BART Agreement Number: 6M8208 **Approval Date: 03/24/2026**

Work Plan A.05-01 DSDC for C-line 34.5kV Cable Replacement Project 15EJRRC Contd.

Scope:

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 construction progress meetings set up by BART staff and CM Team.
- Attend HDR kick-off meeting with BART staff and CM team.
- Design Quality management process for RFI response, Submittal reviews and Change Order requests.
- Document control of deliverables that come in and are submitted between HDR and BART party stakeholders.
- Lead internal consultant team meetings and document meeting minutes
- Progress report preparation and subconsultant coordination
- Confirm 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 – IDS Top Conduit Routing Design Option:

Scope of work includes the design change to the BART Contract No. 15EJ-RR1-C Issued For Construction set of drawings, specs and estimate stamped March 2020 and done by separate design consultant, Parsons. The requested design change order by BART is to revise the proposed 34.5kV Fiber optic Cable (C-Line) entry connection to the proposed Orinda Station (COR) Isolation Disconnect Switches (IDS R/L) located between Track C1 STA 1390+00 and STA 1391+00 of the Contract Drawings and the exit from the same IDS switches with a revised cable routing alternative their their respecting ending connections to the appropriate equipment within the COR Substation, as shown in the *original Issued for Construction Contract Drawing TP055*.

Scope includes design support for fabrication of design elements, and support for the CM team/BART PM in managing construction work done by BART Construction/Maintenance team:

- HDR was originally directed back in July 2025 to review the Issued for Construction contract drawings done by Parsons to see if the proposed design could be optimized by possibly removing completely some of the proposed manholes shown on the contract drawings (sheet C113 and TP113) or possibly replacing them with smaller manholes in order to save on construction cost and schedule. The original proposed manholes detailed in the contract drawings are the BART BFS standard Manhole Type A, size 10ftx8ftx8ft.
    - The original design by Parsons had the connection of the 34.5kv Fiber Optic Cables from in-between the tracks, turn and go underground as a ductbank under C2 Track, then exit the wayside ROW underground and turning to connect to the IDS Switches and exiting to connect to the necessary equipment within the COR substation, all as underground ductbank with manholes. See Figure 2 for original Parsons design:

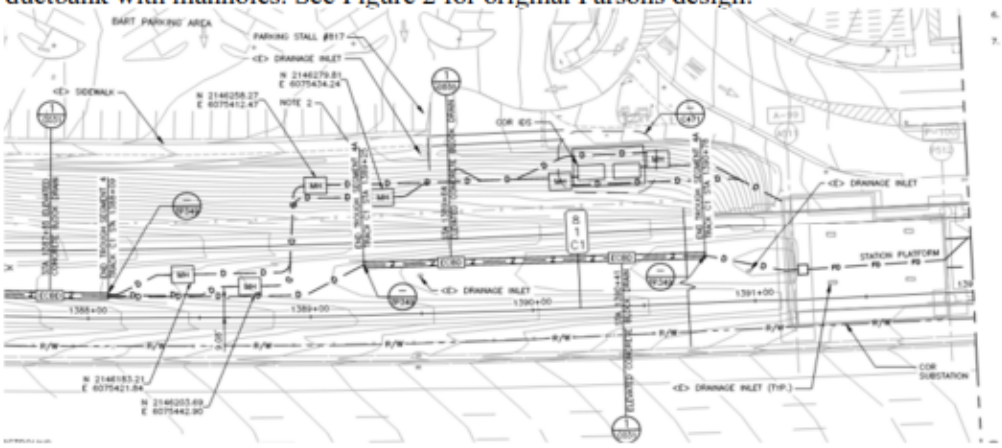

Figure 2

    - HDR reviewed and presented multiple optimizations options that met code and criteria which allowed the removal of originally proposed manholes MH309, MH308 and replacing originally proposed manholes MH311 and MH312 with smaller pull boxes instead. HDR conducted a 3D-model of the optimized cable alignment using pull boxes instead of manholes to BART and also submitted pulling calculations that confirmed two (2) pull boxes could be used in place of the four (4) originally designed manholes.
    - The 3D-model was completed by HDR as requested by BART CM team to help with on-site construction. The model gave more detailed information on the cable alignment and location of turns, pull boxes using new existing site survey data prior to starting the model.
    - This was the original direction given to HDR to follow.
- During a meeting held in August 2025 between HDR and BART Engineering/CM team, BART presented the request for HDR to review a new conduit alignment/connection alternative to the IDS Switches. This alternative alignment would remove all originally designed underground ductbank into an top entry approach into the COR IDS Switches from the wayside and also having the conduits exit from the top of the IDS switch and stay as an above ground conduit route through the COR substation wall and continue to the termination points (shown in contract drawing TP055) at the respective equipment within the COR substations.
- Directed by BART, HDR reviewed the new alternate top entry conduit alignment alternative and present possibly solutions that would meet the requested alignment through several meetings.

- HDR created a separate Feasibility Memo that was submitted and presented to BART on September 29th, 2025, for BART to review and provide formal direction to HDR how to proceed.
    - The following Figure 3 shows the alternate top entry route desired and presented by BART:

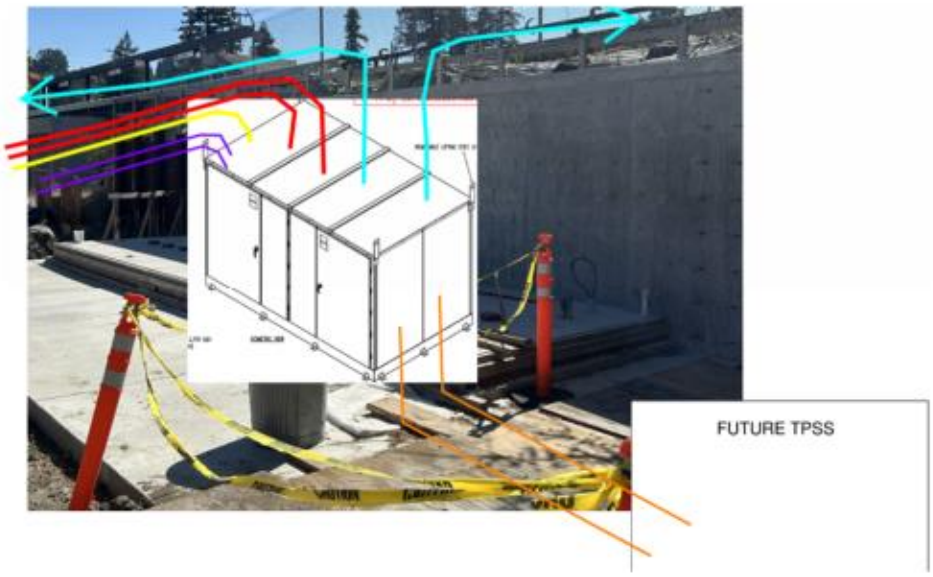

Figure 3 Sketch Showing Top Entry option

    - The following Figure 4 shows a conceptual top entry route proposed and presented by HDR and part of our feasibility study submitted to BART:

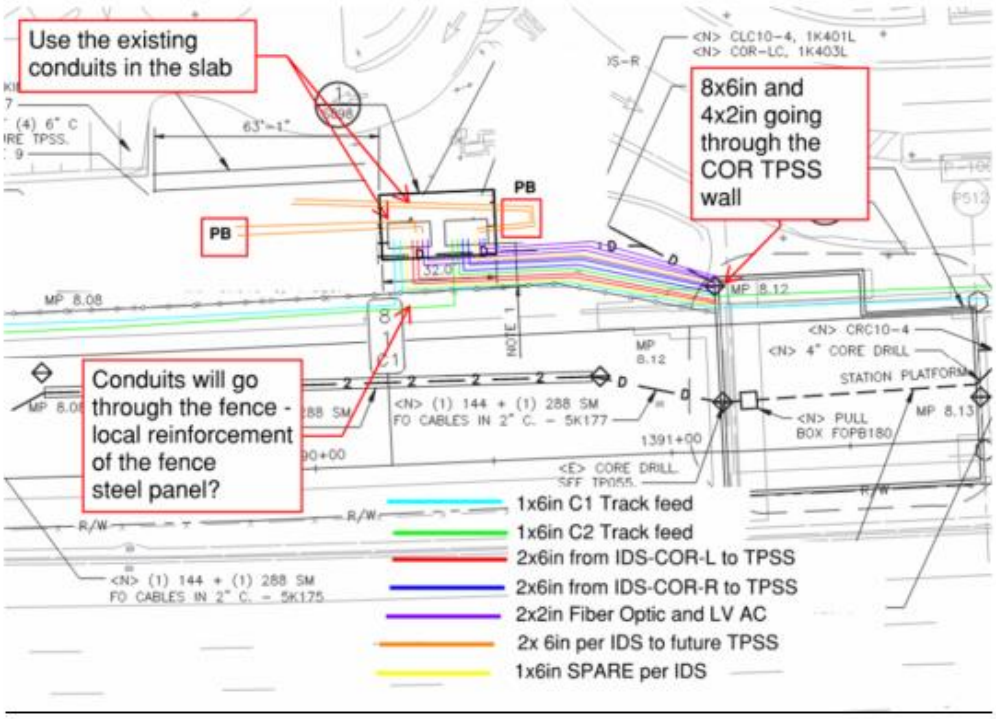

Figure 4 HDR Sketch showing entry & exit conceptual conduit routing at IDS Switches

Assumptions:

- BART has provided direction to move forward with this alternative Top Entry approach on September 30th, 2025.
    - If BART presents HDR an additional alternative to consider for this change order, it will be out of scope and BART to provide direction to stop work and use funds of this task to review the additional alternative or remain with design of the already considered alignment between Track C2 and ROW fence line.
    - HDR will receive directions on design approach/changes from BART PM assigned to this project, only.
    - BART PM will lead weekly meetings and have BART internal team under the same direction on path forward.
- HDR will not be held liable for any construction, schedule or cost impacts that arise from the *Issued for Construction* Design Plans and Contract Manuals that were completed and signed/ prior to HDR being given the Notice to Proceed by BART for this design change support.
    - When HDR is requested to produce a field design change or change order per the request of BART, HDR will be responsible only for the details modified that pertain to the specific change order request.
    - A process will be developed to show what is being modified by HDR from the IFC plan set or contract manual per that specific change order request. This will be done by a clouding process of the details that have been modified on the pertaining sheets and the respective volume cover page and table of contents.
        - Only what has been clouded will be what is reviewed by BART as modifications needed to address the specific change order request.

- This change order will follow the ***Change Order Review Process and Approval*** detailed under the ***Assumptions section of Task 5 General DSDC Support & Oversight***, below.
- BART PM/CM Team to assign the proper CO# and name for HDR to use on the revised plan set for submittal.

Task 3 – HDR General DSDC Support & Oversight (6 Months):

Scope of work includes as-needed Design Services During Construction for the replacement of 34.5kV cables and installation of fiber optics in the C-line between substations CRO (Rockridge) and CCO (Concord). Scope includes design support for fabrication of design elements, and support for the CM team/BART PM in managing construction work done by BART forces and/or by Contractors through project closeout including the following tasks:

- Respond to requests for information (RFI's) as directed by the CM team/BART PM. RFI's will typically be responded to within five (5) working days depending on the magnitude of the request.
- Review submittals typically within seven (7) working days of receiving the submittals, or as directed by the CM team/BART PM.
- Attend construction meetings onsite or via teleconference as requested by the CM team/BART PM.
  - Estimated at two local staff members at 1x per month.
- Attend site visits to observe equipment testing and critical construction activities, conduct field investigations and as requested by the CM team/BART PM.
  - Estimated at two local staff members at 2x per month.
- Support the CM team/BART PM in preparing change notices by providing new and/or revised signed documents (specifications, drawings, sketches, etc.) and cost estimates. Provide a time estimate indicating when the supporting documents and estimates will be completed within 3 working days of being notified of the change.
- When requested, assist in the review of Potential Claims and time delays.
  - Per BART discussion and meeting on 9/13/24, BART maintenance will be doing the construction of the C-line project scope and claim support will be minimal or not requested by BART.
- Support the CM team with coordination and document control.
- Other duties and design service as identified by the Traction Power Engineering team and BART.
  - these additional requests will be provided with coordination of BART PM and construction team, the amount of effort needed for these additional tasks will be discussed and approved by BART prior to commencing work due to the limited budget and hours approved as part of this work plan proposal.
- Personnel will need to coordinate/work with Traction Power Engineering for Design related scope/deliverables.

Assumptions:

- HDR will not be held liable for any construction, schedule or cost impacts that arise from the *Issued for Construction* Design Plans and Contract Manuals that were completed and signed/ prior to HDR being given the Notice to Proceed by BART for this DSDC support.
  - When HDR is requested to produce a field design change or change order per the request of BART, HDR will be responsible only for the details modified that pertain to the specific change order request.
  - A process will be developed to show what is being modified by HDR from the IFC plan set or contract manual per that specific change order request. This will be done by a

clouding process of the details that have been modified on the pertaining sheets themselves and the respective volume cover page and table of contents.
        - Only what has been clouded will be what is reviewed by BART as modifications needed to address the specific change order request.
        - A document control system will be developed by BART's CM team to track and upkeep the overall composite set that contains the latest sheet modification per an RFI or change order.
    - Feasibility studies are not part of Change Order request or DSDC support.
        - BART has indicated to HDR that their respective construction/maintenance group will be conducting constructability reviews, themselves, on the original Issued for Construction contract drawing for the respective work areas they intend to construct prior to mobilization.
- BART team to organize localized pre-construction planning for each scope of work a few months in advance of mobilization by BART maintenance team and coordinate that individual area of work/scope with HDR.
    - BART team does not think major re-surveying will be needed, and that an allowance for pre-construction/construction support surveying will suffice.
    - **Constructability review by HDR will not be needed as these pre-construction planning meetings conducted by BART will be the productive approach for HDR to conduct DSDC services at these specific construction locations.**
    - HDR will gather and review the relevant documents available to HDR from BART, pertaining to technical and operational requirements. HDR design team will also review the existing design set and site survey. Pertinent information will be used in our effort to reduce engineering cost by avoiding duplication of work.
    - Additional site inspection and surveys that are found to be necessary, will be discussed with BART prior to commencing the work and BART will need to provide the necessary personnel from their staff and documentation approval for HDR staff to be able to conduct these surveys. See additional survey assumptions below.
- Risk Management & Mitigation process to be developed and updated by BART and CM team.
    - HDR to attend quarterly or as requested risk management meetings that are held by BART's CM team.
    - HDR Project Manager or Project Engineer will attend virtual meeting.
- Construction progress meeting to be held by BART staff and CM team.
    - Construction progress meetings to be held bi-weekly or depending on BART staff and CM request.
    - At least two HDR local staff members will attend these meetings
    - Meeting minutes are to be completed by BART CM team and submitted to HDR and BART for review and concurrence.
    - BART staff and CM team to provide HDR design team with an anticipated monthly submittal schedule to allow for HDR to prepare for the number of submittals coming in that month for review and approval.
    - BART staff to provide advance notice (two (2) days min.) for construction progress items that would require HDR design team staff to be on-site for the following, but not limited to:
        - Structural Observations
        - Anticipated needed site visit by engineer
        - On-site field meetings
        - Traction Power team request to perform 'Special Inspections' and be at the testing of construction equipment and critical construction activities.
        - Traction Power team request to participate in final acceptance tests (FAT)

        - In the case of unforeseen conditions
            - The unforeseen conditions will have post site visit meeting to coordinate with BART staff/CM team on agreed solution or path forward.
- BART to provide necessary documentation and process to get HDR staff badges for site visits
- BART CM team to develop a Document Control Management Plan system and maintain it to provide organizational record keeping of the projects contractual documents and revisions that are needed throughout the DSDC support services done by HDR.
- The Quality Assurance and Quality Control (QAQC) plan set forth in the overall 34.5kV C-Line Replacement project Quality Management Plan (QMP) will be shared and followed by HDR design team during DSDC support.
- Submittal reviews and dispositions: **total of 30 submittals expected for review and disposition.**
    - submittals sent to HDR for review will go through a max of two reviews.
    - BART's CM team to have process to control and track the submittals that are sent to HDR design team for review as mentioned above. BART's CM team are to review for completeness of the submittal package before sending to HDR to avoid additional comments.
    - submittal's that were found to be "not approved and resubmit"; the revised submittal returned for designer review/approval will have changes clearly depicted. Additional hours will be added if submittal revisions are substantial and require a full re-review.
    - Structural # of submittals – Up to 15 submittals
    - Traction Power # of submittals – Up to 10 submittals
    - Civil # of submittals - Up to 3 submittals
    - Geotechnical # of Submittals – up to 2 submittals
- RFI review and responses: **total of 30 of RFIs expected for responses**
    - Structural # of RFIs - Up to 10 RFIs
    - Traction Power # of RFIs – Up to 10 RFIs
    - Civil # of RFIs- Up to 5 RFIs
    - Geotechnical # of RFI's- up to 5 RFIs
- Change orders anticipated: **Estimated number of change orders to be at two (2). BART PM to have both the BART Engineering group and Construction/Maintenance agree to each of the desired design change order scope, details and estimate to complete design change prior to directing HDR to proceed.**
    - Change Order Review Process and Approval:
        - Potential Design Change Order to be requested by BART and CM team
        - CM Team to assign the proper CO# and name for HDR to use on the revised plan set for submittal.
        - CM team maintaining document control to provide access to the final conformed set for HDR to have the latest version of the plans and specifications that are to be modified per the specific change order request and scope.
        - Each change order will be its own specific revised design package submittal for review and comment.
            - The modifications needed to address the change order request on the IFC plans or contract manual will be clearly depicted with clouds and revision triangles. The review and comments made by BART or CM team should only pertain to the modifications made by HDR and are within the clouds depicting the limits of change done.
            - Other design details or information shown on the revised sheets and do not pertain to the specific change order request are not to be reviewed or commented on, as it does not pertain to the scope of the requested change order in hand for review and approval.

        - Design period will be based on the extent of the change order request. A design submittal schedule and cost estimate for each change order will be developed and submitted to BART for approval prior to commencing.
        - Each change order will go through one revision at most.
            - First submittal will be sent to BART for review and approval
            - 15-day BART review (including reviews from Engineering, O&M, and CM teams) time-period. BART to provide comments or approval to proceed with IFC issuance of the change order package.
            - If comments are received, HDR to review and respond to comments. HDR to submit responses back to BART and CM Team for review. BART will then schedule a Comment Resolution Meeting (CRM) to discuss and close out comments before proceeding with revising the package.
            - HDR will move forward with revising the design plans, specs and calcs pertaining to that specific change order and will resubmit to BART for formal approval.
            - BART will provide final approval of that specific change order and BART CM team will upload that change order set of revised plans and place within the document control system as part of the latest conformed set of project documents.
- Geotechnical and Survey Assumptions:
    - The project is for cable line installation and replacement. There are no major structural foundation elements involved.
    - Geotechnical team will utilize readily available BART as-built soil boring data along the corridor. No new field exploration is planned for the contract
    - The installation of the lines and related ancillary structural components may be in existing embankments or near the toe of the embankment slopes. Some retaining walls may be needed due to existing tracks. In addition, excavation and shoring could be important considerations depending on the locations and their proximity to the tracks. From a geotechnical standpoint, the majority of the earthwork issues may be relevant to site subgrade preparation, compaction, small concrete pads/slabs-on-grade, etc.
    - Geotechnical Engineer and Survey team to provide on-call support services to BART construction team on an as-needed basis during the timeframe of this work plan scope.
    - Perform field survey to support construction activities and design changes, including monitoring of excavation stability
        - Estimated to 2 survey site visits per month by subconsultant.
- 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.
- Project Construction Schedule and updates from BART to be shared with HDR to anticipate support team management and construction progress.
- Design Variances needed (if any) have already been identified by the original Design Consultants (those who signed/sealed the IFC sets prior to HDR NTP) during the PS&E procurement phase with BART providing the necessary approvals for those variances.
    - If additional variances are needed based on a change order request, BART to provide direction to move forward with a design variance prior to commencing with design of the change order.
    - Design change orders, RFI responses and submittal approvals/dispositions will be based on BART BFS requirements and applicable codes that were previously agreed to be followed by the project.

        - BART to provide additional codes list that were followed by the project prior to issuing an IFC set.
        - BART to provide previous comment resolution forms that were made at each milestone submittal to help gather lessons learned and decisions made that structured the final IFC set.
- Potential claims support will be provided by HDR team per the request of BART. BART to provide the Claims package which would include the following:
    - Claim letter/form that summarizes the claim to BART
    - Finding of fact letter
    - Cost estimate made by entity filing the claim against BART
    - Time Impact Evaluation for the specific claim.
    - Other relevant claim information/documents
- Project punch list closeout will be initiated and tracked by BART CM team.
    - HDR will support and participate in review of 'Substantial completion' of work and follow up activities.
    - HDR will provide support to the completion and closure of punch list items, as requested by BART.
- As-built preparation:
    - BART to provide HDR the full set of IFC CADD files developed by previous design consultants and reviewed/approved by BART as part of the Issued for Construction package submittal approval.
        - If CADD files are not available/provided then additional coordination and budget requested with concurrence of BART to deliver the As-Built package.
    - BART to provide direction on how to proceed with As-Built package completion.
        - BART to direct if HDR would be completing As-Built packages as construction phases are completed or overall, one package near the end of the project construction schedule.
        - BART CM Team to keep track and control of RFI responses that require design detail changes on their respective original IFC plans.
        - BART CM team to provide this info to HDR at the time of composing the as-built set of plans for that pertaining sheet.
        - BART to provide stamp that we will add to the As-built set of plans that HDR will add to the package.
    - Each As-built package submittal (depending on the direction of BART of number of packages) will go through one round of review and comments by BART.
        - BART to provide comments on the as-builts, if any, and HDR to review and provide the response to BART for agreement/closure of those comments.
        - BART CM team to tract and confirm that comments have been closed and recorded as overall process for the as-built record package.

Prime: HDR

Subconsultant	Amount
Parikh	$ 16,340
Cinquini & Passarino	$ 44,172

Total Work Plan Value: $ 515,155