



CASHLESS TOLLING

TA 19-1, Contract D800002

CONTRACT DOCUMENTS PART 5

SPECIAL PROVISIONS

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SP-1. SPECIAL PROVISION TO SECTION 100 OF NYSDOT STANDARD SPECIFICATIONS CONSTRUCTION AND MATERIAL AND THE AUTHORITY SECTION 100 OF THE STANDARD SPECIFICATIONS CONSTRUCTION AND MATERIALS

Delete the entire Section 100 of the New York State Department of Transportation and the New York State Thruway Authority's Standard Specifications Construction and Materials in effect as of the Proposal Due Date. Replace Section 100 of the NYSDOT Standard Specifications Construction and Materials and Thruway Authority's by Part 2, DB § 100.

SP-2. SPECIAL PROVISION TO SECTIONS 200 THROUGH 699 OF THE NYSDOT STANDARD SPECIFICATIONS CONSTRUCTION AND MATERIAL AND APPLICABLE NYSDOT/AUTHORITY SPECIAL SPECIFICATIONS

The following amendments apply to Sections 200 through 699 inclusive of the New York State Department of Transportation Standard Specifications Construction and Materials in effect as of the Proposal Due Date, and any NYSDOT/Authority Special Specifications referenced in Part 3, Project Requirements or which otherwise might be required during the design and construction of the Project, with the exception of Section 800 Specifications contained in Part 8 – Special Specifications:

- A. All contact with Authority staff or Divisions except for personnel assigned to the Project shall be through the Authority's Project Manager.
- B. References to "plans" or "contract plans" shall mean "Design Plans" prepared by the Design-Builder.
- C. There will be no measurement for payment except for Unit Priced items specifically shown in the Price Proposal. All Work will be paid on the basis specified in Part 2 – DB § 109.
- D. All references to "Section 100" Specifications shall mean equivalent references to Part 2 - DB § 100 Specifications.
- E. Delete the following phrases:
 - 1) "deemed necessary by the Engineer";
 - 2) "to the satisfaction of the Engineer";
 - 3) "as determined by the Engineer";
 - 4) "subject to the approval of the Engineer";
 - 5) "as specified by the Engineer";
 - 6) "approved by the Engineer";
 - 7) "ordered by the Engineer";
 - 8) "established by the Engineer";
 - 9) "acceptable to the Engineer";

Or similar phrases denoting instruction by or consent from the Engineer and replace with "as shown on the Design Plans and/or Project Specifications released for construction per DB § 111-12".

If the relevant information is not shown on the Design Plans or covered in the Project Specifications, the Design-Builder shall have the Designer change the Design Plans and/or Project Specifications to incorporate the missing information.

- F. Delete references to “payment lines” and replace with “lines shown on the Design Plans.”
- G. References to “Proposal” or “proposal” shall be interpreted to mean the “Contract Documents”;
- H. Unless specifically stated otherwise in the Contract Documents, sampling and testing specified to be done by the Engineer or other Department/Authority staff, shall be performed by the Design-Builder’s Construction Quality Control (QC) staff;
- I. Working Plans or working drawings, as defined in Part 2 – DB § 101-3, shall be reviewed per DB § 111-12;
- J. “Submission” or “submittal” used in the design shall be subject to review and Authority acceptance per DB § 111-12;
- K. All references to “the Engineer” or “the Engineer-in-Charge” shall mean the Authority’s Project Manager or designated representative;
- L. All references to “Contractor” shall mean “Design-Builder”;
- M. References to: “Deputy Chief Engineer Design, Construction, Technical Services”; any Division in Main Office NYSDOT; “Regional Director”; “Regional Design Engineer”; “Materials Engineer”; “Construction Engineer”; or any other similar title and role shall mean the Authority’s Project Manager or a designated representative;
- N. References to “Department/Authority Engineering Geologist” shall have the meaning defined in Part 2 DB §101-3;
- O. References to “Department/Authority Geotechnical Engineer” shall have the meaning defined in Part 2 DB §101-3;
- P. References to “preconstruction meeting” shall mean “pre-work conference”;
- Q. There shall be no quality payment adjustments under this Contract;
- R. In each Specification delete the sections titled “Method of Measurement” and “Basis of Payment”;
- S. Add the following to Section 648 – Subsurface Explorations:
 - “The Design-Builder shall be responsible to determine the nature, extent, and locations of subsurface explorations needed to obtain data and support subsequent analysis, design, and construction. The Design-Builder shall also be responsible for determining the adequacy of any subsurface exploration data provided as reference documents by the Authority to support its analyses, design, and construction and to supplement such data provided by the Authority as reference documents as the Design-Builder deems necessary.
 - “In planning and conducting its subsurface explorations, the Design-Builder shall comply with the technical requirements of Section 648, unless the Authority agrees otherwise. The Design-Builder is not required to comply with the administrative requirements specified in Section 648; if any”.

- T. Delete Section 697 – Field Change Payment;
- U. Delete Section 698 – Price Adjustments; and
- V. Delete Section 699 – Mobilization.

SP-3. CRITICAL PATH METHOD SCHEDULE

3.1 DESCRIPTION

The schedule submitted in accordance with DB Section 108-1.2 shall consist of preparing, maintaining and submitting a Progress Schedule using the Critical Path Method on Primavera P6 software, or newer release, which demonstrates complete fulfillment of all work including engineering design, construction and administration of the Contract. All work to prepare the Progress Schedule shall be performed using the scheduling software application provided by the New York State Department of Transportation on network servers and accessed through the Internet with NYSDOT provided user accounts. The Design-Builder shall regularly revise and update the Progress Schedule, and use it in planning, coordinating, and performing all work. Schedule activities shall accurately depict the entire scope of work to be performed to complete the project including, but not limited to, all work to be performed by the Design-Builder, consultants, subcontractors, fabricators, suppliers, the Authority, and others, contributing to the project.

1. To maintain the progress schedule, the successful Best Value Design-Builder's CPM electronic CD will be uploaded to the Authority's consultant's primavera P6 Software where Quality Assurance and monitoring for compliance will be performed and relayed to the Authority.

3.2 DEFINITIONS

Activity - A discrete, identifiable task or event that usually has an expected duration, has a definable Start Date and/or Finish Date, and can be used to plan, schedule, and monitor a project.

Activity, Controlling - The first incomplete activity on the critical path.

Activity, Critical - An activity on the critical path.

Actual Start date - At the activity level, the Actual Start date represents the point in time that meaningful work actually started on an activity.

Actual Finish date - At the activity level, the Actual Finish date represents the point in time that work actually ended on an activity (Note: in some applications areas, the activity is considered "finished" when work is "substantially complete."); at the project level, the Actual Finish date represents the point in time that the Design-Builder completes all work on the Project and it is accepted by the Project Manager.

Baseline Progress Schedule - The Progress Schedule submitted by the Design-Builder that shows the plan to complete the Contract Work. The Baseline Progress Schedule represents the Design-Builder's plan at the time of Notice to Proceed for completing the Project.

Completion Date, Contract - The date specified in the Contract for completion of the Project or a revised date resulting from properly executed time extensions.

Completion Date, Scheduled - The date forecasted by the Progress Schedule for the completion of the Project.

Constraint - A schedule restriction imposed on the Start or Finish date(s) of an activity that modifies or overrides an activity's relationships.

Contemporaneous Period Analysis Method – A technique for evaluating schedule delays or time savings. The analysis period for the purpose of these provisions shall be monthly in each regular progress update to the schedule.

Critical Path – The critical activities shall be those activities being on the longest path. In a project network diagram, the series of activities which determines the earliest completion of the Project.

Critical Path Method (CPM) – A network analysis technique used to predict project duration by analyzing which sequence of activities (which path) has the least amount of scheduling flexibility (the least amount of float). A scheduling technique utilizing activities, durations, and interrelationships/dependencies (logic), such that all activities are interrelated with logic ties from the beginning of the Project to the completion of the Project.

Data Date – The date entered in the Project Details, in the Dates tab, which is used as the starting point to calculate the schedule. For the Baseline Progress Schedule submission the Data Date shall be the Notice to Proceed Date; for Monthly Progress Schedule submissions, the Data Date shall be the date up to which the Design-Builder is reporting progress (generally the last work day for the month, and for Weekly Status Reports the Data Date shall be the Saturday of that week). Everything occurring earlier than the Data Date is "as-built" and everything on or after the Data Date is "planned."

Deliverable – Any measurable, tangible, verifiable outcome, result, or item that must be produced to complete a project or part of a project. Often used more narrowly in reference to an external deliverable, this is a deliverable that is subject to approval by the Authority.

Design-Builder's First Day of Construction Work – The day the Design-Builder starts field work within the highway Right-of-Way, which is entered as a Start milestone activity in the schedule.

Design-Builder's Last Day of Work – The last day of physical work in the field, and the Design-Builder has demobilized (no longer has any presence within the highway right-of-way).

Design-Builder Work Day - A calendar day scheduled for active prosecution of Contract work by the Design-Builder or the Design-Builder's representative.

Draft Baseline Progress Schedule – An optional schedule submission that reflects an outline of the schedule format and content proposed by the Design-Builder's Project Scheduler to comply with the schedule provisions in the contract to solicit early comments by the Project Manager, prior to the submittal of complete Baseline Progress Schedule.

Duration, Original - The original estimated number of work days (not including holidays or other non-working periods) in which the work task associated with the activity is expected to be performed. (The number of calendar days may be different based on the calendar assigned to the activity.) For certain activities such as concrete curing, or others approved by the Project Manager, the calendar shall not reflect non-work days.

Duration, Remaining - The estimated time, expressed in work days (not including holidays or other non-working periods), needed to complete an activity that has started but has not finished.

Early Completion Schedule - A progress schedule will be considered an early completion schedule when the schedule submitted by the Design-Builder indicates a completion date that is earlier than the specified Project Completion Date, or when the Finish date of any Interim Milestone work activity is earlier than the date specified in the Contract. This includes, but is not

limited to, activities subject to Incentive/Disincentive provisions and/or specific Liquidated Damages provisions, and Lane Rental activities.

Early Dates – The earliest date an activity can start or finish based upon logic and durations. Calculated by the software application when scheduling the Project.

Enterprise Project Management Database (EPMD) – The NYSDOT’s database of construction project Progress Schedules.

Final Baseline Progress Schedule - The plan, accepted by the Authority, against which the Design-Builder’s progress is measured. The Final Baseline Progress Schedule represents the plan, after Notice to Proceed is issued to the Design-Builder, of how procurement, design and construction is expected to proceed. Once the Final Baseline Progress Schedule is accepted by the Authority’s Project Manager it is saved and used as a basis to compare against Progress Schedules Updates.

Float Suppression - Utilization of zero free float constraints which allows an activity to start as late as possible by using all its' available free float. This technique allows activities to appear more critical than if the activity's total float was based on early dates. Assigning zero free float prevents true sharing of total float between Authority and the Design-Builder. Utilization of overly generous activity durations and overly restrictive calendar non-working periods are also considered to cause float suppression.

Float, Free - The amount an activity can slip without delaying the immediate successor activities. Free Float is the property of an activity and not the network path.

Float, Total - The amount of time an activity (or chain of activities) can be delayed from its early start without delaying the Project Completion Date. Total Float is calculated and reported for each activity in a network, however, Total Float is an attribute of a network path and not associated with any one specific activity along that path.

Fragnet – A subdivision of a project network diagram usually representing some portion of the Project.

Global data – Data classified by Oracle Primavera software as Global, including Project Codes, Global Activity Codes, Global Calendars, Resource Calendars, Global Filters, Resources, Global Reports, User Defined Fields and Unit of Measure.

Initial Baseline Progress Schedule - The Progress Schedule submitted by the Proposer that shows the plan to complete the Contract Work. The Initial Baseline Progress Schedule represents the Design-Builder’s plan at the time of Proposal Due Date for completing the Project.

Key Plans - Key Plans are graphic representations made by the Design-Builder’s Project Scheduler on paper copies of the appropriate Contract plan sheets that reflect the Design-Builder’s planned breakdown of the Project for scheduling purposes to efficiently communicate the Design-Builder’s activity coding scheme to State scheduling staff. The key plans prepared by the Design-Builder shall clearly define the boundaries of the work for each designated Area, the operations contained in various Stages of work, and work in the Work Zone Traffic Control (WZTC) Phases. The alphanumeric codes on the key plans shall match the code values for the activity code "Area", "Stage", and "WZTC Phase" in the Progress Schedule.

Late Dates –The latest an activity can start or finish without delaying the day of completion.

Longest Path - The sequence of activities through the Progress Schedule network that establishes the Scheduled Completion Date

Look-Ahead Schedule – A three week time segment generated from the accepted Progress Schedule that shows the actual work progressed during the previous one week and forecasts the work planned for next two week period following the Data Date, and includes any major materials to be delivered and any lane closings or anticipated shifts in WZTC.

Milestone – An activity with zero duration that typically represents a significant event, usually the beginning and end of the Project, milestones set forth in the Contract, construction stages, a major work package, or the Contract interim time-related clauses.

Narrative Report - A descriptive report submitted with each Progress Schedule.

Open End - The condition that exists when an activity has either no predecessor or no successor, or when an activity's only predecessor relationship is a finish-to-finish relationship or only successor relationship is a start-to-start relationship.

Predecessor - An activity that is defined by Schedule logic to precede another activity. A predecessor may control the Start Date or Finish Date of its successor.

Progress Schedule – A general Primavera P6 Schedule as defined by this Special Provision.

Progress Schedule Delay - An event, action, or other factor that delays the critical path of the Progress Schedule and extends the time needed for completion of the construction project.

Progress Schedule Revision – Revisions to the Progress Schedule ensure it accurately reflects the current means and methods of how the Project is anticipated to progress, including modifications made to any of the following items: (a) changes in logic connections between activities; (b) changes in constraints; (c) changes to activity descriptions; (d) activity additions or deletions; (e) changes in activity code assignments; (f) changes in activity production rates; and (g) changes in calendar assignments.

Progress Schedule Update – Changes to the Progress Schedule that reflect the status of activities that have commenced or have been completed, including the following items: (a) Actual Start date and or Actual Finish date as appropriate; (b) Remaining Duration for activities commenced and not complete; and (c) Suspend or Resume dates for activities commenced and not complete.

Project Scheduler – The person that is responsible for developing and maintaining the Progress Schedule.

Projects Planned Start Date – The date entered in the Project Details, in the Dates tab, that reflects the Design-Builder's planned start of work (based on Contract requirements, and reasonable expectation for a Notice to Proceed) at the Proposal Due Date.

Recovery Schedule – A schedule depicting the plan for recovery of significant time lost on the Project. This separate CPM schedule submission shall provide the resolution and include appropriate changes in network logic, calendar adjustments, or resource assignments.

Relationships - The interdependence among activities. Relationships link an activity to its predecessors and successors. Relationships are defined as:

Finish to Start - The successor activity can start only when the current activity finishes.

Finish to Finish – The finish of the successor activity depends on the finish of the current activity.

Start to Start – The start of the successor activity depends on the start of the current activity.

Start to Finish – The successor activity cannot finish until the current activity starts.

Scheduling/Leveling Report – The report generated by the software application when a user “Schedules” the project. It documents the settings used when scheduling the project, along with project statistics, errors/warnings, scheduling/leveling results, exceptions, etc.

Substantial Completion - the day, determined by the Project Manager, when all of the following have occurred:

1. The public (including vehicles and pedestrians) has full and unrestricted use and benefit of the facilities both from the operational and safety standpoint, and
2. All safety features are installed and fully functional, including, but not limited to, illumination, signing, striping, barrier, guard rail, impact attenuators, delineators, and all other safety appurtenances, and
3. Only minor incidental work, replacement of temporary substitute facilities or correction or repair remains for the Physical Completion of the Contract, and
4. The Design-Builder and Project Manager mutually agree that all work remaining will be performed with short term lane closures to minimize delays, disruption, or impediment to the traveling public. No overnight lanes closures or sidewalk closures will be allowed.

Successor - An activity that is defined by Schedule logic to succeed another activity. The Start Date or Finish Date of a successor may be controlled by its predecessor.

Time Impact Analysis (TIA) – A technique to demonstrate the comparison of a time impact of a Progress Schedule revision prior to a change in the Contract work, against the current accepted Progress Schedule. Also known as a “What-If” analysis. A Time Impact Analysis is used to evaluate proposed changes to future work activities in the schedule.

Weekly Status Report – The report generated weekly from the updated Progress Schedule in an electronic Adobe Acrobat PDF format that reflects a Data Date for that Progress Schedule Update period. The report shall be formatted to fit ANSI Size D paper (24 inch x 36 inch) (610 mm x 914 mm), listing all work activities from the Data Date to Project Completion, using the NYSDOT Status Report Layout, sorted by Early Start Date, Total Float in increasing order, showing the Activity ID, Activity Description, Original Duration, Remaining Duration, Total Float, Early Start date, Early Finish date, Start date, Finish date and Calendar ID.

Work Breakdown Structure (WBS) - A deliverable-oriented grouping of project elements, which organizes and defines the total scope of the Project. Each descending level represents an increasingly detailed definition of project components or work packages.

Work Package - A deliverable at the lowest level of the work breakdown structure. A work package contains activities.

Work Days - A calendar day (Monday through Friday) on which State offices are open to the public for business. State recognized public holidays are not Work Days. Work Days are days scheduled for the active prosecution of Work activities by State staff or the State’s representatives.

New York State Holidays	
New Year’s Day	January 1
Martin Luther King Day	3rd Monday in January
President’s Day	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4th
Labor Day	1st Monday in September
Columbus Day	2nd Monday in October

Veteran's Day	November 11th
Thanksgiving Day	4th Thursday in November
Christmas Day	December 25th

If the holiday occurs on a Saturday, it will be observed the Friday before. If the holiday occurs on a Sunday, it will be observed the Monday after.

3.3 CONSTRUCTION DETAILS

3.3.1 Project Scheduler

The Design-Builder shall designate an individual, entitled the Project Scheduler, who will develop and maintain the Progress Schedule. The Project Scheduler shall be present at the Prestart Schedule Meeting, prepared to discuss, in detail, the proposed sequence of work and methods of operation, and how that information will be communicated through the Progress Schedule. The Project Scheduler shall attend all meetings, or receive meeting minutes that outline schedule related issues of those meetings, which may affect the CPM schedule, including but not limited to those between the Design-Builder and their consultants, subcontractors and between the Design-Builder and the Department. The Project Scheduler shall be knowledgeable of the status of all aspects of the work throughout the length of the Contract, including but not limited to: original Contract work, additional work, new work, and changed conditions of work.

3.3.2 Scheduling Software

The NYSDOT will provide Primavera Software (P6), or newer releases for use by the Authority's Project Manager or designee to review the schedules submitted by the Design-Builder upon determination of the Best Value the successful Design-Builder's CD electronic version of the CPM baseline shall be located on the P6 software located at the Authority's consultant site. The Design-Builder shall be notified relative to what step needs to be followed to access the new consultant's website, how to update, and how to store all Progress Schedules. Once those instructions are provided, the Design-Builder shall submit Request for Access to the Authority's project manager for each proposed Primavera user. Access requests shall be provided by the Authority's Project Manager.

A schedule template will be provided to the Design-Builder for developing their progress schedule.

The Design-Builder shall further develop, update, and revise the Baseline Progress Schedule using Primavera P6 software that has been loaded on the Department's network servers and the Design-Builder shall store all Progress Schedule files on the Department's network servers.

Access rights within the Primavera database will be created by the NYSDOT for initial submittal. The Authority or designee will be the sole entity to modify the EPS structure, the OBS Structure, Project Codes, Global Activity Codes, Global Calendars, User Defined Fields, Security Profiles, Admin Categories, and Admin Preferences.

TABLE 1 – SCHEDULE FILENAME CONVENTION

Progress Schedules	1st Version	2nd Version	3rd Version
Draft Baseline Progress Schedule	D26####-1DB	D26####-2DB	D26####-3DB
Baseline Progress Schedule	D26####-1BPS	D26####-2BPS	D26####-3BPS
Final Baseline Progress Schedule	D26####-1FB	D26####-2FB	D26####-3FB
Month #1 Progress Schedule Submission	D26####-1SU1	D26####-2SU1	D26####-3SU1
Month #2 Progress Schedule Submission	D26####-1SU2	D26####-2SU2	D26####-3SU2
As-Built Progress Schedule (Last Progress Schedule)	D26####-1AB	D26####-2AB	D26####-3AB
1 st Time Impact Analysis	D26####-1TIA1	D26####-2TIA1	D26####-3TIA1
1 st Recovery Schedule	D26####-1RS1	D26####-2RS1	D26####-3RS1

Primavera software and schedule data on the Authority and Consultant EPMD will generally be available for the Design-Builder’s use at all times unless system maintenance (i.e. backups, upgrades, etc.) is being performed. The Design-Builder shall export copies of Project Progress Schedules, Recovery Schedules, and TIA Schedules, after data modifications have been made as their backup of these submissions. In the event a Design-Builder’s authorized user cannot access the software from 6AM to 10PM Monday through Friday, the Design-Builder shall provide written notification to the Authority’s Project Manager.

Project schedules are developed from the Design-Builder’s knowledge of the Project, and the means and methods represented in those schedules are based on the Design-Builder’s understanding of the Contract documents, and the Design-Builder’s past experience, which are unique to the Design-Builder. Schedule activity data and logic are therefore the intellectual property of the Design-Builder and will not be made available to other Design-Builders. All other schedule data, and all Enterprise data residing on the Consultant’s network servers, are the sole property of the Authority.

3.3.3 Prestart Schedule Meeting

The Design-Builder shall contact the Authority’s Project Manager within ten (10) business days of Contract Notice to Proceed to schedule a Prestart Schedule Meeting. The purpose of this meeting is to discuss essential matters pertaining to the satisfactory scheduling of Project activities, and to resolve any known questions regarding interpretation of the contract requirements for this work.

The Project Scheduler shall be prepared to discuss the following:

1. The proposed hierarchal Work Breakdown Structure (WBS) for the Progress Schedules.
2. The proposed Project calendars.
3. The proposed Project activity codes, and various code values for each activity code.
4. Specifics of any contract Time-Related Clauses (Incentive/Disincentive, Liquidated Damages, Lane Rental, etc.);
5. The Design-Builder’s schedule methodology to be employed, proposed work sequence and any proposed deviations from the contract plans with respect to Staging or Work Zone Traffic Control phasing.
6. Copies of the Key Plans shall be provided at the meeting.

7. The factors that the Design-Builder determines to control the completion of the Project and any milestone activity completion dates contained therein.
8. The Project Scheduler shall provide an outline for the content of the Narrative report for future Progress Schedule submissions.
9. Schedule submission protocol for Progress Schedule submissions.

The Design-Builder shall submit to the Authority's Project Manager for review one week prior to the Prestart Schedule Meeting a copy of the Key Plans, a print out of the proposed Work Breakdown Structure, a print out of each of the proposed Project Calendars showing the Work days versus non-work days and hours per day, and a list of the Code Values for each Project Activity Code proposed to be used in the schedules.

The Authority's Project Manager or designee will be available to answer questions regarding scheduling, including: the availability of NYSDOT supplied electronic file(s) containing sample project schedule information, sample progress schedule narratives, Special Notes for CPM Scheduling, and required standard format for CPM Progress Schedules for contract work. The Design-Builder shall schedule meetings as necessary with the Authority's Project Manager to discuss schedule development and resolve schedule issues, until the Final Baseline Progress Schedule is accepted by the Authority's Project Manager.

The Design-Builder is encouraged, but not required, to submit a Draft Baseline Progress Schedule that demonstrates a sample of how the Project Scheduler's proposed alphanumeric coding structure and the activity identification system for labeling work activities in the CPM progress schedule will conform to the detailed requirements of this Special Provision. The review and comment by the Authority Project Manager of the sample schedule should assist the Project Scheduler in assuring the first submittal of the Baseline Progress Schedule will be in general conformance with the requirements of this Special Provision and other contract requirements, and that major rework of the Baseline Progress Schedule will not be required. This submittal may be made anytime following the Contract Award. Critical items for this review should include but are not limited to: the proposed WBS for subsequent Progress Schedules; the proposed Project Calendars; project Planned Start date; major milestone activities (i.e. - Award, Notice to Proceed, Project Completion); and between fifty to one hundred summary activities for the major work deliverables of the Contract (i.e. – Design bridge 1, design bridge 2, construct bridge 1, construct bridge 2, etc.) that have assigned Activity Ids, Activity Descriptions, Activity Durations, Predecessors, Successors, and Activity Relationships. These summary activities will be broken down into, or supplemented with, individual work activities for the baseline submission. To the extent practicable, the Draft Baseline Progress Schedule should include administrative and procurement activities to be accomplished during the Contract; planned submittal, review, and approval dates for shop drawings, working drawings, fabrication drawings, and Design-Builder supplied plans, procedures, and specifications.

Any submission of a Draft Baseline Progress Schedule should be accompanied by a written Narrative that provides details of the Calendar assignments of work days versus non-working days, outlines the sequence of planned operations to complete the Project Work, and provides the proposed Activity Codes and Code values to be assigned to activities in future submissions of Project Progress Schedules. The Authority's Project Manager will review the logic diagram, coding structure, activity identification system, and Narrative; and provide comments for required changes by the Project Scheduler for implementation in the submission of the Baseline Progress Schedule. The Authority's Project Manager will provide written comments on major deficiencies within five (5) Work Days of receipt.

3.3.4 Progress Schedule

3.3.4.1 General

In addition to the attributes of the Progress Schedule provisions as set forth in §108-01, the Design-Builder shall prepare, furnish, and maintain a computer-generated Progress Schedule using the Critical Path Method (CPM) utilizing Primavera scheduling software on the Department's network servers. The CPM Progress Schedule shall be prepared based on the principles defined by the latest issue of the Construction Planning & Scheduling Manual published by the Associated General Contractors of America, except where superseded by the Contract documents such as the Regional CPM Special Notes (if applicable) and this Special Provision.

The Design-Builder and the Authority shall use the Progress Schedule to manage the Work, including but not limited to the activities of the Design-Builder, subconsultants, subcontractors, fabricators, the Authority, other involved State agencies and authorities, other entities such as utilities and municipalities, and all other relevant parties.

No work other than installation of the Engineer's Field Office, mobilization, procurement and administrative activities, installation of construction signs, installation of erosion and pollution protection, clearing and grubbing, field measurements, and survey and stakeout will be permitted to start until the Baseline Progress Schedule has been submitted to the Authority's Project Manager, and the Authority's Project Manager determines there are no deficiencies consistent with those identified in paragraph 5.3.5.1.

The Design-Builder will be the sole entity allowed to physically modify the following data within the Progress Schedule: activity IDs; activity descriptions; activity durations; relationships between activities; successors and predecessors, actual start and actual finish dates of activities; planned start and planned finish dates of activities; and activity resources (with the exception that activities assigned resources labeled to reflect Authority personnel may be changed to reflect specific individuals, or job roles, within the Authority).

The Authority may modify certain data associated with the Progress Schedule to ensure conformance to the Authority's Consultant Project Management standard schedule format. This means that the Authority's Consultant may: create additional layouts, filters and reports; create and edit additional user defined custom data fields; assign Project Codes; add and assign additional project Activity Codes; add and assign additional Cost Account Codes; add and assign additional Resource Codes; enter data in Notebook tabs; modify calendar ID's (although not the calendar itself); etc.; that do not alter the established activities or schedule logic of the Design-Builder. The Authority's Project Manager will communicate to the Design-Builder the types and scope of changes planned to be made to the Progress Schedules prior to the implementation of those changes. The Design-Builder shall not delete or modify any schedule data entered by the Authority without prior approval by the Authority's Project Manager. The schedule data added by the Authority shall be incorporated into future schedule submissions of the Design-Builder.

The Design-Builder shall develop the Progress Schedule using, to the maximum extent practicable, the Global Activity Codes. Any schedule "Layouts", "Filters" and "Report" formats that the Design-Builder develops for the various Progress Schedules submissions to the Authority's Project Manager shall be saved and made available to all other users of the Project Schedule with a name that includes the contract D#.

The Authority may make copies of the Progress Schedules to perform 'what-if' type analysis, which may involve any type of modification to those copies of the schedules.

The purpose of the Progress Schedule, and scheduling provisions in the contract, shall be to:

- Ensure that the Design-Builder and the Authority have a detailed plan and resources to complete the Project in accordance with contract time requirements;
- Provide a means of monitoring the progress of the Work;
- Aid in communication and coordination of activities among all affected parties;
- Analyze the effect of changed conditions on any milestone dates or on the Project Completion Date;
- Analyze the effect of change orders for extra work or deductions, and unanticipated delays, on the Project Completion Date;
- Establish a standard methodology for time adjustment analysis based on the principles of the Critical Path Method of scheduling, to analyze delays and resolve construction disputes concerning time;
- Determine appropriate extensions or reductions of Contract Time.

In scheduling and executing the Work, the Design-Builder shall:

- a) Sequence the Work commensurate with the Design-Builder's abilities, resources and the Contract documents. The scheduling of activities is the responsibility of the Design-Builder.
- b) Ensure that Progress Schedules prepared by the Project Scheduler for submission to the Authority is in compliance with the Contract. The intent should be that Schedule submissions and accompanying Narratives are timely, complete, accurate, and in compliance with the Contract.
- c) Communicate all Contract changes, and decisions or actions taken by the Design-Builder and all sub-consultants, subcontractors, fabricators, etc., that effect the Progress Schedule to the Project Scheduler in a timely manner to allow appropriate development, maintenance, and update of the Progress Schedule.
- d) Include all Work contained in the Contract and all Work directed in writing by the Authority Project Manager. Work activities directed by the Authority Project Manager to be added to the Contract shall be included in the next Monthly Progress Schedule submission.
- e) Assure that Progress Schedule Updates reflect the actual dates that Work activities started and completed in the field.
- f) Break a schedule activity into multiple activities to reflect a discontinuity in the Work if a work activity is suspended in the field and restarted at a later date, and the break between when the Work was suspended to when it was resumed is significant compared to the original activity duration.
- g) Ensure the Progress Schedule contains all work constraints and Milestones defined in the Contract.

- h) Schedule the Work using such procedures and staging or phasing as required by the Contract. Work designated as part of separate stages may be performed concurrently with other stages where allowed by the Contract or where approved by the Authority.

Failure by the Design-Builder to include any element of work required by the Contract in the accepted Progress Schedule does not relieve the Design-Builder from its responsibility to perform such work.

Should the Design-Builder choose to show activities in the schedule that reflects their plan of Work prior to the Contract Award, the Authority does not incur any liability and such Work being performed between the Best Value Designers and the Contract Award Date shall be considered at risk work.

Errors or omissions on Schedules shall not relieve the Design-Builder from finishing all work within the time limit specified for completion of the Contract.

If the Design-Builder fails to comply with the provisions of this Special Provision, the Authority's Project Manager may suspend payment for any Contract Work.

3.3.4.2 **Baseline Progress Schedule**

- a) The Design-Builder shall ensure the Schedule accurately reflects the proposed approach to accomplish the work outlined in the Contract documents and conforms to all requirements of this Special Provision. The Baseline Progress Schedule shall show all the activities for the design and construction for all Work in the Contract and shall indicate the date at which the Work begins and is complete. The Baseline Progress Schedule shall also show design activities including, but not limited to, the various stages of design, design checks, design reviews and the submission dates of checked designs. Any Interim Milestone(s) shall be shown in the Baseline Progress Schedule and may be used by the Authority for the assessment of Liquidated Damages.
- b) The schedule shall define a complete logical plan that can realistically be accomplished, to execute the Work defined in the Contract.
- c) The Schedule shall comply with the work constraints and milestones defined in the Contract as well as all other contractual terms and conditions. The Schedule shall be consistent in all respects with the specific interim Time-Related Contract Provisions, and any order of work requirements of the Contract documents. The Schedule shall meet all interim milestone dates and shall not extend beyond the Project Completion Date. This submission shall reflect the Design-Builder's plan at the time of Contract Award, and prior to the start of any Work. No negative float is allowed in the Baseline Progress Schedule submission.
- d) Detailed Schedule Requirements - As a minimum, the Design-Builder shall address the following in the Baseline Progress Schedule:
 - i) Defining Project details and defaults – Within the Dates tab, the “Planned Start” shall be either the Proposal Due Date or the Contract Award Date and the “Data Date” shall be the Notice to Proceed date. Within the Settings tab, define the Critical Activities as the “Longest Path”. The Project Scheduler role does not have security privileges to change this data in the project Details tab, so requests for changes to this data needs to be forwarded to the Authority's Project Manager or designee.

- ii) Sufficient activities shall be included to assure that there is adequate planning for the entire Project. The appropriate number of activities will be largely dependent upon the nature, size, and complexity of the Project. In addition to all site construction activities, network activities shall include: activities necessary to depict the procurement/submittal process including shop drawings and sample submittals; the fabrication and delivery of key and long-lead procurement elements; testing of materials, plants, and equipment; settlement or surcharge periods activities; sampling and testing period activities; cure periods; activities related to temporary structures or systems; activities assigned to subcontractors, fabricators, or suppliers; erection and removal of false work and shoring; major traffic stage switches; activities assigned to the Authority and other involved State agencies and authorities, including final inspection; activities to perform punch list work; and activities assigned to other entities such as utilities, municipalities, County government/agencies, and other adjacent contractors. The Schedule shall indicate intended submittal dates, and depict the review and approval periods as defined in the Contract Documents for Authority review.

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The following activities shall be incorporated into the Progress Schedule:

Activity ID	Activity Description	Duration	Follows	Logic Tie	Responsible Party
C00035	Notification to Proceed (NTP)	1 Work Day			NYSTA
C00036	Get Start Meetings	1 Work Day	M00025	FS	NYSTA
C00005	Pre-work Conference	1 Work Day	M00025	FS	NYSTA
C00040	Prepare/Submit Safety & Health Plan	Minimum 1 Work Day	C00035	FS	Design Builder
C00045	Approve Safety & Health Plan	10 Work Days	C00040	FS	NYSTA
C00055	Set Up Engineer's Field Office	10 Work Days	C00035	FS	Design Builder
M00050	Design-Builder's First Day of Construction Work	0 - Start Milestone	C00055, C00045	FS	Design Builder
C00060	Prepare & Submit Baseline Progress Schedule	10 Work Days from receipt of NTP	C00035	FS	Design Builder
C00065	Review Baseline Progress Schedule	10 Work Days	C00060, M00025	FS	NYSTA
C00070	Accept Baseline Progress Schedule	1 Work Day (see Note 1)	C00065	FS	NYSTA
C00075	Mobilization	Minimum 1 Work Day	M00050	SS	Design Builder
M00100	Field Work Begins	0 - Start Milestone	M00050, C00055, C00060		Design Builder
M00900	Substantial Completion	0 - Finish Milestone	See definition	FF	Design Builder
C09010	Other Agency Inspection	20 Work Days	M00900	FS	Others
C09020	Authority Inspection	15 Work Days	M00900	FS	NYSTA
C09030	Punch list work	15 Work Days	C09020	FS	Design Builder
C09040	Demobilization	Minimum 1 Work Day	C09020	FS	Design Builder
M00950	Design-Builder's Last Day of Work	0 - Finish Milestone	C09040	FS	Design-Builder
M00999	anticipated Project Completion	0 - Finish Milestone	M00950	FF	Design-Builder

Note 1 – Acceptance Date shall not exceed 40 Work Days from Notice of Award. The Logic Tie

shown shall be used as a relationship to the predecessor activities contained in the column named Follows.

- iii) **Work Breakdown Structure (WBS)** - A multi-level hierarchal WBS shall be incorporated. The levels (nodes) shall include, but not be limited to:

Level 1- is the project level; and shall have the project name.

Level 2- Shall have seven nodes, "REPORTING MILESTONES", "PLANNING", "DESIGN", "ROW", "PROJECT PROCUREMENT", "CONSTRUCTION", and "PROJECT MANAGEMENT"

Level 3- shall have three nodes under "CONSTRUCTION": "PRE-CONSTRUCTION"; "CONSTRUCTION OPERATIONS"; and "POST CONSTRUCTION/CLOSEOUT". In addition, shall have at least two nodes under Design: Design Unit design and review.

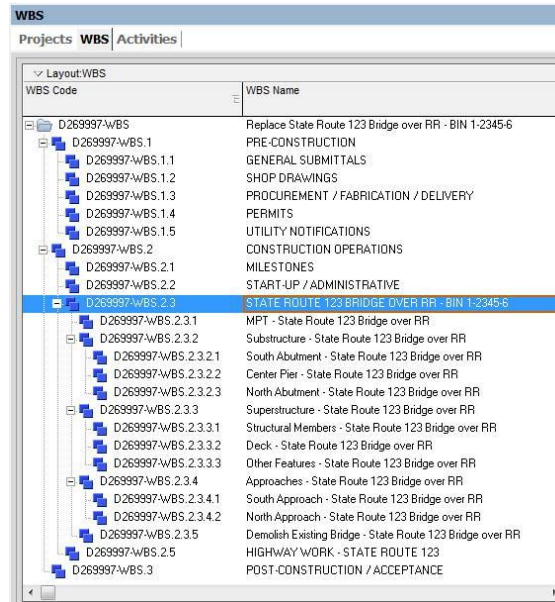
For all projects under "PRE-CONSTRUCTION" a fourth level of the WBS shall consist of at least the following four sub nodes: "GENERAL SUBMITTALS", "SHOP DRAWINGS", "PROCUREMENT/FABRICATION/DELIVERY", and "UTILITY COORDINATION".

Under the "CONSTRUCTION OPERATIONS" node, the grouping of activities may vary depending on the scope and nature of the project work. The Design-Builder shall coordinate with the Authority Project Manager to determine the best way to represent (group activities) the project deliverables (i.e. Bridge, Roundabout, Highway segment, Interchange, Intersection, etc.). The Authority Project Manager may require sub nodes for AREA (geographic area within the project limits), STAGE, or for a bridge project SUBSTRUCTURE, SUPERSTRUCTURE, and DECK.

Generally Level 4 would be by geographic area within the project limits, Level 5 would be by highway feature (bridge, highway segment, intersection), Level 6 the highway features should be broken into their components; such as, a bridge into components such as Substructure, Superstructure, and Deck, or a highway segment into components such as pavement, drainage, earthwork, lighting, traffic signals, etc.

An example Work Breakdown Structure is shown below in Figure 1

FIGURE 1



- iv) **Activity ID** - Include a unique identification number for each activity. Activity ID numbers shall not be changed, or reassigned. Task type Activity IDs shall be prefixed by a “C”. Milestone type activities shall be prefixed by an “M”.
- v) **Activity Name** - Clearly and uniquely define each activity name with a description of the work that is readily identifiable to inspection staff and the progress of each activity can be measured. Each Activity shall have a narrative description consisting at a minimum of a verb or work function (i.e. form, pour, excavate, etc.), an object (i.e. slab, footing, wall, etc.), and a location (i.e. STA, bridge or retaining wall number, street, etc.). The work related to each Activity shall be limited to one Area of the Contract, one Stage of the Contract, one WZTC Phase of the Contract, and one Responsible Party of the Contract. The Activity Name shall not be changed for the duration of the contract without approval of the Authority’s Project Manager.
- vi) **Milestone Type Activities** - Include activities for all Contract milestones that define significant contractual events such as Contract Award, Notice to Proceed, Design-Builder Start Work, Substantial Completion Date, Project Completion Date, and coordination points with outside entities such as utilities, State agencies, Authorities, municipalities, Time-Related Contract Provisions, etc.

All milestone activities in the Schedule shall be assigned the standard Global calendar named Milestone/Curing 365 Day/8 hour”, this calendar should also be assigned to any activities for concrete curing.

- The Contract Award milestone shall have a primary constraint of “Finish On” and the date of Contract signature by the State Comptroller,
- The Project Completion milestone shall have a primary constraint of “Finish on or before” and the Project Completion Date.
- The Design-Builder Start Work” Start milestone activity that will eventually reflect the actual date the Design-Builder started Work authorized under the contract.

All maintenance type work activities, such as maintaining temporary concrete barrier or rodent control, should be shown on the schedule with Start and Finish milestone type activities not task dependent activities.

- vii) **Activity Durations** – Define the Original Duration of each activity in units of whole work days, except for activities of less than one day duration which should be shown in units of tenths of a day. Except submittal/procurement activities, durations shall not exceed 15 work days unless approved by the Authority’s Project Manager. Durations for Authority submittal reviews shall meet the requirements set forth in the Contract documents. If requested by the Authority’s Project Manager, the Design-Builder shall justify the reasonableness of planned activity time durations. Task Dependent activities shall not have zero durations.
- viii) **Production Rates** – For each non-administrative work activity in the schedule the Design-Builder shall enter the quantity of the predominate item of the work activity into the field labeled “PR Quantity”, the Unit of Measure for that item in the field labeled “PR Unit”, the anticipated production rate of the equipment and labor (crew) resources for that work activity in the field labeled “Production Rate / Day”, and the associated duration for that work activity in the field labeled “PR Duration”. These are all Activity level UDF fields, and can be found in the activity Layout named Contractor Production Rates. If requested by the Authority’s Project Manager, the Design-Builder shall furnish other information needed to justify the reasonableness of activity durations.
- ix) **Activity Relationships** - Clearly assign predecessors and successors relationships to each activity, and assign appropriate logic ties between activities (Finish to Start, Start to Start, Finish to Finish, etc.). Do not have any open ended activities, with the exception of the first activity and last activity in the schedule. An activity may only appear once as a predecessor or successor to another specific activity, but may be assigned as a predecessor or successor to many different activities. Do not include inappropriate logic ties with Milestone activities (For a finish milestone activity: a predecessor shall only be assigned a Finish to Finish logic tie, a successor shall only be assigned a Finish to Start or Finish to Finish logic tie. For a start milestone: a predecessor shall only be assigned a Finish to Start or Start to Start logic tie, a successor shall only be assigned with a Start to Start logic tie). Lag time may not exceed 10 days. The Design-Builder shall not use negative Lag times.
- x) The Design-Builder shall assign the “Contract Award Date” activity as a predecessor to all Review and Approval type activities to be performed by Authority staff.
- xi) **Activity Constraint Dates** – The Design-Builder shall not have any constrained activities, with the exception of contractual dates, unless the Authority’s Project Manager accepts such constraints in writing. Milestone activities shall be included for the Contract Award which shall have a primary constraint of “Finish On” and the date of Contract signature by the State Comptroller, and for the anticipated Project Completion Date which shall have a primary constraint of “Finish on or before” and the Project Completion Date indicated in the Contract documents. Only contractual/owner-designated constraints are allowed unless specifically authorized by this Special Provision or the Authority’s Project Manager. If used, only Constraints of type, “Finish on or Before”, “Start on or After”, or when deemed appropriate by the Engineer “As-Late-As-Possible” are acceptable.
- xii) **Activity Dates** – With the exception of contract Milestone dates, “Actual Start” and “Actual Finish” dates and “Planned Start” and “Planned Finish” dates, activity dates

shall be calculated by the project scheduler tool within the Primavera software. No Actual Start or Actual Finish dates shall be entered in the Baseline Progress Schedule, with the exception of activities that were completed prior to the Contract Award.

xiii) **Calendars** - Use clearly defined calendars that account for expected seasonal weather conditions (including winter shutdown periods) and environmental permit requirements, for the planning and scheduling of activities. Do not incorporate an activity with a description of "Winter Shutdown" that requires constraints. Provide the work days per week, holidays, the number of shifts per day, and the number of hours per shift by using the Calendar feature called "Time Periods" in the P6 software. Incorporate any seasonal restrictions to the work within calendars assigned to activities.

- Global calendars used in the Progress Schedule shall be those established by the Authority. There are only two Global Calendars developed and maintained by the Authority for use by Design-Builder's, they are the following:

- NYSDOT/Authority Milestone/Curing 365 Day / 8 hour
- State Business Days, 5 Day Work Week w/State Holidays, Field

Changes desired for these calendars shall be forwarded to CPMSchedulingSection@dot.state.ny.us, and if appropriate these changes will be performed by the Office of Construction system admin staff. This will be accomplished by making a copy of the existing Global calendar; the new calendar will then be renamed and modified as necessary.

- Calendars related to specific resources (i.e., a specific person or piece of equipment) shall be established as Resource Calendars, with the Calendar name clearly identifying the resource.

- All other calendars developed by a Design-Builder shall be established as Project Calendars, with the calendar name including the contract D# and describing the function (i.e., D260000 - Asphalt Calendar, D260000 - Concrete Calendar, D260000 - Landscape Calendar, D260000 - Painting Calendar, D260000 – Design-Builder's 5 Day/8 Hour Workweek). All work activities of the Design-Builder shall be assigned to Project Calendars.

- Activities for shop drawing reviews and other approvals by Authority personnel shall be assigned the (referenced date above) standard Global – "State Business Days, 5 Day Work Week w/State Holidays, Field" Calendar that reflects all holidays observed by the State.

- The Baseline Progress Schedule cannot include a calendar that reflects any workers working more than 8 hours in any one calendar day or more than 5 days in any one week. (§102-7 LABOR AND EMPLOYMENT) Following the Contract award the Design-Builder can add additional calendars in their next Monthly Progress Schedule submission based on an approved overtime dispensation.

xiv) Clearly define significant interaction points between the Design-Builder, the Authority, and other entities including but not limited to: Federal, State and local agencies/authorities; and utilities. All activities of the Department, utility companies, adjacent contracts, and other entities that affect progress and influence any contract required dates including durations shall be shown in the Schedule. This includes dates related to all Permits or Agreements. The Schedule shall give special

consideration to sensitive areas such as road closures and parklands and shall indicate any time frames when work is restricted in these sensitive areas as outlined in the permits issued by the regulatory agencies, and provided in the Contract documents.

- xv) **Activity Resources** – The Design-Builder will generally not be required to assign labor or material resources in the Resource Dictionary, or assign them to Schedule activities. The Design-Builder will not be required to assign costs to resource assignments in the Schedule. The Design-Builder is required to enter the major equipment resources to the appropriate activities in the Schedule, these shall include pile drivers, large cranes, asphalt paving equipment, and concrete finishing machines.

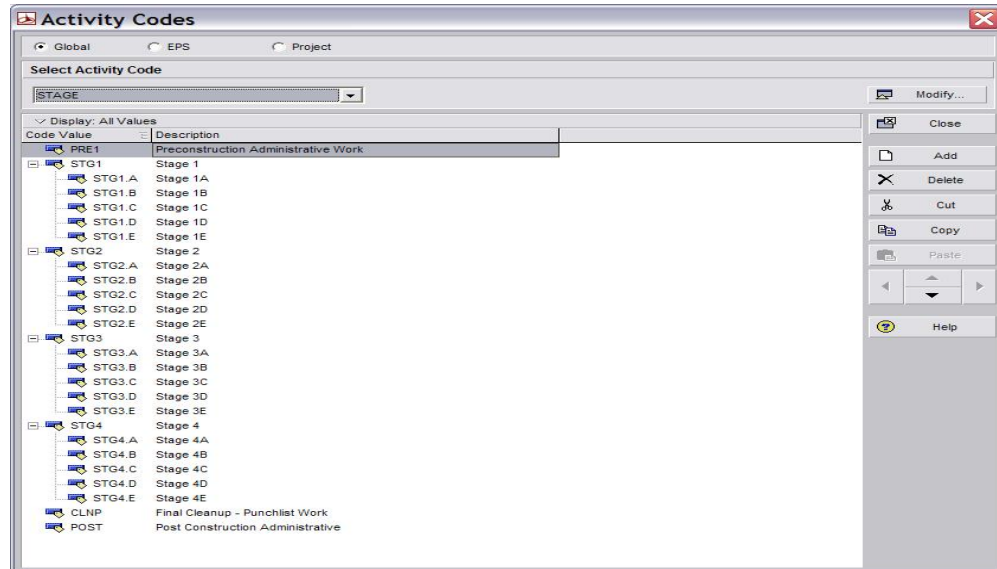
It shall be the Design-Builder's responsibility to assure the activity logic in the Schedule properly reflects their resource limitations. If the Design-Builder anticipates multiple crews for the same Schedule activity, these resources shall be documented in the Schedule narrative. As an activity can have only one responsible party, no activity shall involve multiple crews comprised of the Design-Builder and a subcontractor, or multiple subcontractors.

- xvi) **Activity Codes** – The Design-Builder shall include a well-defined activity coding structure that allows activities to be sorted and filtered. Activity Codes shall be developed and assigned as needed by the Project Manager to facilitate the use and analysis of the Schedule.

- No Global Activity Codes shall be incorporated in any Progress Schedule submission to the Authority's Project Manager except those established by the Authority.
- The Design-Builder shall assign the appropriate activity code values to each activity in the Progress Schedule for the following Global Activity Codes that are in the Department's/Authority's enterprise database:
 - 1) RESPONSIBLE PARTY (DOT GLOBAL)
 - 2) STAGE (DOT GLOBAL)
 - 3) AREA (DOT GLOBAL)
 - 4) TYPE OF WORK (DOT GLOBAL)
 - 6) CHANGED (ADDED/DELETED) WORK (DOT GLOBAL)
 - 7) TIME Related Clauses (DOT GLOBAL)
 - 8) DELAY (DOT GLOBAL)
 - 9) DBE/MWBE (DOT GLOBAL)
- Additional Activity Codes developed for specific projects shall be established as Project Activity Codes. As a minimum this shall include the following:
 - 1) SUBCONTRACTOR

- xvii) **Activity Code Values** – Each Activity Code shall be broken down into various Activity Code Values that are then assigned to activities. For example, the Activity Code "Stage" shall include a hierarchal arrangement of Activity Code Values as shown below in Figure 2:

FIGURE 2



- xviii) **Activity Code Assignments** - For each activity, within the activity details the Design-Builder shall assign Activity Code values to identify the “Responsible Party” (i.e. – Design-Builder, Authority, Utility Co, Municipality) for the work to be performed (one and only one responsible party shall be assigned to each activity), the “Stage” of the contract for the work that will be performed, the “Area” where the work is to be performed, the “WZTC Phase”, and the Type of Work (i.e. - Procurement, Paving, Embankment, Excavation, Electrical, Signing, etc.). For activities included in work governed by time-related contract provisions, the appropriate “Time Related” activity code shall be utilized. For activities included in work added and/or changed within an Order-On-Contract, the appropriate “Added/Changed Work” code shall be utilized. For all work activities performed by the Design-Builder or subcontractors/fabricators/suppliers, “Contactor” shall be designated as the Responsible Party. If the Design-Builder wants a separate activity code to enable sorting the activities of subcontractors, fabricators, or suppliers a separate “Subcontractor” code shall be utilized.
- xix) **Interim Milestone Completion Dates with Liquidated Damages and Special Time-Related Contract Provisions** (i.e. – Incentive/Disincentive provisions, Lane Rental) – Each time-related contract provision in the Contract shall be represented in the Progress Schedule by having a start and finish milestone, with appropriate predecessors and successors assigned to all Schedule activities considered part of that time-related contract provision work including the start and finish milestone activities. The Start milestone for the time-related Contract work shall have predecessors and/or date constraints assigned that include those defined in the Contract documents, and the Finish milestone for the time-related Contract work shall have successors and/or date constraints assigned that include those defined in the Contract documents. All Schedule activities associated with each specific time-related contract provision shall be assigned to a separate node within the project WBS and the WBS node description shall be labeled accordingly, in addition these activities shall be assigned the appropriate Time-Related Clauses (DOT GLOBAL) activity code value. A Level Of Effort activity shall be used for each time related contract provision (i.e. - “Incentive 1 Duration” or “B Clock 1 Duration”), this activity shall have the Start Milestone as a predecessor with a SS relationship and the Finish

Milestone as a successor with a FF relationship and the duration of this activity shall be calculated when the project is scheduled.

xx) **Baseline Narrative** - Include a narrative in Microsoft Word and/or Adobe Acrobat format that includes the following topics and attachments:

- **Contract Identification.** Include the contract D number, project name, project location, and name of the Design-Builder.
- **Key milestone dates.** Include the actual Contract Award Date, original and adjusted Project Completion Date, Substantial Completion Date, and anticipated completion of all Project Work. Also include any contract Interim Milestone dates (I/D, B-Clock, LD, etc), and scheduled Start and Finish dates for those Milestone activities.
- **General approach.** Describe the Design-Builder's general approach to construct the Work outlined in the baseline schedule. Address the reasons for the sequencing of work and describe any resource limitations, potential conflicts, and other salient items that may affect the schedule and how they may be resolved.
- **Key Plans.** If not provided in the Contract plans, or if modified by the Design-Builder, provide copies of the appropriate Contract plan sheets marked up to correlate values on the Contract plans (for Area of Work, Stage of Work, and WZTC Phase) to the Design-Builder's planned breakdown of the project (ie- Activity Codes, Activity Descriptions) for scheduling purposes.
- **Logic Justifications.** The justification(s) for each activity with a duration exceeding 15 working days. The justification(s) for Design-Builder imposed activity constraints proposed in the schedule. The reason for any lags assigned to any activities.
- **Calendars.** Include a list of calendars which have been incorporated in the Schedule, and for each calendar the general reason for its use in the Schedule.
- **Critical Path issues.** A brief discussion of the critical path shown in Appendix 2, highlighting any potential challenges that are foreseen associated with the critical path work.
- **Coordination issues.** Outline any anticipated coordination issues related to work activities by other entities that require additional information from, or action by, the Authority's Project Manager.
- **APPENDIX 1 – Scheduling/Leveling Report.** This appendix in Adobe Acrobat PDF file format, formatted to fit standard ANSI Size A (Letter) size paper (8.5 inch x 12 inch) (215 mm x 279 mm) paper, printed with portrait orientation, shall be included with the narrative as a separate file.

A complete Scheduling/Leveling Report (SCHEDLOG.TXT file generated by the NYSDOT's Oracle-Primavera scheduling software application) which includes the Schedule Settings, Statistics, Errors, Warnings, Scheduling/Leveling Results, Exceptions, Activities with unsatisfied constraints, Activities with unsatisfied relationships, and Activities with external dates. The statistics shall include, # of Activities, # of Activities Not Started, # of Activities In Progress, # of Activities Completed, # of Activity Relationships, and # of Activities with Constraints. Total number of activities on the critical path, percent complete, activities without predecessors, activities without successors, and activities out of sequence.

- **APPENDIX 2 – Progress Schedule plot.** This appendix in Adobe Acrobat PDF file format, formatted to fit ANSI Size B (Ledger) paper (11 inch x 17 inch) (279 mm x 431 mm) paper, printed with Landscape orientation, shall be included with the narrative as a separate file.

Appendix 2 to the narrative shall be an electronic schedule plot (Adobe Acrobat format) using the Global Layout named “Baseline Schedule submission”, with activities sorted by Start Date in ascending order, Grouping of activities by WBS, and only the “Longest Path” filter applied. This plot shall provide a clear critical path from the Data Date to the last activity in the schedule. Graphical representations shall be shown at a suitable scale to be legible and readable.

- xxi) **List of Submittals** – The Design-Builder shall submit with the Progress Schedule a list of all Submittals (i.e. – design plans, project specification, shop drawings, required permits, erection/demolition plans, Health and Safety Plan, etc.) generated from the Baseline Progress Schedule for review and acceptance by the Authority’s Project Manager. The Design-Builder shall use a Filter to limit the schedule activities shown in the report to only the prepare/submit, and review/approve activities related to submittals. The report shall be in Adobe PDF format and transmitted to the Project Manager by email. This list shall be revised and updated monthly with each schedule submission.

e) Schedule Submission

- i) Within the timeframe indicated in Table 2 column 1, submit one electronic copy of the Baseline Progress Schedule in a Critical Path Method (CPM) format for the Authority Project Manager’s review and acceptance.

TABLE 2 (IN WORK DAYS)		
Timeframe from receipt of Notice of Award to Submission of complete Baseline Schedule. (Column 1)	Timeframe for Department Project Manager’s Review (Column 2)	Timeframe from Notice of Award to acceptance by the Authority’s Project Manager not to exceed (Column 3)
10	10	40

- ii) The Authority’s Project Manager will review the schedule and return it, accept it with comments, or reject it within the timeframes indicated in Table 2 column 2, following the date of receipt of the Design-Builder’s submission.
- iii) If the schedule is returned with comments, the Design-Builder shall address all comments and revise the schedule as necessary. The Design-Builder shall complete the Final Baseline Progress Schedule and obtain the acceptance of the Authority’s Project Manager within the timeframe required in Table 2 column 3.
- iv) If the schedule is accepted by the Authority’s Project Manager without any comments, the Design-Builder shall copy the schedule and rename it for submission as the Final Baseline Progress Schedule.
- v) In no way does the Baseline Progress Schedule modify the Contract documents.
- vi) The Design-Builder shall assign appropriate Activity Codes and provide custom Layouts, Filters, and/or report formats necessary to allow the Project Manager to generate a report from the each Progress Schedule submission of all submittals

required under the Contract (i.e., shop drawings, required permits, erection/demolition plans, etc.). The list shall show scheduled submission date, review date, and acceptance date for each submittal and identify the earliest activity affected by each of these submittals. This list shall be generated from each Progress Schedule submission until all such activities are completed.

3.3.4.3 Final Baseline Progress Schedule

- a) If the Baseline Progress Schedule is returned to the Design-Builder with comments, the Design-Builder shall make a copy of the schedule and rename it as the Final Baseline Progress Schedule with comments addressed and revisions made as necessary. The Design-Builder shall complete the Final Baseline Progress Schedule and obtain acceptance of the Authority's Project Manager within the timeframe required in column 3 of Table 2, or within one week of the Design-Builder's receipt of the final comments by the Authority's Project Manager, whichever is sooner.
- b) The Authority's Project Manager will review the schedule and return it, accepted or with comments, within 5 Work days following the date of receipt of the Design-Builder's submission.
- c) The Final Baseline Progress Schedule must be "accepted" or "accepted as noted" by the Authority's Project Manager prior to the Authority evaluating any Design-Builder disputes associated with time impacts. This does not preclude the Design-Builder from submitting a dispute while the schedule is being reviewed for acceptance.

3.3.4.4 Monthly Progress Schedule Submissions.

- a) First Monthly Progress Schedule Submission – Within three Work Days following acceptance of the Final Baseline Progress Schedule or the closing date for the first month's contract payment period whichever is later, the Design-Builder shall perform a Progress Schedule Update to reflect the status of all activities where work was performed in the time period between the start of work and acceptance of the Final Baseline Progress Schedule. This shall include actual dates entered in the Actual Start and Actual Finish columns, and Remaining Duration for activities where work has commenced but has not been completed, in addition the Design-Builder shall incorporate any Progress Schedule Revisions that reflect any changes in how future work activities are to be completed.
- b) Subsequent Monthly Progress Schedule Submissions - On a monthly basis, the Design-Builder shall submit a copy of the current Progress Schedule that includes all Progress Schedule Revisions and Progress Schedule Updates to reflect the actual and planned prosecution and progress of the contract work. Progress Schedule Updates shall reflect the status of activities that have commenced or have been completed, including the following items: (a) actual dates in activity Actual Start and Actual Finish columns as appropriate; (b) actual Remaining Duration for activities commenced and not complete; and (c) actual activity Suspend or Resume dates for activities commenced and not complete. Progress Schedule Revisions reflect modifications made to activities in the current project baseline schedule in any of the following items: (a) activity Original Duration; (b) changes in logic connections between activities; (c) changes in Constraints; (d) changes to Activity Descriptions; (e) activity additions or deletions; (f) changes in Activity Code assignments; (g) changes in Calendar assignments, (h) Productivity Rates. All "Out of Sequence" activities noted in the scheduling log shall be corrected to reflect the current construction operations.

When preparing a formal submission of the Progress Schedule, the Design-Builder shall

make a copy of the current Progress Schedule and name it according to the file naming convention provided by the Authority in Table 1.

- c) Additional Schedule Requirements - In addition to the schedule requirements detailed for the submission of the Baseline Progress Schedule, the following shall be provided by the Design-Builder:
- i) Data Date - the "Data Date" shall be the date the Project Scheduler last edits the schedule prior to submission to the Authority's Project Manager (generally the last day of the month). The Project Scheduler shall enter the Data Date through the Schedule (F9) tool.
 - ii) Activity Status Tab -
 - a. Durations – the Original Duration shall not be changed without prior written justification by the Design-Builder, and written approval by the Authority's Project Manager. The Design-Builder shall edit the Remaining Duration to reflect progress made on work activities, and shall not use Duration %. If a proposed change to Original Duration is due to additional or changed work to the contract the Design-Builder shall instead add an activity to reflect this additional work, and assign the appropriate Activity Code. The Design-Builder shall not use zero durations for Task Dependent activities.
 - b. Started and Finished dates – for each activity where work was begun during the month, the Design-Builder shall check the box adjacent to Started and enter the date the work began. For each activity where work was completed during the month, the Design-Builder shall check the box adjacent to Finished and enter the date the work was completed.
 - c. Suspended work – The first time that work has been suspended on a schedule activity, the Design-Builder shall enter the Suspend and Resume fields within the Project Details under the Status tab. For any subsequent suspensions of work to that activity the Design-Builder shall break that activity into two or more activities to accurately reflect the suspension and resumption of work dates in the field, and to more accurately reflect the relationship to other work activities.
 - iii) Calendars – To change a Project calendar for activities scheduled in the future, the Design-Builder shall copy the calendar and use a revised name that includes a reference to which Monthly Update the change was incorporated (i.e. - D260000 - Concrete Calendar should be revised to D260000 – 2 - Concrete Calendar to reflect the 2nd Monthly Update when the change was made to the calendar). The reason for the change in the calendar shall be documented in the Narrative.
 - iv) Notebook Tab –
 - a. Delays - For any activities on the critical path that are delayed during this monthly reporting period, the Design-Builder shall enter the dates the activity was delayed and the reason for such delay in the Notebook tab of that activity.
 - b. Activity Changes – For any changes to activity logic, calendar assignments, suspended work, added or revised lag periods or constraints the Design-Builder shall document the change and reason in a Notebook Topic for that activity by assigning the appropriate "Progress Submission # Revision" and describing the changes.

- v) **Production Rates** – For any activities where the work to be performed is similar in nature to work already performed on the same Project and that the Production Rate for the work to be performed is different than the actual Production Rate for work already performed, the Authority’s Project Manager may require the Design-Builder to adjust the Duration for the work to be performed to reflect the more appropriate Production Rate.
- vi) **Deleted work** – If work has been deleted the corresponding work activities in the schedule shall be deleted. The Design-Builder shall not just zero the activity duration since the calendar assigned to the zero duration activity shall still affect the logic of future work activities.
- d) **Monthly Progress Schedule Narrative** - For each Monthly Progress Schedule submission, the Design-Builder shall submit a narrative in Microsoft Word, or Adobe Acrobat format that includes, but is not limited to the topics from the Baseline Narrative and the additional topics below:
- i) **Project Progress.** Discuss the progress that was made during the current reporting period, and document any Total Float gained or recovered during the period. For major work items describe the differences between the actual work performed and the work planned for the period as represented in the preceding Progress Schedule submission, including explanations for the deviations.
- ii) **Suspended Work.** For all suspended work activities that could otherwise logically be progressed, identify the responsible party prohibiting the progression of the work, as well as the detailed reasons why.
- iii) **Project Delays.** Discuss any delays experienced during the current reporting period. Quantify any relative change in Total Float for the project since the last Progress Schedule submission. For each activity on the critical path (include Activity ID’s and Activity Descriptions) where work was delayed during the reporting period, provide the following detailed information including:
- the extent in days (negative float) of the delay, and events that caused the delay.
 - the party(s) responsible for the delay event(s).
 - the other activities in the construction schedule affected by the events.
 - the reasonable steps needed to minimize the impact of the delay, and which party needs to take the action(s).
- The Design-Builder is reminded of the requirements of Notice & Recordkeeping as found in DB Sections 104-7, 109-9, 109-10 and 109-15 as they relate to Disputed Work. The Design-Builder shall include a copy of any notice provided to the Project Manager for any time-related delay dispute as part of their narrative.
- iv) **Project Issues.** List any other problems experienced during this Progress Schedule submission period, the party responsible for the problems, and the Design-Builder’s intentions to resolve the issue(s). List all activities for procurement of long lead time materials that are behind schedule and the reason(s) why.
- v) **Schedule changes.**
- List of all added or deleted activities included in this Progress Schedule submission, and the reason(s) for and the impact(s) of such changes.

- List all changes in activity Original Durations, the justification for such change(s), and the impact(s) of such changes.
 - List all changes in relationships between activities included in this Progress Schedule submission, and the reason(s) for and the impact(s) of such changes.
 - List any addition or deletion of activity or project constraints, and the reason(s) for and the impact(s) of such changes.
 - List all changes to the project calendars, and the reason(s) for and the impact(s) of such changes.
- vi) List all activities for procurement of long lead time materials that are behind schedule and the reason(s) why.
- vii) For major work items describe the differences between the actual work performed and the work planned for the period as represented in the preceding Progress Schedule submission, including explanations for the deviations.
- viii) Description of any changes to the critical path since the last Monthly Progress Schedule submission and the impacts of such changes.
- ix) The major work elements, as defined in the WBS, to be accomplished during the next monthly work period.
- x) Any potential problems that are anticipated for the next monthly work period and the proposed solutions to such problems. Identify potential problems or risks that either Authority or Design-Builder may be potentially responsible for. Explain what action the responsible party (i.e. - Authority or Design-Builder) needs to take and the date by which time the action needs to be taken to avoid the problem.
- xi) Any planned acceleration of activities that the Design-Builder anticipates to undertake within the next monthly work period that either the Authority directed, or that the Design-Builder believes is necessary.
- xii) The following appendix in Adobe Acrobat PDF file format, formatted to fit ANSI Size E paper (34 inch x 44 inch) (863 mm x 1117 mm) paper, printed with Landscape orientation, shall be included with the narrative as a separate file.
- APPENDIX 1 – A listing of all work activities as of the Data Date, using the NYSDOT/ Authority Appendix 1 activity layout, sorted by Finish date, Total Float in increasing order, showing the Activity ID, Activity Name, Original Duration, Remaining Duration, Actual Duration, Total Float, Early Start date, Start date, Finish date, Late Finish date, and Calendar ID. The grouping of activities shall be by WBS. The Gantt Chart shall clearly indicate all activities in the schedule. Graphical representations shall be shown at a suitable scale to be legible and readable.
- xiii) The following appendix in Adobe Acrobat PDF file format, formatted to fit ANSI Size B (Ledger) paper (11 inch x 17 inch) (279 mm x 431 mm) paper, printed with Landscape orientation, shall be included with the narrative as separate files.
- APPENDIX 2 – A listing of all work activities as of the Data Date, using the NYSDOT/Authority Appendix 1 activity layout, sorted by Finish date, Total Float in increasing order, showing the Activity ID, Activity Name, Original Duration, Total Float, Start date, Finish date. There shall be no Grouping of activities, and the global Filter for Longest Path shall be applied. The Gantt

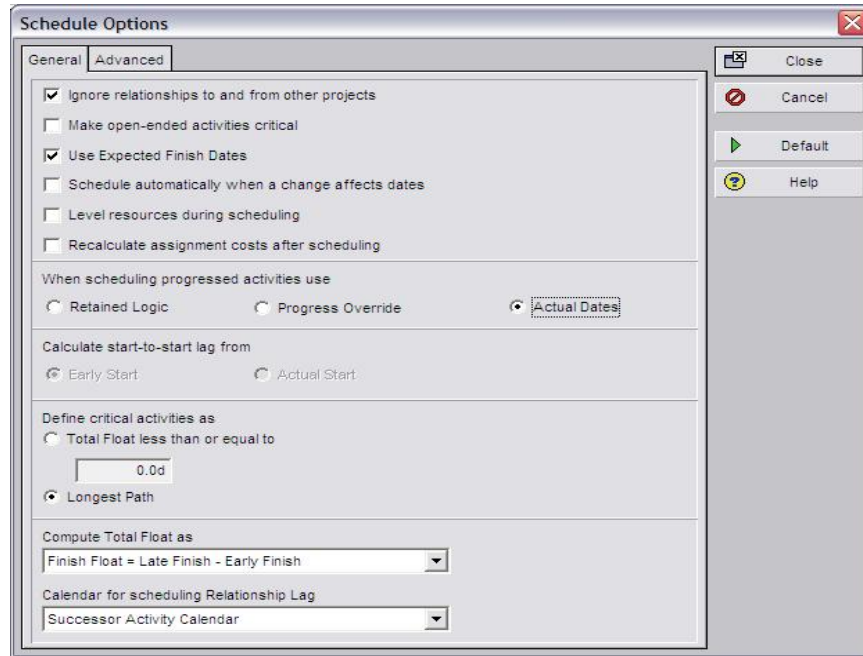
Chart shall clearly indicate the project critical (longest) path, with logic lines. Graphical representations shall be shown at a suitable scale to be legible and readable.

xiv) The following appendix in Adobe Acrobat PDF file format, formatted to fit standard ANSI A (Letter) size paper (8.5 inch x 12 inch) (215 mm x 279 mm) paper, printed with portrait orientation, shall be included with the narrative as a separate file.

- APPENDIX 3 – A complete Scheduling/Leveling Report file generated by the Department's/ Authority Primavera scheduling software application which includes the Schedule Settings, Statistics, Errors, Warnings, Scheduling/Leveling Results, Exceptions, Activities with unsatisfied constraints, Activities with unsatisfied relationships, and Activities with external dates. The statistics shall include, # of Activities, # of Activities Not Started, # of Activities In Progress, # of Activities Completed, # of Activity Relationships, and # of Activities with Constraints. Total number of activities on the critical path, percent complete, activities without predecessors, activities without successors, and activities out of sequence.
- e) For any contract time extension requests the Design-Builder shall include: a Time Impact Analysis (TIA) for any changes to the schedule for future work for such issues as Added Work, VECP, or Changed Conditions; and a Delay Analysis that documents all delays from the Contract Award to the current date that is based on critical path delays that occurred when comparing subsequent Monthly Progress Schedule submissions and the supporting delay documentation in the Monthly Schedule Narratives.
- f) Schedule Submission - The Design-Builder shall submit the Monthly Progress Schedule to the Authority's Project Manager at the end of each month. The schedule submission to the Authority's Project Manager shall be made within three (3) Work Days of the Data Date (last day of the month), whether or not the Authority's Project Manager has accepted the previous Monthly Progress Schedule submission. Schedule submittals will only be considered complete when all documents and data have been provided.

Immediately prior to submitting the schedule the Project Scheduler shall "Schedule" the project, when scheduling the project the Scheduling Options shown in Figure 3 shall be used unless approval to vary from these settings is given by the Authority's Project Manager. The Project Scheduler shall use the same Scheduling Options for all Progress Schedule submittals for the duration of the contract, unless directed otherwise by the Authority's Project Manager.

FIGURE 3



- g) Schedule Submission Method - The Design-Builder shall submit the schedule to the Authority's Project Manager electronically for review and acceptance. The filename shall conform to the requirements of Table 1. The Project Scheduler can change the Project ID and Name through the WBS at the top node, as they do not have privileges to edit data through the Project Details tab. The Design-Builder's submission shall be documented by an E-mail to the Authority's Project Manager, with a copy to CPMSchedulingSection@dot.state.ny.us and all appropriate project participants, that the project schedule on the network is ready for review. The Design-Builder's E-mail to the Authority's Project Manager shall also consist of the following:
- i) The subject of the E-mail shall include the contract D number, the Project Name, the Progress Schedule's ProjectID, and Design-Builder company name. (i.e. – D260000, Rehabilitation of Main Street viaduct, D260000-1UD2, ABC Contractors)
 - ii) The E-mail message shall include the name of the Authority's Project Manager, the current anticipated Finish date of the last activity in the Project Schedule, a statement as to how that date compares to the current Project Completion Date, and the name of the Authority's Construction Quality Assurance Engineer (CQAE).
 - iii) Electronic files of all Narrative Reports and required attachments associated with the schedule shall be submitted by the Design-Builder in Adobe Acrobat format.

3.3.4.5 As-Built Progress Schedule

The Design-Builder shall submit the As-Built Progress Schedule with Actual Start and Actual Finish dates for all activities, within ten (10) Work Days following final acceptance of work by the Authority.

3.3.4.6 Look-Ahead Schedule.

Except during winter shutdown periods the Design-Builder shall prepare a Look-ahead Schedule as either a plotted report from the current progress schedule, or as a narrative report, and provide it to the Authority's Project Manager on a weekly basis, or if accepted by the Authority's Project Manager on a mutually agreed upon interval. The Look-ahead schedule shall include the actual work progressed during the past week and work activities planned for the next two week period, and shall include, but is not limited to: anticipated lane closures, road closures and detours, environmental issues, and utility issues. The Authority's Project Manager will provide the Design-Builder with guidelines for determining the begin dates and end dates for the three week reporting periods, along with the how the plotted schedule report or narrative report shall be formatted.

The Authority may use the Look-ahead schedules to facilitate communication with other Federal or State agencies, local municipalities, utility companies, railroads, emergency service providers, public news media and other affected parties.

3.3.5 Progress Schedule Review and Analysis

3.3.5.1 Immediate Rejection of Progress Schedule Submissions.

The following deficiencies in a Design-Builder's Progress Schedule submission shall be grounds for the immediate rejection by the Authority's Project Manager, without further review, analysis and/or comments.

- a) Failure of the Project Scheduler to "schedule" the Project, as of the Data Date.
- b) Failure to attach a copy of the complete Scheduling/Leveling Report (SCHEDLOG.TXT file generated by Primavera software application).
- c) Any activities without predecessors, or activities without successors, appearing in the Scheduling/Leveling Report with the exception of the first and last activity in the schedule.
- d) Any activity constraints appearing in the Scheduling/Leveling Report that have not been approved in writing by the EIC, or that are not specifically allowed by this Special Provision.
- e) Any Activities with Actual Dates > Data Date appearing in the Scheduling/Leveling Report.
- f) Any Milestone Activities with invalid relationships appearing in the Scheduling/Leveling Report.
- g) Failure to have a clearly defined Critical Path from the Data Date to the last activity in the schedule, using the Longest Path method. This would reflect logic errors in the project schedule.
- h) Failure to attach the schedule Narrative and required appendices.
- i) Failure to correct any "Out-Of-Sequence" activities that affect the critical path.

If any of these deficiencies are found, the Design-Builder's submission shall be considered deficient, and the Authority's Project Manager will notify the Design-Builder immediately by return E-mail of the rejection of the schedule submittal.

3.3.5.2 **Schedule Analysis Method.**

Events, actions, and progress that cause delays or gains to the Progress Schedule will be analyzed solely by the "Contemporaneous Period Analysis" method.

3.3.5.3 **Project Progress Meetings**

One topic of the regular weekly progress meetings held by the Project Manager and attended by the Design-Builder shall be a review of the Weekly Status Report generated from the Progress Schedule. The Design-Builder shall be represented by their design, construction and Project Scheduler personnel. The Project Scheduler shall bring a copy of the printed plot of the current Weekly Status Report to the progress meeting, the report shall show the current anticipated schedule for all remaining work with the critical path activities highlighted.

- a) The review of the Status Report serves as the forum to discuss project progress and delays, suggested remedies, necessary Progress Schedule revisions, coordination requirements, change orders, potential Design-Builder time extension requests, and other relevant issues. If contract work is falling behind the Progress Schedule, the responsible party (i.e. - Design-Builder or Authority) shall be ready to discuss what measures it will take in the next thirty (30) days to put the work back on schedule so as to meet the Project Completion Date specified in the Contract.
- b) Items of discussion will include, but are not limited to: project progress; schedule progress; near term and long-term schedule issues, including RFIs, Shop Drawing submittals, permit work, utility relocations, mitigation work; project issues and risks; proposed solutions; and any relevant technical issues that are schedule related.
- c) At the meeting the Project Scheduler shall compile an action item list that describes who is responsible for existing or pending issues and the date by which the issue needs to be resolved to avoid delays. The Design-Builder shall forward a copy of the action item list to the Project Manager within 2 business days following the meeting.

3.3.5.4 **Authority Review and Acceptance of Progress Schedules**

The Authority's Project Manager will review the Monthly Progress Schedule submissions and will prepare a written response (Progress Schedule Review Report) to the Design-Builder's submission within five (5) Work Days following receipt of the Design-Builder's complete schedule submission. The Authority's Project Manager will either "accept" the schedule, "accept as noted", or "reject" the schedule for re-submittal by the Design-Builder.

If the Progress Schedule submission is not in compliance with contract requirements, the Authority's Project Manager may reject the submittal and shall forward any comments and requests for schedule revisions to the Design-Builder. The Design-Builder shall address all comments in writing and/or make the requested revisions, and resubmit the revised schedule within three (3) Work days of the Authority Project Manager's reply. If the Authority's Project Manager determines the revised submission still does not meet the contract requirements, any further revisions required thereafter shall also be submitted for acceptance within (3) Work days of the request for revisions by the Authority's Project Manager.

For schedules that are "accepted as noted" the Authority's Project Manager shall forward any comments, or requests for revisions, to the Design-Builder. The Design-Builder shall address all comments in writing and/or make the requested revisions as part of the next scheduled Progress Schedule submission.

The Design-Builder shall make adjustments to the Progress Schedule in accordance with the comments from the Authority's Project Manager and resubmit copies for review consistent with the requirements of this section.

The Authority's Project Manager, by accepting the Progress Schedule, does not agree that the Progress Schedule is reasonable or that by following the Progress Schedule the Design-Builder can complete the Work in a timely manner. If, after a Progress Schedule has been accepted by the Authority's Project Manager, either the Design-Builder or the Authority's Project Manager discover that any aspect of the Schedule is in error, or something significant has been omitted, the Design-Builder shall correct the Progress Schedule in the next Progress Schedule submission and describe this revision in the Narrative report.

Acceptance of Progress Schedules by the Authority's Project Manager shall not be construed to imply approval of any particular construction methods or sequence of construction or to relieve the Design-Builder from its responsibility to provide sufficient materials, equipment and labor to guarantee the completion of the Contract in accordance with the Contract requirement.

Acceptance of the Progress Schedule by the Project Manager does not attest to the validity of assumptions, activities, relationships, sequences, resource allocations, or any other aspect of the progress schedule. Within the contractual constraints, the Design-Builder is solely responsible for the planning and execution of the work.

Acceptance of the Progress Schedule by the Authority's Project Manager shall not be construed to modify or amend the Contract Agreement or the date of Project Completion therein. Completion dates can only be modified or amended by standard contractual means, through an official HC-250b Request for Extension of Completion Date.

If any resources are included in the Progress Schedule, it is not intended that the Authority's Project Manager, by accepting the schedule should use the Design-Builder's resource data for anything other than determining the reasonableness of achieving the Design-Builder's production rates. Resources included with the accepted CPM schedule shall not be misconstrued as a cost benchmark for the performance of planned or actual work.

Once the Progress Schedule has been accepted, the Design-Builder shall not deviate from it without first notifying the Authority's Project Manager in writing.

Upon receipt from the Design-Builder of the corrected schedule, a new review period by the Authority's Project Manager of five (5) Work days will begin.

3.3.6 Changes to Progress Schedule due to Added/Deleted/Changed Work:

3.3.6.1 Changes to the Contract

In the event a notice of a change to the Contract is received, the appropriate changes to the progress schedule shall be made, as necessary, to incorporate the anticipated added/deleted/changed work and the Design-Builder shall notify the Authority's Project Manager in writing within 10 (ten) calendar days if there is any effect of such change to the schedule. The reasons for these revisions must be succinct, comprehensive, and factual to merit consideration. Change to the contract includes, but is not limited to, Extra Work, Agreed Prices, Change Orders, and Suspensions of Work Directed by the Authority's Project Manager, Changed Condition, and Value Engineering Change Proposals. Added, deleted and/or extra work associated with Change Orders shall be reflected in the next Monthly Progress Schedule

Submission in anticipation of and prior to the date in which the work physically takes place without regard to the dates when the actual Change Order was approved. The effect of the change to the Contract on the projects Critical Path shall be stated. Extra work or additional work that does not affect the controlling operation on the critical path will not be considered as the basis for a time extension. All schedule activities effected by added, deleted or changed work that is included in a signed Change Order, Field Change Order, or Authorization of Extra Work (with the exception of minor quantity changes that do not impact contract milestones), or work activities performed by the Design-Builder at risk in anticipation of such Authority approval, shall be assigned the appropriate Activity Code (Added/Changed Work) and Code Value (sequentially numbered) to denote which "Changed Contract Work" order number correlates to those activities of work.

3.3.6.2 Time Impact Analysis

For each request of an adjustment of Contract time due to an anticipated change to future work in the Progress Schedule, when the Design-Builder or Authority's Project Manager consider that an anticipated or approved change to the Contract may impact the critical path and Contract progress by more than a calendar month, the Design-Builder shall submit a Time Impact Analysis (TIA). The TIA shall be submitted as part of any Order on Contract (Change Order) and/or VECP if the critical path changes by more than a calendar month.

The TIA shall be based on a revised Progress Schedule and shall be submitted as an electronic file (using Microsoft Word for the narrative) containing:

- a) The TIA shall illustrate the impacts of each change or delay on the current scheduled completion date or internal milestone, as appropriate.
- b) The analysis shall use the accepted Monthly Progress Schedule that has a data date closest to and prior to the event as the "Current Baseline", this shall then be compared against the "What-if Project Plan Baseline" for the purpose of the TIA.
- c) If the Authority's Project Manager determines that the accepted schedule used does not appropriately represent the conditions prior to the event, the accepted schedule shall be updated to the day before the event being analyzed.
- d) The TIA shall include an impacted schedule ("What-if Project Plan Baseline") developed from incorporating the actual or anticipated event into the accepted schedule by adding or deleting activities, or by changing durations or logic of existing activities.
- e) If the impact schedule shows that incorporating the event negatively modifies the critical path and scheduled completion date of the accepted schedule, and the Project Manager accepts the impacted schedule, the difference between scheduled completion dates of the two schedules shall be equal to the proposed adjustment of contract time.
- f) The Authority's Project Manager may construct and utilize an appropriate project schedule or use another recognized method to determine adjustments in contract time until the Design-Builder provides the TIA.
- g) The Design-Builder shall submit a TIA within fifteen (15) Work Days of receiving a written request for a TIA from the Authority's Project Manager.
- h) The Design-Builder shall allow the Project Manager ten (10) Work Days after receipt to accept or reject the submitted TIA. All accepted TIA schedule changes shall be

included in the next Monthly Progress Schedule submission.

- i) If a TIA submitted by the Design-Builder is rejected by the Authority's Project Manager, the Design-Builder shall meet with the Project Manager to discuss and resolve issues related to the TIA. If agreement is not reached, the Design-Builder will give notice in conformance with §104-7, Notices and Recordkeeping, and submit in accordance within the provisions in §109-10.6, Required Content of Dispute Submission.
- j) The Design-Builder shall only show actual as-built work, not unapproved changes related to the TIA, in subsequent Monthly Progress Schedule submissions. If agreement is reached at a later date, approved TIA schedule changes shall be included in the next Monthly Progress Schedule submission.
- k) Request for a contract time extension will not be processed until the receipt and approval of a Time Impact Analysis.

3.3.7 Failure to Submit Progress Schedules and/or Recovery Schedules

If the Design-Builder fails to comply with the provisions of this Special Provision, the Authority's Project Manager may suspend payment for any Contract Work.

- 1) If the Design-Builder's Progress Schedule submission is rejected due to any deficiency noted in paragraph 5.3.5.1(a) through (i), it shall be considered an incomplete submission and therefore substantially deficient.
- 2) If the Design-Builder's revised Progress Schedule submission does not address the written comments provided by the Authority's Project Manager, and does not include a written explanation with a reasonable rationale for not addressing those comments, the submission shall be considered deficient.

3.3.8 Recovery Schedule

- 1) If the latest completion time for any work on the current Progress Schedule results in an activity being delayed ten percent or more of the time beyond the required Contract duration or any specified Milestone duration, as adjusted if appropriate, the Project Manager may require the Design-Builder to submit a Recovery Schedule and written description of the plan to recover all lost time and maintain the required Completion Date or specified Interim Milestone Date(s).
- 2) With the Recovery Schedule the Design-Builder shall include revised calendars, activity Production Rates, and/or revised activity logic along with a narrative that identifies how time will be recovered.

The submission may be supplemented with a request for a Contract Time Extension. The Design-Builder shall provide a reasonable plan for accomplishing the work of the contract within the current completion date, or to the requested contract extension date. The Authority's Project Manager will use the Recovery Schedule to evaluate time extensions, with or without charges.

3.3.9 Float

During the course of contract execution, Total Float generated due to the efficiencies of either party (State or Design-Builder) will be considered project Float that 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.

Any party assigned activity responsibility within the schedule has the full use of the project Float until it is depleted.

3.3.10 Progress Schedule Updates and Weekly Status Reports:

- 1) The Design-Builder shall perform a Progress Schedule Update on a minimum of a weekly basis, and every fourth schedule update period shall be consistent with monthly contract payment period.
- 2) The Design-Builder shall generate a Weekly Status Report after performing the Progress Schedule Update and Scheduling the project with a Data Date of the day the schedule was updated, and submit it to the Project Manager within one (1) Work Day of the Data Date for that update period. The Weekly Status Report shall be generated using the activity Layout named Weekly Status Report, with activities grouped by the WBS, and using the standard default filter named Longest Path. The Gantt Chart shall clearly indicate the project critical (longest) path. Graphical representations shall be shown at a suitable scale to be legible and readable.
- 3) During any time periods within the contract that special time-related contract provisions are in effect, including Incentive/Disincentive Periods, the Project Manager may require more frequent Progress Schedule Updates and/or Progress Schedule Status Reports.

3.4 PROGRESS CHECK POINTS AND PAYMENT

Specified schedule submittals and schedule updates shall be considered Progress Check Points.

- vii) The cost of preparing and updating the CPM schedule and meeting all other requirements of this Special Provision shall be included the Project costs.

SP-4. MATERIALS APPROVAL PROCEDURES FOR DESIGN-BUILD PROJECTS

All Materials used in the Design-Build work shall meet the quality requirements described in the Contract Documents. The use of Standard Specifications and Approved List (AL) materials are expected for commonly available products for incorporation into the Work. Additionally, existing Special Specifications that include material requirements may also be used in the Work.

If the Design-Builder deviates from Contract Documents, Standard Specifications, or existing Special Specifications (accepted by the Authority for use on this project), the Design-Builder shall develop Design Plans, Project Specifications and Work Plans that define materials and procedures to complete the Work. The Design-Builder shall progress acceptance of materials and sources, proving durability through tests and evaluations as appropriate, prior to use in the Work. The Design-Builder shall document the sources of supply (NOTE: Must be in compliance with all "Buy America" regulations) and kinds of materials that will be used in the work as soon as they are known.

As part of the Design requirements of DB Section 111, the Authority will review and accept materials proposed for use as follows:

Products that are not presently on the AL but claim to meet specification requirements shall be evaluated by the Authority prior to use. The Authority will perform the necessary testing according to the existing material requirements for the products as defined in Section 700 of the NYSDOT Standard Specifications or any Special Specification (accepted by the Authority for

use on this project requirements. A request for inclusion on the AL shall be made by the manufacturer / supplier. The required submittal information for AL consideration can be found at:

<https://www.dot.ny.gov/divisions/engineering/technical-services/materials-bureau/approved-list-submission>

When products are proposed for which NYSDOT/Authority does not have Standard or Special Specifications, or where proven materials may be used in non-traditional applications, materials evaluations will be progressed based on review of technical details, performance histories, and/or physical testing. The Design-Builder will provide this information to prove the expected performance and durability of these unique materials before they can be used in the Work. Submissions shall include:

General Information

- Product Name
- General Description
- Purpose/Justification
- Manufacturer
- Supplier

Technical Details (Specifications)

- Materials (Include composition and MSDS sheets)
- Construction Details
- Testing, Inspection and Acceptance (identify standards like AASHTO, AREMA or ASTM)
- Maintenance requirements and frequencies that may apply for the intended application

Performance History

- Test Results (including test methods for durability, strength, appearance, etc.)
- Previous Uses (describing who, where, when, documented performance)

The evaluation of materials will depend on the uniqueness of the proposed materials, critical nature of the application, and detailed information provided. Evaluations will consist of the following:

- Materials deemed less critical will likely be accepted based on literature review only. Use of these materials can begin at any time.
- Materials deemed more critical will require both literature review and physical testing by the Authority. Physical testing will commence only after literature review determines the material has a likely chance of meeting all performance criteria defined in the Design-Builder's Special Specifications. Conditional acceptance will be made upon completion of the literature review that will allow use of these materials prior to completion of

physical testing. However, failure of materials during physical testing will result in a NCR for any materials incorporated into the Work. Rectification of the generated NCR shall be at the sole judgement of the Authority.

The Design-Builder shall consider the uniqueness of the proposed materials, critical nature of the application, and detail of information provided for an evaluation. Additionally, The Design-Builder shall consider the duration of the evaluation required to reasonably progress all sampling, transportation, preparation, testing, and evaluation of results as defined in the material requirements for an item and may NOT use any part of the evaluation process as a basis for claim and/or delay. The Authority will, when possible, perform AASHTO, AREMA and/or ASTM tests of the materials for acceptance purposes. When the Authority does not have the capabilities to evaluate materials, testing labs may be hired for testing as needed at the Design-Builder's expense.

Use of any materials prior to acceptance by the Authority shall be at the Design-Builder's risk. After acceptance, materials shall conform to specification requirements and subject to all QC/QA actions and Authority verification.

Once in Construction, the Design-Builder is responsible for QC of all materials while the Authority is responsible to verify the quality of all materials through the timely submission of Certified Test Reports. The Authority will progress sampling and testing for verification of materials according to the established accepted Quality Control Plan developed for the project.

SP-5. SPECIAL PROVISIONS FOR TESTING BRIDGE BEARINGS

Throughout this Special Provision, references to the Standard Specification shall mean the edition of the NYSDOT Standard Specifications, Construction and Materials, English Units, Office of Engineering, in effect on the Proposal Due Date.

5.1 DISC-DESIGN STRUCTURAL BRIDGE BEARINGS

The Design-Builder shall perform the inspection, sampling and testing of disc-design structural bridge bearings, on a lot by lot basis, in accordance with the procedures outlined in Materials Procedure 84-2 (Quality Assurance Inspection for 716.06.01, Disc-Design Structural Bridge Bearings 716.07.01 Pot-Design Structural Bridge Bearings) [to be referred to as MP84-2]. The requirements for these bearings are listed in the Standard Specifications.

5.1.1 Polyether Urethane Structural Element

The physical properties of the polyether urethane shall conform to the requirements ASTM D2240, ASTM D412 and ASTM D395 as listed in Section 700 of the Standard Specifications.

5.1.2 Steel Plates

Conform to the requirements of the steel designated on the Contract Plans and applicable provisions of the NYS Steel Construction Manual (refer to Section 700 of the Standard Specifications).

5.1.3 Stainless Steel

Stainless steel shall conform to the requirements of ASTM A167 or ASTM A240, Type 304. Refer to Section 700 of the Standard Specifications.

5.1.4 Polytetrafluoroethylene (PTFE) Sheet and Strip

Finished PTFE sheet and strip shall conform to the physical requirements of ASTM D638M and ASTM D792 as listed in Section 700 of the Standard Specifications.

5.1.5 Welding Procedure

All welding shall conform to, and all welders shall be qualified in accordance with the requirements of the NYS Steel Construction Manual.

5.1.6 Compression Strain

Requirements and test conditions are outlined in Section 700 of the Standard Specifications.

5.1.7 Sliding Coefficient of Friction

For all guided and non-guided expansion type disc-design bearings, the bearing manufacturer will test one production bearing per lot (see Section 700 of the Standard Specifications).

5.1.8 Rotation Test

The bearing manufacturer will test one production bearing per lot. Evaluation criteria are listed in Section 700 of the Standard Specifications.

5.2 POT-DESIGN STRUCTURAL BRIDGE BEARINGS

The Design-Builder shall perform the inspection, sampling and testing of pot-design structural bridge bearings, on a lot by lot basis, in accordance with the procedures outlined in Materials Procedure 84-2 (Quality Assurance Inspection Procedure for 716.06.01 Disc-Design Structural Bridge Bearings 716.07.01 Pot-Design Structural Bridge Bearings) [to be referred to as MP84-2]. The requirements for these bearings are listed in the Standard Specifications.

5.2.1 Elastomeric Rotational Element

The tensile properties of the neoprene and natural rubber elements shall conform to ASTM D412, ASTM D573 and ASTM D2240. These neoprene and natural rubber elements shall also conform to ASTM and AASHTO requirements as listed in Section 700 of the Standard Specifications [ASTM D2000, Line Call Out M2BC517A14B34, ASTM D2000, Line Call Out M4AA517A13B33, AASHTO Standard Specifications for Bridge Section 2.25.2, Materials 50 Durometer Hardness].

5.2.2 Steel

All steel will conform to the requirements of the steel designated on the Contract Plans and applicable provisions of the NYS Steel Construction Manual (refer to section 700 of the Standard Specifications).

5.2.3 Stainless Steel

Stainless steel shall conform to the requirements of ASTM A167 or ASTM A240, Type 304. Refer to Section 700 of the Standard Specifications.

5.2.4 Polytetrafluoroethylene (PTFE) Sheet and Strip

Finished PTFE sheet and strip shall conform to the physical requirements of ASTM D638M and D792 as listed in Section 700 of the Standard Specifications).

5.2.5 Welding Procedure

All welding shall conform to, and all welders shall be qualified in accordance with the requirements of the NYS Construction Manual.

5.2.6 Sliding Coefficient of Friction

For all guided and non-guided expansion type pot-design bearings, the bearing manufacturer will test one production bearing per lot (see Section 700 of the Standard Specifications).

5.2.7 Rotation Test

The bearing manufacturer will test one production bearing per lot. Evaluation criteria are listed in the Standard Specifications.

5.3 STEEL LAMINATED ELASTOMERIC BRIDGE BEARINGS AND ELASTOMERIC BRIDGE BEARINGS WITH EXTERNAL LOAD PLATES

The Design-Builder shall perform the inspection, sampling and testing of elastomeric bridge bearings, on a lot by lot basis, in accordance with the procedures outlined in Materials Method No.: NY 23 M (to be referred to as MM23). The requirements for these bearings are listed in the Standard Specifications.

5.3.1 Elastomeric Material

The physical properties of the cured elastomeric compound shall meet the requirements of ASTM D412 (see Section 700 of the Standard Specifications).

Manufacturer must certify that the elastomeric compound passes Grade 3 Low-Temperature Brittleness as determined by ASTM D746 – Brittleness Temperature of Plastics and Elastomers by Impact, Procedure B.

5.3.2 Internal Steel Plates (shims)

Conform to the requirements of ASTM A36M, ASTM 1008/A 1008/M or ASTM 1011/A 1011/M (Grade 33, 36 and 40).

5.3.3 External Load Bearing Plates and Steel Backing Plates

External load plates shall conform to the requirements of ASTM A36M and to the requirements of the Steel Construction Manual (SCM).

5.3.4 Welding Procedure

The bearing manufacturer shall submit a Welding Procedure to the Project Manager for each welding process to be used in the manufacture of the bearings. No welding shall be performed until the manufacturer receives an acceptance of the Welding Procedure.

5.3.5 Bearing Tolerances

The finished elastomeric bearings shall conform to the design dimensions, with the tolerances listed in Section 700 of the Standard Specifications.

5.3.6 Compression / Deflection

Test conditions are outlined in the Standard Specifications.

5.3.7 Adhesion

Visual inspection as outlined in the Standard Specifications.

SP-6. PAYMENT REDUCTIONS, LIQUIDATED DAMAGES AND EARLY COMPLETION BONUS

Time is an essential element of the Contract, and it is important that the Work be pursued vigorously to completion. The public is subject to detriment and inconvenience when full use of infrastructure cannot be maintained during the construction of the Project. Therefore, payment reductions and/or liquidated damages will be assessed against the Design-Builder under the circumstances specified below. Conversely, an early completion bonus will be paid to the Design-Builder for completing the Project before the Project Completion Date in accordance with the circumstances specified below.

6.1 PAYMENT REDUCTIONS AND LIQUIDATED DAMAGES

6.1.1 Project Completion

The Design-Builder shall pay liquidated damages, as described in DB § 108-5 – Liquidated Damages, for failure to achieve Project Completion by the Project Completion Date. The Project Completion Date will be established based on the proposed duration provided in Table SCD-1 on Form SCD and described in Part 1 – DB Agreement, Article 2.3 – Project Completion Date.

6.1.2 Defined Completion

The Defined Completion Date(s) will be the date determined by adding the number of calendar days proposed by the Design-Builder on Form SCD (the Duration), to the date of the Notice to Proceed as issued by the Authority. The Defined Completion Date(s) may not be changed without written approval by the Authority's Project Manager.

The Design-Builder shall be subject to liquidated damages for failure to meet the Defined Completion Date(s) in accordance with Form SCD for each calendar day in excess of the total number of calendar days provided on Form SCD.

6.1.3 Impacts to Traffic

The Design-Builder shall be subject to payment reductions and liquidated damages for each calendar day that traffic is impacted, at each site, in excess of the number of Traffic Impact Days on Form SCD, and/or for each day that traffic is impacted in excess of the Traffic Impact Duration provided in on Form SCD. If both the number of Traffic Impact Days and the Traffic Impact Duration are exceeded at any given site, Liquidated Damages will be assessed twice each day both are exceeded.

6.1.4 Defined Completion

The Defined Completion Milestone Date will be the date determined by the Design-Builder in submission of their proposal for specific structures or infrastructure elements defined on Form SCD, Table SCD – 2, as the number of calendar days.

6.2 EARLY COMPLETION BONUS

An Early Completion Bonus will be paid to the Design-Builder in the amount of \$20,000 per day (45 days maximum) for the number of days Project Completion is achieved earlier than the Project Completion Date. The Project Completion Date will be established based on the proposed duration provided by the successful Proposer in Table SCD-1 on Form SCD and described in Part 1- DB Agreement, Article 2.3 – Project Completion Date.

An Early Completion Bonus will be paid to the Design-Builder in the amount of \$125,000 per day (60 days maximum) for the number of days that AETC Completion Date is achieved earlier than the AETC Completion Date. The AETC Completion Date will be established based on the proposed duration provided by the successful proposal in Table SCD-2 on for SCD and described in Part 1 – DB Agreement Article 2.7-Defined Completion Date(s).

SP-7. PROJECT LABOR AGREEMENT

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