

March 31, 2014

**TO:** Project File  
**FROM:** Doug Jones, Vicky Smith, Roger Andreassen  
**SUBJECT:** Project Closeout Summary for Columbia River Bridges & Approaches  
Design Build Procurement – Transit

## Executive Summary

This memorandum provides the status of the work for the development of the Columbia River Bridges & Approaches Design Build Procurement, specifically addressing the following technical focus areas:

- Transit Criteria
- Transit Rail and Appurtenances
- Transit Systems
- Transit Interfaces
- Integration of TriMet processes into an ODOT Contract and processes
- FTA/ TriMet Safety and Security Certification Program

This memo is an overview of the status of the work, outstanding work and next steps, an overview of project history, key decisions, and information on key documents and references. This memorandum, assembled at the time of project closeout, is intended to provide adequate information to allow project start-up within a year's time-frame.

## Status of Work

The work includes a framework of technical requirements and corresponding conceptual design for the infrastructure for a light rail system within the CRBA Contract package. Extensive coordination among the related disciplines and between the other related design packages occurred and is reflected within the RFP. In addition coordination between ODOT and TriMet was ongoing through the development of the RFP as well as recognition of requirements from the Record of Decision as well as the permitting agencies (e.g. City of Vancouver, City of Portland, and Coast Guard). The concept design drawings (proof of Concept) in the DB RFP reflect an approach to civil and systems infrastructure that is consistent with the scope defined in the CRC First Phase project.

Discussions were on-going to represent TriMet's processes within the contract, how design and construction interfaces would be characterized and the process to manage them and the multi-jurisdictional operations and maintenance requirements that need to be accommodated within the RFP to achieve a successful project.

The focus of the work centered on the technical aspects of the transit component as contained in Section 141.41. The primary drawback of the technical centered approach was the lack of context relative to the document as a whole. At the time of project shutdown, the "full" RFP was circulated for review to the respective agencies. Therefore, the necessary review to reconcile the technical components and associated transit processes to the 'larger' document (i.e. design review, inspections, quality, warranties, etc.) has not taken place.

The following deliverables were completed at the approximate level of completeness as identified in Table 1, at the time of project closeout.

**TABLE 1.**  
 CRBA DB Procurement Deliverables Status Summary  
*Status of Deliverables for the CRBA Design Build Procurement Development*

TASK	DELIVERABLE	APPROX. PERCENT COMPLETE	STATUS OF WORK
2.1	Project Definition Drawings for FFGA	100%	Plans show typical systems details for preliminary design (30%) and reflects the project concept described in CRBA. Final transit design must be coordinated and is dependent on DB's approach to the bridge design and other related elements. Final transit design drawings are based on the CRC First Phase configuration and is not forward compatible with the LPA.
4.3	Draft technical Performance Requirements - provision DB 141.41 and related section	55%	At time of project shutdown the Draft RFP is at the Agency (ODOT/TriMet) for review and comment. Comments received have not been evaluated just collected and tracked in <document name and location> DB141.41 needs coordination with information covered elsewhere to be consistent with rest of the document. Work in progress. Waiting for second page turn and first review of draft RFP. See "Transit Section Table" for first draft list of related sections
4.4	Reference Information Documents		See Project wise for TriMet issued documents that were identified as reference documents. Refer to additional details in Task 2.1
11.1	System Plans/Study		The work originally entailed defining schedules for project implementation of all CRBA packages and the follow-on Systems installation contract. Several meetings were held to coordinate the overall project. Early 2014, this entire task was modified to include work related to updating any reference documents from CRC and prepare it to become part of the RIDs for CRBA. The work was soon thereafter removed from the scope - the only remaining deliverable was an updated stray current report. This deliverable was subsequently removed as corrosion control best practices are required as stated in DB141.41- Section (c) (4) b. 7. Typical installation details pertaining to corrosion control are included in the concept plans (sheets J300-J302 in the FFGA package) A stray current report should be done when the specific bridge design details are available from the DB. The original work with scheduling the overall project was moved to its own Task 19.1 Project Interfaces (see below)
13.1	Bridge Concept Plans ( including Transit)	50%	Work in progress. Waiting for client review. Continued revision required to reflect "proof of concept", interdisciplinary coordination, and project interfaces.
15.1	Updated bid quantities for the CRBA	0%	Work not started. Deleted by WOC 4 Amendment No. 1

19.1	Project Interfaces		Project planning and interfaces are reflected on the current project schedule <add proper reference and location>.
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**DB 141.41 Transit - Section Coordination**

ASPECT	SECTION NO.	SPECIFICATION TITLE
Package Interfaces	TBD	
Scope of Work	DB 140	Scope of Work
Design Coordination	DB 155	Design Management and Design Quality Management
Construction Coordination	DB 150.55?	Control of Work
Key Personnel	DB 180.35	Prosecution and Progress
Meetings	DB 180.42	Prosecution and Progress
Track Geometry and Trackwork	DB 141.41	Transit
Transit Walkways	DB 141.41	Transit
Protective Fencing	DB 141.23	Barriers and Railing
Drainage	DB 141.22	Drainage
Utilities	DB 174.10	Utilities
Fire System	DB 141.71	Fire and Life Safety
Illumination	DB 141.24	Illumination
Ventilation	DB 141.71	Fire and Life Safety
Technical Specs	DB 155	Design Management and Design Quality Management
Procurement Specs	DB 155	Design Management and Design Quality Management
Systems Infrastructure	DB 141.41	Transit
CCTV and Intrusion Detection Infrastructure	DB 141.41	Transit
Emergency Phone Infrastructure	DB 141.41	Transit
Grounding	DB 141.41	Transit
Stray Current	DB 141.41	Transit
Safety Cert Plan	DB 141.41	Transit
Design Submittals	DB 155.11 & DB 155.14	Design Management and Design Quality Management
Construction Submittals	DB 155.11 & DB 155.14	Design Management and Design Quality Management
Submittals Requiring Agency Approval	DB 141.41	Transit
Post Construction Survey	DB 141.41	Transit
Inspections	DB 150.20	Control of Work
Acceptance and Turnover	DB 150.95	Control of Work
Warranty	DB 150.96	Control of Work

Record Drawings	DB 155.11 & DB 155.14	Design Management and Design Quality Management
Record Documents	DB 156.50	Construction Workmanship and Materials Quality Management

## Known Issues

The following is a summary of the known issues that were not resolved at the time of closeout:

- Transit elements and TriMet contracting processes not currently reflected in ODOT's standard DB RFP template, Technical Provisions or QPL lists. Significant work had been done to integrate these into the ODOT's CRBA Draft RFP, however this effort was in process at the time of the shutdown. The relation between the transit technical section and the RFP document as a whole was just starting to be addressed at time of project shutdown.
- Definition of Interfaces at design and construction match points and contract requirements specific to these interfaces (e.g. exact description of the scope of work, specific language on what DB and Agency were each responsible for to ensure the design and construction interfaces occurred, the specific language regarding acceptance prior to the turn over, dates for turnover and related penalties/ incentives).
- Definition and contracts requirements specific to the follow-on Systems Contract regarding, timing, turn-over, liability, shared facilities, access, etc.
- Definition and contracts requirements specific to the follow-on rail grinding Contract regarding, timing, turn-over, liability, shared facilities, access, etc.
- Definition and contracts requirements specific to the details on how the DB will have to accommodate for TriMet performing their month's long system testing, personnel and operator training and Revenue service start-up.
- Definition and contracts requirements specific to early substantial completion of or final acceptance of transit dependent facilities, O&M documents and as-builts (e.g. fire suppression, track, expansion joints)
- Definition and contracts requirements specific to light rail operation while under the responsibility of the DB, prior to final acceptance of the southbound structure (e.g. maintenance, liability, shared facilities, access).
- Incorporation, if necessary, of any ODOT/TriMet IGA elements that would require action by the DB.

## Outstanding Work

The following is a summary of outstanding work and next steps at the time of closeout that was not started, but necessary for the development of the DB Procurement final RFP for the CRBA Package:

- Review initial comprehensive draft RFP relative to how transit related design and construction are contractually represented
- Resume collaboration with other relevant disciplines (e.g. structures, illumination, drainage, and fencing) and collaborate with other General section (e.g. Control of Work, Meetings, Submittals) and then finalize the transit section.
- Resolve and agree on Agency and DB process regarding collaborative effort during design. The contract must clearly define the point in the different contracts when information has to be provided and what level of design details has to be submitted to the Agency for review and

approval. Similarly any information from the Agency to the contractors has to be identified and scheduled.

- Decision on governing standards and references has to be made and then applicable standards and references reviewed and verified.

## **Milestones & Key Decisions Related to Disciplines**

Key project milestones include:

- FFGA
- Turn over date to follow-on systems contractor
- Transit Revenue Service Date

Key project decisions include:

- Concurrence on Limits and Scope of Transit related work to be done by the Design Builder
- Concurrence on Transit related material procurement by the Design Builder
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## **Project Records**

Records of the work conducted under this task can be found at:

- See Project wise folders

## **Standards & Versions**

Standards used for the work are listed in the Design-Build General Provisions DB 141. The version of each document filed within Project wise, represent the foundation of the design developed.

- TriMet Design Criteria
- TriMet Standard Drawings
- TriMet Baseline Material Procurement Specifications
- TriMet Baseline Technical Specifications
- Conceptual LRT Design Exception summary

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