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Metro

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PLANNING AND PROGRAMMING COMMITTEE
MARCH 16, 2005

SUBJECT: DESIGN-BUILD DEMONSTRATION PROJECT SOUNDWALL ON STATE ROUTE 134

ACTION: APPROVE SOLICITATION OF A DESIGN-BUILD CONTRACT AND APPROVE LIFE OF PROJECT BUDGET

RECOMMENDATION

A. The Board finds that awarding a design/build contract pursuant to Public Utilities Code Section 130242(a) will achieve for the Los Angeles County Metropolitan Transportation Authority (Metro), among other things, certain private sector efficiencies in the integration of the design, project work, and construction of Soundwall on State Route 134 between Louise Street and Harvey Drive in City of Glendale (requires 2/3 vote); and

B. Authorize the Chief Executive Officer to solicit a design-build contract for Soundwall on State Route 134 between Louise Street and Harvey Drive in City of Glendale, pursuant to Public Utilities Code Section 130051.9 (c); and

C. Approve the Life of Project Budget of $11.423 million (Attachment A).

BACKGROUND

On April 27, 2000, the Board adopted the list of Post 1989 Retrofit Soundwall projects, including a delivery plan and a funding plan and instructed staff to work with Caltrans to reduce the average costs of the soundwalls including the implementation of a design-build demonstration project. The project has been designated as a "Design-Build" demonstration project to explore, among other things, potential time and cost savings in implementation of the soundwall program. Staff also intends, through this demonstration project, to test the cost effectiveness of using alternative materials other than the traditional masonry blocks, if possible.

On August 23, 2001, the Board approved the award of a contract to Tetra Tech, Inc. for the preparation of a Noise Barrier Scope Summary Report (NBSSR) for the soundwall project on

State Route 134 between Louise Street and Harvey Drive in the City of Glendale. The NBSSR was completed and approved by Caltrans in November 2002 (Copies of the NBSSR are available at the Office of the Board Secretary).

Staff subsequently began working on various project documents. Staff also began working with Caltrans and the City of Glendale to identify the roles and responsibilities of each agency in contract administration, quality assurance, and maintenance, and to explore the possibility of using alternative soundwall building materials. Staff had extensive negotiations with Caltrans to obtain concurrence on the design/build contracting arrangement. The Cooperative Agreement between the Metro and Caltrans was sent to Caltrans for review and approval in October 2004 and it is now close to its final execution. The project Statement of Work for the design-build contract was reviewed and approved by Caltrans in November 2004. Caltrans has agreed to provide timely quality assurance reviews, as the design/build contractor will have to construct the soundwalls to the satisfaction of Caltrans. Staff is still reviewing the optimal way to manage the contractor, and may either use Metro staff or procure a contract for resident engineering and inspection services.

Some additional soundwall segments are being considered as part of the project. In May 2004, staff received a letter (Attachment B) from City of Glendale (City). In the letter, the City requested that approximately 567 meters of soundwalls (within the project limits) be added beyond those already identified in the NBSSR. These additional soundwalls are gaps between the soundwall segments recommended in the approved NBSSR. Subsequently, staff requested Caltrans to perform a Supplemental Traffic Noise Abatement Analysis (Attachment C) to determine the feasibility, necessity, and reasonableness of these additional soundwalls. The analysis concluded that these additional soundwalls would provide feasible traffic noise reduction for the affected residential areas.

FINANCIAL IMPACT

The total cost of this project is $11.43 million. The project will be funded with Proposition C 25% funds as programmed by the Board in previous Board actions (April 2003 and September 2004). $2.7 million will be included in the Fiscal Year (FY) 2005-06 budget request in Cost Center 4370, San Fernando Valley/North County Area Team, under Project Number 420002, Account Number 50316, Task Number 4912.01. Since this is a multi-year project, the cost center manager and the Chief Planning Officer will be responsible for budgeting the costs in future years.

ALTERNATIVES CONSIDERED

One alternative considered was to implement the project through the traditional design-bid-build process. Another alternative considered was to proceed with the Design-Build test project but not include the additional 567 meters of soundwalls in the project scope. Neither of these two options is recommended for the following reasons:

- The Board expressed its intent to explore the effectiveness of the design-build contracting process to contain cost and expedite delivery of soundwall projects.

- The additional 567 meters of soundwalls will cover the gaps between the soundwall segments recommended in the approved NBSSR and, therefore, improve the effectiveness and continuity of the soundwalls within the project limits. Caltrans and the City have received numerous complaints concerning the noise level from the residents in these areas. It would be not be cost effective to build these soundwalls under a separate contract.

NEXT STEPS

Staff will continue to work with Caltrans to execute the Cooperative Agreement between the Metro and Caltrans. The following is the tentative schedule of the project:

April 2005	Execute Cooperative Agreement with Caltrans
June 2005	Issue Invitation for Bids and advertise project
September 2005	Award Design-Build Contract
July 2007	Complete project

ATTACHMENTS

A. Life of Project Budget
B. Letter from City of Glendale, dated May 13, 2004
C. Supplemental Traffic Noise Abatement Analysis

Prepared by:

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Chief Planning Officer
Countywide Planning and Development

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ATTACHMENT A

SR-134 SOUNDWALL DESIGN/BUILD PROJECT

LIFE OF PROJECT BUDGET

FINANCIAL PLAN

Description	FY05	FY 06				FY 07				FY 08		TOTAL
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Design/Build Contract			$500,000	$500,000	$500,000	$1,500,000	$2,000,000	$2,000,000	$800,000	$100,000	$100,000	$8,000,000
Right of Way (Capital)			$500,000	$175,000								$675,000
Construction Management Services		$50,000	$50,000	$100,000	$100,000	$150,000	$150,000	$150,000	$100,000	$25,000	$25,000	$900,000
Contingency									$1,423,000			$1,423,000
Metro Staff Support	$26,000	$41,900	$106,500	$61,500	$40,500	$39,600	$25,500	$21,500	$20,500	$25,100	$16,400	$425,000
TOTAL	$26,000	$91,900	$1,156,500	$836,500	$640,500	$1,697,600	$2,167,500	$2,171,500	$2,343,500	$150,100	$141,400	$11,423,000

FUNDING PLAN

SOURCE OF FUNDS	FY 04	FY 05	FY 06	FY 07	TOTAL BUDGET
PROPOSITION C 25%	$2,977,000		$4,446,000	$4,000,000	$11,423,000
TOTAL PROGRAMMED BUDGET	$2,977,000		$4,446,000	$4,000,000	$11,423,000

PROJECT SCHEDULE

ADVERTISE PROJECT	**JUNE 2005**
AWARD DESIGN/BUILD CONTRACT	**SEPTEMBER 2005**
COMPLETE PROJECT	**JULY 2007**

ATTACHMENT B

CITY OF GLENDALE, CALIFORNIA
Public Works Division
TRAFFIC AND TRANSPORTATION SECTION

633 East Broadway, Room 300
Glendale, California 91206-4384
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May 13, 2004

Kevin J. Michel
Director
San Fernando Valley/North County Area Team
Los Angeles Metropolitan Transportation Authority
One Gate Plaza
Los Angeles, CA 90012

Dear Mr. Michel:

Thank you for meeting with us on April 26, 2004 to address the issue regarding the design/build soundwalls on SR134: Harvey Drive/Louise Street. The City of Glendale is pleased with MTA's decision to select this soundwall project as its first soundwall demonstration project. The City continues to receive numerous complaints from area residents concerning the noise level resulting from increased traffic on SR134.

As we discussed during our meeting, the City had the opportunity to review the NBSSR for this project, and found that the study did not recommend the soundwalls for the following portions of SR-134 (please refer to the attached plot):

- WB from Naranja Drive to Glendale Avenue
- WB from Station 363+48 to east of Jackson
- WB from Jackson Street to Station 362+53
- EB from Station 361+41 to Jackson Street
- EB from Jackson Street to Station 365+00 east of Howard Street

Although the above soundwall gaps are a small portion of the entire proposed soundwalls, they will significantly impact the effectiveness and continuity of the soundwalls along SR 134 and will create noise tunnels for the residents in those areas. In addition, Caltrans and the City have received numerous complaints concerning the noise level, particularly from those residents in the area of Galer to Glendale Avenue and between Louise Street to Howard Street on the south side of the Freeway.

We believe the construction of this Soundwall to include all the above gaps will significantly reduce the noise level and improve the quality of life for the residents within the vicinity of the project area. We appreciate your support and approval to include these sections in the SR 134: Harvey Drive-Louise Street soundwalls project.

Please don't hesitate to call at 818-548-3960, extension 8376 for any questions and assistance you may need to coordinate this project with the City of Glendale.

Sincerely,

Fred Zohrehvand, Transportation Planner

CC: Stephen M. Zurn, Director of Public Works

Enclosure

ATTACHMENT C

Soundwall Analysis – Route 134 KP 11.7/14.2 EA 224701

A traffic noise abatement analysis was conducted to determine if extending the length of the proposed soundwalls in this project provides feasible noise abatement for the residential areas along the Route 134 freeway which were not provided with noise abatement in the Noise Study Report prepared by Acentech, Inc. for Tetra Tech and the Metropolitan Transportation Authority (MTA).

The analyzed residential areas are located West and East of the Jackson Street overcrossing and East of Glendale Ave on the westbound side of Route 134, East of Louise Street to West of Geneva Street on the eastbound side of Route 134. The computer program SOUND2000, Caltrans' computer version of the FHWA's Traffic Noise Prediction Model (FHWA-RD-77-108), was used in this analysis to develop the traffic noise model. The attached tables 1 and 2 provide the summary of the traffic noise modeling results.

Receivers identified as A1A, A2A, D1A, J1A, K1A, and L1 were modeled at 2nd floor locations as these are apartment buildings that have carports on the ground floor. Receiver locations were also modeled outdoors. These dwellings have windows and balconies facing the freeway side. Actual noise reduction indoors is a function of each building's soundproofing and may therefore be less than the predicted noise insertion losses determined in this analysis.

For receiver locations A1A, A2A, J1A, and L1; the soundwall location may be too close to the buildings and may be considered objectionable by residents. Furthermore, there may be a reverberation effect between the soundwall and the structures which may cause a detrimental effect in the noise reduction that can not be modeled or predicted. The Technical Noise Supplement (TENS) categorizes walls located at a distance less then 1.5 times of the wall height from the structure as undesirable as the wall becomes visually dominating and may cause potential shadow problems and obscured view. Refer to TENS Section N-6220 and Figure N-6220.1.

The traffic noise analysis indicated that soundwalls as shown in the accompanying aerials provide feasible traffic noise reduction for the affected residential areas. In accordance with the Retrofit Soundwall Program, noise barriers are recommended if it is determined that traffic noise attenuation is feasible and reasonable. Any walls covering commercial areas will require input from commercial property owners.

Based on the studies so far conducted, Caltrans determined that the noise attenuation measures, in the form of soundwalls, as shown would reduce noise levels by 5 dBA minimum. Soundwall reasonableness will need to be determined from the number of benefited residences.

Table 1. Noise Abatement Modeling Results 07-LA-134 EA 22470k

Soundwall heights matching proposed abatement

Receiver	Soundwall / height (m)	Type of Development	Noise Abatement Category dBA - Leq[H]	Existing Noise Level (modeled) dBA - Leq[H]	Predicted Proposed Soundwall Noise Level dBA - Leq[H]	Predicted Soundwall Noise-Insertion Loss dBA
A0	SW361 / 2.8	residential	B (67 dBA)	75.6	66.9	-8.7
A1A	SW361A / 2.8	residential	B (67 dBA)	80.4	76.5	-3.9
A2	SW363 / 2.1-2.8	residential	B (67 dBA)	75.2	68.5	-6.7
A2A	SW363A / 2.8	residential	B (67 dBA)	80.7	79.8	-0.9
D1	SW371 / 3.05	residential	B (67 dBA)	66.7	62.9	-3.8
D1A	SW371 / 3.05	residential	B (67 dBA)	75.3	69.6	-5.7
J1	SW360 / 4.3	residential	B (67 dBA)	72.4	62.2	-10.2
J1A	SW360A / 4.3	residential	B (67 dBA)	79.2	69.6	-9.6
K1	SW364A / 4.3	residential	B (67 dBA)	70.9	62.4	-8.5
K1A	SW364A / 4.3	residential	B (67 dBA)	78.0	65.7	-12.3
L1	SW364A / 4.3	residential	B (67 dBA)	80.4	75.6	-4.8
M1	SW364 / 4.0	residential	B (67 dBA)	72.0	62.9	-9.1

Table 2. Noise Abatement Modeling Results 07-LA-134 EA 22470k

Soundwall heights for feasibility

Receiver	Soundwall / height (m)	Type of Development	Noise Abatement Category dBA - Leq[H]	Existing Noise Level (modeled) dBA - Leq[H]	Predicted Proposed Soundwall Noise Level dBA - Leq[H]	Predicted Soundwall Noise-Insertion Loss dBA
A0	SW361 / 2.8	residential	B (67 dBA)	75.6	66.7	-8.9
A1A	SW361A / 4.27	residential	B (67 dBA)	80.4	73.4	-7.0
A2	SW363 / 2.1-2.8	residential	B (67 dBA)	75.2	68.5	-6.7
A2A	SW363A / 4.27	residential	B (67 dBA)	80.7	74.2	-6.5
D1	SW371 / 4.27	residential	B (67 dBA)	66.7	61.7	-5.0
D1A	SW371 / 4.27	residential	B (67 dBA)	75.3	67.3	-8.0
J1	SW360 / 4.3	residential	B (67 dBA)	72.4	61.7	-10.7
J1A	SW360A / 4.3	residential	B (67 dBA)	79.2	66.1	-13.1
K1	SW364A / 4.3	residential	B (67 dBA)	70.9	61.6	-9.3
K1A	SW364A / 4.3	residential	B (67 dBA)	78.0	64.6	-13.4
L1	SW364A / 4.3	residential	B (67 dBA)	80.4	72.1	-8.3
M1	SW364 / 4.0	residential	B (67 dBA)	72.0	62.7	-9.3

Table 3. Benefited Residences*

Soundwall	Number of Benefited Units
SW360A	**11**
SW361A	**4**
SW363A	**4**
SW364A	**16**
SW371	**5**

* Benefited resisdences were determined from aerial photographs. Actual number may vary and will have to be determined by field survey in order to determine reasonableness of noise abatement

Figure 1. Soundwalls and Analysis Locations