

**Work Plan No. A.02-03 MacArthur Station Lighting Improvement Project**

**Scope:**

These services are as described as follows:

**Task 1 - Project Management:**

- Project management support throughout the schedule outline in this work plan proposal.
- Coordinate HDR's project staff with BART's project staff & CM team.
- Attend bi-weekly meetings set up by BART staff
- Attend HDR kick-off meeting with BART staff
- Document control of deliverables that come in and are submitted between HDR and BART party stakeholders.
- Lead internal HDR team meetings and document meeting minutes
- Manage scope of work requirements are met
  - Scope changes or additional requests to be discussed with BART and path forward on amending this work plan will be given within 7 days of additional scope request.

**Task 2 – Constructability/Biddability Review of Contract Design (100% Design Submittal):**

Constructability/Biddability review of contract design at the current 100% / IFB design stage, including but not limited to the following tasks:

- Become familiar with contract drawings, specifications, estimates, schedules, and other contract documents to evaluate whether details of the scope can be built per plans, specifications, and schedule; that the contract documents will facilitate the receipt of reliable, responsive bids; and minimize post-bid contract changes.
- Attend meetings with the design team to discuss and understand the project details, including scope, work locations, and known constraints. At this stage, provide review of available developed design at a depth commensurate with the level of detail provided.

- Field visits and inspections to understand existing conditions and potential construction/design issues.
- Assess the possibility of differing site conditions and whether additional field investigation/survey/potholing/GPR is recommended to better identify potential construction conflicts. Suggest alternatives for possible routing, equipment locations, footing modifications and excavations to avoid or limit the possibility of conflicts in areas where excessive hidden obstacles or other differing site conditions can be anticipated.
- Review site access restrictions, space requirements for equipment and construction activities, and alternate routing of utilities to conserve space or limit material quantities.
- Review provisions of allowable access times associated with access to the ROW or access to adjacent roadways, including traffic control. Review construction phasing to confirm plans and specifications provide a feasible option for construction.
- Confirm that occupants in or near the facility being constructed have been consulted about potential construction impacts. Contract documents should include mitigations for impacts of the work including access restrictions.
- Confirm the scope of work is clear and consistent across contract documents to eliminate ambiguities
- Evaluate the construction schedule assumptions for reasonableness, recommending modifications as appropriate based on potential deficiencies identified.
- Identify hours of work, staging areas (day shift, night shift), and required District support.
- Review unresolved comments provided by previous reviewers and provide recommendations for comment resolution.
- Contribute to the existing risk register by including documented concerns that may impact project performance by working with the project manager. Therefore, the risk can be managed from bid to closeout phase of the contract.

### **Task 3 – Cost estimate peer review of contract design (100% Design Plans)**

Cost estimate peer review of the current 100% Contract Design, including but not limited to the following tasks:

- Assess schedule and estimate for assumptions.
- Review estimate mark-ups and suggest adjustments for current bid market if needed.
- Check estimate for pricing.
- Identify scope missing from the estimates.
- Check Bid Schedules for the Typical BART Items and Allowances.
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#### **Assumptions:**

- BART to provide formally the 100% contract plan set of MacArthur Underpass Lighting Improvement project
- BART to set up and facilitate meeting with the original design team, BART project staff to discuss project details, design development approach along with critical design constraints.
  - Within 2 weeks of giving NTP to HDR
  - Meeting minutes to be taken by BART and submitted to team after
  - Up to two field visits (2) to be done to site to look at existing conditions and determine if there are potential construction/design issues.
- BART to set up bi-weekly project team meetings
- BART to provide necessary documentation for HDR staff to attend site visits

- Construction scheduled completed by BART to be provided to HDR for review simultaneously with contract plans to confirm schedule assumptions are reasonable due to design approach done by original design team.
  - Design elements that pertain within Caltrans ROW will be reviewed with BART to identify critical path items that contractor will need to be aware of such as, but not limited to, encroachment permits and application process.
  - Schedule updates to be shared with HDR in reasonable time to allow for review and feasibility of schedule change in comparison to the design plans.
- BART and original design team have already worked with Caltrans staff to make them aware of this project.
  - It is assumed that Caltrans have already reviewed a design submittal of this project and are acceptable of the design with no critical comments left unresolved from previous Caltrans reviews that need to be made on the plan set that HDR is reviewing.
- Caltrans encroachment permit to be completed by contractor.
  - BART to schedule and facilitate meeting with Caltrans staff reviewing this project to discuss schedule and permit requirements in order to provide with bidding package to contractor.
- Constructability and Biddability Report requirements and checklists to be provided by BART for HDR to use to complete required deliverables.
  - Total number of cycle reviews expected are three (3) and will be scheduled with coordination to this scope of work schedule and BART staff.
- Constructability Review to be performed by HDR team to provide feedback and comments that may help avoid future conflicts and construction schedule impacts.
  - A 6 week time frame will be allowed for the constructability review to be performed by HDR team.
  - HDR will move expeditiously to gather and review the relevant documents available to HDR from BART, pertaining to technical and operational requirements. HDR design team will also review the site survey done for this project.
  - HDR to provide feedback and comments based on the review, HDR will set up a meeting to go over potential construction and schedule impacts with BART staff.
  - BART to provide responses and direction forward to HDR for each comment or potential conflict found from the constructability review.
  - Major construction impacts found from the constructability review will be documented as part of BARTs risk management for tracking and closure.
- Risk Management & Mitigation process to be developed and updated by BART.
  - HDR to attend, as requested, risk management meetings that are held by BART's team.
  - Risk management matrix development and updating to be done by BART to the existing project risk register. HDR to provide contribute additional items found from constructability, biddability and estimate review.
- It is assumed that a Quality Management Plan was submitted and followed by original designer prior to each milestone deliverable.
- Project risk management by HDR is not part of this scope of work or deliverables.
  - HDR will attend meetings as request by BART and provide support on risk items identified by BARTs Risk Management Program for the project.

**Prime: HDR**

**Subconsultants: None**

**Total Work Plan Value: \$ 112,269**