

Work Plan No.: A.05-04 - CBTC Enabling Works K-Line

Scope:

2.0 Scope of Services

This work plan includes completion of the issues for Bid PS&E and Bid Support through the conform set. It does not include Design Services During Construction.

Task 1: Administration and Project Management

1.1 Administration and Project Management

The consultant's Project Management Team will perform the following activities in support of the project:

- Coordinate work plan activities.
- Work plan communications/meetings/record keeping.
- Work plan progress reporting.
- Monthly progress reports and agreement administration.

It is anticipated that contract administration will include the following items:

- Invoices and monthly progress reports
 - Work progress reporting
 - Highlight of significant issues requiring resolution
 - Financial reporting/tracking
 - Tracker of planned hours versus actual hours spent

1.2 Document Control

Documents and electronic files, CAD drawings, transmittal forms, submittals, letters, correspondence, and other miscellaneous papers will be managed using ProjectWise, SharePoint and/or other appropriate formats. The Design Team may also make use of an FTP site for file transfer.

1.3 Quality Management

The Design Quality Manager shall provide continuous quality control documentation in accordance with the DQMP as follows:

- Copies of Quality Check review prints for major submittals to confirm compliance with the approved DQMP.
- Each deliverable will conduct a Document Quality Review process in accordance with the DQMP and include:
 - Quality Control Review prints
 - Quality Assurance Certification

Assumptions:

- Documents will be available upon BART request.

Task 2: Meetings and Agency Coordination

2.1 Technical Coordination Meetings

The consultant's Design Team will continue to attend or conduct Technical Coordination Meetings as dictated by the Project's needs and discuss the new scope of work. These meetings will be held virtually or a local location as required by the meeting's purpose and will include members of BART and other agency staff as required. This will include meetings with representatives of the BART Train Control Modernization Program (TCMP) Team to continue coordinating work under the K-Line project with work to be done under Communication Based Train Control (CBTC) Contract.

Assumptions:

- Technical meetings will be conducted as needed to resolve any outstanding technical items through final IFB submission. Regular bi-weekly team meetings will not continue.

Task 3: Enabling Works Raceway Design

3.1 Enabling Works Raceway Plans, Specifications and Estimate

Design updates to the new raceway system along the K Line from MacArthur Train Control Room to Interlocking K23, K25 and K35 and from Rockridge Train Control Room to Interlocking C15 as part of the 100% K Line Interlocking Replacement plans. This raceway is currently designed to hold cables for the Enabling Works and Legacy Train Control systems. The Design team is creating a new PS&E package which will be used to install the Enabling Works components of the raceway system ahead of the 100% K Line Interlocking Replacement. Due to inefficiencies this separation of work will cause, certain elements such as stub ups and short runs of legacy train control Ductbanks may end up in a different PS&E package than anticipated.

Additional details are listed in the assumptions below.

Various changes to the trunk line trough and ductbank sizes and configurations have been modified to accommodate changes. The assumption for A.05-03 was that these would not be modified from the 100% design from March 2021.

- Incorporate duct bank size changes due to:
 - Relocated undertrack crossing to MUX JB to aerial on interlocking replacement
 - Rescoping of the Legacy work project limits. K35 was completely removed and K23, K25 had major changes
 - Surface run conduits for legacy work
- The raceway layout drawings are being modified and updated from the 100% K Line Interlocking Replacement Project submittal rather than remaining unchanged. The basis of A.05-03 was that the drawings would be updated to reflect the Contract Title and number to be provided by BART.

- Preparation of sketches and conducting meetings with BART for potential design changes, for example the elimination of the undertrack ductbank crossings at C10 and K30 and 29th street transition.
- Concrete Pedestal Stub ups were not intended to be installed with this contract. The Ductbanks were to be terminated at the stub up location and final stub up and cable installation and termination were to occur during the K Line Interlocking Replacement Project. This work is now included in the Enabling Works package.
- The Enabling Works cables for SPSC's and switch machines were to be procured with this contract but not installed. Installation and final termination was to occur by others during the K Line Interlocking Replacement Project. This is no longer the case and the cable procurement and installation is now included in the Enabling Works package.
- Cabling and conduits that lead to Junction Boxes for SW255 and DR555 were not originally intended to be included with the contract documents but they are now included in the design.
- Cabling and conduits that lead to K23 signals J, M, and P will be routed to the proposed location of each of the 3 signals. Final termination will occur during K Line Interlocking Replacement Project construction and is not included with this Contract work.
- One review cycle was anticipated for the Issue for Bid submittal in the form of an over the shoulder review via a Bluebeam Session. That session has been completed and an additional constructability review is expected from BART although the package went through a previous constructability review and comments were incorporated. Minimal changes are included for this additional review.
- Additional time is included to develop the Construction Cost Estimate, Construction Schedule and staging plans for the new package.
- The Specifications have been updated to include some additional changes from the "Enabling Works" specifications which were provided to the team after NTP for A.05-03. Two 2 hour workshops were conducted to determine which specification sections will be included or modified for inclusion. Additional time was also required to review the Enabling Works specification in preparation for these workshops and discussions.
- Structural design – additional details, sections, design updates and calculations to accommodate the changed configurations.

Deliverables:

- IFB Enabling Works Raceway PS&E
- IFB Construction Schedule
- Design Checklist

Task 4: Bid Support

Bidding procedures will be the responsibility of BART. In addition, BART will:

- Advise the consultant's Design Team of listing dates.
- Inform consultant's Design Team of all issues and inquiries list and responses.

- Provide consultant's Design Team with bid results and summary sheets for their review.

During bid advertisement of the Project, the consultant's Design Team will refer all questions concerning the intent to BART for resolution. In the event that items requiring interpretation of the plans or specifications are discovered during the bidding period, the consultant's Design Team will inform BART. BART will advise the consultant's Design Team regarding the proper procedure required for analysis of said items. Any necessary corrective action will either be in the form of an addendum prepared by the consultant's Design Team and issued by BART, or via a covering change order after the award of the construction contract.

It is assumed that there will be one bid package for the K Line Enabling Works project.

Subtask 4.1 – Meetings

The consultant's Design Team will attend the pre-bid meetings and assist BART in presenting information on the design to the prospective bidders. The consultant's Design Team will attend additional meetings as requested during the bid phase of the Project.

At a post-bid meeting, the consultant's Design Team will provide bid analysis of all construction bids received to assist BART in their determination of the most responsive responsible bidder for the construction contract award recommendation.

Assumptions:

- 3 additional meetings at 2-hour duration during the project bid phase

Subtask 4.2 – Addenda

The consultant's Design Team will assist BART in the preparation of addenda as requested by BART's Project Manager or Construction Manager. BART will be responsible for the distribution of all addenda to the bidders.

Assumptions:

- 2 rounds of addenda with minor plans, bid and/or specification changes are assumed

Subtask 4.3 – Respond to Inquiries

The consultant's Design Team will draft responses to bidders' inquiries as requested by BART. All such responses will be routed through BART's Procurement Administrator.

Subtask 4.4 – Conformed Documents

The consultant's Design Team will prepare conformed Project plans and specifications that incorporate any addenda issued during the bid phase. These Conformed documents will be submitted per BART Facility Standards.

Prime: HNTB+FMG JV

Subconsultant: None

Work Plan Value: \$247,265