



Metro

Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000
metro.net

50

**BOARD OF DIRECTORS
DECEMBER 7, 2006**

**SUBJECT: I-405 HIGH OCCUPANCY VEHICLE LANE PROJECT:
I-105 TO ROUTE 90**

ACTION: APPROVE COST INCREASE

RECOMMENDATION

Approve \$9.7 million in additional Congestion Mitigation and Air Quality (CMAQ) funds to cover cost changes needed to complete a retrofit retaining wall on the I-405 High Occupancy Vehicles (HOV) Lane project from I-105 to Route 90.

ISSUE

In a letter dated November 16, 2006, Caltrans requested that the Los Angeles County Metropolitan Transportation Authority (Metro) provide supplemental dollars in the amount of \$9.7 million to cover construction cost increases for rebuilding a failing retaining wall. Previously, Caltrans engineers determined that the original wall was not stable and that the wall would fail, if remedial work was not completed. To cover this cost, Metro, in March 2006, approved \$3 million in supplemental funding to complete the retrofit. The contractor underestimated the amount of work needed to properly retrofit the wall that is currently under construction. Caltrans is now requesting \$9.7 million to complete the retrofit work. The current Metro Board adopted policy for programming cost changes for highway projects allows for administrative approvals of up to \$5 million in the aggregate for each project. This latest Caltrans request exceeds the administrative approval limit.

POLICY IMPLICATIONS

The Metro Board adopted the policy for administratively approving cost increases for Caltrans highway projects in 1999 and updated the policy in June 2000. This request is being brought to the Metro Board because the cost change exceeds the cumulative \$5 million limit per project. The recommended action will allow the emergency retrofit work to proceed prior to the onset of the winter storm season and will prevent failure of the retaining wall.

OPTION

The Board of Directors may reject the request for supplemental funding. This option is not recommended as the wall was previously deemed an unsafe condition. If not repaired, slope failure could result in damage to homes above the wall and lead to a land slide on the freeway.

FINANCIAL IMPACT

There is adequate programming capacity in the CMAQ program to cover the \$9.7 million supplemental funding request for the I-405 project. The CMAQ funds are made available by SAFETEA-LU formula funding increases secured through Reauthorization. Programming of additional funds to the I-405 project could potentially reduce the amount of funding available for future projects.

BACKGROUND

The I-405 HOV project between the I-105 and Route 90 was funded through the 1997 and 1999 Call for Projects. The scope of work includes design, right-of-way activities, and construction of HOV Lanes, Retaining Walls and Soundwalls in both the north and southbound directions. Construction began in February 2003 and the project opened to traffic in May 2006. The current total cost for this project (not including this request) is \$40.3 million.

There were three previously administratively approved cost increases on the I-405 project. These increases covered a change in Caltrans final cost estimate prior to listing the project for bidding, the difference between the final cost estimate and the lowest cost bid and for an Unusual and Extraordinary Noise Abatement Study.

In March 2006, the Board approved Supplemental funding for this project, including \$4.3 million for the retaining wall, a claim settlement due to the contractor encountering different site conditions than as specified in the construction plans resulting in the need for construction change orders and an increase in the project contingency budget.

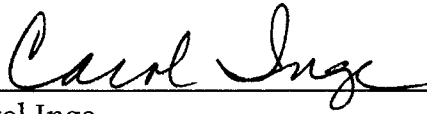
NEXT STEPS

Upon Metro Board approval, Caltrans will be notified and an amendment to the existing Funding Agreement will be executed.

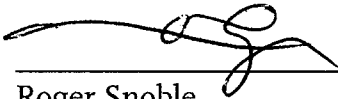
ATTACHMENT

- A. Letter from Caltrans dated November 16, 2006
- B. Letter from Caltrans dated October 10, 2006

Prepared by: Randy Lamm, Transportation Planning Manager, South Bay Area Team
Renee Berlin, Director, South Bay Area Team



Carol Inge
Chief Planning Officer
Countywide Planning and Development



Roger Snoble
Chief Executive Officer

DEPARTMENT OF TRANSPORTATION Attachment A

DISTRICT 7
100 MAIN STREET, SUITE 100
LOS ANGELES, CA 90012-3606
PHONE (213) 897-0362
FAX (213) 897-0360
TTY (213) 897-4937



*Flex your power!
Be energy efficient!*

November 16, 2006

Los Angeles County Metropolitan Transportation Authority (Metro)
One Gateway Plaza, Mail Stop: 99-22-04
Los Angeles, CA 90012-2952

Attn: Ms. Renee Berlin
Director, South Bay Area Team

CONCURRENCE FOR ADDITIONAL FUNDING FROM THE CTC FOR SOIL NAIL/TIE BACK WALL NO. 397
LA-405 HOV PROJECT FROM ROUTE 105 TO ROUTE 90
EA 1198UI/MTA PROJECT NO. 2196, 2196B, 6139

Dear Ms. Berlin:

In April 2006, the Metro Board approved a supplemental funding request from the Department of Transportation (Department) in the amount of \$4.3 million due to entitlement for encountering differing site conditions, contract change orders and for the retrofit of Soil Nail Wall No. 397. The contractor provided an original estimate of \$3.0 million to perform the entire retrofit work for the wall. This amount was included with the above supplemental funding request.

Retrofitting the soil nail wall has begun by drilling piles and placing the corresponding caps as outlined in the retrofit plans. Since the retrofit work has commenced, the contractor has exhausted \$3.0 million, with 60% of the work outstanding to finish the retrofitting. The contractor underestimated the amount of work required to properly retrofit the wall. The Department has estimated that an additional \$9.7 million will be needed to complete the retrofit as outlined in the structural plans.

In a recent Geotechnical analysis, the wall was found to have been moving and showing signs of settlement in addition to having significant vertical and horizontal cracks. The Geotechnical Unit has recommended placing tiebacks for the reinforcement of the wall in order to protect its integrity. There is also concern about the emerging hydrostatic pressure, which could result in larger cracks that could impede the wall's stability. The Department is targeting to remedy the wall before any significant rainfall that could contribute to additional hydrostatic pressure. Based on these findings, the Department is requesting additional funding to rapidly continue securing the retrofit of the wall without any delays.

The Department is seeking concurrence from Metro prior to placing this request on the CTC meeting agenda for December.

Metro
Ms. Renee Berlin
November 16, 2006
Page 2

The deadline for submitting agenda items has surpassed, however, an exemption has been given for this request due to its urgency. The revised estimate and the Geotechnical report for retrofitting the soil nail wall are attached. Should you have any questions or need additional information, feel free to contact me at 213.897.0123.

Sincerely,


Monir Ibrahim, Area Manager
Office of Project Management-South

Cc: Tad Teferi, Caltrans
Mabel Tran, Caltrans
Randy Lamm, Metro

Memorandum

To: MABEL K. TRAN
SENIOR TRANSPORTATION ENGINEER
PROJECT MANAGER
PROJECT & PROGRAM MANAGEMENT DIVISION
DISTRICT 07

Date: October 10, 2006

File: 07-LA-405-KP-34.6/41.3
E.A.: 07-1198U4
Soil Nail Wall No.397

From: DEPARTMENT OF TRANSPORTATION
Division Of Engineering Services
Geotechnical Services
Office of Geotechnical Design-South-1

Subject: Retaining Wall 397 Retrofit

The purpose of this memorandum is to provide an update on the condition of the existing Soil Nail Wall No. 397 and to emphasize the need for urgent completion of all components of the remedial work that is currently in construction.

The project is to retrofit the existing soil-nail wall located at post mile 39.7 southbound I-405. The soil-nail wall has a maximum height of about 36 feet and was built to retain a vertical cut into the hillside slope. The wall has a total length of approximately 1150 feet with embedment lengths of nails varying from 20 to 40 feet. The wall construction started in August 2003 and finished in May 2004.

Our evaluation of the existing soil nail wall shortly after construction revealed that the wall had experienced extensive lateral movement and exhibited longitudinal cracks in the soil behind the wall. Water was also observed seeping from the cracks at the face of the wall. As a remedial measure, this office recommended installation of horizontal drains and construction of a tieback wall in front of the existing soil nail wall to mitigate the hydrostatic pressure and to provide the required lateral support to maintain the wall stability. The design of the retrofit tieback wall calls for two (2) levels of tie-backs and 24" diameter CIDH piles.

Our recent field observations indicate that the existing cracks are getting larger and new vertical and horizontal cracks are being developed on the face of the wall. Water is emanating from the cracks indicating buildup of the hydrostatic pressure behind the wall. Extensive caving was evident during the construction of the piles, possibly exacerbating the condition of the wall and compromising its structural integrity. Slope indicators (SI's) installed at various locations along the length of the wall to monitor wall movements indicate continuous movement and possible settlement.

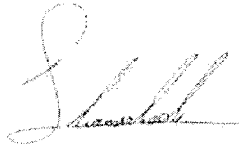
It is our professional opinion that the condition of the wall has deteriorated since completion of construction and that the wall stability will further diminish leading to potential wall and slope failure if all proposed remedial measures are not completed. Construction of the wall must be completed per approved design without further delays.

Reported by:

ANOOSH SHAMSABADI
Senior Bridge Engineer
Office of Earthquake Engineering

Reviewed by:

JOHN EHSAN
Supervising Transportation Engineer
Office of Geotechnical Design South - 1



cc: Zouheir Saleh, Structures Construction
Dan Tran, District Design
Ramin Rashedi, Structure Design
Bill Varley, Maintenance Design
OGDS-1 Sacramento
GS File

Item No.	Item Description	Unit of Measure	Estimated Quantity	Bid Estimate	Amount	Remarks
1	Structure Backfill (Tieback Wall)	CM	28.00	\$300.00	\$8,400.00	Based on 2004-2005 Caltrans Contract Item Cost Data.
2	Structure Excavation (Tieback Wall)	CM	132.00	\$300.00	\$39,600.00	Based on 2004-2005 Caltrans Contract Item Cost Data.
3	Tieback Anchor	EA	98.00	\$50,000.00	\$4,900,000.00	Based on Estimate of 1 Tieback per day.
4	Structural Concrete (Retaining Wall)	CM	442.00	\$1,000.00	\$442,000.00	Based on 2004-2005 Caltrans Contract Item Cost Data.
5	Architectural Treatment	M2	1,269.00	\$300.00	\$380,700.00	Based on 2004-2005 Caltrans Contract Item Cost Data.
6	Bar Reinforcing Steel (Retaining Wall)	KG	200,000.00	\$3.27	\$654,000.00	Based on 2004-2005 Caltrans Contract Item Cost Data and Contractor's Estimate (Including markups)
7	Shotcrete	CM	560.00	\$1,500.00	\$840,000.00	Based on 2004-2005 Caltrans Contract Item Cost Data.
8	Concrete Barrier (Type 60D)	M	161.00	\$300.00	\$48,300.00	Based on 2004-2005 Caltrans Contract Item Cost Data.
9	Replace Communication Conduit	LS	1.00	\$75,000.00	\$75,000.00	Based on Contractor's Estimate (Including markups)
10	Replace Drainage System 15-4	LS	1.00	\$75,000.00	\$75,000.00	Based on Contractor's Estimate (Including markups)
11	Replace Roadway Section	LS	1.00	\$75,000.00	\$75,000.00	Based on Contractor's Estimate (Including markups)
12	Traffic Control	LS	1.00	\$600,000.00	\$600,000.00	200 shifts @ \$3,000 per shift
13	Pavement Delineation	LS	1.00	\$50,000.00	\$50,000.00	
14	Time-Related Overhead	LS	200.00	\$1,935.00	\$387,000.00	200 shifts @ \$2,000 per shift
15	SWPPP	LS	1.00	\$100,000.00	\$100,000.00	
16	Additional Roadway Items	LS	1.00	\$98,423.00	\$98,423.00	Design Estimate
17	Structural Removal Items	LS	1.00	\$11,340.00	\$11,340.00	Structure Estimate
18	Mobilization	LS	1.00	\$100,000.00	\$878,476.30	10% of Items 1 to 15

TOTAL
\$9,663,239.30

