- When non-standard concrete or HMA materials are specified, time necessary to perform material mix design approvals.
- Working drawing preparation, submission and approvals (each one treated separately).
- Availability, fabrication and delivery of materials. This includes an analysis of any "Buy America/Buy American" requirements. [FHWA approval of a Buy America waiver will take a minimum of 6 months. FHWA will not approve a waiver for Buy America, solely because of the impact to the project schedule from obtaining material from a domestic source].
- Permit restrictions (fish spawning, etc.).
- Work area restrictions (wetlands, historic sites, parkland, etc.).
- Hazardous material excavation and disposal.
- Payment restrictions due to limits in multi-year funding.
- Work restrictions due to local activities, holiday seasons on roads with shopping centers, or in seasonal areas such as shore communities.
- Impacts to Authorities. (i.e. NJ Turnpike, NJ Highway Authority, South Jersey Transportation Authority etc.)
- ITS testing
- The time between substantial completion and completion accounts for likely corrective action and the seasonal restrictions that may apply to such work.
- The duration between Substantial Completion to Completion must be 60 days for projects less than 50 Million and 90 days for projects greater than 50 Million.
- Substantial Completion and Completion dates will not be established between December 1st to March 15th for projects North of Route 195, and December 15th to March 1st for projects South of Route 195, including Route 195. Every reasonable method (e.g. multiple crews, extended work hours etc.) is to be used to avoid this December to March period.
- If a Completion date prior to December cannot be achieved, the duration between Substantial Completion and Completion does not include the days between December and March, See below Table A for resume work date.

Table A:

LOCATION	**Stop Day Count**	**Resume Day Count**
Projects NORTH of Route 195	December 01	March 15
Projects SOUTH of Route 195, Including Route 195	December 15	March 01

6.0 Level of Detail Required on a Construction Schedule

The schedule will include, as a minimum, one activity for each discrete component part of each Item scheduled in the Proposal. The Department may allow grouping of similar Items.

Utility relocations must show the impacts for each stage (if applicable). It is not sufficient to simply show the utility company's duration for notice and the duration for the entire relocation work. The schedule must show the need for providing multiple notices, when stage work interrupts the sequence of relocation work, and the impacts of the relocation work to each stage of the contractor's work.

7.0 Designer Contract Time Determination

A Construction progress schedule establishes a completion date that provides the **shortest practical duration** of construction to minimize disruption of traffic but still allows the contractor a reasonable amount of time to complete the work at a reasonable cost. Tables A through D, Contractor Production Rates, are to be used **as a guide** to determine the construction schedule.

A detailed breakdown of the bridge items and road items is needed on the Construction progress schedule. This is necessary to determine if increased production rates or additional crews are required to meet a desired completion date. Where ranges of production rates are shown, the lower rates are for two-lane bridges and the higher rates are for bridges with more than two lanes. The Designer will also take into account the complexity of the work, fabrication time, the site conditions, traffic effects and all other factors when choosing a production rate.

In Appendix B there is a chart showing the number of days lost per month for weather sensitive activities for roadway (R) and bridge (B). The number of days lost per month for roadway and bridgework is to be adjusted upward in the northern part of the State, and adjusted downward in the southern part of the State. If weekend work is required, the total number of workdays per month must be adjusted. If a different number of working days is used, the Designer is to provide a written explanation with the Construction Progress Schedule. The Designer will also look at the types and classes of work performed during the winter season. Adjustments are to be made based on whether work can be performed during this time frame.

The full width of the traveled way and shoulders should be open to traffic whenever conditions permit during a winter shutdown. Consideration is to be given to setting interim completion dates for stages of construction and for portions of the work that significantly affect traffic.

7.1 Risk Assessed Progress Schedule Duration

The Project Manager may require the designer to provide a risk assessed Construction Schedule, using schedule risk analysis.

7.2 Final Submission

Construction progress schedules are prepared and submitted by the Designer with the final design submission. Distribution of the construction progress schedules is as follows:

<table>
<tr><th>Group</th><th>Hard Copy</th><th>Electronic</th></tr>
<tr><td>Project Manager</td><td>X</td><td>X</td></tr>
<tr><td>Bureau of Construction Management</td><td>X</td><td>X</td></tr>
<tr><td>Quality Management Services</td><td>X</td><td>X</td></tr>
<tr><td>Traffic Engineering</td><td>X</td><td></td></tr>
<tr><td>FHWA (Full oversight projects)</td><td>X</td><td></td></tr>
<tr><td>Division Of Civil Rights and Affirmative Action
(when Trainees are being requested)</td><td>X</td><td></td></tr>
<tr><td>Structural Design & Geotechnical Engineering</td><td colspan="2" rowspan="6">Copies are available upon request from the PM</td></tr>
<tr><td>Geometric Design – Pavements</td></tr>
<tr><td>Landscape</td></tr>
<tr><td>Utilities</td></tr>
<tr><td>Right of Way</td></tr>
</table>

Increased production rates may require the use of multiple crews and/or overtime. This additional cost is to be reflected in the Construction Cost Estimate.

7.3 Designer Standard Naming of Projects

The Designer is to assign a four-character file name. The first two characters will be the project identifier. The last two digits will be as follows:

- I0 - Design submission
- I1 - Design submission
- revised Etc.
- F1 - Final submission
- F2 - Final submission
- revised Etc.

The type of each submission must be clearly labeled in the description field.

7.4 Multi - Year Funding

If during development of the Capital Program it is determined that a project may need to be multi-year funded, the Project Manager will provide to the Capital Program Development a breakdown of the estimated construction cost per fiscal year based on the construction staging of the project. The Designer is responsible for developing a cost loaded CPM including the cost breakdown by activity and year.

7.5 Determining Start of Construction:

From Final Design Submission to Plans, Specifications and Estimate (PS&E) Submission - is approximately 12 weeks**.** Add 4 weeks for FHWA full oversight funded projects to allow for Preliminary PS&E review. Additional time may be considered for review and revisions on larger projects and / or projects with outstanding issues at the Final Design Submissions (FDS) (permits, ROW, utilities, etc.).

From PS&E Submission to Advertisement - 3 weeks for 100 percent State funded projects, 4 weeks for FHWA alternate procedure (NHS or non-NHS projects, and 5 weeks for other federally funded projects.

From Advertising to Receipt of Bids – A minimum of 3 weeks is required for bidding, with additional time allowed for larger or complex projects. *

From Receipt of Bids to Award – 15 State Business Days. **

From Award to Construction - Award to Execution of the Contract will vary up to 55 State Business Days. The construction start date of the CPM Schedule is the Contract Start Date (25 calendar days after the execution of the Contract.) **

From Award to Construction:

The successful bidder has 14 days to sign the Contract and return it along with the required Performance & Payment Bond. The Commissioner has up to 60 days after receiving it to execute the Contract

Award to Execution of the Contract can vary up to 74 days. Therefore, a minimum of 74 days* is the template duration to be shown on the Schedule for Administrative Activity A300.

As per the Standard Specifications, Commencement of Work is to begin within 25 days of Contract execution. Therefore, the Construction Start Date (Milestone activity M500) shown on the Contractors Baseline Schedule is 25 days* from the execution date of the Contract.

*In general, shorter time frames are appropriate for 100 percent State funded projects.

****** The Bureau of Construction Management should be consulted by the Project Manager to verify that the time frames used by the Designer are appropriate.

7.9 Designer Narrative

The Designer will submit a written narrative with each submission of a Progress Schedule. Included in this narrative will be:

- Anticipated production rates
- Anticipated workforce (i.e. number of crews, size, crew type etc.)
- Anticipated work during the Winter Season (December through March inclusive) and the number of workdays for Bridge and Roadwork.
- Permit requirements
- Utility requirements
- ROW requirements
- Community commitments
- Lead time for special materials
- Detours and anticipated timeframe
- Any critical milestones (i.e. road/ramp openings, critical stages etc.)
- Any anticipated problems meeting the schedule (ROW, Utilities etc.)
- Description of any acceleration applied to the project's schedule
- If the time period between Substantial and Completion is extended through December to March (see 5.0 Standard Factors), describe the reason why. Use every reasonable method to avoid extending the contract through December to March (e.g. multiple crews, extended work hours etc.)

The number of restricted working days for each operation as shown in Appendix B.

8.0 Contractor Procedure

8.1 Contractor Standard Naming of Projects

For projects under 1 year in duration, the contractor will assign a four-character file name. The first three characters will be the project identifier. The last digit will be as follows:

- 0 will be the working schedule
- 1 - Baseline 1
- 2 - Baseline 2 etc.
- A - First update
- B - Second update etc.

For projects over 1 year in duration, the contractor will assign a four-character file name. The first two characters will be the project identifier. The last two digits will be as follows:

- 00 will be the working schedule
- 01 - Baseline 1
- 02 - Baseline 2 etc.
- AA - First update
- AB - Second update etc.
- BA - 27th update
- Working Schedule = XXX0

8.2 Time Impact Evaluation (TIE)

The Contractor is required to provide a Time Impact Evaluation (TIE) Form DC-186 if the Contractor proposes that an impact has delayed the Contractor and additional Contract Time is proposed to be necessary by the Contractor.

The TIE Form DC-186 requires the submission of fragnet. The fragnet models the impact to the schedule. The fragnet should consist of a subset of the activities in the project schedule that were involved directly with the delay. The delay should be described as simply as possible with the fewest number of activities and relationships added in order to