



Minnesota Department of Transportation

Memo

Office of Audit
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March 2, 2011

To: Thomas K. Sorel, Commissioner
Bernard J. Arseneau, Deputy Commissioner/Chief Engineer

From: Daniel E. Kahnke, CGFM
Audit Director

A handwritten signature in black ink that reads "Daniel E. Kahnke".

Subject: Audit of OMB Circular A-133
Single Audit Compliance Requirements
Fiscal Year 2010
Audit Report No. 11-800-51
(Responses Included)

This is the final audit report of the above stated subject. This includes the original audit report and the written responses from appropriate division directors.

This is being released in accordance with Administrative Procedure 2.84-3-P-1A on audit follow-up. Requests for copies of the audit report will be responded to by furnishing this final version of the audit report.



Department of Transportation

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January 12, 2011

To: Thomas K. Sorel, Commissioner
Bernard J. Arseneau, Deputy Commissioner/Chief Engineer

From: Daniel E. Kahnke, CGEM
Audit Director

Handwritten signature of Daniel E. Kahnke

Subject: Audit of OMB Circular No. A-133
Single Audit Compliance Requirements
Fiscal Year 2010
Audit Report No. 11-800-51

As agreed upon with the Office of the Legislative Auditor, we have audited the Minnesota Department of Transportation's (Mn/DOT's) compliance with specific Single Audit Compliance Requirements for the following federal financial assistance programs for the year ended June 30, 2010.

Table with 4 columns: Program, CFDA, Amount (Millions), ARRA Amount (Millions). Rows include Highway Planning and Construction, Airport Improvement Program, and Federal Transit Investment Grants.

In auditing compliance with regulations relating to federal award expenditures for the Highway Planning and Construction Program and Airport Improvement Program, we conducted a financial audit as described in the Government Auditing Standards 1.22(b), published by the Comptroller General of the United States.

The management of the Mn/DOT is responsible for Mn/DOT's compliance with these requirements. The Mn/DOT Office of Audit is responsible to express an opinion on compliance with these requirements based on the audit.

We audited the Single Audit Compliance Requirements for the following: Highway Planning and Construction, Airport Improvement, and Federal Transit Investment Grants as outlined in the Office of Management and Budget (OMB) Circular No. A-133, Audits of States, Local Governments, and Non-Profit Organizations. This year's audit also included requirements associated with the American Recovery and Reinvestment Act (ARRA).

The audit was conducted per discussion and agreement with the Office of the Legislative Auditor. This included a review for compliance with the Letter of Agreement and Stewardship Plan between the Federal Highway Administration and Mn/DOT.

The requirements and principles of OMB Circular No. A-87 (Cost Principles for State, Local, and Indian Tribal Governments) and 49 CFR Part 18, the "Common Rule" were part of the audit. The audit of compliance with these requirements was conducted in accordance with generally accepted government auditing standards; the Government Auditing Standards; and OMB Circular No. A-133.

Those standards and OMB Circular No. A-133 Compliance Supplement require the planning and performance of the audit to obtain reasonable assurance about whether material noncompliance with the requirements referred to above occurred. An audit includes examining, on a test basis, evidence about Mn/DOT's compliance with these requirements. We believe that our audit provides a reasonable basis for our opinion, and feel that our conclusions are applicable department wide for the three federal programs audited.

The audit included an assessment of internal controls over the collection and use of federal funds related to the following areas: Construction and Contract Administration, Federal Aid, Right of Way, Aeronautics, Transit, and selected Mn/DOT district and city/county highway construction projects.

In planning and performing the audit, we evaluated Mn/DOT's internal controls over compliance with requirements for the two federal financial assistance programs. The Mn/DOT management is responsible for establishing and maintaining effective internal control over compliance with requirements of laws, regulations, contracts, and grants applicable to federal programs. In fulfilling this responsibility, estimates and judgments by management are required to assess the expected benefits and related costs of internal control structure policies and procedures.

A sound internal control structure should provide management with reasonable, but not absolute, assurance that OMB Circular No. A-133 Compliance Supplement requirements are met and Mn/DOT policies and procedures are followed. The internal control structure can become inadequate or ineffective because of either changes in operating conditions or deterioration of the effectiveness of the design or implementation of policies and procedures.

Our audit finding statements relate specifically to the A-133 Compliance Supplement. These findings, observations, and other audit results were discussed as applicable with project management and personnel from Mn/DOT districts, as well as cities and counties.

We discussed the findings, observations and other audit results as applicable with management and personnel from the following offices: Aeronautics, Construction and Innovative Contracting, Environmental Services, Finance, Land Management, Materials and Road Research, Technical Support, Transit, and the State Aid for Local Transportation Division.

This year we provided suggestions Mn/DOT Senior Management to enhance internal controls over bidletting for highway construction projects to improve the efficiency and effectiveness of the highway planning and construction program. We also conducted an analysis of material testing data that included Fiscal Year 2010.

Attachments and Exhibits

Exhibit I provides a list of the construction projects reviewed during the audit; a total of 17 projects were audited. Exhibit II describes specific items included in the construction project material testing review portion of the audit. Exhibit III list questioned costs, which totaled \$15.4 million. We questioned project costs for instances where improved compliance with requirements per state or federal law, project proposals, Mn/DOT requirements, or a combination thereof is needed.

Attachment I summarizes Other Internal Control Issues Discussed With Management. These issues were considered significant enough to include in the Single Audit Report, but not rising to the level of significance of a finding. If left uncorrected, these issues could rise to the level of significance of a finding in future Single Audit reports.

We do not audit the same projects from the previous year's audit a second time when conducting follow-up on findings from the previous year's Single Audit. Instead, we audit different projects each year. If we identify the same findings, they are considered repeat findings at the Highway Planning and Construction Program, Airport Improvement Program, or Federal Transit Investment Grants level, applicable and of relevance to the entire Mn/DOT and state. Concerns repeated from the Fiscal Year 2009 Single Audit Report No. 10-800-60 are noted within and at Attachment II, Audit Follow up of Prior Year's Findings.

Note that 2 of 4 findings for this year, Grading and Base Materials Control and Concrete Materials Control, were repeated from last year. Concerns from a third finding from last year, Northstar Commuter Rail Payments, are presented as an Observation this year. We noted significant improvements in grading and base materials control, including some best practices.

Attachment III describes the applicability of the A-133 Compliance Supplement to the Single Audit in general and Findings I through V and Observations I and II for this year specifically.

Thomas K. Sorel
Bernard J. Arseneau
January 12, 2011
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Summary

In our opinion, except for the above concerns and the issues discussed in Findings I through V and Observations I and II, the Minnesota Department of Transportation substantially complied with the provisions referred to in the scope paragraphs and Attachment III. With respect to items not tested, nothing came to our attention that caused us to believe that the Minnesota Department of Transportation had not complied, in all material respects, with those provisions.

cc: P. R. Tschida
J.A. Skallman
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Tyler Anderson
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EXHIBIT I

**Highway Construction Projects Audited
Fiscal Year 2010**

TRUNK HIGHWAY PROJECTS

State Project Number	Federal Project Number	District	Project Location	Engineer	Contract Amount	Amount In FY 2010	Federal FY Authorized
8101-44	NH 0014 (320)	7	TH 13	Chad Fowlds	\$56,216,516	\$16,710,301	2008
6241-51	BRNH 0280 (301)	ME	TH 280	Eric Embacher	\$10,636,412	\$6,858,378	2009
2750-57	STP 0169 (317)	MW	TH 169	Dan Penn	\$49,983,757	\$19,414,392	2008
TOTALS					\$116,836,685	\$42,983,071	

TRUNK HIGHWAY AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA) PROJECTS

State Project Number	Federal Project Number	District	Project Location	Engineer	Contract Amount	Amount In FY 2010	Federal FY Authorized
4502-20	ES 09 ES (021)	2	TH 1	J.T. Anderson	\$6,199,877	\$6,471,395	2009
2481-50	ES 09 ES (009)	6	TH 90	Gary Lovelace	\$15,997,538	\$14,930,557	2009
1202-51	ES 09 ES (033)	8	TH 7	Paul Rasmussen	\$9,250,265	\$5,211,313	2009
TOTALS					\$31,447,680	\$26,613,265	

CITY/COUNTY PROJECTS

State Project Number	Federal Project Number	District	Project Location	Engineer	Contract Amount	Amount In FY 2010	Federal FY Authorized
35-605-13	STPX 3509 (106)	2	Kittson County	Kelly Bengston	\$774,234	\$806,676	2009
144-135-11	HPPH H128 (001)	4	City of Moorhead	Robert Zimmerman	\$17,720,630	\$5,747,741	2008
74-634-10	STPX 7408 (024)	6	Steele County	Anita Benson	\$3,875,394	\$1,920,000	2009
46-636-03	STPX 4609 (209)	7	Martin County	Kevin Peyman	\$2,443,450	\$2,281,879	2009
157-363-19	HPPH H104 (100)	MW	City of Richfield	Kristin Asher	\$25,224,918	\$9,428,446	2008
TOTALS					\$50,038,626	\$20,184,742	

CITY/COUNTY ARRA PROJECTS

State Project Number	Federal Project Number	District	Project Location	Engineer	Contract Amount	Amount In FY 2010	Federal FY Authorized
69-604-66	ES 09 ES (103)	1	St. Louis County	Jim Foldesi	\$1,895,908	\$1,837,153	2009
16-612-71	STPX 1609 (253)	1	Cook County	David Betts	\$3,159,060	\$2,529,608	2009
35-601-31	ES 09 ES (068)	2	Kittson County	Kelly Bengston	\$809,842	\$659,625	2009
227-104-01	ES 09 ES (097)	3	City of St. Michael	Steven Bot	\$2,153,763	\$1,828,215	2009
78-616-07	ES 09 ES (078)	4	Traverse County	Larry Haukos	\$1,441,828	\$1,444,525	2009
25-601-27	ES 09ES (080)	6	Goodhue County	Gregory Isakson	\$2,996,740	\$2,253,196	2009
TOTALS					\$12,457,141	\$10,552,322	

ALL PROJECTS AUDITED GRAND TOTAL \$210,780,132 \$100,333,400

EXHIBIT II

Material Testing Items Audited By Project By Bid Item Fiscal Year 2010

State Project Number	Location	Project Bid Items Reviewed
TRUNK HIGHWAY PROJECTS		
4502-20	TH 1	Type SP 12.5 Wearing Course Mixture Bituminous Pavement Reclamation
2481-50	TH 90	Aggregate Shouldering Class 1 Concrete Pavement and Structural Concrete Dowel Bars Concrete Coring
8101-44	TH 13	Aggregate Base Class 3 and Class 5
1202-51	TH 7	Concrete Pavement and Structural Concrete Dowel Bars Aggregate Shouldering Class 5
6241-51	TH 280	Structural Concrete
2750-57	TH 169	Concrete Pavement and Structural Concrete Dowel Bars Concrete Coring Aggregate Base Class 5 and Class 6 Structural Steel
CITY/COUNTY PROJECTS		
69-604-66	St. Louis County	Type SP Wearing and Non Wearing Course Mixtures Aggregate Base and Shouldering Class 7 Bituminous Pavement Reclamation
16-612-71	Cook County	Type SP Wearing Course Mixture Aggregate Base Class 5 Bituminous Pavement Reclamation Bituminous Emulsion
35-601-31	Kittson County	Bridge Slab and Structural Concrete Aggregate Base Class 5
35-605-13	Kittson County	Type SP 12.5 Wearing Course Mixture Aggregate Shouldering Class 1
227-104-01	City of St. Michael	Type SP 12.5 Wearing and Non Wearing Course Mixtures Aggregate Base Class 5
144-135-11	City of Moorhead	Bridge Slab and Structural Concrete Aggregate Base Class 5
78-616-07	Traverse County	Type SP 12.5 Wearing and Non Wearing Course Mixtures Aggregate Shouldering Class 1
25-601-27	Goodhue County	Concrete Pavement and Structural Concrete Dowel Bars Concrete Coring Aggregate Base Class 5
74-634-10	Steele County	Structural Concrete Select Granular Borrow
46-636-03	Martin County	Type SP 9.5 Wearing and 12.5 Non Wearing Course Mixtures Aggregate Base Class 5 Aggregate Shouldering Class 1
157-363-19	City of Richfield	Wearing Course, Bridge Slab, and Structural Concrete Structural Steel

The above items were reviewed for compliance with materials testing requirements. Concerns were discussed with the State Aid Engineer, State Construction Engineer, Office of Materials and Road Research Director, and project personnel.

EXHIBIT III
QUESTIONED COSTS

Finding	State Project	Contract Items	Amount	Explanations
Duluth District				
III	*69-604-66	Aggregate Base Class 7	\$69,000	2 of 4 Random Sampling Gradations Method locations not used; Payment reduction for bitumen content not applied correctly or timely; fine sieve check total differed from sample weight for QA gradation; stationing inconsistent between Worksheet for Sieve Analysis of Granular Materials and Random Sampling Acceptance Report for 2 QA gradations; Gradation results inconsistent between Worksheet for Sieve Analysis of Granular Materials and Random Sampling Gradation Report for QA gradation; For 6 required QA moisture content tests, 2 of 5 results fell outside requirements, with no corrective action documented and 1 test missed
IV	*16-612-71	Bituminous Emulsion	\$521,000	QC emulsion percent content not reported to the Engineer for each transport by location and gradation sample number; stabilized full depth reclamation operations proceeded on 2 days with temperatures less than 50 degrees F, including freezing temperatures within 48 hours of placement; Hot Mix Asphalt overlay not placed on stabilized bituminous pavement reclamation within 15 calendar days
IV	*16-612-71	Bituminous Pavement Reclamation	\$239,000	QC #200 sieve gradations not performed; see explanation for Bituminous Emulsion
Duluth District Total Questioned Costs			\$829,000	
Bemidji District				
I	*35-601-31	Structural Concrete	\$100,000	Coarse aggregate testing on #200 sieve not done for 3 of 4 months; Concrete admixtures not tested
I	*35-601-31	Bridge Slab Concrete	\$188,000	See explanation above for Structural Concrete
III	*35-601-31	Aggregate Base Class 5	\$43,000	QC percent crushing tests not listed on Contractor's Certificate of Aggregates and Granular Materials; QC percent crushing tests not done; QA quality test not done
III	35-605-13	Aggregate Shouldering Class 1	\$89,000	Random Sampling Gradations Method not documented; Preliminary and Final Grading and Base Reports not done; Contractor's Certification of Aggregates and Granular Materials did not list QC gradations or percent crushing tests done; QC gradations 1 short of requirements and QC percent crushing tests not done; QA percent crushing tests not done
III	*4502-20	Aggregate Shouldering Class 1	\$173,000	Random Sampling Gradations Method not documented
V	*35-601-31	Remove Existing Bridge	\$10,000	Noncompliance with Office of Environmental Services Regulated Waste Manual and Minnesota Rules Chapter 4620
Bemidji District Total Questioned Costs			\$603,000	
Baxter District – No Questioned Costs Noted				

EXHIBIT III

QUESTIONED COSTS

Page 2

Finding	State Project	Contract Items	Amount	Explanations
Detroit Lakes District				
I	144-135-11	Structural Concrete	\$403,000	Aggregate quality tests missed for 5 of 7 months; material passing the #200 sieve for coarse aggregate testing not done; Daily testing of first load of concrete not always done
I	144-135-11	Bridge Slab Concrete	\$347,000	See explanation above for Structural Concrete; 2 of 10 required slump tests missed; 3 of 8 slump tests taken did not meet requirements, with corrective action not documented and payment reductions not applied
III	*78-616-07	Aggregate Shouldering Class 1	\$132,000	Random Sampling Gradations Method not documented; QA gradations 3 short; Preliminary and Final Grading and Base Reports not done; no contract between testing firm and county; Testing firm gradation included math errors causing uncertainty about gradation results; Random Sampling Acceptance Report not completed; QA laboratory gradation not done; 4 of 7 QA moisture content tests missed
Detroit Lakes District Total Questioned Costs			\$882,000	
Rochester District				
II	*25-601-27	Structural Concrete	\$375,000	Payment reductions for gradation, material passing the #200 sieve for coarse aggregate, and air content tests falling outside requirements not documented and applied
II	*25-601-27	Concrete Pavement	\$446,000	See explanation above for Structural Concrete
III	*25-601-27	Aggregate Base Class 5	\$205,000	10 of 10 required moisture content tests not done
Rochester District Total Questioned Costs			\$1,026,000	
Mankato District-No Questioned Costs Noted				
Willmar District				
II	*1202-51	Structural Concrete	\$4,227,000	Concrete mixing requirements not met; no formal communication regarding concrete mixing issue until 2/3 of concrete placed; Contractor did not follow Engineer's instructions to properly mix the concrete; \$500,000 payment reduction not documented/explained; QA material passing the #200 sieve for coarse aggregate results did not meet specification with no additional testing done to verify corrective action; 124 of 159 cores for thickness missed, Supplemental Agreement and credit for decrease in work needed to document alternate survey testing method
II	*1202-51	Concrete Pavement 7.5"	\$840,000	See explanation above for Structural Concrete
II	*1202-51	Aggregate Quality Incentive	\$109,000	Coarse aggregate passing the #200 sieve requirements not met for aggregate quality
III	*1202-51	Aggregate Shouldering Class 5	\$578,000	19 of 24 required QA gradations were valid (5 missed); an additional 8 QA gradations invalid because fine sieve check totals differed from sample weights; Random Sampling Acceptance Report not done; 2 of 10 moisture content tests missed
Willmar District Total Questioned Costs			\$5,754,000	

EXHIBIT III

QUESTIONED COSTS

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Finding	State Project	Contract Items	Amount	Explanations
Metropolitan District				
I	157-363-19	Structural Steel	\$4,791,000	Certified Mill Test Reports not obtained for 18% of Structural Steel
II	2750-57	Structural Concrete	\$869,000	The number of QC Coarse (6 of 26 days) and Fine (9 of 26 days) Gradation tests taken fell short of requirements
II	2750-57	Concrete Pavement Standard	\$490,000	See explanation above Structural Concrete
II	2750-57	Concrete Pavement Irregular	\$131,000	See explanation above Structural Concrete
V	157-363-19	Work Order No. 1	\$4,000	Regulated Waste Manual Best practices for regulated materials evaluation and abatement, and structure demolition (referenced in the special provisions) were not followed.
V	157-363-19	Building Removal A	\$18,000	See explanation for Work Order No. 1
V	157-363-19	Regulated Waste Evaluation A	\$1,000	See explanation for Work Order No. 1
Metropolitan District Total Questioned Costs			\$6,304,000	
Grand Total Questioned Costs			\$15,398,000	

Notes:

The amount column represents the entire contract item amount for each questioned cost contract item. The federal amount is typically 70-90% of this total; for ARRA projects (*) the federal amount is typically 100%. The entire contract item amount for design bid build projects is questioned for each contract item described in the Findings because requirements from the Standard Specifications for Construction, Schedule of Materials Control, and project proposal special provisions that are used in conducting the audit are organized by specification number and for each project by contract item. Questioned cost contract items often involve multiple exceptions to requirements that are in some cases repeated from past Single Audits. Occasionally, contract items with only 1 exception to requirements are included in the questioned costs if the exception is considered significant and a high risk to the program audited. Isolated and less significant instances of noncompliance with requirements are discussed verbally with project personnel in the field or are listed in Attachment I, Other Internal Control Issues Discussed With Management.

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Additional project management attention needed to attain compliance with materials control requirements for bridge concrete and steel. **Finding I: Pages 1 through 3**

Need to improve compliance with materials control requirements for paving concrete. **Finding II: Pages 4 through 11**

Improvements noted for grading and base materials control compliance. **Finding III: Pages 12 through 16**

Need to comply with materials control requirements for stabilized full depth bituminous pavement reclamation. **Finding IV: Pages 17 and 18**

Bridge and building removal requirements were not met. **Finding V: Pages 19 and 20**

Transit interest expense is not eligible for federal reimbursement. **Observation I: Page 21**

Opportunity to reevaluate compaction controls for bituminous pavement reclamation and hot mix asphalt mixture sampling. **Observation II: Pages 22 through 24**

Attachment I: Other Internal Control Issues Discussed With Management - Pages 25 through 27

Attachment II: Audit Follow up of Prior Year's Findings - Page 28

Attachment III: A-133 Compliance Supplement – Pages 29 through 31

FINDINGS

The following findings are considered financial and compliance in nature. Findings are intended to assess if financial operations are properly conducted; if financial data is presented fairly; and if all applicable laws, regulations and administrative requirements are followed.

FINDING I – ADDITIONAL PROJECT MANAGEMENT ATTENTION NEEDED TO ATTAIN COMPLIANCE WITH MATERIALS CONTROL REQUIREMENTS FOR BRIDGE CONCRETE AND STEEL
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We identified exceptions to requirements for 3 of 4 projects audited for materials testing requirements for bridge concrete and steel. Project personnel did not act to ensure Standard Specifications for Construction, Schedule of Materials Control, and project proposal special provisions requirements were met.

The material testing provides assurance that bridge concrete and steel will perform as designed. The basis for accepting affected concrete and steel will need to be documented on project Materials Certification Exceptions Summaries. Questioned costs totaled \$5.8 million.

Metropolitan District City of Richfield State Project 157-363-19

Certified Mill Test Reports were not obtained for 18% of the bridge Structural Steel valued at \$4.8 million. The reports describe the chemical composition of the steel and address compliance with American Society for Testing of Materials (ASTM) standards.

Detroit Lakes District City of Moorhead State Project 144-135-11

For Structural Concrete valued at \$403,000 and Bridge Slab Concrete valued at \$347,000, project personnel did not perform aggregate quality testing for 5 of 7 months required. Material passing the #200 sieve for coarse aggregate testing, required as part of aggregate quality testing, was not done.

The Office of Materials and Road Research (OMRR) emphasized the ongoing requirement for coarse aggregate testing on the #200 sieve in the 2010 Schedule of Materials Control. OMRR personnel explained that material passing the #200 sieve for coarse aggregate exceeding requirements could impact cement paste bonding to coarse aggregates, leading to potential loss of compressive strength.

We also noted that the first load of concrete for each day of production was not always tested as required. Testing the first load each production day provides proactive assurance that concrete meets mix design requirements.

For Bridge Slab Concrete, 2 of 10 required slump tests were missed. For 3 of the 8 slump tests taken, project personnel did not document corrective action for results falling outside mix design requirements or apply a required 25% price reduction. Also, project personnel did not perform additional slump tests required to document corrective action for the slump tests falling outside mix design requirements. Project personnel were not aware that the slump test results fell outside requirements.

Bemidji District Kittson County State Project 35-601-31

For Structural Concrete valued at \$100,000 and Bridge Slab Concrete valued at \$188,000, project personnel did not perform material passing the #200 sieve for coarse aggregate testing for 3 of 4 months required. Project personnel also missed concrete admixture testing for the air entraining agent and water reducer.

Recommendations

1. State Aid Division Director, in consultation with Operations Division Director, advise City of Richfield Engineer to obtain Certified Mill Test Reports for bridge Structural Steel.
2. State Aid Division Director, in consultation with Operations Division Director, advise City of Moorhead and Kittson County Engineers to comply with the following bridge concrete testing requirements:
 - a. Aggregate quality testing.
 - b. Test material passing the #200 sieve for coarse aggregate.
 - c. Testing of the first load of concrete each production day.
 - d. The proper number of slump tests.
 - e. Additional testing to verify corrective action taken is effective.
 - f. Payment reductions for slump test results not meeting requirements.

Responses to Recommendations

State Aid Division

Recommendation 1

State Aid for Local Transportation, working in collaboration with the State Aid Metro District, has instructed the City of Richfield, and Mn/DOT's Metro District staff who performed the construction administration tasks for this project, to obtain the required Certified Mill Test Reports for the bridge structural steel. State Aid for Local Transportation has also prepared a 2011 Construction Reminders Memo containing information and resource links regarding proper testing rates and documentation requirements for structural steel. The 2011 Construction Reminders Memo will be available on the State Aid Construction website. A copy will also be distributed via email to all cities and counties this spring.

Responses to Recommendations (continued)

Recommendation 2

State Aid for Local Transportation has instructed the City of Moorhead and Kittson County Engineers to comply with all appropriate structural concrete and concrete paving material testing requirements to assure that the materials incorporated into each project meet or exceed the requirements of the project specifications. Additionally, the 2011 Construction Reminders memo includes informative resource links to assist all cities and counties with concrete testing related issues. These findings were also discussed at the 2011 City Engineer's Association of Minnesota (CEAM) and Minnesota County Engineer's Association (MCEA) conference in January, 2011.

FINDING II – NEED TO IMPROVE COMPLIANCE WITH MATERIALS CONTROL REQUIREMENTS FOR PAVING CONCRETE

We identified exceptions to requirements for 3 of 5 projects audited for materials control requirements for paving concrete. Project personnel did not act to ensure requirements per the Standard Specifications for Construction, Schedule of Materials Control, and project proposal special provisions were met.

The material testing provides assurance that bridge concrete and steel will perform as designed. The basis for accepting affected concrete and steel will need to be documented on project Materials Certification Exceptions Summaries. Questioned costs totaled \$7.5 million.

Willmar District State Project 1202-51

For Structural Concrete and Concrete Pavement valued at \$5.1 million, project personnel did not ensure that requirements for concrete mixing, coarse aggregate testing on the #200 sieve, and cores for thickness were met. After completion of the concrete paving, the department hired two consultants to analyze the pavement and provide recommendations.

Project personnel acknowledged that the Contractor should not have been paid for the concrete, and did not explain the basis for paying the Contractor for the concrete. Because of this circumstance, we feel that the best interests of the Federal and State government were not met.

Concrete Mixing

Project personnel did not formally address concrete mixing concerns in a letter to the Contractor until two-thirds of the concrete was placed into the roadway and paid for. Project personnel acknowledged that the letter to the Contractor should have been sent sooner. After receiving written instruction to ensure that the concrete was properly mixed, the Contractor continued to place concrete into the roadway that was not properly mixed.

Project personnel shut down the concrete plant multiple times in an effort to cause the Contractor to produce properly mixed concrete. Project personnel assessed a \$500,000 payment reduction for the concrete after almost all of the concrete was placed into the roadway.

The \$500,000 payment reduction lacked an engineering justification. Project personnel felt that Office of Construction and Innovative Contracting directed the payment reduction and acknowledged the amount was a guess.

The Office of Construction and Innovative Contracting recommended an additional \$700,000 payment reduction to address loss of pavement service life, for a total final payment reduction of \$1.2 million. As of January 11, 2011, the additional \$700,000 payment reduction had not been applied.

Material Passing the #200 Sieve for Coarse Aggregate

All 4 Quality Assurance (QA) tests for material passing the #200 sieve for coarse aggregate did not meet requirements, with results ranging from 1.08 to 2.39 percent compared to a standard of 1.0 percent. All 4 Contractor Quality Control (QC) tests for material passing the #200 sieve for coarse aggregate met requirements. Acceptance is based on QA results.

Project personnel did not perform additional Quality Assurance (QA) testing required to verify corrective action taken. Project management was unaware of the tests not meeting requirements, which were identified by the audit, and did not question QA test methodology or results during the audit. Project management indicated that normally this type of test would be reviewed in the winter after the completion of paving.

\$109,000 paid as an aggregate quality incentive requires reassessment. The incentive should not be paid unless all specifications (including material passing the #200 sieve for coarse aggregate) are met.

After we questioned payment of the aggregate quality incentive based on QA test results not meeting requirements for material passing the #200 sieve for coarse aggregate, project personnel questioned the validity of the QA test methodology and results. Project personnel suggested that requirements for material passing the #200 sieve for coarse aggregate for State Project 1202-51 met requirements, because test results for Willmar District State Project 6510-60 from the same aggregate source at the same time met requirements.

Office of Materials and Road Research (OMRR) personnel explained and demonstrated the testing for material passing the #200 sieve for coarse aggregate, commenting that the test is quite straightforward. OMRR personnel felt that QA testing methodology concerns expressed by project personnel did not explain the difference between QA and QC test results for State Project 1202-51 or between the two Willmar district projects. OMRR personnel were unwilling to characterize coarse aggregate passing the #200 sieve testing results for State Project 1202-51 as invalid.

Cores for Thickness

Project personnel did not take 124 of 159 (78%) required cores for thickness. Project personnel indicated that an alternate surveying method was used. OMRR personnel explained that they provide project by project approval for the alternate surveying method but had not specifically approved it for State Project 1202-51.

A Supplemental Agreement including a payment credit documenting the change in testing methodology and decrease in work (the Contractor takes the cores based on locations marked by the Engineer per requirements) was not done. Project personnel did not explain why the Supplemental Agreement was not done.

Metropolitan District State Project 2750-57

For Structural Concrete and Concrete Pavement valued at \$1.5 million, the number of Quality Control (QC) fine aggregate gradations taken fell short of requirements for 9 of 26 (35%) paving days. Also, the number of QC coarse aggregate gradations taken fell short of requirements for 6 of 26 (23%) paving days.

Rochester District Goodhue County State Project 25-601-27

For Structural Concrete and Concrete Pavement valued at \$821,000, as of July 2010, project personnel had not yet applied a \$19,000 payment reduction recommended by the Office of Materials and Road Research in October 2009 for gradation and material passing the #200 sieve for coarse aggregate test results not meeting requirements.

A generically retained amount for the entire project exceeded \$19,000 but did not document the payment reduction for test results not meeting specification. Project personnel also did not apply a payment reduction for 3 air content tests not meeting requirements for the Structural Concrete and Concrete Pavement.

Recommendations

1. Operations Division Director, in consultation with Policy, Safety, and Strategic Initiatives Division and Engineering Services Division Directors, instruct Willmar District Engineer to perform the following:
 - a. Take corrective action and/or payment reduction, including an engineering justification, to address concrete mixing concerns.
 - b. Reevaluate payment of incentive for aggregate quality.
 - c. Ensure project management involvement in review of test results, including testing of material passing the #200 sieve for coarse aggregate.
 - d. Document change in testing methodology from concrete coring to surveying on a Supplemental Agreement, including justification and a credit for reduction in work.
2. Operations Division Director instruct Metropolitan District Engineer to ensure that Quality Control gradations are performed as required.
3. State Aid Division Director, in consultation with Operations Division Director, advise Goodhue County Engineer to apply and document payment reductions for gradation, material passing the #200 sieve for coarse aggregates, and air content test results not meeting requirements.

Responses to Recommendations

Recommendation 1

Engineering Services Division

Engineering Services Division, Office of Construction and Innovative Contracting (OCIC) will remind all project personnel at upcoming state wide meetings to follow through on the disposition of failing gradations for material passing the #200 sieve of the coarse aggregate fraction in structural concrete for paving. Disposition may include additional QA testing, corrective action, or assessment of a monetary deduction as soon as the failures are known. Final disposition of these failures should be taken into consideration before making aggregate quality incentive payments.

Responses to Recommendations (continued)

Operations Division

Regarding “Project personnel did not formally address concrete mixing concerns in a letter to the contractor....”

It is well documented that the contractor experienced difficulty producing thoroughly mixed concrete. Because there is no objective test or procedure to determine effective mixing, and the insufficiently mixed “lumps” were small (softball size and less) and very difficult to distinguish visually within the mix, the mixing issues were not discovered until approximately the 4th day of paving.

After discovery of the mixing problems, numerous experts and specialists were consulted beginning almost immediately, and eventually in an ongoing manner by both Mn/DOT and the contractor to determine the cause and solution for the mixing difficulties. These contacts included numerous conversations and several site visits by Mn/DOT experts: concrete office, construction office, district materials office, other district resident offices, as well as representatives from the manufacturer of the plant, the admixture company, the cement company, a representative of the Concrete Pavers Association, Federal Highway Administration, Texas Department of Transportation and even a competing paving company. For the most part, any resource that anyone involved with the project could think of was consulted as the district and the contractor attempted to analyze and pursue remedies.

Mn/DOT Specification 1601 requires that “If it is found after trial....materials do not produce uniformly acceptable products...contractor shall furnish the material from other sources....or shall arrange for plant alterations as may be necessary and satisfactory to the engineer.”

District 8 did shut down paving operations numerous times, each time allowing the contractor to alter products, procedures or equipment in order to remedy the mixing results in accordance with Spec 1601. Given the ambiguous nature of the problem, the lack of certain solutions available from any of the numerous experts involved, and the belief of project personnel that the contractor was attempting diligently to resolve the mixing issue, resumption in operations was allowed with the approval of the engineer, until a subsequent determination was made that the attempt did not solve the problem.

While it is true that project personnel did not provide written notice of concern to the contractor until late in the process, project personnel did direct addressing of concerns immediately when the problems were discovered in the field, and in an ongoing manner, as is demonstrated by overwhelming evidence regarding numerous shut-downs, involvement of various technical experts, and the contractor’s efforts to resolve the mixing problem.

We are not aware of a specification which allows the Department to objectively simply “throw the plant off the job”; Specification 1601 relies on the judgment of the engineer. Given the involvement of numerous experts, none of whom were able to offer certain solutions, the engineer was left to his judgment as to when modifications had the potential to be successful and resumption of operations was appropriate.

Responses to Recommendations (continued)

Although the engineer's judgments could potentially have been better (a conclusion which is easier to evaluate in retrospect); we do not believe there was a violation of specification.

While, from a contract administration point of view, a letter to the contractor would have been appropriately issued earlier, it is unclear that doing so would have had a significant, practical impact; all that could be thought of was being tried, and the contractor had not, and has not to date failed to take responsibility even faced with a pay deduction of over \$1 million as was revealed to him in September.

The project supervisor involved with this project has since retired. Remaining district 8 project supervisors and engineers have "come of age" in an era where more formal contract administration practices are the norm. The district has clarified expectations with remaining project personnel that formal practices are to be followed. We are also aware that the construction office has provided training, support and encouragement to contemporary project leaders in the more formal methods of project management.

Regarding "Project personnel acknowledged that the Contractor should not have been paid for the concrete..."

We believe it was incumbent on the Department to pay the contractor for the pavement placed as there was predictably significant value in the work performed. This judgment was confirmed by experts from the Department's Construction Office. The Department could have been exposed to significant liability should the pavement placed have been subjectively ordered to be removed and replaced. In consultation with experts mentioned above, no previously existing experience with this unique problem was uncovered, nor was an objective means of evaluating the product readily available. In accordance with spec 1503, the engineer was left to determine whether the material was to be allowed to remain in place, and "an appropriate adjustment in payment for the nonconforming work as justified by the Department's engineering determinations of the reasonable value of the work performed" made. Given this legitimate decision of the engineer, it was incumbent on the Department to make payment for the pavement, minus a monetary reduction, to arrive at a payment for the reasonable value of the work performed. The unique aspect of this project is that considerable study and time lag was involved between making payment and determining the appropriate deduction.

Later, through a rigorous technical evaluation by a nationally recognized concrete expert, including much study and comparison with other accepted concrete paving projects, it was determined that approximately 90% of the panels paved under this project were of acceptable quality.

Regarding "The \$500,000 payment reduction lacked an engineering justification."

The district did not have an objective means of determining a preliminary payment reduction. Mn/DOT's Construction Office experts rightly recommended the substantial withholding based on professional judgment and knowledge of the status of the project.

Responses to Recommendations (continued)

Toward the end of the paving process the Department hired two consultants with national recognition for expertise in concrete evaluation and paving. It required nearly a year of study and analysis for these experts to fully evaluate the pavement and provide information allowing the district to calculate an appropriate deduction based on an engineering justification.

Upon receipt of the information regarding predicted pavement life reduction from the consultant in August of 2010, the district calculated the total monetary reduction due the contractor to be \$1.144M. The district, in consultation with the Construction Office, Risk Management, and Attorney General staff, determined the best approach to resolving the significant issues with the contractor was to present the monetary deduction, and allow a dialog about a possible range of remedies to take place with the contractor.

The study methodology and resulting deduction was presented to the contractor in September of 2010. As of January 11, 2011, Mn/DOT had been awaiting a response from the contractor. At this writing, the Department has received a response from the contractor, and has assigned its evaluation to the consultant who performed the initial recommendations for the Department.

The district, with the assistance and support of the construction office has engaged in a dialog with the contractor to remedy the defective work in a manner that protects the interests of the taxpayers. Alternatives include processing the \$1.144 payment reduction, removal and replacement and repair of defective work, some form of warranty or guarantee, or possible combinations of these alternatives.

Regarding “Material Passing the #200 Sieve for Coarse Aggregate”

The inspector that ran the gradation tests that included the Material Passing the #200 sieve failed to inform project leaders including the Mn/DOT Project Supervisor of the failure. Under normal circumstances, the project’s head inspector would have reviewed the test results; however, the head inspector was overwhelmed with the concrete mixing issues. Once this issue was brought to our attention during the audit, we began to investigate.

We discovered that the dry weight of the original sample of the tests in question seemed suspect. The first 3 samples of CA#1 were each exactly 5000.0 grams and the first sample of the CA#2 was exactly 2500.0 grams. These sample sizes match exactly the approximate sample size specified for each type of aggregate in the testing procedure.

The other thing that sticks out about these sample sizes is the lack of variability. One would expect, given the sampling procedures, to see a large range of dry weight of original samples. Recorded sample weights for the 4 tests varied only very slightly; (2500.0, 2502.0, 2503.0, and 2548.9).

To obtain these samples material would have been taken off a belt, split and then dried to a surface dry condition. It would be an amazing coincidence to have a sample at this point in the testing procedure to be exactly the sample size required once. It is impossible to have it happen four times.

Responses to Recommendations (continued)

In fact, review of other similar projects confirms sample sizes typically vary greatly, easily 20%. All the evidence leads us to question the validity of the sample procedure and the test results that followed.

We also discovered during our investigation that the same aggregate from the same pit crushed at the same time was used during the same timeframe on two other Mn/DOT projects (SP 6510-60 and SP 4203-42). This means that this aggregate was tested for Material Passing the #200 sieve 24 times—12 times by 3 different contractors' personnel and 12 times by 3 separate Mn/DOT inspectors. Twenty of the tests passed with very similar results. The 4 that failed were all taken by the same Mn/DOT inspector. While others may be unwilling to characterize the 4 tests with the suspect sample sizes as invalid, we continue to believe that the 4 are not at all trustworthy.

After learning of the problems with the Mn/DOT QA tests, the district was able to consider the contractors tests on this project, as well as numerous other tests on the same aggregate used on different projects. In our opinion, it would be far more difficult to discount the TH 7 contractor's passing tests based on the suspect Mn/DOT tests than the converse. When one considers the numerous other representative results available, we continue to believe that the contractor was due payment of \$109,000 for the Class A Aggregate incentive.

To prevent future similar problems, the district provided additional training, and significantly increased oversight of testers on all projects in the district. Project chief inspectors, supervisors and engineers, and the Independent Assurance technician have all been given increased expectations in oversight of testers on projects. Training in both the methodology of testing, as well as the integration of testing in the overall management of projects, has been provided where necessary. Expectations of notification of supervisors upon the failure of tests have been clarified with testers.

Regarding "Cores for Thickness"

This project was an Unbonded Concrete Overlay and as such elevations were shot on top of the PASSRC every 50 feet on the left and right lane edges, as well as on centerline prior to placement of the concrete pavement. This was done in order to develop a profile for the concrete pavement. After consultation with the Mn/DOT Concrete Office, it was determined by project personnel that these elevations could be re-shot on top of the concrete pavement to determine the pavement's thickness. The results of these shots are on file in the Willmar Construction Office. By using the surveyed elevations to determine thickness, we have approximately 4720 discrete points to compute thickness from as opposed to the 159 core locations.

A Supplement Agreement will be processed to document this change. In the future the district will process supplemental agreements for these types of method of measurement changes.

Regarding "Aggregate Shouldering Class 5"

Project personnel took 27 samples of the Aggregate Shouldering Class 5. The gradation on all 27 tests met specifications. However, on eight (8) of the tests, the Loss by Washing was out of tolerance. This left only 19 valid tests of 24 tests required.

Responses to Recommendations (continued)

The material is performing adequately in the field. The basis of acceptance for this material will be documented on the Material Certification Exceptions Summary.

In addition to the gradation tests, 2 of 10 moisture tests were missed. The fact that the density tests performed showed that density was achieved indicates that moisture was within range. The missing moisture tests did not affect the control of the material as it was placed nor the quality of the project. The missing moisture tests will be documented on the Material Certification Exceptions Summary.

To prevent future similar problems, the district provided additional training, and significantly increased oversight of testers on all projects in the district. Project chief inspectors, supervisors and engineers, and the Independent Assurance technician have all been given increased expectations in oversight of testers on projects. Training in both the methodology of testing, as well as the integration of testing in the overall management of projects, has been provided where necessary. Expectations of notification of supervisors upon the failure of tests have been clarified with testers.

Recommendation 2

Operations Division

The Operations Division Director will instruct all District Engineers to ensure that Quality Control gradations are performed as required.

Recommendation 3

State Aid Division

State Aid for Local Transportation has instructed the Goodhue County Engineer, along with the County field staff, on the proper procedure for applying and documenting payment reductions. The 2011 Construction Reminders memo contains helpful information and links regarding payment timeliness and procedures. Payment timeliness and application of incentives and disincentives were also discussed at the Minnesota County Engineers Association (MCEA) and City Engineers Association of Minnesota (CEAM) conferences in January, 2011, and will be further stressed at upcoming training seminars throughout the districts for city and county construction and design personnel.

FINDING III – IMPROVEMENTS NOTED FOR GRADING AND BASE MATERIALS CONTROL COMPLIANCE

We noted improvement in compliance with material testing requirements for grading and base construction items. Additional attention and oversight in the future will aid the department in achieving compliance requirements per the Standard Specifications for Construction; Grading and Base Manual; Schedule of Materials Control and project proposal special provisions. The material testing provides assurance that grading and base construction items as well as bituminous and concrete pavement perform as designed.

For 4 projects, sample locations were not all documented as random. As a result, use of the statistically based Random Sampling Gradation Acceptance Method, which allows for a reduced testing rate of 4 per 10,000 tons (otherwise the testing rate is 1 per 1,000 tons), could not be verified.

This area was evaluated for 14 of the 17 total projects audited. Concerns were noted for 7 of the 14 projects. Project personnel will need to document the basis for accepting affected grading and base construction items on Materials Certification Exceptions Summaries. Questioned costs totaled \$1.3 million, a significant improvement over the Fiscal Year 2009 Grading and Base Materials Control questioned costs total of \$9.9 million.

Best Practices

For Duluth District Cook County State Project 16-612-71 Aggregate Base Class 5 and St. Louis County State Project 69-604-66 Aggregate Shouldering Class 7, material testing requirements were met.

Correct use of planning tools such as the Preliminary Grading and Base Report, coupled with effective project management oversight, contributed to the positive results in meeting requirements this year and could enhance future success in meeting requirements.

Duluth District St. Louis County State Project 69-604-66

The following concerns were noted for Aggregate Base Class 7 valued at \$69,000.

Bitumen Content

Project personnel did not apply a 25% payment reduction for bitumen content correctly or timely. The Office of Materials and Road Research and Duluth District laboratories confirmed the bitumen content test results calling for a 25% payment reduction on September 22, 2009.

Project personnel applied a 21% price reduction on January 19, 2010, then asked the Office of Materials and Road Research for an opinion regarding the price reduction on March 10, 2010. Project personnel indicated they misinterpreted the payment reduction table. The remaining 4% was not applied even after OMRR confirmed the need for a 25% price reduction on April 19, 2009.

Project personnel explained that they planned to wait until after completion of the audit. Project personnel also felt that the amount generically retained for the project as a whole covered the remaining 4%. The retained amount did not document the payment reduction for test results not meeting specification.

Quality Assurance (QA) Gradations

Project personnel did not use the Random Sampling Gradation Acceptance Method correctly; 2 of 4 random locations documented for QA gradations were not used for sample selection.

For 1 gradation test taken, the fine sieve check total differed from the sample weight, rendering that gradation invalid. For the same test, individual gradation test results on the Worksheet for Sieve Analysis of Granular Material differed from gradation test results summarized on the Random Sampling Acceptance Report.

For 2 gradation tests, the sample location (stationing) was inconsistent between the Worksheet for Sieve Analysis of Granular Material and the Random Sampling Acceptance Report.

Moisture Content

6 moisture content tests were required, 5 tests were taken, and 2 test results did not meet requirements. Project personnel did not take additional moisture content tests to document corrective action for the 2 tests not meeting requirements.

Detroit Lakes Traverse County State Project 78-616-07

The following concerns were noted for Aggregate Shouldering Class 1 valued at \$132,000.

Grading and Base Reports

Project personnel did not complete and submit the Preliminary and Final Grading and Base Reports to the Office of Materials and Road Research (OMRR), feeling that the reports were not required. The Preliminary Grading and Base Report serves as a testing plan for project personnel. The Final Grading and Base Report compares tests actually taken to tests required. Had the reports been completed and sent to the OMRR, errors in testing rates for QA gradations and moisture content could have been corrected both before and after testing was performed.

QA Gradations

Project personnel did not perform 3 of 8 required gradation tests. The Random Sampling Gradation Acceptance Method and associated Random Sampling Acceptance Report were not documented or used. Instead, project personnel took samples based on workflow and schedule. The QA laboratory gradation was not done.

The Worksheet for Sieve Analysis of Granular Materials for an additional gradation test performed by an outside testing company included math errors causing uncertainty about gradation results. This test was not considered valid and was not counted as a Quality Assurance (QA) gradation test. Project personnel did not execute a contract for material testing and inspection services rendered by the outside testing company. We noted one invoice for \$7,000 paid to the outside testing company.

Moisture Content

Project personnel performed 3 of 7 required moisture content tests; 4 tests were missed.

Willmar District State Project 1202-51

For Aggregate Shouldering Class 5 valued at \$578,000, project personnel completed 19 valid QA gradations out of 24 required. Fine sieve check totals differing from sample weights rendered 8 additional QA gradations invalid.

The Random Sampling Acceptance Report, required to document Average of 4 values used for acceptance, was not completed. No apparent Average of 4 values calculated during the audit fell outside specification. In addition, 2 of 10 required moisture content tests were missed.

Bemidji District Kittson County State Project 35-601-31

For Aggregate Base Class 5 valued at \$43,000, the Contractor's Certification of Aggregates and Granular Materials did not list any Quality Control (QC) percent crushing tests, and no QC percent crushing tests were done. Project personnel also did not perform an aggregate quality test.

Bemidji District Kittson County State Project 35-605-13

For Aggregate Shouldering Class 1 valued at \$89,000, the Preliminary and Final Grading and Base Reports were not done. Also, project personnel did not document random selection of sample locations for QA gradations. As a result per the Random Sampling Gradation Acceptance Method could not be verified.

An out of date version of the Contractor's Certification of Aggregates and Granular Materials did not list the number of QC gradation or percent crushing tests done. QC percent crushing tests were not done, and 1 QC gradation of 7 required was missed. Also, project personnel did not perform QA percent crushing.

Rochester District Goodhue County State Project 25-601-27

For Aggregate Base Class 5 valued at \$205,000, project personnel did not perform 10 of 10 required Moisture Content tests. Office of Materials and Road Research personnel explained that moisture content tests served to verify that base materials are moist enough to achieve compaction.

Bemidji District State Project 4502-20

For Aggregate Shouldering Class 1 valued at \$173,000, the Random Sampling Gradation Acceptance Method was not documented.

Recommendations

1. Operations Division Director instruct Willmar and Bemidji District Engineers to perform the following as applicable and required.
 - a. Random Sampling Gradation Acceptance Method, including the Random Sampling Acceptance Report.
 - b. Correct completion of the Worksheet for Sieve Analysis of Granular Materials, including fine sieve check totals.
 - c. QA field and laboratory gradations; moisture content; percent crushing; and quality testing.
 - d. Document the basis for acceptance for exceptions to material testing requirements on the Materials Certification Exceptions Summary.

2. State Aid Division Director, in consultation with Operations Division Director, advise St. Louis County; Traverse County; Kittson County; and Goodhue County Engineers to perform the following as applicable and required.
 - a. Random Sampling Gradation Acceptance Method, including the Random Sampling Acceptance Report.
 - b. Timely and correct payment reductions for material not meeting specification.
 - c. Correct completion of the Worksheet for Sieve Analysis of Granular Materials, including fine sieve check totals.
 - d. QA field and laboratory gradations; moisture content; percent crushing; and quality testing.
 - e. Quality Control (QC) percent crushing testing.
 - f. Contractor's Certification of Aggregates and Granular Materials.
 - g. Preliminary and Final Grading and Base Reports.

3. Operations Division Director and State Aid Division Director evaluate Grading and Base Technical Certifications for project personnel involved in repeated occurrences of noncompliance. Consult with Engineering Services Division Director and Policy, Safety & Strategic Initiative Division Director. Take appropriate action as necessary to hold responsible personnel accountable.

Responses to Recommendations

Recommendation 1

Operations Division

The Operations Division Director will instruct all District Engineers to perform the following as applicable and required: Random Sampling Gradation Acceptance Method, including the Random Sampling Acceptance Report; correct completion of the Worksheet for Sieve Analysis of Granular Materials, including fine sieve check totals; QA field and laboratory gradations; moisture content; percent crushing; and quality testing; document the basis for acceptance for exceptions to material testing requirements on the Materials Certification Exceptions Summary.

Recommendation 2

State Aid Division

As stated in the Audit Report, the question cost amount for Fiscal Year 2010 is significantly less than 2009; a good inclination that county and city personnel have benefited and learned from previous years' audit findings. State Aid for Local Transportation construction staff, along with our district partners, have met with St. Louis County, Traverse County, Kittson County and Goodhue County Engineers and field staff to discuss this year's audit findings. Each county has been instructed to take additional measures such as forensic testing to assure that all materials incorporated into the Project meet or exceed the project specifications. The items mentioned in Recommendation 2 were discussed at the 2011 MCEA and CEAM conferences.

Recommendation 3

Operations Division and Engineering Services Division

Engineering Services Division, Office of Construction and Innovative Contracting will remind all project personnel at upcoming state wide meetings to make sure they are using the correct random sampling procedure for all grading and base test sampling and to complete the worksheets and forms correctly.

Engineering Services Division (OCIC) will review the process for decertification of project personnel involved in non-compliance events and take appropriate action. In light of recent events, OCIC will be re-examining the current technical decertification process with the standing Technical Certification Committee and make changes where appropriate.

State Aid Division

State Aid for Local Transportation will continue to stress the importance of holding preconstruction meetings for each project to discuss project personnel expectations and review all applicable Schedule of Materials Control testing rates. When deemed necessary, recertification of individuals will be reviewed and required to assure that the proper quality assurance measures are being achieved.

FINDING IV – NEED TO COMPLY WITH MATERIALS CONTROL REQUIREMENTS FOR STABILIZED FULL DEPTH BITUMINOUS PAVEMENT RECLAMATION
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For State Project 16-612-71, additional project management attention would improve compliance with project proposal special provisions materials control requirements for stabilized full depth bituminous pavement reclamation (SFDR). This technology, while not new, may be used on an increasing basis in place of Hot Mix Asphalt in the future due to potential cost savings. Project personnel did not take action to ensure compliance. Questioned costs totaled \$760,000.

Quality Control (QC) #200 Sieve Gradations were not done. Project personnel indicated that the Contractor did not have the necessary equipment to perform the gradations. Quality Assurance (QA) #200 sieve gradations met QA gradation requirements, but do not fulfill the process control purpose of or meet requirement for QC #200 sieve gradations.

The Contractor did not record and report QC Emulsion Percent Content to the Engineer by location and gradation number. After completion of the audit, project personnel calculated the QC emulsion percent content by location. Gradation number data is not available.

SFDR operations proceeded on September 28-29, 2009 in measured atmospheric temperatures of less than 50 degrees Fahrenheit, falling through the 40's. Freezing temperatures occurred within 48 hours of SFDR placement. Office of Materials and Road Research (OMRR) personnel explained that lower temperatures could affect curing and performance.

The hot mix bituminous overlay was not placed on the SFDR within 15 calendar days as required, taking a total of 21 calendar days instead. Project personnel indicated that the first lift of bituminous overlay was completed within 15 days. OMRR personnel explained that the SFDR is not designed to be driven on.

Due to a delay in obtaining Forest Highway funding, federal approval for the project did not occur until June 1, 2009. The contractor signed the contract on July 30, 2009, but administrative delays related to contract approval by the county and Contractor material supply led to a late start in the work on September 8, 2009. These circumstances contributed to late season SFDR and paving operations under less than ideal conditions.

Recommendation

State Aid Division Director, in consultation with Operations Division Director, advise Cook County Engineer and other city and county engineers to comply with SFDR requirements, including the following:

- a. QC #200 sieve gradations.
- b. QC emulsion percent content for each transport by location and gradation sample number.
- c. SFDR operations shall not proceed unless atmospheric temperatures are 50 degrees Fahrenheit and rising.
- d. SFDR operations shall not proceed if freezing temperatures are expected within 48 hours after placement on any part of the project.
- e. The hot mix bituminous overlay shall be placed on the SFDR within 15 calendar days.

Response to Recommendation

State Aid Division

State Aid for Local Transportation has followed up with the Cook County Engineer to review the QC/QA requirements for SFDR. The Cook County Engineer completed all of the required QA tests which represent that the final product meets the requirements of the project specifications, as delivered to the site.

With the 2011 construction season drawing near, the State Aid for Local Transportation construction staff, in cooperation with our district partners, will continue to provide training opportunities for city and county technicians and design staff around the state over the following few months. Full Depth Reclamation projects are becoming increasingly popular as agency budgets get tighter and quality aggregate sources become increasingly difficult to find; therefore, we will include additional information and resources for the cities and counties during our training seminars.

FINDING V – BRIDGE AND BUILDING REMOVAL REQUIREMENTS WERE NOT MET
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For 2 federally funded county projects, project personnel did not act to ensure requirements were met for bridge and building removals. Questioned costs totaled \$33,000.

Bemidji District Kittson County State Project 35-601-31

Project personnel used a “Local Bridge Replacement Program Asbestos Screening Tool” to assess asbestos for a bridge removal. The screening tool did not address other regulated materials, such as lead. The bridge materials included lead paint.

Project personnel also did not ensure that the Notification of Intent to Perform a Bridge Demolition was submitted to Minnesota Pollution Control Agency 10 days prior to the start of demolition as required.

40 Code of Federal Regulations 61.145 requires an inspection prior to demolition. Minnesota Rules Chapter 4620 requires the inspection to be performed by a person certified by the Minnesota Department of Health.

The project proposal special provisions require compliance with the Mn/DOT Office of Environmental Services “Asbestos and Regulated Waste Manual for Structure Demolitions or Relocations for Construction Projects” (the Regulated Waste Manual). The Regulated Waste Manual best practices require an assessment before any structure (buildings or bridges) is demolished or relocated, and states that the assessment must be completed by someone who is certified through the Minnesota Department of Health.

Office of Environmental Services (OES) and Office of Bridge personnel felt that the screening tool should not be used because it did not address all regulated materials and because it could create a liability issue.

Metropolitan District City of Richfield State Project 157-363-19

Certification of proper removal and disposition of asbestos, lead paint, mercury, and polychlorinated biphenyls (PCBs) was not available during the audit. After the audit was completed, project personnel provided manifests documenting disposition of the asbestos. The project included a \$4,000 payment for the removal and abatement of asbestos and regulated waste material. Contractors performed this work concurrent to the construction project work.

Mn/DOT Best Practice BP5-05, established as a procedure that must be followed when demolishing or relocating structures (bridges or buildings), requires that OES be informed at least 6 months prior to letting for projects with building demolitions/relocations or at least 9 months prior to letting for projects with bridge demolition/re-decking. OES prepares contracts for assessing and removing asbestos and regulated materials for bridge and building demolitions/relocations prior to commencement of construction projects.

Recommendation

State Aid Division Director, in consultation with Operations Division Director, perform the following actions:

- a. Advise Kittson County Engineer and other city and county engineers to use personnel certified by the Minnesota Department of Health for inspections of and inspection reports for bridges and buildings prior to demolition or relocation.
- b. Advise City of Richfield Engineer to certify and document proper removal and disposition of lead paint, mercury, and PCBs for State Project 157-363-19.
- c. Advise City of Richfield Engineer and other city and county engineers to provide advance notice to Mn/DOT Office of Environmental Services for bridge and building demolitions or relocations as required by Mn/DOT Best Practices, so that removal of regulated material from buildings occurs prior to commencement of construction projects.

Response to Recommendation

State Aid Division

State Aid for Local Transportation has instructed the Kittson County Engineer and construction staff to obtain the required regulated waste disposal manifests to properly document removal, disposal or reuse of any regulated materials encountered on the project during the demolition of the existing bridge. The Kittson County Engineer has also been instructed to follow Mn/DOT's Best Practices guidance and use Minnesota Department of Health certified personnel to perform inspection activities for preliminary investigation and removal/abatement of any regulated waste materials.

State Aid for Local Transportation's Metro Division met with the Mn/DOT Metro District Construction Office, with regards to their construction administration of the Richfield Project, on Friday December 3rd 2010. The discussion included a review of Mn/DOT's procedure for the proper abatement/removal of asbestos and other regulated wastes. Project staff was also instructed to obtain the required regulated waste disposal manifests to properly document disposal.

State Aid for Local Transportation has added a new procedure/item to our project review checklists to assure that asbestos and other regulated wastes are handled according to local, state and federal standards, per the Mn/DOT Best Practices for regulated waste handling, removal and abatement. The State Aid Bridge Office, in cooperation with the State Aid construction staff, sent out a memo dated 7/19/2010 to all county and city engineers regarding the use of this procedure. This issue has also been discussed at several District County Engineer meetings, as well as the 2011 CEAM and CMEA conferences.

OBSERVATIONS

The following observations are considered performance/operational in nature. Observations are intended to assess the economy and efficiency of an audited entity's operations, and the extent to which program objectives are being attained.

OBSERVATION I – OPPORTUNITY TO PROPERLY DOCUMENT TRANSIT LOAN AND INTEREST EXPENSE

The Minnesota Management and Budget (MMB) agency approved Mn/DOT's Annual Federal Cash Flow Request to process payments prior to drawdown of federal funds. The amount of federal funds needed was not available.

Mn/DOT and MMB allowed the Special Revenue Fund 200 Appropriation 11W to go negative, resulting in the State of Minnesota exceeding budgetary authority by \$17 million. The MMB Executive Budget Officer felt that Mn/DOT had effectively borrowed from the General Fund.

No funds were transferred from the General Fund or any other fund as required by Minnesota Statue to the Fund 200; the Fund 200 was allowed to go negative. MMB sent Mn/DOT an email but did not provide an invoice or any other documentation for a loan or interest calculation.

Recommendation

Chief Financial Officer instruct Office of Finance to obtain adequate documentation and support for future loans and interest calculations from Minnesota Management and Budget.

Response to Recommendation

Chief Financial Officer

The Acting Chief Financial Officer concurs with this observation. The Acting Chief Financial Officer will schedule a meeting with MMB to review this incident and request proper documentation. For any future loans and interest calculations, a procedure will be put in place where MMB issues an invoice and submits it to Mn/DOT for payment.

<p style="text-align: center;">OBSERVATION II – OPPORTUNITY TO REEVALUATE COMPACTION CONTROLS FOR BITUMINOUS PAVEMENT RECLAMATION AND HOT MIX ASPHALT MIXTURE SAMPLING</p>

For State Project 69-604-66, the county specifications called for the Quality Compaction Method for Bituminous Pavement Reclamation. Office of Materials and Road Research (OMRR) personnel recommended the Penetration Index Method, including Dynamic Cone Penetration (DCP) tests, in conjunction with a sheepsfoot compactor. OMRR personnel commented that shear strength below the pavement surface could not be assessed with visual inspection called for by the Quality Compaction Method. Project personnel felt comfortable with the Quality Compaction Method and stated that no visual concerns were noted during construction, which occurred under traffic. OMRR personnel explained that the Duluth District used the Quality Compaction Method for Bituminous Pavement Reclamation and the method of compaction control is the prerogative of the owner.

Project personnel felt there was an opportunity cost associated with performing DCP tests, indicated that there was a need to show performance difference if DCP tests were required, and suggested that perhaps the entire state should be using the Quality Compaction Method.

For Bemidji District State Project 4502-20, the special provisions included a modification to hot mix asphalt sampling procedures (the “Hot Mixed Asphalt – Mixture Sampling Modification”) calling for field inspectors to retain possession of the agency portion of split samples. This practice increases the randomness of agency Quality Assurance (QA) sampling and testing.

We feel that this modification merits consideration for use statewide. Historically, the number of agency QA samples and tests used to verify contractor Quality Control (QC) samples and tests has been decreasing. Enhancing the randomness of agency tests could increase the chances that agency and contractor samples and tests represent bituminous mixture placed into roadways

Recommendations

1. Policy, Safety, and Strategic Initiatives Division Director communicate the benefits of and need for the Penetration Index Method, including Dynamic Cone Penetration testing, in conjunction with a sheepsfoot compactor, for Bituminous Pavement Reclamation.
2. Operations Division and State Aid Division Directors encourage cities, counties, and districts to use the Penetration Index Method, including Dynamic Cone Penetration testing, in conjunction with a sheepsfoot compactor, for Bituminous Pavement Reclamation.
3. Policy, Safety, and Strategic Initiatives Division Director, in consultation with Operations, State Aid for Local Transportation, and Engineering Services Division Directors, consider implementing the provisions of the Hot Mixed Asphalt-Mixture Sampling Modification statewide.

Responses to Recommendations

Recommendation 1

Policy, Safety and Strategic Initiatives Division

The standard special provision for full depth reclamation (S-146) is provided at the preletting website: www.dot.state.mn.us/preletting/prov/pdf/sp2005.pdf. It requires the use of the sheepsfoot compactor and testing with the DCP.

The use of Quality Compaction relies on visual observation. The nature of reclaimed material can make the visual observation of compaction results deceiving. The mixture tends to develop a crust making it appear to be compacted when lower portions of the lift are not. Compacted lifts of virgin aggregates retain the compaction effort. The plastic nature of the RAP agglomerates tends to release some of the compactive effort with time. Visual experiences from compacting virgin aggregates do not necessarily relate to proper compaction of reclaimed materials. The Office of Materials and Road Research (OMRR) does not recommend using Quality Compaction for full depth reclamation. At this time, the DCP is the most available and reliable test method. The use of intelligent compaction rollers and portable falling weight deflectometers are being considered.

The OMRR will continue to reinforce the use of the current standard full depth reclamation special provision with District Materials Engineers, Resident Engineers and County Engineers.

Recommendation 2

Operations Division

The Operations Division Director will encourage districts to use the Penetration Index Method, including Dynamic Cone Penetration testing, in conjunction with a sheepsfoot compactor, for Bituminous Pavement Reclamation.

State Aid Division

State Aid for Local Transportation will encourage local agencies to use the Penetration Index Method, including Dynamic Cone Penetration testing, in conjunction with a sheepsfoot compactor, to improve the compaction efforts associated with Bituminous Pavement Reclamation.

Recommendation 3

Policy, Safety and Strategic Initiatives Division

The Hot Mix Asphalt – Mixture Sampling Modification was first used by the Bemidji District and the Mankato District. The results from these Districts have been conveyed to the other Districts and they have been encouraged to try the same procedures. Several other Districts have employed this requirement. This approach includes obtaining the Mn/DOT split of each sample at the side of the road.

Responses to Recommendations (continued)

The plant monitor performs inspections at the plant, and then must coordinate with the field inspector to obtain the Mn/DOT splits. In the Metro District, the hotmix plants routinely provide material to several projects. The Metro Plant Monitor program would be faced with an enormous logistical task of inspecting the plant, and then locating several extremely mobile field inspectors. Metro would also have to store all companion samples not tested. Samples are required to be collected and tested in a timely manner.

At this time, the Metro Plant Monitor program is not properly staffed to take on this approach. The Office of Materials & Road Research (OMRR) will continue to encourage the use of this special provision on a project/District basis and work with the Metro District to create a feasible alternative.

ATTACHMENT I

OTHER INTERNAL CONTROL ISSUES DISCUSSED WITH MANAGEMENT

Central Contractor Registration Database

For State Project 78-616-07, the county was not registered as required in the Central Contractor Registration (CCR) database. This condition was also noted for State Project 227-104-01.

Project personnel and State Aid for Local Transportation Division personnel were not familiar with the CCR database. After the audit was completed, Traverse County registered in the CCR database.

Bituminous Ticket Information

For State Project 78-616-07, the bituminous tickets did not include the asphalt binder grade or State Project Number as required by the bituminous specifications.

Quality Assurance Gradations

For State Project 2750-57 Aggregate Base Class 5 valued at \$246,000, project personnel did not perform 3 of 13 (23%) Quality Assurance (QA) gradations required by the Schedule of Materials Control. Project personnel agreed that the gradations should have been done.

Percent Crushing

For State Project 46-636-03, project personnel did not perform a required QA percent crushing test. During the audit, project personnel performed the test and results met requirements.

Asphalt Binder Testing

For State Project 78-616-07, project personnel did not sample asphalt binder and send it to the Office of Materials and Road Research for testing as required. Project personnel did not act to ensure requirements for sampling and testing the asphalt binder were met.

Bituminous Mixture Testing

Project personnel did not perform verification testing for 332 tons of SP 12.5 Wearing Coarse Mixture placed on October 22, 2009 for State Project 227-104-01. Verification testing was performed and test result requirements met on all other paving days.

The Contractor did not perform Quality Control (QC) moisture testing for the SP 12.5 Wearing and Non Wearing Coarse Mixtures. The Engineer did not waive the requirement to perform the testing. Additional QC testing was missed for the SP Wearing and Non Wearing Coarse Mixtures.

Dynamic Cone Penetration (DCP) Tests

For State Project 227-104-01 Aggregate Base Class 5, Modified DCP test results documented a Test Layer Depth of 300 millimeters (mm). The Grading Number of 4.4 requires a Test Layer Depth of 100-150 mm. The Maximum Allowable Seat and DPI, used to determine whether the DCP test results meet requirements, are far greater for a 300 mm Test Layer Depth than for a 100-150 mm Test Layer Depth. Project personnel indicated that they used 150 mm Test Layer Depths but did not document it. Actual Seat and DPI values for the Aggregate Base Class 5 met requirements for a 100-150 mm Test Layer Depth.

ATTACHMENT I

OTHER INTERNAL CONTROL ISSUES DISCUSSED WITH MANAGEMENT

Page 2

Preliminary Grading and Base Report

For State Project 144-135-11 Aggregate Base Class 5, project personnel did not record the minimum test rate and the number of tests required for moisture tests on the Preliminary Grading and Base Report. After we brought this condition to their attention during the audit, project personnel unsuccessfully attempted to record the minimum test rate and number of tests required.

Air and Slump Tests

For State Project 157-363-19, 6 of 39 (15%) air and slump tests were missed for the Concrete Wearing Course Mix.

Certification of Aggregates and Granular Materials

For State Project 8101-44, the Contractor did not submit the Certification of Aggregates and Granular Materials to the Engineer prior to payment for Aggregate Base Class 3 and Aggregate Base Class 5. Project personnel felt they had received the certification timely. Project personnel need to make payment for Aggregate Base contract items after receipt and acceptance of the Certification of Aggregates and Granular Materials.

Erodible Acres

For State Project 35-601-31, erodible acres withholding was not taken. This condition was also noted for State Project 16-612-71 and State Project 1202-51. Project personnel need to act to ensure that withholding for erodible acres is taken as required.

Material on Hand Payments

For State Project 35-601-31, project personnel made lump sum payments for material on hand. To properly control quantities per specification, project personnel need to pay material on hand by separate contract item.

Davis Bacon Compliance

For State Project 144-135-11, we noted the following multiple concerns with requirements for Davis Bacon compliance. District personnel felt that workload changes impacted normally effective labor compliance efforts.

Payrolls were not on file for 4 subcontractors. A Field Compliance Review on Labor Provisions noted 2 employees with a \$10/hour wage rate compared to a prevailing wage rate of \$27.44/hour, with no corrective action documented. Missing Requests to Sublet were provided during the audit.

ATTACHMENT I

OTHER INTERNAL CONTROL ISSUES DISCUSSED WITH MANAGEMENT

Page 3

Payment Timeliness

Partial and final payments for three federally funded county State Projects were late. Partial payments are required every 35 days. Interest must be paid on final payments after 90 days for trunk highway projects. The federal government requires consistent practices for federally funded city, county, and trunk highway construction projects. Questioned costs totaled \$827,000.

For Mankato District Martin County State Project 46-636-03, Partial Payment No. 3 of \$482,000 was made on September 9, 2009, 48 days after Partial Payment No. 2 was made on July 23, 2009. Project personnel described this late payment as an oversight. A \$120,000 final payment due in December 2009 has not yet been paid. Work was completed on this project on August 25, 2009, with the most recent partial payment made on September 9, 2009.

The Delegated Contract Process Checklist and specifications require Mn/DOT Office of Civil Rights approval of the Disadvantaged Business Enterprise (DBE) Total Payment Affidavit prior to final payment. County personnel felt that the affidavit had been submitted in December 2009. Mn/DOT Office of Civil Rights personnel felt that the affidavit for State Project 46-636-03 was not on file.

In a memo to project personnel, the Mn/DOT Office of Civil Rights acknowledged that there were no DBE subcontractors on the project and approved the DBE Total Payment Affidavit on September 20, 2010. Project personnel paid the Contractor on October 1, 2010.

For Bemidji District Kittson County State Project 35-605-13, Partial Payment No. 2 of \$16,000 was made on March 5, 2010, after Partial Payment No. 1 was made on September 18, 2009; Final Payment No. 3 of \$43,000 was made on April 9, 2010. The final completion date for work on this project was August 28, 2009.

Project personnel commented that the contractor wanted to book the payments in the following calendar year. This practice is not consistent with Generally Accepted Accounting Principles (GAAP) which requires recognition of revenues and matching expenses in the correct financial reporting period.

For Detroit Lakes District Traverse County State Project 78-616-07, Partial Payment No. 2 of \$87,000 was made on October 16, 2009, after Partial Payment No. 1 was made on July 13, 2009; Final Payment No. 3 of \$79,000 was made on March 2, 2010. The final completion date for work on this project was August 26, 2009.

Project personnel commented that the contractor took some time to sign Partial Payment No. 2 due to a bituminous incentive. Project personnel commented that the final payment got lost and they spent a month trying to find it.

ATTACHMENT II

AUDIT FOLLOW UP OF PRIOR YEAR'S FINDINGS

Identified Concern in Fiscal Year 2009	Status	
<u>Single Audit Report No. 10-800-60</u>	<u>Code</u>	<u>Notes</u>
Grading and Base Materials Control	2	A
Post Tensioning Steel Strand Materials Control	4	
Concrete Materials Control	2	B
Bituminous Materials Control	1	
Northstar Commuter Rail Materials Control	1	
Mobilization Payments	1	
Northstar Commuter Rail Payments	2	C
Administratively Approved Costs	1	

Notes:

- A - Grading and Base Materials Control is discussed this year in Single Audit Report No. 11-800-51, Finding III.
- B - Concrete Materials Control is discussed this year in Single Audit Report No. 11-800-51, Findings I and II.
- C- Northstar Commuter Rail Payments are discussed this year in Single Audit Report No. 11-800-51, Observation I.

Explanation of Status Codes

- 1 - Findings have been fully corrected.
- 2 - Findings not corrected or only partially corrected; discussed in this year's Single Audit Report.
- 3 - Findings not corrected or only partially corrected; discussed verbally with management.
- 4 - Findings are no longer valid or do not warrant further action.

ATTACHMENT III

A-133 COMPLIANCE SUPPLEMENT

The A-133 Compliance Supplement Part 1 indicates that the audit should recognize that there may be provisions of contract and grant agreements that are not specified in law or regulation and, therefore, the specifics of such are not included in the Compliance Supplement. Accordingly, the audit includes reasonable procedures to ensure that compliance requirements are current and to determine whether there are any additional provisions of contract and grant agreements that should be covered by the audit. Reasonable procedures consist of discussion with Mn/DOT personnel and review of contract and grant agreements and compliance with the associated requirements.

A-133 Compliance Supplement suggested audit procedures apply to many different federal programs and are necessarily general in nature. We are expected to exercise judgment to determine whether the Compliance Supplement suggested audit procedures are sufficient, or whether additional or alternative audit procedures are needed. The Compliance Supplement can only be considered “safe harbor” if additional provisions of contract and grant agreements are identified and considered as part of the audit.

A-133 Compliance Supplement Part 1 also states that we have responsibility under Generally Accepted Government Auditing Standards (GAGAS) for other requirements when specific information comes to our attention that provides evidence concerning the existence of possible noncompliance that could materially affect Mn/DOT’s major programs. American Institute of Certified Public Accountants (AICPA) Audit Guide - Government Auditing Standards and Circular A-133 Audits as well as the OMB Circular A-133, require us to include in the findings and questioned costs material noncompliance (greater than \$10,000) with laws, regulations, and contracts related to the Highway Planning and Construction, Airport Improvement, and Federal Transit Investment Grants programs.

The A-133 Compliance Supplement applicable to the Fiscal Year 2010 Single Audit included requirements associated with the American Recovery and Reinvestment Act (ARRA).

A-133 Compliance Supplement Part 3

The A-133 Compliance Supplement Part 3 reiterates that suggested audit procedures are provided to assist auditors in planning and performing the audit, and advises us to exercise judgment to determine if additional or alternative audit procedures are needed.

A-133 Compliance Supplement Part 3 A. Activities Allowed or Unallowed

The A-133 Compliance Supplement Part 3, A. Activities Allowed or Unallowed requires the audit to identify the types of activities which are either specifically allowed or prohibited by the laws, regulations, and the provisions of contract or grant agreements pertaining to the program. On this basis, the conditions cited in all of the Findings are considered to be activities unallowed.

ATTACHMENT III

A-133 COMPLIANCE SUPPLEMENT

Page 2

A-133 Compliance Supplement Part 3 B. Allowable Costs/Cost Principles

The A-133 Compliance Supplement Part 3 B. Allowable Costs/Cost Principles, through OMB Circular A-87, requires us to evaluate if costs are reasonable and necessary; conforming to any limitations or exclusions set forth in the circulars, Federal laws, State or local laws, sponsored agreements, or other governing regulations such as Generally Accepted Accounting Principles (GAAP); and adequately documented. On this basis, the conditions cited in all of the Findings are not considered to constitute allowable costs and are described in Exhibit III as questioned costs.

A-133 Compliance Supplement Part 3 M. Subrecipient Monitoring

The A-133 Compliance Supplement Part 3 M. Subrecipient Monitoring requires the monitoring of subrecipient activities to provide reasonable assurance that subrecipients of federal funding (airports, cities, and counties) administer Federal awards in compliance with requirements. The Single Audit includes an evaluation of compliance with requirements for the Airport Improvement Program, in addition to the Highway Planning and Construction Program.

For the Highway Planning and Construction Program, the Letter of Agreement and Stewardship Plan between Federal Highway Administration (FHWA) and Mn/DOT indicates that Mn/DOT retains its responsibilities under federal law and regulations for all activities delegated to cities and counties. The Letter of Agreement and Stewardship Plan also indicates that Mn/DOT will provide the necessary processes, approvals, oversight, and review to ensure that delegated projects receive adequate supervision and inspection, and that they are completed in conformance with approved plans and specifications and applicable federal requirements.

The State Aid for Local Transportation Division provides technical assistance to cities and counties for highway construction. This assistance could improve future compliance with requirements.

Ongoing subrecipient monitoring is needed to achieve compliance with requirements by cities and counties, especially since personnel with less experience and knowledge regarding the requirements are becoming increasingly involved in project management. Findings I through V and Observation II fall under this part of the Compliance Supplement.

A-133 Compliance Supplement Part 3 N. Special Tests and Provisions

The A-133 Compliance Supplement Part 3 N. Special Tests and Provisions states that specific requirements unique to each Federal program are found in the laws, regulations, and the provisions of contract or grant agreements pertaining to the program.

ATTACHMENT III

A-133 COMPLIANCE SUPPLEMENT

Page 3

Part 3 N. Special Tests and Provisions requires us to identify any additional compliance requirements which could be material, and indicates that reasonable procedures to identify such compliance requirements would be inquiry of non-Federal entity management and review of the contract and grant agreements pertaining to the program. Any such requirements which may have a direct and material effect on a major program shall be included in the audit.

The A-133 Compliance Supplement Part 3 N. Special Tests and Provisions also refers to the A-133 Compliance Supplement Part 4, Agency Program Requirements, for specific compliance requirements, audit objectives, and suggested audit procedures.

The A-133 Compliance Supplement Part 4 requires Mn/DOT to have a have a sampling and testing program for construction projects to ensure that materials and workmanship generally conform to approved plans and specifications. The Part 4 also requires an evaluation of the sampling and testing program. Findings I, II, III, and IV, as well as Observation II, fall under this part of the Compliance Supplement.

We also considered whether the department was managing or utilizing its resources in an economical and efficient manner and whether the department was effective in achieving its program objectives.