SOUND TRANSIT

MOTION NO. M99-36

Contract for professional value engineering services for Central Link light rail
BACKGROUND AND COMMENTS

Meeting:	Date:	Type of Action:	Staff Contact:	Phone:
Finance Committee	6/3/99	Discussion/Possible Action	Paul Bay Clint Chapin Corey E. Lew	398-5134 398-5203 398-5204

DISCUSSION TOPIC:

Finance Committee approval to award a contract for professional value engineering services to Lewis & Zimmerman Associates, Inc. for the Central Link Light Rail project. The scope of work for this contract includes performing value engineering services for Civil Facilities Engineering Design (Preliminary Engineering phase), Design-Build, Systems Engineering, and assistance in the management of final design Value Engineering. The negotiated amount of this contract is $1,868,280. An additional $373,656 (approximately 20%) is requested to be authorized as a contingency reserve (to cover changes in the scope of work). Therefore, the total authorization for this contract is $2,241,936.

The award of this contract is critical to the completion of the preliminary design program and for the design-build process. The value engineering scope of work covers Civil Facilities Engineering Design (Preliminary Engineering phase), Design-Build, and Systems Engineering. Since design segments are proceeding on varied schedules it is critical to perform value engineering services prior to the 30% completion of Preliminary Engineering. For Central Line design segments preliminary engineering is expected to be complete by December 1999. It will be integral to incorporate Value Engineering Reviews with Design Reviews in order to make the process as seamless as possible. Value Engineering Services will help Link Light Rail deliver the highest quality Light Rail Transit project to the Puget Sound Region on schedule and within budget.

BACKGROUND:

Value Engineering Requirements

Value Engineering (VE) has been used in the construction arena since the early 1960's when the U.S. Army Corps of Engineers and then the U.S. Navy applied VE to civil and military projects. Conducting VE is now a requirement for all federally funded projects with construction cost in excess of $10M and is widely practiced on projects ranging from transit programs and other infrastructure to typical building projects. Value Engineering saves capital and life cycle dollars, provides peer review functions, and is geared to optimize the delivery of projects.

Life Cycle Cost Analysis

Non-monetary project criteria such as safety, durability, aesthetics, and project functionality are also included as elements of the VE process. On occasion, VE teams may recommend alternatives which increase capital cost, but reduce overall life cycle cost through the use of more durable materials or more energy efficient systems. Present worth life cycle costing is a key element in selecting VE alternatives.

On March 11, 1999, Link Light Rail advertised a Request for Qualifications and Proposals (RFQ/P) for value engineering services for the Central Link Light Rail Projects (RFQ/P No. RTA/LR 26-99). The scope of work for this RFQ/P was divided into the following services: value engineering for preliminary engineering, value engineering for design-build, and assistance in the management of final design value engineers.

1. Value Engineering for preliminary engineering – this involves the following:
   - Value Management/Value Engineering Program Plan
   - Developing a detailed Value Management/Value Engineering program plan for Link Light Rail. This program must meet Federal Guidelines.

2. Incorporating Value Engineering Processes and Products into Preliminary Engineering
   - Incorporating Value Methodology and Value Engineering into on-going Preliminary Engineering work
   - Incorporating Value Methodology and Value Engineering into on-going Systems Engineering work.
   - Preparation of Value Engineering Reports

3. Assistance in the Management of Final design value engineering consulting.
   - Assistance in planning for final design Value Engineering
   - Assistance in preparation of scope of work for final design Value Engineering Services
   - Assistance in procurement and selection of final design Value Engineering consultants
   - Assistance in management of final design Value Engineering consultants

Qualifications and proposals were received by Sound Transit on April 8, 1999. Three proposals were received. The Value Engineering Consultant Selection Committee reviewed the proposals and interviewed the three teams who proposed. Interviews were held on April 21, 1999 and the Committee selected the Lewis & Zimmerman Associates, Inc. team as the "most" qualified. The Committee agreed their proposed technical approach to the work combined with the qualifications of their key personnel and consultants relative to value engineering work demonstrates that their team is most qualified to perform this scope of work.

RELEVANT BOARD POLICIES AND PREVIOUS ACTIONS TAKEN:

- Adoption of *Sound Move*, The Ten-Year Regional Transit System Plan (May 31, 1996)

- Adoption of Implementation Guide (May 22, 1997)

- Adoption of First Moves (May 22, 1997)

- Resolution No. 78-1, establishing delegation of authority and procurement procedures (April 9, 1998)

- Resolution No. R98-49, adopting Fiscal Year 1999 Budget (November 12, 1998)

KEY FEATURES:

The immediate start of this work is very important to support the project's overall schedule. Since design work is well underway for all the segments it is critical to incorporate value management and value engineering processes into the design process during preliminary engineering. The FTA requires value engineering to be an integral part of the design process.

Other key features of this contract include:

- FTA Requirement for Central Link Light Rail – FTA requires VE on major capital projects and encourages the application of VE to all construction projects. Major capital projects are those over $100 million. FTA Guidelines Section 5010 states "VE on a project should be performed early in the design process before major decisions have been completely incorporated into the design, or near the end of PE or at 30% design. Some large or complex projects may need to conduct two VE studies."

- Cost Savings – Historically, government sponsored VE programs have produced a return on investment (ROI) of approximately 18:1. Similar results have been noted on major infrastructure projects including transit, airports, highways, etc. In other words, for every dollar spent on value engineering, $18 were returned in improved project functionality, reduced construction cost, clearer project scope definition between the owner and the design consultant, and generally better project delivery. Occasionally on very large infrastructure projects, return on investment can exceed 1,000:1. While these circumstances are far from the norm, it is generally accepted in the construction industry that VE works. VE saves capital and life cycle dollars, provides peer review functions, and is geared to optimize the delivery of projects.

- Better Opportunities to Save Money - By involving Value Engineering consultants early, there is an opportunity to implement changes into the design that will add value and ultimately save the project money. Value Engineering savings can be recaptured by Sound Transit rather than the contractor. This contract can be seen as a return on investment.

- Improved Project Coordination – The Value Engineering Review Workshops can help improve project coordination. By getting Sound Transit and its Engineers in a room together and discussing the project we can coordinate ideas together and resolve issues to improve project coordination.

- Improved Communications – The Value Engineering consultants can help improve project communications. They will be looking at the design from an independent standpoint and can

help in communicating ideas among the divisions and thus improving communications. It is the intent of this contract to be seamless to perform Value Engineering reviews in conjunction with design reviews. Improved communications and project coordination will result in a better work product. The Value Engineering consultant project manager and assistant project manager will be co-located at Sound Transit.

- Better Work Product –The old adage, "if it isn't broke, don't fix it" is often used for home office type projects. Rather than redoing or fine-tuning a design feature, an owner would tend to accept something less than desirable simply because it had already been engineered that way even though it may not be totally what was envisioned. The reason for this is usually attributable to the inability to pass on new direction efficiently or in a timely manner. By having Value Engineering perform an independent review design, a better work product will be achieved.

FUNDING:

Funding for this Scope of Work is included in *Sound Move* Plan and in the Link project budget, FTA Preliminary Engineering Grant, and FY'99 Capital Budget. However, it is further anticipated that value engineering services can recapture an estimated 18:1 return for every dollar spent on value engineering services which will provide a substantial savings to the project.

Procurement and selection process

The Lewis & Zimmerman Associates, Inc. team has been selected through a competitive qualification-based process established in the Request for Qualifications and Proposals (RFQ/P). Sound Transit staff fulfilled a good faith effort to fully disclose all available design materials and schedules developed by the Civil Facilities Design Consultant Team as part of the procurement process.

M/W/DBE participation

In their proposal, the Lewis & Zimmerman Associates, Inc. team has committed to providing at least 25% M/W/DBE participation, regardless of the final contract amount. The estimated participation of DBE and SBA 8(a) firms is 2%.

Cost

The cost summary for professional value engineering services for Central Link Light Rail project is attached (see Attachment #1). The negotiated amount of the contract is $1,868,280. An additional $373,656 (20%) is requested to be authorized as a contingency reserve. Therefore, the total authoriziation for this contract is $2,241,936.

CONSEQUENCES OF DELAY:

If the award of this contract is delayed it will delay achieving potential cost savings during the design phases of the project. To help Sound Transit deliver the highest quality Light Rail project

to the Puget Sound Region on schedule and within budget we must implement Value Engineering services to achieve these goals.

LEGAL REVIEW:

The Legal Department has reviewed and approved the background and comments and motion.

SOUND TRANSIT

MOTION NO. M99-36

A motion of the Finance Committee of the Central Puget Sound Regional Transit Authority authorizing the Executive Director to execute a contract with Lewis and Zimmerman Associates, Inc. for professional value engineering services for the Central Link Light Rail Project in an amount not to exceed $2,241,936, which includes a 20% contingency.

Background:

The scope of work for this contract includes performing value engineering services for Civil Facilities Engineering Design (Preliminary Engineering phase), Design-Build, System Engineering, and assistance in the management of final design Value Engineering. The negotiated amount of this contract is $1,868,280. An additional $373,656 is requested to be authorized as a contingency reserve (to cover changes in the scope of work). Therefore, the total amount for this contract is $2,241,936.

Motion:

It is hereby moved by the Finance Committee of the Central Puget Sound Regional Transit Authority authorizing the Executor Director to execute a contract with Lewis and Zimmerman Associates, Inc. for professional value engineering services for the Central Link Light Rail project in an amount not to exceed $2,241,936 which includes a 20% contingency.

Approved by the Finance Committee of the Central Puget Sound Regional Transit Authority at a regular meeting thereof on the 3rd day of June, 1999.

Mary Gates
Mary Gates
Finance Committee Vice Chair

ATTEST:

Marcia Walker
Marcia Walker
Board Administrator