

**Work Plan A.09-01 Lake Merritt Administration (LMA) HVAC Renovation
Constructability, Biddability, and Estimate Review**

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 and AOR/EOR consulting firm.
- Attend bi-weekly meetings set up by BART staff.
- Take meeting minutes.
- Attend HDR kick-off meeting with BART staff and CM team.
- Design Quality management process for project deliverables
- Develop project schedule and update accordingly
- Internal design team document control process to be coordinated with BART's team process

Task 2 – LMA HVAC Renovation – IFB Set CB &E Review:

The Scope of services will include provision of design/construction engineering expertise to perform the following services at the request of BART.

- Constructability/Biddability review of contract design at IFB design stages:
 - Become familiar with drawings, calculations, specifications, cost estimates, schedules, and other contract documents , including other overlapping projects ongoing/past in the LMA, 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 reduce 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 a review

of the available developed design at a depth commensurate with the level of detail provided.

- Conduct field visits/inspections (up to 3) to understand existing conditions and potential construction/design issues.
 - Assess the possibility of differing site conditions and whether additional field investigation/survey 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 Right of Way. Review construction phasing to verify plans and specifications provide a feasible option for construction.
 - Review that contract documents should include mitigations for impacts of the work, including access restrictions.
 - Verify that the scope of work is clear and consistent across contract documents to eliminate ambiguities and increase the biddability of the contract.
 - 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.
 - Provide other technical support or services as required.
 - Provide comments on language/notes on the contract documents that may be misinterpreted and lead to COs or confusion.
 - Review drawings from Contractor's perspective - identify where our design/drawing package is weak, unclear, vague, un-constructible, conflicting, or not biddable.
- Cost estimate peer reviews of contract design at the current design stage / including but not limited to the following tasks:
 - Assess schedule and estimate for assumptions.
 - Review cost estimate mark-ups and suggest adjustments for current bid.
 - Check cost estimate for pricing accuracy.
 - Identify scope missing from the estimates.
 - Check Bid Schedules for the Typical BART Items and Allowances.
 - Review the construction schedule, submitted by consultant, to verify duration of work

Assumptions:

General

- HDR will not be held liable for any construction, schedule or cost impacts that arise from the *Issued for Bid Design Plans* and Contract Manuals that were completed and signed by their respective design consultant.
- HDR is not accepting or approving design submittals in lieu of BART
- Constructability and Biddability Review to be performed by HDR team to provide feedback and comments that may help avoid future conflicts and construction schedule impacts.

- HDR to confirm with C&B review that contract documents completed by original design consultants meet BART Facility Standards and additional design standards, guidelines and requirements that were agreed to be followed by BART and original design consultant for each project.
- Project Schedule will be developed that would include the following:
 - IFB Design Submittal CB&E Review period performed by HDR
 - Assume design plan set is less than 220 sheets and overall submittal contains calculations, project specifications, bid schedule and cost estimate.
 - 3 week review period by HDR for the plan set, specifications, and project cost estimate/schedule
 - Submit comments and CB&E checklist to BART for review
 - Comment Resolution Meeting between HDR review team and Original Design Consultant, this meeting is to be set up by BART.
 - Backcheck round of review performed by HDR to confirm comments were addressed adequately by comparing the comment response and update drawing sets provided by each of the original design consultant
 - Provide final C&B Checklist and summary to BART
 - BART approval that comments were addressed and provide direction to original design consultant to progress to next submittal milestone.
- BART to provide additional valuable information to HDR to perform a thorough Constructability, Biddability & Estimate Review of the HVAC renovation project including other overlapping projects ongoing/past in the LMA.
 - For example, BART to provide variances and RFI's applicable to this project, BART to provide basis of design report indicating summary of codes and their respective version followed for this project.
 - **BART to provide previous projects as-builts or final issued for construction project submittals or the latest set of design submittal (full specifications, calculations and drawings) of on-going projects that pertain to LMA for HDR to be able to conduct a thorough CB&E review.**
- HDR to receive the following contract documents, at the minimum, but not limited, in order to perform the Constructability and Biddability Review:
 - Contract design plans, specifications and cost estimate for each submittal milestone (IFB)
 - Project design and construction schedule
 - Latest BART design review comments made on the respective design submittal milestone
 - Design variances and/or rfi's submitted for each location
 - Summary of issues and previous design conflicts/directions forward that were done during design progression between original design consultant and BART.
 - Basis of Design reports
 - Scope of Work/Project Requirements Summary requested by BART
 - Risk Matrix pertaining to respective 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 and Original design consultant.
- 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.

- HDR will support that comments are closed appropriately by original design consultant that were made on their project contract documents.
 - BART to formally approve that comments have been closed appropriately and/or have a path forward that BART accepts.
- BART to provide necessary documentation and process to get HDR staff badges for site visits
 - Up to three (3) site visits assumed, six (6) HDR review team members to attend first site visit and the remaining site visits will be coordinated to those whose need to attend from HDR.
- BART to provide:
 - BART Constructability and Biddability Review Checklist for this project
 - BART Comment Review Form at each deliverable milestone submitted for review (IFB)
 - BART Design Review Checklist associated with Constructability, Biddability, Construction Schedule and Cost Estimate
- Risk Management & Mitigation process has been developed and updated by BART
- Project Construction Schedule and updates from BART to be shared with HDR.
- HDR team to attend bi-weekly meetings with BART team to provide project progress and go over any issues/concerns that are found during project progression.
- Up to two (2) comment resolution meetings expected to have HDR team attend.
 - Comment resolution meetings to be virtually
 - Original design consultant to attend comment resolution meetings.
- HDR to have access to discuss/communicate with original design consultant about their respective project design to be able to expedite certain responses and feedback needed by HDR during C&B review.
- Assumed no traction power, systems scope of work under this BART work plan.

Prime: HDR

Subconsultants: None.

Total Work Plan Value: \$ 136,774