

REQUEST FOR APPROVAL

To: Howard Levenson
Deputy Director, Materials Management and Local Assistance Division

From: Brenda Smyth
Branch Chief, Statewide Technical and Analytical Resources Branch

Request Date: April 25, 2011

Decision Subject: Approval of Scope of Work and Humboldt State University
Sponsored Programs Foundation as Contractor for the Evaluation of
Engineering Properties for Tire-Derived Aggregate Use in Civil
Engineering Applications Contract

Action By: May 17, 2011

Summary of Request:

Staff requests approval of the Scope of Work (SOW) and Humboldt State University Sponsored Programs Foundation as contractor for the Evaluation of Engineering Properties for Tire-Derived Aggregate (TDA) Use in Civil Engineering Applications Contract.

Recommendation:

Staff recommends that CalRecycle enter into the contract with Humboldt State University Sponsored Programs Foundation as the contractor, using Fiscal Year (FY) 2010/11 funds allocated to TDA Civil Engineering Technical and Construction Management Support in the Market Development Section in the current (5th Edition) Five-Year Tire Plan. This contract will be funded in an amount not to exceed \$230,000 for the tasks outlined in the attached Scope of Work.

Deputy Director Action:

On the basis of the information and analysis in this Request for Action and the findings set out below, I hereby approve the SOW and Humboldt State University Sponsored Programs Foundation as contractor for the Evaluation of Engineering Properties for Tire-Derived Aggregate Use in Civil Engineering Applications Contract in an amount not to exceed two hundred thirty thousand dollars (\$230,000), subject to availability of funds appropriated to this program.

Dated: 5/17/11

Howard Levenson

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Deputy Director

Attachment 1: Scope of Work

Background Information, Analysis, and Findings

CalRecycle currently promotes the use of waste tires in various civil engineering applications as part of its ongoing efforts to divert waste tires from landfills in California. TDA has successfully been used in California as lightweight fill in road construction, back-fill for retaining walls, and vibration dampening on rail lines. However, some applications, such as using TDA in septic systems, stormwater retention basins and under compressive loads, have been hampered by a lack of information on several specific engineering properties of TDA. To provide this needed information, this contract proposes the following primary tasks:

- Construction of a septic system leachfield using TDA material as the drainage media. TDA is used in septic applications in many states. While it also has been used in California, there is no data available on its performance. The results of this study will provide California-specific data. If the resulting data supports use of TDA in California septic systems, CalRecycle will request the State Water Resources Control Board to consider incorporating TDA alternatives in its septic system regulation.
- Construction of an apparatus to determine the temperature profile of TDA in a fill greater than 10 feet with exposure to the atmosphere. This engineering property has not been studied and is important for stormwater retention system design and other civil engineering applications where heating may be an issue.
- Construction of an apparatus to determine the porosity and compressibility of TDA under high compressive loads, greater than 20 feet of soil cover. This data does not exist and is essential in any civil engineering application where void space is critical to the design, such as landfill applications, septic systems, and water or gas storage structures.

The Scope of Work for this contract (Attachment 1) proposes the three tasks above to provide data on specified engineering properties of TDA to determine its efficacy in a variety of civil engineering applications. Additionally, where warranted, the information gained from this contract is designed to help promote new civil engineering applications and increase usage of TDA in California civil engineering projects. Once complete, CalRecycle will provide this information through contractor prepared reports and/or presentations to public works directors, engineers, and recycling coordinators, etc., as part of its ongoing waste tire technical outreach and education efforts.