



## TECHNICAL PROPOSAL REPORT

<b>Agreement:</b> E02017	<b>Project Specific</b>	<b>Active</b>
<b>Name:</b> I-95 - City of Chester overhead Bridges		<b>Selection Process:</b> Modified <b>Initiating Org:</b> Engineering District 6-0
<b>Supplement:</b> 1	<b>Normal</b>	<b>Executed</b>
<b>Description:</b> add effort associated with Final structure plans		

<p><b>Part 1 - SR 00095, Section TWU - Final Design</b></p> <p><b>Description</b></p> <p>SR 00095, Section TWU - Final Design</p> <p><b>Task 1 - Project Management/Administration</b></p> <p><b>Objective:</b></p> <p>2.1.1 - Project Management/Administration This task consists of the administrative effort required by principals, project manager, and involved personnel to complete the project on time and within budget, and to provide a quality product.</p> <p>2.1.1.3 - Quality Control/Quality Assurance This task consists of the effort to administer the QC/QA policies and procedures.</p> <p>2.1.1.5 - Project Schedule Development and Maintenance The purpose of this task is to prepare and maintain a design schedule that ranges from Scoping Field View to Contract Award.</p> <p><b>Scope:</b></p> <p>2.1.1 - Project Management/Administration Project Management involves the planning, scheduling, organizing and controlling of resources to achieve specific objectives within established schedule, budget and quality standards. The Project Manager is responsible for the tasks outlined in the Department Detail.</p> <p>2.1.1.3 - Quality Control/Quality Assurance Quality Control and Quality Assurance practices and procedures need to be incorporated and administered.</p> <p>PennDOT has implemented procedures to place additional responsibilities on consultants for quality of work. The consultants will be required to submit a corporate quality plan and submit job specific Quality Development plans for PennDOT approval. As part of quality reviews, process reviews, and IAPs, these plans and the consultants' conformance to them will be monitored, evaluated and documented.</p>
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Design Manual Part 1A can be used as a source of information to develop QC/QA policies and procedures.

#### 2.1.1.5 - Project Schedule Development and Maintenance

##### Guidance:

- Publication 615, Scheduling Manual
- All applicable strike-off-letters
- ECMS (Project Management Homepage)

##### Scope:

1. Develop a design schedule utilizing Deltek's Open Plan software. The design schedule will be developed in accordance with Publication 615 using the Department's PDSPRJ and PDSMASTER templates.
2. Maintain the design schedule utilizing Deltek's WelcomHome software.
3. Document all schedule issues to ensure that the project is let on time.

##### Scope Subtasks:

1. Coordinate the schedule development with the entire project team. The project team includes but is not limited to the District Portfolio Manager, the District Project Manager, various District functional units, the Bureau of Design, the Federal Highways Administration and various environmental agencies. Development of the schedule will consist of reviewing the schedule to ensure it contains the appropriate activities. There may be the need to add or delete activities to make the schedule specific to a given project. The review and modification of durations or relationships should also be performed to ensure that the schedule is setup to meet the desired completion date.
2. Prepare a draft of the design schedule that will be reviewed by the project team either in conjunction with a project status meeting or offline depending on the frequency of these meetings. The draft will, if approved, become the initial project schedule and be maintained through the remainder of the project.
3. Monthly progress of the design schedule activities will be input into Deltek's WelcomHome software. The schedule update day of the month will be specified by the District Project Manager to ensure that they have appropriate time to review proposed schedule changes prior to acceptance.
4. In the event that a major change in schedule occurs the Department will provide an Open Plan backup file (bk3) so that revisions can be made and resubmitted to the Department. Re-submittal shall follow the same process as the initial schedule development.

##### Scope Deliverables:

1. Provide the project team a draft design schedule in portable document format (PDF) and/or hard copy. The draft will contain relationships and durations so that they can be reviewed along with the activities that are included in the schedule. Schedules provided in portable document format (PDF) shall be submitted either by email or CD-ROM.
2. Upon acceptance of the schedule by the project team an Open Plan backup file (bk3) shall be provided to the District Project Manager either by email or CD-ROM.
3. Resubmit major revisions to the design schedule, as an Open Plan backup file (bk3), to the District Project Manager either by email or CD-ROM.

4. All schedule documentation shall be provided in MS Word compatible format to the District Project Manager either by email or CD-ROM.

#### **Detail Task 1 - Project Management/Administration**

##### **Department Details:**

Due to an increase in scope of tasks, Project Management responsibilities will also be increased.

##### **Approach:**

The Project Management scope tasks remain identical to that described in the original contract. As a result of the addition of the live load ratings effort included in this supplemental agreement, PB will undertake additional coordination with Department and subconsultant staff to gather information required to perform the ratings. The effort will include additional two meetings with the Department.

#### **Task 6 - Final Structure Plans**

##### **Objective:**

2.10.13 - Final Structure Plans

This task is the development of the final structure plans.

##### **Scope:**

2.10.13 - Final Structure Plans

1. Complete final engineering design(s) for structures on the project based upon the approved type, size and location (TS&L) plans and approved foundation recommendations. Prepare design calculations, construction documents and QA/QC forms in accordance with the Department's Design Manuals as amended by current strike-off letters.
2. Provide pay items and special provisions for design alternate bidding.
3. Provide plan details and special provisions as required for support of excavation and for construction phasing.
4. Provide special provisions for items not covered by Department specifications. Obtain current standard special provisions list from District and utilize standard special provisions whenever possible. Write project specific special provisions, if needed.
5. Prepare cost estimate for each structure based upon estimated quantities and historical data for similar structures in the project region. Consider access, phasing, and relative difficulty of construction in establishing unit prices.
6. Make a pre-final submission to the Department of completed plans, special provisions, quantity estimates, cost estimates, QA/QC forms and computations.
7. Revise the previously submitted documents as required to address the Department's comments thereon. Document responses to comments in writing.
8. Submit the final plans, special provisions, quantity estimates, cost estimates, QA/QC forms and computations properly signed and sealed and in

the form described in Publication 15M, Design Manual Part 4.

**Detail Task 1 - Final Structure Plans**

**Department Details:**

Compute live load ratings for the superstructures of the Madison Street, Chestnut Street and Upland Street bridges. The ratings will be for the proposed deck section, accounting for the removal of 1/2 inch of the existing deck and the application of 1.25 inches of Latex Modified Concrete (LMC0 overlay. Tapers to the existing approach roadway sections will be on the bridge deck surfaces. Compute the controlling ratings for a typical interior beam. Prepare separate computer runs for each type of girder on each bridge: rolled beams, composite cover plated girders, and non-composite riveted plate girders.

**Approach:**

The Final Structure Plans scope tasks remain identical to that described in the original contract except for the addition of the load ratings described immediately below. This supplement is for the additional work that is required for selected bridges (listed below) in the project to prepare live load ratings as a result of the increased dead loads from LMC overlay application. This effort was not included in the original scope of work, which assumed that the depth of removal of the existing deck slab would match the proposed thickness of the LMC. The method of LMC overlay application preferred by the Department consists of removing 1/2 inch of the existing deck followed by application of a 1.25 inch thickness of LMC. A description of the scope of work for the supplemental agreement is provided below.

Live Load rating:

Live load ratings will be performed for the:

1. Madison Street Bridge
2. Chestnut Street Bridge and Ramp E
3. Upland Street bridges.

For each of the 3 bridges listed above, the controlling ratings will be computed for a typical interior beam. Separate runs will be prepared for the composite cover-plated rolled beam spans and the non-composite riveted plate girder spans to determine the controlling rating. Fascia beams and girders will not be rated since there are existing sidewalks which restrict the positioning of vehicle wheel loads and therefore limit the live load applied to fascia members. An additional run will also be prepared for each different span length and beam section combination. For example, the Chestnut Street Bridge has two different rolled beams spans with different beam sizes and span lengths so both cases will be rated. The 3 spans of the Ramp E portion of the Chestnut Street Bridge will also be rated since it includes different beam sizes and span lengths than the main portion of the bridge. In addition to calculating and presenting the existing condition ratings for all required beam runs, proposed condition ratings will also be calculated and presented. All of the effort associated with this task will be performed by PB, except for the Upland Street Bridge ratings which will be prepared by sub-consultant (Prime Engineering). It is assumed that proposed ratings with future wearing surface (FWS) will not be required by the Department since the proposed LMC would need to be removed for any future re-surfacing project. The effort assumed in this proposal is that the district will provide PB will all the previous BAR 7 inputs for all the structures above.

PB proposed scope of work will assume a tapered transition of the LMC to blend into the existing scupper grades.

**Consultant Hierarchy**

**Business Partner**

	<b>DBE Type</b>	<b>Supervising BP</b>
PB Americas, Inc.	No	
Prime Engineering, Inc	Yes	PB Americas, Inc.

**Attachments**

***No records found.***

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