.04 Limitation of Operations****108.05 Character of Workers, Methods, and Equipment****108.06 Determining a Time Extension to the Completion Date and Payment for Excusable Delays****108.07 Failure to Complete on Time****108.08 Unsatisfactory Progress and Default of Contractor****108.09 Certified Payroll**

108.01 Subletting of Contract. The Contractor must obtain the Director's written consent to sublet, sell, transfer, assign, or otherwise relinquish any rights, title, or interest in the Work. Upon the Engineer's request, the Contractor shall also promptly furnish copies of subcontracts and supply agreements.

The Contractor must perform Work amounting to not less than 50 percent of the Contract Sum with its own organization, unless otherwise approved by Director. Any items set forth in the Proposal to be "specialty items" may be performed by subcontract and the cost of any such specialty items so performed by sub-contract may be deducted from the Contract Sum before computing the amount of work required to be performed by the Contractor's own organization. The Contractor's percentage of the Contract Sum includes the cost of materials and manufactured products purchased by Contractor, but not the cost of materials and manufactured products purchased by subcontractors. The Engineer will calculate Contractor's percentage based on the quantities shown in the Proposal and the unit prices of the Contract items to be performed by the Contractor's organization.

All subcontractors must hold a valid contract compliance certification number before the City will approve the subcontractor pursuant to this Section.

108.02 Preconstruction Conference. Unless otherwise provided for in the Contract Documents, no Work shall be commenced under this Contract until a Preconstruction Conference has been held.

After the Contract is fully executed, the City will send Preconstruction Conference notices to all parties. In general, fourteen days are required to notify all interested parties of a Preconstruction Conference. The Contractor shall take due note of this requirement and aid in the timely scheduling of the Preconstruction Conference to avoid unnecessary delays in the commencement of the Work.

At or before the Preconstruction Conference, the Contractor shall submit to the Engineer the baseline construction schedule prepared according to 108.03. Furnish a list of proposed subcontractors and material suppliers at or before the Preconstruction Conference. If the Contractor fails to provide the required submissions at or before the Preconstruction Conference, the Engineer may order the Preconstruction Conference suspended until they are furnished.

108.03 Prosecution and Progress. The Construction Schedule shall reflect the Contractor's detailed construction plan to be implemented during all phases of the

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construction process, Notice to Proceed to final completion. The approved Construction Schedule also serves as a means for the Contractor to schedule, coordinate and evaluate the work of its subcontractors and suppliers. The Contractor is required to include and involve all subcontractors and suppliers in the development and updating of the Construction Schedule. The Contractor shall produce schedule updates and reports to analyze project progress and current status and shall be prepared to respond to reasonable requests from the Engineer for additional information.

Unless a specific Pay Item is included in the Proposal, the cost of preparation of the Construction Schedule, progress updates, and other schedule related information requested by the Engineer is to be included within the Contractor's bid prices for the various pay items.

Failure to comply with Project scheduling requirements may be grounds for termination of the Contract. In addition, the City may withhold pay estimates until all scheduling requirements, including providing schedule updates, are met and accepted by the Engineer.

When a pay item for a CPM schedule is included in the Bid Documents, use Type B – Critical Path Method (CPM) Schedule. Otherwise, all projects shall be scheduled using the Type A – Basic Construction Schedule.

A. Basic Construction Schedule (Type A).

1. Initial/Baseline Construction Schedule Submission. The Contractor shall submit to the Engineer at or before the Preconstruction Conference a baseline bar chart construction schedule and written narrative describing the sequence of construction, and critical events including delivery of materials, services, or equipment.

The Engineer will review the schedule and within seven calendar days of receipt, will either accept the schedule or provide the Contractor with written comments. Acceptance of the schedule does not revise the Contract Documents. Provide clarification or any needed additional information within seven calendar days of a written request by the Engineer. The City will withhold pay estimates until the Engineer accepts the schedule.

The Contractor shall provide a working day schedule that shows the various activities of Work in sufficient detail to demonstrate a reasonable and workable plan to complete the Project by the Completion Date. Show the order and the sequence for accomplishing the Work. Describe all major activities in sufficient detail so that the Engineer can readily identify the Work and measure the progress. The bar chart schedule must reflect the scope of work, required phasing, maintenance of traffic, interim completion dates, final Completion Date, and other project milestones established in the Contract Documents. Include activities for major submittals, as provided in 105.02, major material procurement and fabrication, and the delivery of key materials, plant, and equipment, and other similar activities. The schedule must be detailed on letter or 11 x 17 sized paper.

2. Completion Date. The baseline construction schedule shall not indicate a completion date that is earlier than the Contract Completion Date.

3. Monthly Progress Updates. Prior to the 5th of every month, submit an updated schedule that includes the following:

- a. Date that all progress is being recorded through;
- b. Actual start date of progressed activities;
- c. Actual finish date of completed activities;
- d. Actual percent complete for each progressed activity.

4. Changed Conditions Reporting.

a. Schedule Revisions. If the Contractor's operations are materially affected by changes in the Work plan or in the amount of the Work or if the Contractor has failed to comply with the approved Construction Schedule, the Contractor shall submit a revised construction schedule. The revised schedule shall show how the Contractor proposes to prosecute the balance of the Work. All schedule revisions are subject to Engineer's approval.

b. Recovery Schedules. If the Monthly Update Schedule or Revised Monthly Update Schedule projects a finish date for the Project later than the current Completion Date, submit a recovery schedule showing a plan to finish by the current Completion Date as requested by the Engineer, at no additional cost to the City. Such measures to regain schedule may include, but are not limited to, increasing the size of the workforce; increasing the number of working hours per shift, shifts per work day, work days per week, the amount of equipment or combination thereof; or rescheduling of work activities to achieve maximum concurrence of work efforts, all at no additional cost to the City. The Contractor shall submit the recovery schedule within five calendar days after the request is made by the Engineer.

The City will withhold Estimates until the Engineer approves the recovery schedule. The approved Recovery Schedule will supersede the then-current Construction Schedule and be used as the basis for progress evaluations. Acceptance by the City of the recovery schedule and/or recovery plan shall not serve as a time extension approval.

c. Delay and Analysis of the Construction Schedule. The Contractor shall not be entitled to and hereby waives any extension of time resulting from any event, circumstance, condition or cause unless a Claim for an extension of time is made in accordance with the requirements of 104.03. In the event the Contractor requests an extension of the Contract Time, it shall furnish such justification and supporting evidence as the Engineer may deem necessary for a determination of whether or not the Contractor is entitled to an extension of time under the provisions of the Contract.

The written claim seeking an extension of time must include the following information:

- i. Nature of the delay.
- ii. Date (or anticipated date) of commencement of delay.
- iii. Identification of person(s) or organization(s) or events affected by delay.
- vi. Activities on the Construction Schedule affected by the delay, or new activities created by the delay and their relationship with existing activities.

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- v. Identification of person(s) or organization(s) or event(s) the Contractor believes responsible for the delay.
- vi. Anticipated extent of the delay.
- vii. Recommended action to avoid or minimize the delay.
- viii. Identification of the pertinent contract provisions and supporting documents or project records.

Any request for an extension of the Contract Completion Date must be processed per 108.06. If there is a time extension request pending, the Contractor shall not include the time extension in a monthly progress update until the request is approved by the City and shall not use the time extension request as a basis for refusing to prepare and submit a recovery schedule.

B. Critical Path Method (CPM) Schedule (Type B).

The Contractor shall submit to the Engineer a baseline construction schedule as described in 108.03.B.1 in the form of a computer generated CPM Schedule in a format approved by the Engineer or as specified. The Contractor shall designate a Scheduler(s) who shall be responsible for preparing and maintaining the schedule and coordinating with the Engineer. The Contractor shall provide personnel or a subcontractor specializing in CPM scheduling with experience in scheduling three projects of a similar complexity to the Project. If requested by the Engineer, provide at the preconstruction meeting the experience and qualifications of the scheduler(s).

The CPM Construction Schedule shall clearly show the sequence of work and interdependence of activities by utilizing predecessor and successor relationships.

1. Initial/Baseline Construction Schedule Submission. The Contractor shall submit a baseline schedule within fifteen calendar days from the Notice to Proceed. The baseline schedule will be in CPM format and as described herein. The baseline construction schedule shall provide a complete and detailed sequence of operations of the work within the time limits specified in the Contract. The baseline construction schedule shall show the order in which the Contractor proposes to carry out the work, the dates on which the various portions of the work shall commence, and the dates on which the Contractor contemplates completing the Work.

In addition to providing the baseline construction schedule, the Contractor shall provide an initial work plan narrative containing the following: the planned number of crews: crew type, approximate crew size, and equipment.

The Engineer will review the baseline schedule and will provide a disposition of the schedule within fourteen calendar days of receipt. The Engineer's review of the baseline schedule will be for compliance with the Specifications and Contract requirements. Approval by the Engineer shall not relieve the Contractor of any of its responsibilities for the accuracy or feasibility of the schedule.

For baseline schedules that are not accepted, the Engineer shall indicate in writing all portions of the schedule that are not in compliance with the Contract requirements. The Contractor shall make the necessary revisions and resubmit the revised schedule within seven Calendar Days. The Engineer will reject baseline schedules that are not in compliance with Contract requirements.

The Engineer shall conduct a mandatory meeting with the Contractor and the Contractor's Schedule Representative within seven calendar days of the Engineer's written notice for any baseline schedule that is not accepted. The purpose of this meeting is to resolve issues with the baseline schedule. At this meeting the Contractor shall provide clarification and additional information necessary for the Engineer to accept the baseline schedule.

The City shall withhold pay estimates until the baseline schedule is "accepted".

Acceptance of the baseline schedule does not revise the Contract Documents.

a. Schedule Requirements. Generate the baseline schedule using Oracle Corporation's Primavera P6 Project Management or the latest version of Oracle Primavera Software.

Provide a working day schedule that shows the various activities of work in sufficient detail to demonstrate a reasonable and workable plan to complete the Project by the Contract Completion Date.. Show the order and interdependence of activities and the sequence for accomplishing the Work. Describe all activities in sufficient detail so that the Engineer can readily identify the elements of the Work and measure the progress of each activity. The baseline schedule must reflect the scope of work, required phasing, maintenance of traffic requirements, interim completion dates, the Completion Date, and other project milestones established in the Contract Documents. Include activities for major submittals, working drawings, shop drawings, submittal review time for the City, material procurement and fabrication, and the delivery of materials, plant, and equipment, and other similar activities.

The Contractor shall be responsible for assuring all work, including all subcontractor and supplier work, is included in the schedule. The Contractor shall be responsible for assuring that all work sequences are logical and that the schedule indicates a coordinated plan.

Failure by the Contractor to include any element of Work required for performance of the Contract shall not excuse the Contractor from completing all Work by the Completion Date. Omissions and errors shall be corrected as described in 108.03.B.4.a and will not affect Contract Time.

b. CPM Schedule Format.

i. Administrative Identifier Information: The following information should be included in the title bar on all schedule sheets:

- a. Project Number
- b. Project Name
- c. Project Location
- d. Data Date
- e. Completion Date
- f. Contractor's Name

ii. Project Activities shall represent an uninterrupted action, task, component, process or operation and include the following:

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a. Activity Identification (ID). Assign each activity a unique identification number. Activity ID length shall not exceed 10 characters. Once accepted, the Activity ID shall be used for the duration of the project.

b. Activity Description. Each activity shall have a narrative description consisting of a verb or work function (e.g.; form, pour, excavate) and an object (e.g.; slab, footing, underdrain).

c. Activity Original Duration. "Activity Original Duration" is defined as the amount of time required to complete the activity based on a set of planned resources necessary to complete the activity. Assign a planned duration in working days for each activity. Do not exceed a duration of 20 working days for any construction activity unless approved by the Engineer. Do not represent the maintenance of traffic, erosion control, and other similar items as single activities extending to the Completion Date. Break these Pay Items into component activities in order to meet the duration requirements of this paragraph.

d. Activity Relationships:

1. All activities, except the first activity, shall have a predecessor(s). All activities, except the final activity, shall have a successor(s).

2. Use only finish-to-start relationships with no leads or lags to link activities.

a. No activity shall involve more than one trade or specialty subcontractor. There is to be at least one activity for every subcontractor performing work on the Project.

b. Provide activities for procurement of major equipment and any other long lead time items.

c. Any activity durations that are based on other than a single shift operation are to be clearly and individually identified with an appropriate explanation of how those multi-shift activities relate to the other schedule activities. Shift work needs to be consistently addressed either in an activity id and/or in an activity code. The schedule is considered to be based on an eight hour days, five day work-weeks unless otherwise noted.

iii. Project Milestones. Milestones shown in the Contractor Documents shall be included in the Baseline Schedule. Milestone dates may be modified only by Change Order or Contract Modification. In addition to any milestones identified in the Contract Documents, include the following milestones in the schedule:

a. Start Project: The Contractor shall include as the first milestone in the schedule, a milestone named "Start Project". The date used for this milestone is the date provided in the Notice to Proceed.

b. End Project Milestone: The Contractor shall include as the last activity in the project schedule, a milestone named "End Project". The date used for this milestone is considered the project completion date.

c. Start Phase Milestone: The Contractor shall include as the first activity for a project phase, an activity named "Start Phase X", where "X" identifies the phase of work.

d. End Phase Milestone: The Contractor shall include as the last activity in a project phase, an activity named "End Phase X" where "X" identifies the phase of work. The Contractor may include additional milestones, but at a minimum contractual milestones.

iv. Level of Effort Activities: Use level of effort activities to show the duration of specified contract work periods, phases and road closures. The level of effort activity type is allowed to have a start-to-start relationship with the first activity in a series of activities and a finish-to-finish relationship with the last activity in a series of activities.

v. Constraints: The Construction Schedule is to have no constrained activities except the Start Project Milestone and the End Project Milestone dates, unless otherwise permitted by the Engineer. Interim dates are to be controlled by logic and activity duration only. Mandatory start and finish constraints are not to be used in the schedule.

vi. Seasonal Weather Conditions: Anticipated weather days outlined in the Table 108.07-1 identify the number of days each month the Contractor must plan for weather impacts. Seasonal weather conditions shall be considered and included in the planning and scheduling of all Work in accordance with Table 108.07-1.

Anticipated weather days specified in Table 108.07-1 shall be incorporated in the schedule using work calendars. In the baseline schedule, random non-sequential weekdays shall be considered non-workdays to match the anticipated weather days total for that month according to 108.07. Anticipated weather days must be the same dates on all calendars affected by weather. Subsequent schedule updates shall remove the random weather days and replace them with the actual agreed weather days at no additional cost to the City. The winter shutdown periods shall be shown using non-work calendars. The activity can be assigned to a calendar indicating time periods of non-work. These custom calendars can be created to show days, weeks, or months of non-work. Seasonal weather conditions shall be considered and included in the planning and scheduling of all work.

vii. Linking Projects: Independent projects shall not be linked.

vii. Activity Codes: The Contractor shall, at a minimum, include codes for Area, Phase, and Responsibility for each activity. At the Engineer's approval, the Contractor may use a Work Breakdown Structure (WBS) to organize the construction schedule.

ix. Schedule Options: The schedule may only be calculated using actual dates. Schedule durations are to be contiguous. Total float shall be calculated as finish float. All activities must have a predecessor/successor relationship except for the first activity (Project Start) and the last activity (Project Finish).

x. Calendars: All calendars are to be based on a five-day, work week and activity durations are to be in working days unless otherwise approved by the Engineer. Calendars are to include any recognized holidays (when observed) that will shorten a five working-day week. The construction schedule shall include multiple calendars appropriate to the activity (i.e. 7 day calendar for cure time, burn-in time, settlement period, etc). Calendars should reflect weather restrictions for certain work (i.e. asphalt, painting, etc.).

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b. Completion Date. The baseline construction schedule shall not indicate a completion date that is earlier than the Contract Completion Date.

c. Submission Requirements. Submit all schedules within the time frames specified. Submit the schedule and information in electronic file format.

Submit the following information along with the electronic baseline schedule:

i. A baseline schedule in a bar chart format, including the Administrative Identifier Information on the first page of the schedule. For each activity on the chart, indicate the Activity ID, Activity Description, Original Duration, Remaining Duration, Total Float, Early Start Date, Early Finish Date, and Calendar ID. Use arrows to show the relationships among activities.

ii. A baseline schedule in a bar chart format, on paper. Identify the critical path of the project on the bar chart in red. The critical path is defined as; the longest path of activities in the project that determines the project completion date. The activities that make-up the critical path of activities are the "Critical Activities."

iii. A Six Week Look Ahead Schedule in bar chart format. This schedule will have all the requirements of the baseline schedule in bar chart format except that it shall be limited to those activities that have an early start or early finish within a six week period of the data date.

iv. A Scheduling Statistics Report. Submit a report of baseline schedule statistics, including number of activities, number of activities on the longest path, number of started activities, number of completed activities, number of relationships, percent complete, and number and type of constraints.

v. A Logic Diagram (If requested by the Engineer). Submit a diagram in PERT chart format showing the logic of the baseline schedule.

vi. An Activity ID Sort. Submit a listing of all activities included in the baseline schedule sorted by ascending Activity Identification Number.

vii. A Total Float Sort. Submit a listing of all activities included in the baseline schedule sorted by increasing total float and by early start date.

viii. A Detailed Predecessor/Successor Sort. Submit a listing of all activities included in the baseline schedule indicating the activities that immediately precede and immediately succeed that activity in the schedule logic.

2. Float. Float is not time for the exclusive use or benefit of either the City or the Contractor but is to be a shared commodity to be reasonably used by either party to mitigate delay to the Contract Completion Date.

Pursuant to the float sharing requirements of this Section, the use of float suppression techniques such as: preferential or logic sequencing (arranging critical path through activities more susceptible to City caused delay); special lead/lag restraints; extended activity durations; as late as possible constraints; imposed constraint dates other than those required by the Contract Documents; and the like are prohibited and shall be cause for rejection of the project schedule or its updates.

a. Definitions of Float: "Float" is defined as the amount of time between the early start date and the late start date (or the early finish date and late finish date) of

any activity in the Construction Schedule. "Total Float" is defined as the amount of time any given activity or path of activities may be delayed before it will affect the Contract Completion Date. Project Float is the length of time between the End Project Milestone and the Contract Completion Date.

b. Ownership of Float: Float available in the schedule, at any time, shall not be considered for the exclusive use of either the City or the Contractor. During the course of contract execution, any float generated due to the efficiencies of either party is not for the sole use of the party generating the float; rather it is a shared commodity to be reasonably used by either party. Efficiencies gained as a result of favorable weather within a calendar month, where the number of days of normally anticipated weather is less than expected, will also contribute to the Project Float. A monthly progress update schedule showing work completing in less time than the contract time, and accepted by the City, will be considered to have Project Float. Project Float will be a resource available to both the City and the Contractor. No time extensions will be granted nor delay damages paid unless a delay occurs which impacts the Project's critical path, consumes all available float and extends the work beyond the Contract Completion Date.

c. Negative Float: Negative float will not be a basis for requesting time extensions. Any extension of time will be addressed in accordance with 108.03.B.4.c. Scheduled completion date(s) that extend beyond the Contract (or phase) Completion Date(s) may be used in computations for assessment of liquidated damages. The use of this computation shall not be construed as an order by the City to accelerate the Work.

3. Monthly Progress Updates. Prior to the 5th of every month, submit an updated schedule with a data date of the last day of the previous month, unless a different date is agreed to by the Engineer. A monthly update schedule is a schedule in which only progress is updated from the prior data date to the current data date. Work added and/or excusable delays encountered since the prior data date must be represented as a schedule revision as described in 108.03.B.4.a.

a. Update Requirements.

i. Submit the monthly updated bar chart on paper and a copy of the updated schedule in electronic file format. The Engineer shall accept or not accept the schedule update within seven calendar days of receipt of the updated CPM schedule.

ii. Correct out-of-sequence progress listings generated by the Scheduling Statistics Report as directed by the Engineer.

iii. Maintain schedules to record actual start and finish dates of completed activities on a weekly basis until otherwise notified by the Engineer.

iv. Identify the actual start date and remaining duration for all activities in progress. Indicate progress of each activity to date of revision using remaining duration, not percent complete.

v. Show accumulated percentage of completion of each item for updates, and total percentage of Work completed, as of the schedule's data date.

b. Submit the following with each updated schedule:

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- i. CPM Schedule in Bar Chart Format - Two large printed copies, minimum 22" X 34"
- ii. Two Week Look Ahead CPM Schedule in Bar Chart Format
- iii. Logic Diagram (If requested by the Engineer)
- iv. Activity ID Sort (If requested by the Engineer)
- v. Total Float Sort (If requested by the Engineer)
- vi. Detailed Predecessor/Successor Sort (If requested by the Engineer)
- vii. Schedule Statistics Report
- viii. Electronic files of the Primavera Project files in .xer

The Contractor may submit a statement that there were no changes in the schedule logic, activity durations, or calendars since the previous update in lieu of submission of items 3, 4, 5 and 6.

c. Provide two printed copies of a Narrative Status Report that includes the following:

- i. A description of the general status of the Work.
- ii. Any outstanding issues that affect the construction schedule, i.e., any current and anticipated delaying factors, and describe their impact on the construction schedule, the critical path and the Project Completion Date.
- iii. Any activities added to the construction schedule with an explanation for their addition.
- iv. Any activities deleted from the construction schedule with an explanation for their deletion.
- v. Any changes in the relationships of activities with an explanation.
- vi. Any changes to worker hours or budgeted costs with an explanation.
- vii. An explanation of any recovery measures being taken.

d. Estimates will not be processed unless all schedule requirements are met.

e. Early Completion Monthly Update Schedule. In the event that an accepted monthly progress update indicates a completion date that is earlier than the Contract Completion Date, the Contractor shall not be entitled to any extension in Contract time or recovery of any cost for delay, disruption, interference, hindrance, extension, or acceleration costs incurred, however caused, because of an extension of the early completion date until such time as the network or activities affected increases the critical path duration of the CPM Schedule beyond the Contract Completion Date.

f. Late Completion Monthly Update Schedule. A Late Completion Monthly Update Schedule is defined as a monthly update schedule submitted by the Contractor in which the Finish Date exceeds the Contract Completion Date.

- g. The project schedule shall be reviewed at each progress meeting.
- h. Any corrections to the schedule shall be made and submitted to the Engineer within seven calendar days.

4. CPM Changed Conditions.

a. Schedule Revisions. If the Contractor's operations are materially affected by changes in the Work plan or in the amount of the Work or if the Contractor has failed to comply with the approved Construction Schedule, the Contractor shall submit a revised construction schedule, which schedule shall show how the Contractor proposes to prosecute the balance of the Work.

Any addition of new activities or new calendars or changes to existing activities, calendars or logic constitute a revision. All revisions must be reported in narrative form on a cover sheet accompanying the monthly update schedule. The schedule revision must be accompanied by a narrative detailing the changes in logic, activities, and durations from the accepted baseline.

Any revision which modifies the critical path or impacts an interim date or project completion date must be represented on a companion schedule submitted with the monthly update schedule or as a fragnet within the monthly update schedule. A fragnet is defined as the sequence of new activities that are proposed to be added to the existing schedule. The fragnet shall identify the predecessors to the new activities and demonstrate the impacts to successor activities. If submitted as a fragnet, the Contractor shall compute two Finish Dates. The first Finish Date shall be computed without consideration of any impact by the fragnet. The second Finish Date shall be computed with consideration of any impact by the fragnet. The Contractor shall also submit a written narrative stating the reason for the proposed revisions. The Engineer shall "approve" or "reject" proposed revisions within ten days of receipt of appropriate schedules and narrative. All approved revisions will be incorporated into the Monthly Update Schedule which will become the Revised Monthly Update Schedule.

b. Recovery Schedules. If the Monthly Update Schedule or Revised Monthly Update Schedule projects a finish date for the Project more than fourteen calendar days later than the current Completion Date, submit a recovery schedule showing a plan to finish by the current Completion Date if requested by the Engineer, at no additional cost to the City. The recovery schedule shall also include a written plan detailing how the Contractor proposes to recover the lost time and meet the Completion Date. Such measures may include, but are not limited to, increasing the size of the workforce; increasing the number of working hours per shift, shifts per work day, work days per week, the amount of equipment or combination thereof; or rescheduling of work activities to achieve maximum concurrence of work efforts, all at no additional cost to the City. The Contractor shall submit the recovery schedule within ten days after the request is made by the Engineer.

The City may withhold Estimates until the Engineer approves the recovery schedule. The Engineer will use the schedule to evaluate time extensions and associated costs requested by the Contractor. In the event the current Completion Date is in dispute, the recovery schedule must be submitted once the dispute has been resolved.

The Engineer will review the Contractors' revised plan and provide comments. The Contractor is to incorporate or resolve all such comments to the satisfaction of the

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Engineer. At that time, the revised Construction Schedule will supersede the then-current Construction Schedule and be used as the basis for progress evaluations. Acceptance by the City of the revised construction schedule and/or recovery plan shall not serve as a time extension approval.

c. Delay and Analysis of the Construction Schedule. The Contractor shall not be entitled to and hereby waives any extension of time resulting from any event, circumstance, condition or cause unless a request for an extension of time is made in accordance with the requirements of 104.03. In the event the Contractor requests an extension of the Contract Time, it shall furnish such justification and supporting evidence as the Engineer may deem necessary for a determination of whether or not the Contractor is entitled to an extension of time under the provisions of the Contract.

Any request for an extension of the Contract Completion Date must be processed per 108.06. If there is a time extension request pending, the Contractor shall not include the time extension in a monthly progress update until the request is approved by the City and shall not use the time extension request as a basis for refusing to prepare and submit a recovery schedule in accordance with this Section. The City may withhold payment estimates until the progress schedule, revised progress schedule and/or recovery plan is approved by the City. Should the prosecution of the Work, for any reason, be discontinued, the Contractor shall notify the Engineer at least one Work Day in advance of resuming operations.

Submit the impacted schedule with the request for time extension. Include a narrative report describing the effects of new activities and relationships to interim and contract completion dates. The written claim seeking an extension of time must include the following information:

- i. Nature of the delay.
- ii. Date (or anticipated date) of commencement of delay.
- iii. Identification of person(s) or organization(s) or events affected by delay.
- iv. Activities on the Construction Schedule affected by the delay, or new activities created by the delay and their relationship with existing activities.
- v. Identification of person(s) or organization(s) or event(s) responsible for the delay.
- vi. Anticipated extent of the delay.
- vii. Recommended action to avoid or minimize the delay.
- viii. Identification of the pertinent contract provisions and copies of applicable documents and project records.
- ix. Show the impact of the delay on the Critical Path by comparing the original longest path to the current longest path that incorporates the delay.

The determination of the total number of days' extension shall be based upon the most recently approved Schedule Update as of the start of the delay claimed by Contractor and on all data relevant to the extension. Circumstances and activities leading

to such claim shall be indicated or referenced in the Contractor's daily field report for the day(s) affected.

Perform the following analysis to compute the duration of the time extension. Submit two paper copies and two electronic copies of each analysis performed.

i. Determine project progress prior to circumstance(s) necessitating the time extension. Provide an interim schedule updated to the date of the circumstance alleging to have caused delay. This schedule is referred to as the Un-impacted Schedule.

ii. Prepare a fragmentary network (fragnet) depicting the circumstance that is believed to have delayed the project.

iii. Insert the fragnet into the Un-impacted Schedule, run the schedule calculations and determine the finish date. This schedule is referred to as the Impacted Schedule.

iv. Compare the Impacted Schedule finish date with the Un-impacted Schedule finish date in order to determine the duration of any warranted time extension.

All approved time extensions will be incorporated into the monthly update with the fragnet used to determine impacts incorporated into the schedule.

C. Basis of Payment.

No separate payment will be made for Type A schedules and the cost of such schedule shall be included in the prices bid for the various Pay Items of the Contract.

The City will make payments for Type B Schedules according to 109.07 and as modified by the following schedule:

1. The City will release 60 percent of the lump sum amount bid for CPM Progress Schedule to the Contractor with the first regular estimate payable after the Engineer has approved the CPM Baseline schedule submission.

2. The City will release an additional 30 percent of the lump sum amount bid for CPM Progress Schedule to the Contractor with the first regular estimate payable after 50 percent of the original contract amount is complete.

3. The City will release the remaining 10 percent of the lump sum amount bid for CPM Progress Schedule to the Contractor with the first regular estimate payable after 90 percent of the original contract amount is complete.

The City will pay for the accepted quantities at the contract price as follows:

Item	Unit	Description
108.03	Lump Sum	Type B CPM Progress Schedule

108.04 Limitation of Operations. The Contractor shall conduct the Work at all times in such a manner and in such sequence as will assure the least interference with traffic and other operations of the City and the public. The Contractor shall conduct the Work with due regard to the location of detours and to the provisions for handling traffic. The Contractor shall not open up work that would interfere with other work or operations already started or adversely impact work that is already partially completed. The Engineer may require the Contractor to finish a section on which work is in progress

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before work or operations are started on any additional sections if the completion and opening of such section is essential to public convenience.

A. Work Hours. All Work on this Contract shall be performed only during the period from 1/2 hour before sunrise and 1/2 hour after sunset as sunrise and sunset are determined by the U.S. National Weather Service.

B. Night Work, Work on Sunday and National Holidays. Authorization to work at night, on Sunday and/or National Holidays shall only be upon written permissions of the Engineer or as detailed in the Contract Documents. Requests to work at night, on Sunday and/or National Holidays must be made in writing three working days prior to the night, Sunday and/or Holiday work.

The Contractor is advised, however, that if permission is granted by the Engineer, all work at night, on Sunday and/or National Holidays must be in accordance with the City's Noise Ordinance unless such requirements have been waived by action of the Director.

108.05 Character of Workers, Methods, and Equipment.

A. Labor, Materials and Equipment. The Contractor shall at all times employ sufficient competent labor, materials and equipment for prosecuting the Work to completion in the manner, method, sequence and time required by the Contract Documents. All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work or operations shall have sufficient experience in such work and in the operation of the equipment required to perform all work properly and satisfactorily.

B. Personnel. Any person employed by the Contractor or by any subcontractor who, in the opinion of the Engineer, does not perform their work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed forthwith by the Contractor or its subcontractor employing such person, and shall not be employed again in any portion of the Work without the approval of the Engineer.

C. Equipment. All equipment that is proposed to be used on the Work shall be of sufficient type and size and in such mechanical condition as to meet requirements of the Contract and produce a satisfactory quality of Work. Equipment used on any portion of the Work shall be such that no injury to workers, the public, the roadway, adjacent property, or other streets or highways will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the Work are not prescribed in the Contract, the Contractor may use any methods or equipment that is demonstrated to the satisfaction of Engineer will accomplish the Work in conformity with the requirements of the Contract.

When working or staging on existing pavements that are not including in the contract for replacement or resurfacing, Contractor shall select equipment and sequences such that the existing pavements are not further degraded by the Work. Contractor may use any equipment that increases efficiency or production and that results in additional degradation of the pavements, but agrees that the use of this equipment was used knowingly that degradation of pavements would occur and that all pavements degraded

from his Work shall be resurfaced or replaced as determined by the Engineer at no additional cost to the City.

When the Contract specifies that the Work be performed by the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized in writing by the Engineer. If the Contractor desires to use a method or type of equipment other than those specified in the Contract, the Contractor may request authority from Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed to be used and an explanation of the reasons for requesting to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing Work in conformity with Contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet Contract requirements, the Contractor shall discontinue the use of the substitute methods or equipment and shall complete the remaining Work with the Contract specified methods and equipment. The Contractor agrees that the substitution of methods and equipment shall not be a basis for any Claim seeking additional cost or time.

D. Withholding of Payment. Should the Contractor fail to furnish sufficient competent personnel, materials and equipment for the proper prosecution of the Work, or fail to remove such person(s) as requested by the Engineer, the Engineer may withhold all payment estimates, which are or may become due.

108.06 Determining a Time Extension to the Completion Date and Payment for Excusable Delays.

A. General. The City will extend the Completion Date only for (a) excusable delays as specified in 108.06.B or 108.06.D that (b) delay Work on the critical path as shown on the accepted progress schedule and (c) impact the Completion Date. For purposes of this Section, the critical path is defined as the longest path of activities in the Project that determines the Completion Date. Any delay that is not on the critical path of the Project shall not be excusable or compensable.

The City will not evaluate a request for extension of the Completion Date unless the Contractor notifies the Engineer consistent with the process and timelines as specified in 104.03. In the event that the Contractor does not know the extent of the delay at the time of the first written notice, it shall supplement its notice and schedule analysis per 104.03, 108.03.A.4.c and 108.03.B.4.c as it becomes aware of the extent of the delay for which it is requesting a time extension.

If the Contractor contends that an excusable delay is also compensable as specified in 108.06.D, the Contractor shall also submit a detailed cost analysis of the requested additional compensation in accordance with 109.05 along with the request for an extension of the Completion Date.

The Contractor is responsible for mitigating any delay, whether caused by the City, the Contractor, its subcontractors or suppliers, a third party, or an intervening event. Mitigation efforts may include, but are not limited to, re-sequencing work activities, acceleration, and continuation of work through an otherwise planned shutdown period. The Contractor and the Engineer shall work cooperatively with one another to explore and implement mitigation efforts in a timely manner.

108.06

The Engineer will measure all time extensions in Calendar Days. The Engineer will not grant an extension of time for delays incurred from December 1 to April 30 unless the Contractor's accepted progress schedule shows work on the critical path occurring during this period. The Engineer may order Contractor to continue the Work after November 30 and compensate Contractor for additional costs incurred due to cold weather work during the period December 1 to April 30.

If the Engineer extends the Completion Date pursuant to 108.06, the City will excuse the Contractor from corresponding liquidated damages as specified in 108.07.

B. Excusable, Non-Compensable Delays. Excusable, non-compensable delays are critical path delays that are not the City's or the Contractor's fault or responsibility. If the conditions in 108.06.A are met, the Engineer will extend the Completion Date only for the following excusable, non-compensable delays:

1. Delays due to floods, tornadoes, lightning strikes, earthquakes, or other cataclysmic phenomena of nature.
2. Delays due to weather as specified in 108.06.C.
3. Extraordinary delays in material deliveries the Contractor or its suppliers cannot foresee or avoid resulting from freight embargoes, government acts, or industry-wide and area-wide material shortages. Delays due to Contractor's, subcontractor's, or supplier's insolvency, actions or omissions, or mismanagement are not excusable.
4. Delays due to civil disturbances.
5. Delays from fires or epidemics.
6. Delays from labor strikes that are beyond the Contractor's, subcontractor's, or supplier's power to settle and are not caused by improper acts or omissions of the Contractor, subcontractor, or supplier.
7. Added quantities that delay an activity on the critical path.
8. All other delays to the critical path that are not the Contractor's or the City's fault or responsibility.

C. Extension to the Completion Date for Weather or Seasonal Conditions. The Contractor shall be entitled to a non-compensable extension of the Completion Date caused by weather days only as permitted in 108.06.C. A weather day is defined as a Work Day on which weather or seasonal conditions reduced production by more than fifty percent on items of work on the critical path as defined by 108.06.A; provided, however, Sundays and holidays will not be counted as lost Work Days.

Delays caused by weather or seasonal conditions should be anticipated by the Contractor. The following Table 108.06-1 of monthly anticipated abnormally inclement weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or other similar data for Columbus, Ohio and will constitute the baseline for monthly inclement weather evaluations. The Construction Schedule must reflect these anticipated adverse weather delays in all weather dependant activities. Inclement weather will be considered as the basis for an extension of the Completion Date only when the actual Work Days lost due to inclement weather exceeds the anticipated number of inclement weather days as shown in the following table:

**TABLE 108.06-1 MONTHLY ANTICIPATED INCLEMENT WEATHER
DELAY TABLE**

(Work Days Based on a Five Day Work Week)

January	15
February	12
March	7
April	6
May	6
June	5
July	4
August	4
September	5
October	6
November	6
December	10

This table applies to the duration between Notice to Proceed and original Completion Date. Extensions for weather days beyond the original Completion Date will be determined in accordance with 108.06.C.

The Engineer will not extend the Completion Date for work days lost from December 1 to April 30, unless the Contractor's accepted progress schedule depicts Work on the critical path occurring during the period from December 1 to April 30 and the number of weather days is in excess of those listed above for the period from December 1 to April 30.

D. Excusable, Compensable Delays. Excusable, compensable delays are critical path delays that are not Contractor's fault or responsibility and are City's fault or responsibility or are determined by judicial proceeding to be City's sole responsibility.

If the conditions in 108.06.A are met, the Engineer will extend the Completion Date only for the following excusable, compensable delays:

1. Delays due to revised Work as specified in 104.02.B; 104.02.D; and 104.02.F.
2. Delays due to utility or railroad interference within the Construction Limits that are not the Contractor's responsibility.
3. Delays due to an Engineer-ordered written delay or suspension as specified in 104.02.C.
4. Delays due to acts of the government or a political subdivision other than the City; provided, however, these compensable delay costs are limited to escalated labor and material costs only, as allowed in 109.05.D.2.b and 109.05.D.2.d.

Compensation for excusable, compensable delays will be determined by Engineer in accordance with 109.05.D.

E. Non-Excusable Delays. Non-excusable delays are delays that are Contractor's fault or responsibility. All non-excusable delays are non-compensable.

108.07

F. Concurrent Delays. Concurrent delays are separate critical path delays that occur at the same time. For all time periods when a non-compensable critical path delay is concurrent with a compensable critical path delay as shown by the schedule analysis performed pursuant to 108.03, the Contractor shall be entitled only to additional time but not entitled to additional compensation.

108.07 Failure to Complete on Time. If the Contractor fails to complete the Work by the Completion Date, then the Engineer, if satisfied that the Contractor is making reasonable progress, and deems it in the best interest of the City, may allow Contractor to continue in control of the Work. If the Contractor is permitted to continue, Contractor must provide for the Engineer's approval a written work plan and schedule for completion of the Project and shall diligently prosecute the Work in such a manner as required by the Contractor's approved work plan.

For each Calendar Day that Work remains uncompleted after the Completion Date, the City will deduct the sums specified herein from any money due Contractor, not as a penalty, but as liquidated damages based on the following schedule:

TABLE 108.07-1 SCHEDULE OF LIQUIDATED DAMAGES

Original Contract Amount (Total Amount of the Bid)		Amount of Liquidated Damages to be Deducted for Each Calendar Day of Overrun in Time
From More Than	To and Including	
\$0	\$50,000	\$150.00
\$50,001	\$150,000	\$250.00
\$150,001	\$500,000	\$500.00
\$500,001	\$2,000,000	\$1,000.00
\$2,000,001	\$5,000,000	\$2,000.00
\$5,000,001	\$10,000,000	\$2,500.00
	Over \$10,000,001	\$3,000.00

If the Contract Documents contain a special provision for liquidated damages, it shall be used in lieu of the schedule listed above.

In addition to the amounts specified above, for each Calendar Day after the Completion Date the Contractor will be charged for all City inspection and contract administration services. The Contractor acknowledges that these costs are in addition to the liquidated damages set forth above to compensate the City for its inability to use the Work as scheduled for its intended purpose and the Contractor expressly waives any right to assert or plead that such costs are duplicative of the liquidated damages set forth above.

The City will continue to pay the Contractor for Work performed on the Project less any liquidated damages set forth in this Section. The City may deduct the liquidated damages and inspection costs from all estimates due and payable to the Contractor after the Completion Date.

108.08 Unsatisfactory Progress and Default of Contractor.

A. Termination for Default. The Director will notify the Contractor in writing of unsatisfactory progress and provide a Notice of Intent to Declare the Contractor in Default (“Notice of Default”) for any of the following reasons:

1. The Contractor assigns or sublets the Work without approval of the Director.
2. The Contractor makes a material misrepresentation in any of the required Bid or Contract Documents.
3. The Contractor fails to supply a sufficient number of properly skilled workers or proper equipment or materials.
4. The Contractor becomes financially unable to meet its obligations, as evidenced by any of the following: filing for bankruptcy protection, making a general assignment for the benefit of creditors, a receiver is appointed to take charge of Contractor’s affairs, or Contractor’s property is levied or taken in execution or under attachment.
5. Contractor is not fulfilling or is violating any of the terms of the Contract or fails or refuses to perform or complete the Work.
6. Contractor is not making such progress in the execution of the Work as needed to meet the Completion Date.
7. The Contractor abandons the Work under the Contract.
8. The Contractor disregards laws, permits, ordinances, codes, rules, regulations or orders of any public authority having jurisdiction or fails to follow instructions of the City.
9. The Contractor repeatedly fails to make prompt payment to subcontractors or suppliers, or for materials and labor.
10. The Contractor has not furnished required schedule(s) or schedule information, or has not commenced or progressed the Work by the dates established in the approved project schedule or updates.
11. Any other reason the Director believes jeopardizes completion of the Work by the Completion Date.

If the Contractor does not respond to the Notice of Default to the satisfaction of the Director, the Director may declare the Contractor in default and issue a Notice of Termination to the Contractor and terminate the Contractor’s employment and notify the Surety and the Contractor that the responsibility to complete the Contract is transferred to the Surety. Upon receipt of the Notice of Termination the Contractor’s right to control and supervise the Work shall immediately cease and the Contractor shall not be entitled to receive any further payment. Upon the receipt of the Notice of Termination, the Contractor shall discontinue the Work or such part thereof as the Director shall designate.

If after default termination pursuant this Section, it is determined that none of the circumstances set forth in 108.08.A exist, then such termination shall be considered a termination for convenience pursuant to 108.08.B. In such event, the Contractor’s sole remedy shall be the costs permitted by 109.05.F.

B. Termination for Convenience.

1. General. The City may by written order to the Contractor terminate the Contract or any portion thereof when such termination would be in the best interests of the City.

Any such termination shall be effected by delivery to the Contractor of an Order of Termination specifying that the termination is for the convenience of the City, the extent to which performance of Work under the Contract is terminated, and the effective date of the termination.

2. Contractor Obligations. After receipt of the Order of Termination the Contractor shall immediately:

- a. Stop work under the Contract on the date and to the extent specified in the Order of Termination.
- b. Place no further orders or subcontracts for materials, services or facilities except as may be necessary for completion of such portion of the Work under the Contract as is not terminated.
- c. Terminate all orders or subcontracts for materials, services or facilities except as may be necessary for completion of such portion of the Work under the Contract as is not terminated.
- d. Submit to the Engineer a material inventory list ("Materials Inventory"), certified as to quantity and quality of materials in its possession or in transit to the Project.
- e. Transfer to the Engineer the completed or partially completed submittals, plans, drawings, information, and other property which if the Contract had been completed would be required to be furnished to the City.
- f. Take such actions as may be necessary for the protection and preservation of property related to the Project which is in possession of the Contractor and in which the City has or may acquire an interest.
- g. Complete performance of such part of the Work as shall not have been terminated by the Notice of Termination.

3. Materials. Acceptable materials included the Materials Inventory that have not been incorporated into the Work may, at the option of the City, be purchased from the Contractor and delivered to a location prescribed by the Engineer or otherwise disposed of as mutually agreed.

4. Claim by Contractor. Within ninety days after receipt of the Order of Termination from the City, the Contractor shall submit any Claim for additional damages or costs not covered above or elsewhere in the Contract. The City will meet with the Contractor to reach a settlement acceptable to both the Contractor and the City.

Failure of the Contractor to submit its Claim within the ninety day period will result in the Director's determination of amounts due the Contractor, if any, on the basis of information available, and the City will thereupon pay to the Contractor the amount so

determined. Such determination by the Director shall be final and binding and the Contractor expressly waives its right to contest the Director's determination.

5. Continuation of Contractual Responsibilities. Termination of the Contract or a portion thereof shall not relieve the Contractor of its contractual responsibilities for the completed Work and shall not relieve the Contractor's Surety of its obligation for and concerning any claim arising out to the Work performed.

108.09 Certified Payroll. The Contractor shall submit weekly to the Prevailing Wage Coordinator of the City of Columbus a copy of all project employee payrolls for the duration of the time of construction. The copy shall be accompanied by a certified statement, signed by the Contractor or an authorized agent, indicating that the payrolls are correct and complete and that the wage rates contained therein are not less than those required by the prevailing wage rates in the Contract, or any subsequent revision of wage rates during the life of the Contract. The Contractor shall be responsible for the submission of copies of payrolls of all subcontractors.

Provide any additional forms and records as specified in ORC 4115 or as required by Federal law. The Contractor shall make employment records available for inspection by authorized representatives of the City and will permit employees to be interviewed during working hours by these representatives.

All weekly payrolls shall contain or have attached the following:

1. the full name and social security number of each employee;
2. the current address of the employee;
3. the Job Classification of the employee (same as shown on wage determination or provisional approval);
4. hourly rate of pay;
5. hours worked each day and total for each week;
6. fringe payments and deductions made;
7. gross and net wages for each week.

Failure to furnish and submit the above information as part of the required weekly Certified Payroll will be cause for the City to withhold the preparation of the monthly estimate. In the event of a violation of the wage rate provisions by the Contractor or any subcontractor, the City may, after notice to the Contractor, suspend further payments or proceed to terminate the Contract as provided by the Contract.