

**SOUND TRANSIT  
STAFF REPORT**

**MOTION NO. M2003-93**

**Construction Design Support Services for Commuter Rail Track Improvements**

<b>Meeting:</b>	<b>Date:</b>	<b>Type of Action:</b>	<b>Staff Contact:</b>	<b>Phone:</b>
Finance Committee	9/4/03	Discussion/Possible Action	<b>Martin Minkoff, Sounder Commuter Rail Director</b> Eric Kosty, Tacoma – Seattle Corridor Program Manager	(206) 398-5111  (206) 398-5123

<b>Contract/Agreement Type:</b>	<input checked="" type="checkbox"/>	<b>Requested Action:</b>	<input checked="" type="checkbox"/>
Competitive Procurement	X	Execute New Contract/Agreement	
Sole Source		Amend Existing Contract/Agreement	X
Interlocal Agreement		Contingency Funds Required	X
Purchase/Sale Agreement		Budget Amendment Required	

*3Applicable to proposed transaction.*

**OBJECTIVE OF ACTION**

Finance Committee approval to amend the contract with David Evans and Associates, Inc. (DEA) to increase the authorized contingency by \$194,000 to fund increased construction and design support services for the Reservation Junction to Freighthouse Square track project.

**ACTION**

Authorize the Chief Executive Officer to execute a contract amendment with David Evans and Associates, Inc. to increase the contract contingency to fund increased construction and design support services required for the design of a tunnel to maintain business access, underground utility modifications and relocations, and previously completed design work for prior project phases needed to complete the Reservation Junction to Freighthouse Square commuter rail track project in the amount of \$194,000 for a new total authorized contract amount not to exceed \$1,979,118.

**KEY FEATURES**

- In response to strong concerns from local business owners, the design of the retained earth fill embankment between Bay Street and Portland Avenue has been modified to include a concrete box tunnel through the embankment. This will allow Bay Street to be realigned through the embankment with two full lanes of traffic and curb radiuses sufficient to accommodate heavy industrial traffic specific to this area.
- Early estimates indicated that the cost of technical construction design support services associated with realigning Bay Street could be accommodated within the original contract contingency.
- Major changes were also required with numerous underground utilities, street improvements and retaining walls in the immediate Bay Street and Portland Avenue area.

- These changes will deplete the contract contingency of \$55,523 and require additional funds to continue technical support to the end of the project.
- The requested \$194,000 includes \$49,609 for tunnel design, \$100,401 for design work for underground utilities and related issues, and \$43,990 for previously completed design work for prior project phases.

### **BUDGET IMPACT SUMMARY**

<b>Action Outside of Adopted Budget:</b>	<b>Y/N</b>	<b>Y Requires Comment</b>
This Line of Business	N	
This Project	N	
This Phase	N	
This Task	Y	See Budget Discussion below
Budget amendment required	N	
<b>Key Financial Indicators:</b>	<b>Y/N</b>	<b>Y Requires Comment</b>
Contingency funds required	N	
Subarea impacts	N	
Funding required from other parties other than what is already assumed in financial plan	N	

N = Action is assumed in current Board-adopted budget. Requires no budget action or adjustment to financial plan

### **BUDGET DISCUSSION**

In the 2003 Board adopted budget, the Reservation Junction to Freighthouse Square track and signal work is split between the construction phase of two projects; Seattle-to-Auburn Track and Facilities (110), and Auburn-to-Tacoma Track and Facilities (120). The budget for the combined construction phase for both projects is \$332 million.

As shown in the Budget Table, the construction phase (line 6), and the Reservation Junction to Freighthouse Square construction task (line 11) indicate shortfalls. An agreement with Burlington Northern Santa Fe (BNSF) has been reached to credit Sound Transit for Reservation Junction to Freighthouse Square work in the amount of \$5.6 million. This work had been originally a part of the BNSF scope of work. Once the agreement with BNSF is finalized and executed, the BNSF commitment (line 10) will be reduced by \$5.6 million, which will remove the shortfall.

### **REVENUE, SUBAREA, AND FINANCIAL PLAN IMPACTS**

The proposed action is consistent with the current Board-adopted budget and is affordable within Sound Transit's current long-term financial plan and the subarea financial capacity.

## **BUDGET TABLE**

### Summary for Board Action (Year of Expenditure \$000)

Action Item: Change order with David Evans & Associates for Reservation to Freighthouse Square Construction Support Services

	Current Board Adopted Budget (A)	Committed To Date (B)	This Action (C)	Total Committed & Action (D)	Uncommitted (Shortfall) (E)
1 Maintenance Yard/Layover	13,923	7,998		7,998	5,925
2 Agency Administration	22,076	21,442	-	21,442	634
3 Pre-Engineering	10,544	10,505	-	10,505	39
4 Final Design	7,779	9,024	-	9,024	(1,245)
5 ROW Acquisition	24	24		24	-
6 Construction	332,050	333,941	194	334,135	(2,085)
7 Vehicles	95,575	84,673	-	84,673	10,902
8 Contingency	2,247	-	-	-	2,247
9 Total Current Budget	484,217	467,607	194	467,801	16,417

### Phase Budget Detail

10 BNSF	320,900	320,900	-	320,900	-
11 Reservation to Freighthouse Square	8,606	12,850	194	13,044	(4,438)
12 Median Safety Barrier	800	137	-	137	663
13 Miscellaneous	1,744	54	-	54	1,690
14 Total Phase	332,050	333,941	194	334,135	(2,085)

Contract Budget	Current Approved Contract Value (F)	Spent to Date** (G)	Proposed Action (H)	Proposed Total Contract Value (I)
15 David Evans & Associates	1,730	1,636	-	1,730
16 Contingency	55	-	194	249
18 Total	1,785	1,636	194	1,979
19 Percent Contingency	10%	N/A	N/A	14%

### Budget Shortfall

Level	\$ (J)	Potential Revenues (K)	Funding Source (L)
Reservation to Freighthouse Square	4,438	5,600	Reduced BNSF Commitment

Committed-to-date includes actuals and commitments through August 22, 2003 (HQ).

\*\*This contract covers Preliminary Engineering, Final Design, as well as Construction.

## **M/W/DBE – SMALL BUSINESS PARTICIPATION**

DEA is the prime consultant for this contract. The overall utilization of M/W/DBE and small Business participation on this contract is 50.58%.

The work associated with this amendment has been distributed in accordance with the existing participation of the contract.

## HISTORY OF PROJECT

### **Prior Board or Committee Actions and Relevant Board Policies**

<b>Motion or Resolution Number</b>	<b>Summary of Action</b>	<b>Date of Action</b>
M2003-49	Authorized the Executive Director to execute a contract amendment with David Evans and Associates, Inc to provide construction support services for the Reservation Junction to Freighthouse Square track improvements.	5/1/03
M2002-14	Authorized the Executive Director to execute an contract amendment to Contract RTA/CR 98-00 with DEA to provide final design services for track and signals for the Reservation Junction – Freighthouse Square portion of the Tacoma to Seattle rail line.	2/21/02
M2000-122	Authorized the Executive Director to execute an agreement with the City of Tacoma for construction and operation of commuter rail facilities located in the Tacoma Rail right-of-way	12/14/00
M2000-13	Contract amendment with David Evans & Associates for Phase 2 double track feasibility investigation, and Phase 3 preliminary engineering, between Lakewood and Tacoma	6/30/00

The Executive Director executed a contract with DEA on December 10, 1999, for design services. On February 15, 2000, the contract was amended to include design and construction support for the connection work between the BNSF main line and Tacoma Dome Station. Both the contract and the contract amendment were within the Executive Director's authority.

In September 2000, Sound Transit and BNSF executed a Letter Agreement for Interim Operation of Commuter Rail Service between Tacoma and Seattle. This Agreement will expire on September 15, 2003. At that time Phase I operation under the Sound Transit/BNSF Main Operating Agreement is to begin. For Phase I service to begin, a specific set of capital improvements needs to be completed. These projects include the connection between the BNSF main line and Tacoma Rail at Reservation Junction, with Sound Transit responsible for completing the Reservation Junction to Freighthouse Square link and the permanent Tacoma Dome Station.

If the Letter Agreement were to expire without the substantial completion of the projects required to support the Phase I level of service, there would be no mutual agreement in place for the continued operation. Current Sounder service could potentially cease or additional negotiations with BNSF on the impacts to extend service operations would be necessary. This risk was identified in the Sounder Commuter Rail Director's 90-day assessment, presented to the Finance Committee on November 7, 2002. The Reservation Junction to Freighthouse Square connection is critical to meeting the September 15, 2003, commitment and the construction program for the Reservation Junction to Freighthouse Square has a very high schedule risk.

The original design of the retained earth fill embankment to support the rail lines between Bay Street and Portland Avenue permanently blocked the Bay Street track crossing. This closure and other alternate routes for local business traffic were reviewed in 2001 traffic studies and in a subsequent environmental reevaluation. The blockage of Bay Street was determined to have no significant impact.

At the start of construction, Sound Transit community relation's staff met with local business owners to update them on construction activities. These businesses expressed strong concerns about the closure of Bay Street and the alternate routes. Their concern was that the alternatives did not provide adequate turning radius for large lowbed trucks and trailers, which comprise much of the traffic to these businesses. Recognizing these concerns, Sound Transit, in conjunction with staff from the City of Tacoma Engineering Department and DEA, immediately responded by reviewing alternate means of access for these businesses while still keeping the contractor working to meet the critical September 15, 2003, completion date. After several meetings with the businesses, some form of access through the embankment appeared to be the most practical solution.

Discussions were undertaken with an arch plate culvert supplier utilizing a proprietary design. These early attempts failed when it became apparent, in design discussions with the supplier, that the application could not be used at this location without major modifications and subsequent impacts to project cost and schedule.

The design of the retained earth fill embankment was then modified by DEA to include a concrete box tunnel through the embankment. Bay Street will be realigned through the embankment 100 feet west of its current location, with two full lanes of traffic and curb radiuses sufficient to accommodate heavy industrial traffic specific to this area. It will improve overall traffic circulation and resolve a longstanding safety issue regarding current practices of local truckers.

In addition, major changes to underground utilities were required in the immediate area of Bay Street. These included dealing with a large sanitary sewer that ran down Bay Street. As the tunnel design was proceeding, the design team investigated placing this sewer line through the tunnel to allow access for future maintenance. The shallow grades and associated changes made this option prohibitive. The sewer was then left in its original location but future maintenance requirements required that it be placed in a steel casing pipe with a pile-supported concrete utility slab above it.

The design team also investigated locating a large storm drain into the tunnel. This also proved infeasible and the storm drain had to be relocated with similar future maintenance requirements (casing, slab, etc). During work on the storm drain, unknown duct banks were encountered that required special construction measures as well. In this immediate area, additional protection of a pile supported slab was required for an existing high-pressure Puget Sound Energy natural gas line.

Early estimates indicated that the cost of technical construction design support services associated with realigning Bay Street could be accommodated within the original contract contingency. However, costs associated with the solutions to the issues encountered above were significantly beyond original estimates for the redesign work and will require an amendment to the technical support services contract.

In order to maintain the critical September 15, 2003 date, work was authorized to modify the design of the embankment with the additional of the concrete box tunnel and address the related utility costs. At this time, construction is proceeding. Currently, the project is approximately 80% complete and the tunnel is complete. The cost of the additional construction design support work will exceed the contract limit, including contingency.

Although staff authorized the work to avoid schedule delays and to minimize total construction costs, Finance Committee approval should have been obtained before the additional work was authorized. Staff erred in not informing the Finance Committee of the issue in a timely fashion and in not seeking approval for the additional work as required by existing project and change control policies and procedures. Steps are being implemented to ensure strict adherence to project control procedures and to the established approval process in the future.

It is recommended that additional contract contingency, in the amount of \$194,000, be added to the existing contract. This would cover additional engineering necessitated by the tunnel, related underground utilities, previously completed design work for prior project phases and other unforeseen work performed and anticipated prior to the completion of the project. This amount has been arrived at in negotiations with DEA and represents DEA accepting a shared responsibility for the failed application of the arch plate culvert concept.

### **CONSEQUENCES OF DELAY**

In spite of the changes described above, DEA continues to supply critical construction design support services and Stacy and Witbeck, the construction contractor, are still forecasting substantial completion to meet the critical completion date of September 15, 2003. Delay in this action and/or significant changes may impact the ability to complete the work by the September deadline.

### **REGIONAL PARTNERSHIP AND COOPERATION**

The City of Tacoma has been actively involved and a very strong supporter in all aspects of the project. City engineering staff have attended meetings with the local business owners, provided valid comments and support during design changes and worked closely with DEA to provide expeditious input on unanticipated utility changes to keep the project on schedule. They continue to participate in assisting Sound Transit to mitigate construction impacts to local businesses.

### **PUBLIC INVOLVEMENT**

Responding quickly to valid concerns from local businesses has been the prime reason for this Finance Committee action.

### **LEGAL REVIEW**

MB 8/26/03

## SOUND TRANSIT

### MOTION NO. M2003-93

A motion of the Finance Committee of the Central Puget Sound Regional Transit Authority authorizing the Chief Executive Officer to execute a contract amendment with David Evans and Associates, Inc. to increase the contract contingency to fund increased construction and design support services required for the design of a tunnel to maintain business access, underground utility modifications and relocations, and previously completed design work for prior project phases, needed to complete the Reservation Junction to Freighthouse Square commuter rail track project in the amount of \$194,000 for a new total authorized contract amount not to exceed \$1,979,118.

#### Background:

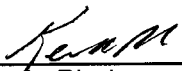
On May 1, 2003, the Finance Committee authorized the Executive Director to execute a contract amendment for David Evans and Associates, Inc. (DEA) to provide construction design support services during the construction of the Reservation Junction to Freighthouse Square track improvement project. When construction began, local businesses notified Sound Transit that the closure of Bay Street would impair the ability to accommodate large trucks and heavy industrial traffic specific to this area. In order to address this impact, the design of the retained earth fill embankment between Bay Street and Portland Avenue was modified to include a concrete box tunnel through the embankment with two full lanes of traffic and curb radiuses.

Preliminary estimates indicated that the cost of construction design support services associated with realigning Bay Street would fall within the original contract contingency. Major changes required additional engineering work for the tunnel, related underground utilities, previously completed design work for prior project phases, along with other unforeseen work performed and anticipated prior to the completion of the project will deplete the contract contingency of \$55,523. Additional funds are required to continue technical support to the end of the project.


#### Motion:

A motion of the Finance Committee of the Central Puget Sound Regional Transit Authority authorizing the Chief Executive Officer to execute a contract amendment with David Evans and Associates, Inc. to increase the contract contingency to fund increased construction and design support services required for the design of a tunnel to maintain business access, underground utility modifications and relocations, and previously completed design work for prior project phases, needed to complete the Reservation Junction to Freighthouse Square commuter rail track project in the amount of \$194,000 for a new total authorized contract amount not to exceed \$1,979,118.

APPROVED by the Finance Committee of the Central Puget Sound Regional Transit Authority at a regular meeting thereof held on September 4, 2003.

  
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Kevin Phelps  
Finance Committee Chair

ATTEST:

  
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Marcia Walker  
Board Administrator