

Materials Laboratory Strategic Directions 05-07

General Materials

| Dennis Duffy | | 2005 | | | | | | 2006 | | | | | | 2007 | | | | | | | | | | | |
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| Task | Description | 1st Quarter | | | 2nd Quarter | | | 3rd Quarter | | | 4th Quarter | | | 5th Quarter | | | 6th Quarter | | | 7th Quarter | | | 8th Quarter | | |
| | | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
| 1 | Phase out the Hveem Mix Design System | | | | | | | | 38% | | | | | | | | | | | | | | | | |
| 2 | Emulsified Asphalt for Tack Coat or Fog Seal | | | | | | | | 60% | | | | | | | | | | | | | | | | |
| 3 | Aggregate Specific Gravity Testing Study | | | | | | | | 90% | | | | | | | | | | | | | | | | |
| 4 | PG Plus Specifications | | | | | | | | 8% | | | | | | | | | | | | | | | | |
| 5 | Nuclear Program Issues | | | | | | | | 20% | | | | | | | | | | | | | | | | |
| 6 | Investigate the use of nPB for solvent in an asphalt extraction | | | | | | | | 33% | | | | | | | | | | | | | | | | |
| 7 | Examination of N-design | | | | | | | | 38% | | | | | | | | | | | | | | | | |
| 8 | DAV Calibration | | | | | | | | 71% | | | | | | | | | | | | | | | | |
| 9 | HMA Contractors Accredited by AASHTO | | | | | | | | 5% | | | | | | | | | | | | | | | | |

| Bob Briggs | | 2005 | | | | | | 2006 | | | | | | 2007 | | | | | | | | | | | |
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| 10 | Integrated Computer Applications | | | | | | | | 36% | | | | | | | | | | | | | | | | |
| 11 | Replace RegTec with Mats | | | | | | | | 29% | | | | | | | | | | | | | | | | |
| 12 | MTP | | | | | | | | 36% | | | | | | | | | | | | | | | | |
| 13 | Materials Risk Analysis | | | | | | | | 36% | | | | | | | | | | | | | | | | |

| Task | Description |
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| 1 | <p>Develop a plan to phase out the Hveem mix design system and implement the plan. This should include:</p> <ul style="list-style-type: none"> • Time for completion. • Tasks to be accomplished including how we will do the stripping evaluation without the kneading compactor. We should look at 4% air voids vs 7% air voids during this evaluation. • A space plan for use of the area when equipment is removed. <p>This process started in January 2004 and should be complete in December 2006.</p> |
| 2 | <p>Emulsified Asphalt for Tack Coat or Fog Seal. Review the specifications with asphalt suppliers and the West Coast Conference on Asphalt Specifications to see if the re-emulsification of can be reduced or eliminated. This review started in November 2005 and will be complete in March 2006</p> |
| 3 | <p>Aggregate Specific Gravity Testing Study. This is a two part study aimed at evaluating mechanist methods for the determination of coarse and fine aggregate specific gravity. This evaluation looks at the Corelok devise and the Thermolyne SSDetect testing system. This study started in November 2004 and will be complete in December 2005.</p> |
| 4 | <p>PG Plus Specifications. Where is the nation going and where is WSDOT going?</p> <ul style="list-style-type: none"> • What test need to be ran • Wok with Pavement Management to establish work plan and need for plus specifications. <p>Trial projects in Eastern Washington in 2006 construction season.</p> |
| 5 | <p>Nuclear Program Issues</p> <ul style="list-style-type: none"> • User Audit system • Update nuclear program to USDOT CFR 49 • Training • Employee nuclear gauge testing rel4ease policy <p>This started in November 2005 and should be complete in January 2007.</p> |
| 6 | <p>Investigate the use of nPB for solvent in an asphalt extraction and possible abson's.</p> <p>This review will start in January 2006 and should be complete by March 2006.</p> |
| 7 | <p>Examination of N-design : Many states and others are investigating to see if the original compaction levels for Superpave are giving us the best possible pavements.</p> <p>This review started in January 2005 and will be complete in December 2006</p> |
| 8 | <p>DAV calibration (newest generation using load cells, mixless) There is a new system to calibrate the gyratories without using HMA. We need to get one or several, use them and calibrate our gyratories. We then need to propose that the contractors do the same, especially if going with an unverified mix.</p> <p>This evaluation started in September 2005 and will be complete in March 2006.</p> |
| 9 | <p>Having HMA Contractors accredited by AASHTO for bulk specific gravity and using their GSB for the mix designs. The contractors would need AASHTO accreditation and follow AASHTO proficiency testing to be able to use their results on GSB.</p> |

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| 10 | Develop a plan for integrated computer applications for Construction /Materials. Requirements for MATS is currently underway and expect to have an overall plan for future work to be complete by January 2007 |
| 11 | Replace RegTec with Mats within 1 year and continue to develop the remainder of Mats. Development is underway and expect to have the first phase of deployment in January 2007 with the complete deployment of MATS by January 2008. |
| 12 | Work on MTP to satisfy people's needs to achieve 100% usage. The plan is to identify the problems in late 2005 and fix the problems in 2006 with 100% usage of the MTP system by January 2007. |
| 13 | Materials risk Analysis TRB report. A draft report by June 2006 with a final report by January 2007. Construction Manual changes. Changes are ongoing Standard Spec Book changes. Changes are ongoing. |
| 14 | RAM's Work on a partial electronic submittal system and approvals until a full integrated electronic system can be developed. A temporary fix of faxing reports will be done by January 2006. Requirements for a RAM program to allow contractors to electronically submit RAM's will be put together by January 2007. A RAM program should be able to be built by January 2009. |
| 15 | System Approval of guardrail. A committee will be formed to address the DOT requirements by March 2006. Meeting's with industry to develop a guardrail suppliers QC plan will occur to implement a plan by January 2007. |
| 16 | Degradation of Aggregates is a critical item of review especially for concrete and base course aggregates. The work and reporting will be done by January 2006. |
| 17 | Implementation of cement acceptance program with Jeanne Andreasson. The process will start in November 2005 and be implemented by December 2006. |
| 18 | Consider X-Ray analysis for steel and cement rather than ICP. This information gathering will start in October 2005 and should be completed in December 2005. The implementation could start as early as Jan 2006 and be implemented in June 2007 |
| 19 | Implementation of the cement acceptance program with Don Brouillard. The process should start in November 2005 and be implemented in December 2006 |
| 20 | Review and modification of the paint specifications. The reviews and modification of specifications should start in January 2006 and be completed in September 2006. |
| 21 | A review of insulation failures on underground electrical conductors is underway since April 2005 and should be concluded in the next year or so. Some joint effort with Jeanne Andreasson. |
| 22 | A review of the region / HQ testing program for traffic signal controller assemblies and qualified tester and verified test equipment will be done in the winter of 05/06. The review should be complete and a report written by the spring of 2006. This will be done in conjunction with Bob Briggs. |

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| 23 | Investigate tension required to separate a PVC to HDPE connection that employees a PVC threaded mechanical coupler. To be completed by the end of October 2005. |
| 24 | Investigate the application of a foam conduit sealing product for use on DOT construction projects. To be completed by the end of October 2005 |
| 25 | Identify new courses needed and create a course development plan. December 2005 to February 2006 |
| 26 | Develop a plan for training courses required for new trainers. December 2005 |
| 27 | Develop videos for all materials testing procedures. November 2005 to December 2006 |
| 28 | Develop a plan for implementing Qualified Inspector program. April 2006 to January 2007. |
| 29 | Focus on incorporating materials inspected by the Fabrication Inspection office into the Qualified Products List. Will be working with QPL coordinator to get this done. The process should start in October 2005 and end by December 2006. |
| 30 | Work to improve efficiency of Annual Plant Approval Submittal process, utilizing e-mail and electronic PDF files. This process involves working with fifteen Precast and Prestress Concrete Faricators, as well as WSDOT Roadway and Bridge Construction offices. The process should start in October 2005 and end by June 2007 |