



**EXECUTIVE MANAGEMENT AND AUDIT COMMITTEE  
MARCH 17, 2005**

**SUBJECT: TUNNEL ADVISORY PANEL**

**ACTION: FUND THE FIFTH CONTRACT YEAR TO THE TUNNEL ADVISORY  
PANEL IN THE AMOUNT NOT TO EXCEED \$233,565**

**RECOMMENDATION**

Authorize the Chief Executive Officer to:

- A. Fund the fifth year of Contract No. PS-2020-1051, with Dr. Dan Eisenstein for geotechnical and tunneling consulting as a member of the Tunnel Advisory Panel in the amount not to exceed \$193,965 effective May 1, 2005; and
- B. Fund the fifth year of Contract No. PS-2020-1055, with Dr. Geoffrey Martin for geotechnical and tunneling consulting as a member of the Tunnel Advisory Panel in the amount not to exceed \$39,600 effective May 1, 2005.

**RATIONALE**

In June 2001, the LACMTA Board of Directors approved the five-year contractual agreement with the Tunnel Advisory Panel and directed staff to return to the Board each year for funding approval. Staff is recommending exercising the fifth year's funding.

As the LACMTA begins construction of the Metro Gold Line Eastside Extension, the Tunnel Advisory Panel is relied upon for providing expert advisement and review of the work of LACMTA staff and its contractors. Presently, drilling and chemical grouting of the tunnel alignment on 1<sup>st</sup> Street and in the vicinity of the I-5 Overpass is progressing as part of the comprehensive preparatory work to improve ground conditions prior to tunneling. The installation of soldier piles that will provide wall support is underway to excavate the 1<sup>st</sup> and Boyle underground station and set up the launch of two Earth Pressure Balance (EPB) Tunnel Boring Machines (TBMs) in the summer or fall of this year. The TBMs are in the fabrication stages in Germany and nearing completion. Drs. Eisenstein & Martin are providing high-level technical feedback. Specifically, the Tunnel Advisory Panel is conducting review on the design quality and testing of the TBMs and project management strategy along the path of tunnel construction. When the TBMs begin to bore the tunnel path, the Tunnel Advisory Panel will provide review of the initial and ongoing construction monitoring of the ground movements, gas occurrences and water control along the

alignment. They will be available to evaluate onsite the quality control and soundness of the tunnel structure and provide feedback and advisement to facilitate the construction.

The Tunnel Advisory Panel will also continue to provide support for adherence under the terms of the Santa Monica Mountains Consent Decree. The Consent Decree was in force for five years after the completion of construction of the Metro Red Line Segment 3 tunnel through the Santa Monica Mountains. The tunnel was deemed completed after completion of the tunnel grouting program in July 1999. By its terms, the Consent Decree and the Court's jurisdiction terminated in June 2004. A final hydrologic and biologic monitoring report that addresses the environmental impacts of water elevations, spring flows and vegetation life has been completed by LACMTA's consultant, Ultrasystems. Drs. Eisenstein and Martin will be reviewing the reports contents and prepare an executive summary for the Board. The report will also be made available to the Consent Decree Plaintiff. It is anticipated that the Plaintiff will have technical questions regarding the report. The Tunnel Advisory Panel has retained the confidence of the Plaintiff, as the Tunnel Monitor, and is available to answer questions that may arise from the Plaintiff.

Further, the Tunnel Advisory Panel is providing review analysis of the tunneling alternative for the I-710 Long Beach Freeway Gap Closure. The I-710 Freeway presently ends at the I-10 freeway in Monterey Park leaving an approximately 4.5 mile gap in the route between the San Bernardino Freeway (I-10) on the south and the Foothill and Ventura Freeways (210 Freeway and State Route 134 Freeway) to the north of Pasadena. The gap constitutes the only uncompleted portion of the freeway core in Los Angeles County and has contributed to heavy traffic congestion on the surface streets in Alhambra, South Pasadena, and Pasadena. The Tunnel Advisory Panel continues to provide various presentations to community residents and elected officials of the affected cities on the freeway tunnel aspects and is available to answer questions that arise from these groups. The Tunnel Advisory Panel is presently examining the soil mechanics, soil boring logs, rock coring logs, foundation reports, ground water data, seismic considerations, and documents from other projects in the area of the I-710 tunnel alternative. Staff will be utilizing the Tunnel Advisory Panel to prepare a preliminary geological and geotechnical characterization report to examine if tunneling is a feasible option. If tunneling is found to be a feasible option, they will provide staff with review and afford feedback to evaluate proposed tunnel configuration(s), size capacity, and tunnel portal locations.

Both Drs. Eisenstein and Martin have unique understandings of Los Angeles County's underground conditions as well as having intimate knowledge of LACMTA's projects. They are recognized throughout the world as engineering experts in the areas of geotechnical analysis, tunneling and deep excavation, earthquake engineering, and soil dynamics. It is important that their services continue as the LACMTA is beginning the construction of the Eastside extension tunnels and identifies other transportation needs and challenges that Los Angeles County will face over the next several years.

### **IMPACT TO OTHER CONTRACTS**

There are no impacts to other contracts.

## **FINANCIAL IMPACT**

Funding for this service is included in the FY 05 budget under cost center 2020, project numbers 100060,100080, and 800088. The project manager and Chief of Staff will be accountable for budgeting the cost in FY 06.

## **ALTERNATIVES CONSIDERED**

No alternatives were considered. These services are crucial to MTA transit projects. Any delay in these services would disrupt and/or postpone current ongoing critical projects. A market survey was conducted prior to the original contract award and was determined that there are no individual and/or firms that can provide the wide range of services MTA requires. There are sources available in discrete areas, however in all cases, not one individual/firm can provide the wide range of services that is provided by our current Tunnel Advisory Panel.

## **ATTACHMENT**

A. Tunnel Advisory Panel Scope of Work

Prepared by: Geyner J. Paz, Senior Administrative Analyst

*Maria A. Guerra*

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Maria A. Guerra  
Chief of Staff

*Roger Snoble*

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Roger Snoble  
Chief Executive Officer

# ATTACHMENT A

LACMTA TUNNEL ADVISORY PANEL (TAP)  
DR. ZEDNEK DAN EISENSTEIN  
DR. GEOFFREY MARTIN

SCOPE OF WORK  
MAY 1, 2004 – APRIL 30, 2005

During the contract year (May 1, 2005 – April 30, 2006) the TAP members will provide the following tasks, activities and programs elements:

Metro Gold Line Eastside LRT Extension

- Review of Earth Pressure Balance TBM testing
- Tunnel Construction Strategy
- Monitoring of ground movements, gas occurrences, ground water control, etc.
- Onsite construction evaluation
- Transfer of “lessons learned” and past experience to Eastside LRT project

Santa Monica Mountains Consent Decree

- Executive summary report on hydrological and biological monitoring
- Plaintiff responses

I 710 Gap Closure

- Feasibility of tunneling alternative
- Preliminary geotechnical survey
- Presentation to community leaders

Ad Hoc Professional Services

- Ongoing advisory services to LACMTA planning and construction staff
- Advise and assist LACMTA staff with regular periodical maintenance reviews as well as with additional remedial measures, when and if needed on the existing tunnels and underground stations during and after the initial operational phase.
- Advise and assist LACMTA staff and external counsels in potential litigations related to disputes with contractors and third parties arising from construction activities on past and current LACMTA tunnel projects, specifically on coordination of technical aspects of litigation.

