



**BRIEFING: MARCH 8, 2016 BOARD MEETING AGENDA ITEM #7**

**TO:** Chairman Richard and Board Members

**FROM:** Scott Jarvis, Chief Engineer

**DATE:** March 8, 2016

**RE:** Consider Authorizing Staff to Negotiate and Execute a Northern Extension of the Design-Build Contract for Construction Package 1

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**Background**

The California High-Speed Rail Authority (Authority) awarded Agreement No. HSR13-06 for design and construction of Construction Package 1 (CP 1) to the joint venture of Tutor Perini/Zachry/Parsons (TPZP), which is the first 29 miles of the First Construction Segment (FCS) of the High-Speed Rail System. The contract was executed in August of 2013 and construction is currently underway.

The Authority staff now seeks Board approval to extend the northern terminus of the FCS alignment from the current CP 1 limit south of Avenue 17 in Madera County northward approximately 2.72 miles to approximately Avenue 19 in order to advance construction through the Central Valley. The staff is recommending the northern extension to better ensure the Authority's compliance with the terms of the federal grant agreement, including the expenditure of American Recovery and Reinvestment Act (ARRA) funds. The northern extension also advances the work towards Merced on an environmentally cleared section and provides the capability for a more logical connection and transfer point near an existing Amtrak station.

Since the Board has not taken action on the Draft 2016 Business plan, this extension does not pre-suppose a Board decision; in fact, the proposed extension lies within both of the Initial Operating Segments (IOS) identified previously by the Board – Merced to San Fernando Valley (IOS South) and Bakersfield to San Jose (IOS North).

**Prior Board Action**

In June of 2013, the Board approved Resolution #HSRA 13-12 (attached) to Award the Contract for Design/Build Services for CP 1 to TPZP.

## **Discussion**

The Authority is granted in statute the power to enter into contracts, which include broad design-build contracting authority under its enabling statute, Public Utilities Code, Section 185036(a). This authority includes the ability to issue change orders of the type and scope requested by Authority staff.

### *CP 1 Northern Extension*

As progress continues with construction of CP 1, refinements continue to be made in cooperation with TPZP. As a part of this process, the possibility of extending the limits of CP 1 northward was introduced and evaluated. The northern CP 1 project limit currently terminates south of Avenue 17 in Madera County. Extending CP 1 northward to approximately Avenue 19 in Madera County allows the Authority to continue to advance construction in the Central Valley in an efficient manner, expedites the expenditure of ARRA dollars to help ensure compliance with the federal grant agreement, and carries out the intent of ARRA by putting Americans to work as soon as possible.

This extension northward (northern extension) is eligible to be added to CP 1 through a change order as the design and construction work is consistent with the nature of TPZP's current scope of work. Additionally, there is a time and monetary efficiency in adding this work to the existing contract where similar construction is already underway.

### *Scope of Work and Cost Projections*

The change order extends CP 1 northwards, adding approximately 2.72 miles of additional guideway, structures, roadways and drainage. In January 2016, TPZP submitted preliminary cost proposals for the design and construction of the northern extension to the Authority. The Authority engaged an independent estimator for comparison and evaluation of the cost proposals. That effort was completed on February 19, 2016.

The design and construction estimated costs for this extension are as follows:

- TPZP's preliminary proposal for design: \$16.2 million
- TPZP's preliminary proposal for construction: \$138 million

The design scope of work identified by TPZP in its proposal includes the following:

Geotechnical Engineering Services: Supporting design and construction of three overcrossings (Road 26, Road 27, and Avenue 17), a bridge at Schmidt Creek, and associated abutment walls, retaining walls, approach embankments, pavement, and percolation testing.

Surveying and Mapping: Survey control, topographic mapping, aerial photography, triangulation and topographic compilation. Digital Terrain Model (DTM) with orthographic rectification.

Design: Guideway, Structures (Avenue 17, Road 26, Road 27, Schmidt Creek Bridge, miscellaneous structures), Roadways (Road 26 and Avenue 19 realignment, Avenue 17, Road 27), and Drainage.

The construction scope of work included in TPZP's proposal includes the following:

- Clearing, Grubbing
- Demolition of Right-of-Way (ROW)
- Excavation and grading
- Place borrow to embankment
- Place prepared subgrade
- Wet utility relocations at Avenue 17, Road 26 and Road 27
- Grade separations at Avenue 17, Road 26, and Road 27
- Bridge over Schmidt Creek
- Retaining walls
- Miscellaneous structures
- Paving
- Barrier rails

#### *Schedule*

An eighteen month construction duration has been proposed by TPZP for this additional work. An extension of contract time will be negotiated based on a time impact analysis in consideration of all schedule impacts. This change is anticipated to be predominantly concurrent with existing CP 1 work, and thus, should not affect the overall construction schedule.

The Authority is moving forward with ROW acquisition in this area with a focus on the acquisition of critical parcels associated with the three overcrossings.

#### *Provisional Sums*

To avoid having TPZP include significant contingencies in the estimate, the Authority is electing to pay for third party utility work and hazardous material surveys and remediation using a provisional sum. Additional investigation as to impacted utilities will be performed during the design stage and preliminary stages of construction so that staff is able to more realistically estimate provisional sums necessary for third party utility work.

Staff will then work to develop a contingency (as noted below) and a budget for components not yet quantified, including provisional sums. Staff will also estimate right-of-way (ROW) acquisition costs and any potential requisite costs associated with environmental work. After conducting these analyses, staff may return to the Board at a later date to seek further approval of a contingency and provisional sums for this change order if necessary.

### *Contingency*

As with the existing contracted work on CP 1, there is owner risk related to both the lump sum change order amount and provisional sums. In particular, staff believes there is at least the potential for cost and/or schedule risk exposure around potential environmental re-examinations and impacts, third party utilities and ROW acquisition/transfer. The specific allocation of responsibilities for the described scope of work, as well as associated risk, must be ascertained prior to the determination of appropriate contingency and necessary contingency funds allocated to the CP 1 contract as part of the budgeting process funding the change order.

### *Contract Amendment Justification*

Based upon discussions with TPZP, the design-builder consents to enter into a negotiated change order to add civil infrastructure work north of Avenue 17. The Authority's legal counsel has rendered an opinion that the change order is consistent with applicable laws and statute, including the state's competitive bidding laws. There is no substantial change in the type, character or extent of the work to be performed under the change order as was authorized in the original contract. Additionally, the change order is within an acceptable range of the overall contract value and should not delay completion of the original CP 1 contract work.

### *Budget*

The scope of work related to this change order has been accounted for in the 2016 Business Plan estimate and budgeted for in the overall program. Authority staff performed a detailed analysis and determined that the change in the northern terminus of CP 1 is within the ARRA Grant and FY10 Grant Amendment and thus eligible for federal grant fund expenditures. The Federal Railroad Administration has concurred with the staff's analysis. The cost of this scope increase is being covered by the addition of appropriated funds from the Greenhouse Gas Reduction Fund.

For the reasons set forth above, Authority staff now seeks the Board's approval to negotiate and execute a change order for a northern extension to the Design-Build Services Contract for CP 1.

### **Recommendation**

It is the recommendation of Authority staff that the Board approve the issuance of a not-to-exceed change order in the amount of \$154,200,000.00 for design and construction work. The Board is further requested to authorize the CEO to take all steps necessary to negotiate and enter into a change order with TPZP for the northern extension of CP 1, including execution on behalf of the Authority.

### **Attachments**

- Draft Resolution #HSRA 16-09
- Final Resolution #HSRA 13-12