Rock Products Committee
SCOPING DOCUMENT
July 30, 2008

Task Group

Pavement Preservation Task Group (PPTG)

Title

Developing a Crack Sealing Standard Special Provision (SSP)
(PPTG Item 1, Draft Rock Products FY2008/09 Work Plan)

Issue/Problem Statement (*What is the issue?*)

The current California Department of Transportation specification for crack sealing needs to be revised to better reflect the types of sealant used.

Purpose/Timeline (*Why we need to work on this.*)

The new SSP is needed to incorporate new types of sealants available on the market. The SSP will be completed by January 1, 2009.

Objectives/Deliverables (*What is important to be done and what is the expected outcome?*)

The revised specification will provide a more detailed process for selecting the type of crack sealant to be used.

Benefits (*For example, increased life cycle or reduced costs.*)

The new specification will provide better direction to contractors who provide crack sealing.

Impacts (*What are the impacts to policy, specifications, construction practices, and stakeholders?*)

Use of the revised specification should help improve the quality of pavement preservation using crack sealing/filling but have negligible impact on policy, stakeholders, or construction practices.

Resource Requirements (*Staff hours and expenses.*)

At this point, completing the specification revision and the review process should expend less than 100 staff hours overall.

Impediments to Completion of Deliverables

Disagreement between the PPTG Crack Sealing Subtask Group members could delay completion of the specification revision in time to allow it to be processed as a revised SSP.

Rock Products Committee
SCOPING DOCUMENT
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Task Group

Pavement Preservation Task Group (PPTG)

Title

Developing a Chip Seal Standard Special Provision (SSP)
(PPTG Item 2, Draft Rock Products FY2008/09 Work Plan)

Issue/Problem Statement (*What is the issue?*)

Currently, the use of a polymer-modified asphalt rubber binder for chip seals can be done only by utilizing the nonstandard special provision process.

Purpose/Timeline (*Why we need to work on this.*)

Upgrade the polymer-modified asphalt rubber chip seal specification for use as an SSP by January 1, 2009, to allow time for the Pavement Standards Team review process before the Division of Engineering Services–Office Engineer stops processing new SSPs.

Objectives/Deliverables (*What is important to be done and what is the expected outcome?*)

Process the specification currently used for polymer-modified asphalt rubber chip seals as an SSP.

Benefits (*For example, increased life cycle or reduced costs.*)

When the specification becomes an SSP, districts will be able to use it without needing Headquarters' approval, which will help prevent project delivery delays.

Impacts (*What are the impacts to policy, specifications, construction practices, and stakeholders?*)

Using this specification as an SSP will improve project delivery.

Resource Requirements (*Staff hours and expenses.*)

At this point, completing the specification revision and the review process should expend less than 50 staff hours overall.

Impediments to Completion of Deliverables

Disagreement between members of the PPTG Chip Seal Subtask Group could delay completion of the specification revision in time to allow it to be processed as a revised SSP.

Rock Products Committee
SCOPING DOCUMENT
July 30, 2008

Task Group

Pavement Preservation Task Group (PPTG)

Title

Developing a Microsurfacing Standard Special Provision (SSP)
(PPTG Item 3, Draft Rock Products FY2008/09 Work Plan)

Issue/Problem Statement (*What is the issue?*)

Currently, the use of mirosurfacing can be done only by utilizing the nonstandard special provision process.

Purpose/Timeline (*Why we need to work on this.*)

Upgrade the mirosurfacing specification for use as an SSP by January 1, 2009, to allow time for the Pavement Standards Team review process before the Division of Engineering Services–Office Engineer stops processing new SSPs.

Objectives/Deliverables (*What is important to be done and what is the expected outcome?*)

Process the specification currently used for mirosurfacing as an SSP.

Benefits (*For example, increased life cycle or reduced costs.*)

When the specification becomes an SSP, districts will be able to use it without needing Headquarters' approval, which will help prevent project delivery delays.

Impacts (*What are the impacts to policy, specifications, construction practices, and stakeholders?*)

Use of this specification as an SSP will improve project delivery.

Resource Requirements (*Staff hours and expenses.*)

At this point, completing the specification revision and the review process should expend less than 50 staff hours overall.

Impediments to Completion of Deliverables

Disagreement between members of the PPTG Microsurfacing Subtask Group could delay completion of the specification revision in time to allow it to be processed as a revised SSP.

Rock Products Committee
SCOPING DOCUMENT
Revised September 12, 2008

Task Group

Pavement Preservation Task Group (PPTG)

Title

Developing Cold In-Place Recycling (CIR) and Hot In-Place Recycling (HIR) Specifications and Test Procedures (PPTG Item 4, Draft Rock Products FY2008/09 Work Plan)

Issue/Problem Statement (*What is the issue?*)

In situ recycling systems for asphalt pavement have been developed over many years. Reasons for increasing the use of in-place recycling techniques include increased focus on energy, climate change, sustainability, waste reduction, pollution prevention, and recycling; rapidly escalating costs of energy, labor, materials, and traffic congestion and delays; and the environmental effects of mining, processing, storing, and transporting virgin materials. Today, more than ever before, transportation agencies are going above and beyond traditional paving processes toward recycling techniques of existing roadways.

The California Department of Transportation (Caltrans) and industry have worked together to develop specifications that will require field trials.

Purpose/Timeline (*Why we need to work on this.*)

In the late 1970s and early 1980s, Caltrans used CIR and HIR techniques on a few projects, with mixed results. In the last few years, due to a variety of reasons, the use of in-place recycling has grown among transportation agencies. To comply with the Green Highways program, joint Caltrans and industry task groups have partnered and developed a set of specifications for CIR and HIR to be used in pilot projects.

The purpose of this effort is to develop field trials to support the districts and to evaluate performance. This effort should be completed by July 2012.

Objectives/Deliverables (*What is important to be done and what is the expected outcome?*)

For the past two or three years, Caltrans and industry task groups under the HMATG have worked on developing CIR and HIR specifications. These in-place recycling processes involve milling and crushing the existing asphalt pavement, rejuvenating the binder, and finally placing and compacting the material to a specified depth. Typical in-place recycling projects include the application of a seal coat, or wearing course, after laydown and compaction. To date, CIR specifications have been used in two pilot projects, with two more in the Plans, Specifications, and Estimate stages. In addition, two hot in-place transformation (HIT) projects, modified versions of HIR projects, have been awarded and are ready for field construction. However, more field trials are needed.

Benefits (*For example, increased life cycle or reduced costs.*)

In addition to saving landfill space, the benefits of in-place recycling of asphalt concrete pavements include possible economic savings and improved pavement performance. In-place recycling reduces the production of aggregate, and thus, the extraction of virgin aggregate from natural quarries. The use of in-place recycling techniques has environmental benefits, including reduction of greenhouse gas emissions. Other economic factors include recyclers' tipping fees, the price of virgin asphalt, and transportation costs.

In addition, Caltrans is committed to and following the requirements of the California Global Warming Solutions Act of 2006.

Impacts (*What are the impacts to policy, specifications, construction practices, and stakeholders?*)

In-place recycling subcontractors could dictate to general contractors when to be on the job, causing scheduling conflicts. Even with more than twenty years of experience, some transportation agencies, local agencies, and even some contractors are reluctant to use in-place recycling because of past failures. Some counties and cities have little experience with in-place recycling. Industry has identified the following barriers facing in-place recycling techniques:

- Specifications requiring equipment calibration.
- Specifications that place the responsibility on the contractor.
- Failure is not an option because one failure affects the entire industry.

Following the guidelines for project selection is very important for success. Specifications will be modified as Caltrans gains experience. Potentially, there could be a reduced cost of HMA after pilot projects.

Resource Requirements (*Staff hours and expenses.*)

- Division of Engineering Services–Materials Engineering and Testing Services–Office of Flexible Pavement Materials = 0.750 PYs*

- Districts = 0.300 PYs

- Industry = 0.300 PYs

- Travel costs are required to the project sites and for meetings. Estimated travel expenses will be submitted by August 29, 2008.

Impediments to Completion of Deliverables

Finding and constructing pilot projects.

*PY—Personnel year