PERFORMANCE AUDIT
OF THE

CONSTRUCTION AND TECHNOLOGY DIVISION

BUREAU OF HIGHWAY TECHNICAL SERVICES
MICHIGAN DEPARTMENT OF TRANSPORTATION

April 2002

59-169-00

EXECUTIVE DIGEST

CONSTRUCTION AND TECHNOLOGY DIVISION

INTRODUCTION

This report, issued in April 2002, contains the results of our performance audit* of the Construction and Technology Division, Bureau of Highway Technical Services, Michigan Department of Transportation (MDOT).

AUDIT PURPOSE

This performance audit was conducted as part of the constitutional responsibility of the Office of the Auditor General. Performance audits are conducted on a priority basis related to the potential for improving effectiveness* and efficiency*.

BACKGROUND

MDOT was organized under Sections 16.450 - 16.458 of the *Michigan Compiled Laws* (sections of the Executive Organization Act of 1965). MDOT was established to provide the people of Michigan with a safe, efficient, and environmentally sound total transportation system in the most cost-effective manner.

The Construction and Technology Division is 1 of 5 divisions within the Bureau of Highway Technical Services that provides services to MDOT staff at its 7 regional offices and 26 transportation service centers (TSCs). The Division is organized into three sections: Construction Section, Bridge and Pavement Operations Section, and Testing and Research Section. The first two Sections are responsible for providing technical and administrative support to MDOT's construction program, including road

* *See glossary at end of report for definition.*

and bridge construction and related activities on the interstate and trunkline systems. The Testing and Research Section provides Statewide consulting services in support of all of MDOT's programs through expert staff and applied research and development. This includes conducting technical investigations and evaluating new materials and construction/maintenance methods in response to requests or identified needs. The Division is also responsible for publishing MDOT's *Standard Specifications for Construction* and all testing and materials procedure handbooks.

Division expenditures totaled approximately $11.7 million for the fiscal year ended September 30, 2000. As of December 31, 2000, the Division had 158 full-time employees.

AUDIT OBJECTIVES AND CONCLUSIONS

Audit Objective: To assess the effectiveness of MDOT's policies and procedures in ensuring that construction projects are properly supervised and that tests of materials used in construction projects are in accordance with industry standards and/or MDOT specifications.

Conclusion: We concluded that MDOT's policies and procedures were generally effective in ensuring that construction projects were properly supervised and that tests of materials used in construction projects were in accordance with industry standards and/or MDOT specifications. However, we noted two reportable conditions* involving final estimate reviews and consultant monitoring (Findings 1 and 2).

Audit Objective: To assess the effectiveness and efficiency of MDOT's project payment and finalization processes.

* *See glossary at end of report for definition.*

Conclusion: We concluded that MDOT's project payment and finalization processes were generally effective and efficient. However, we noted reportable conditions involving bonus performance program monitoring, timely finalization of construction projects, and contractor and consultant evaluation monitoring (Findings 3 through 5).

AUDIT SCOPE AND METHODOLOGY

Our audit scope was to examine the program and other records of the Construction and Technology Division for the period October 1, 1997 through December 31, 2000. Our audit was conducted in accordance with *Government Auditing Standards* issued by the Comptroller General of the United States and, accordingly, included such tests of the records and such other auditing procedures as we considered necessary in the circumstances.

Our audit methodology included conducting a preliminary survey of the Construction and Technology Division to develop an understanding of its responsibilities and the methods that it uses to monitor the accomplishment of these responsibilities. We reviewed prior audit reports and working papers of audits conducted by MDOT's Office of Commission Audits. We also reviewed a report on the Division's bridge inspection program conducted by the Federal Highway Administration. We obtained Division construction and testing manuals for use as reference materials during our audit.

We obtained a download of MDOT's construction project database to allow us to identify projects on which construction had begun on or after October 1, 1997. We used this data for selecting projects for review for various audit tests. We obtained project and expenditure information from the Division for follow up during our field visits. We reviewed MDOT's bonus performance program to determine the propriety of payments to or assessments

against contractors as a result of their completing projects ahead of or behind schedule.

We conducted field visits to perform various tests of construction project records at MDOT regional offices and transportation service centers and at the offices of consultants that MDOT hired to perform construction engineering and testing services.

AGENCY RESPONSES

Our audit report contains 5 findings and 7 corresponding recommendations. The agency preliminary responses indicated that MDOT concurs with all 7 recommendations. In addition, MDOT informed us that it has initiated or will initiate corrective action for all of the recommendations.

April 16, 2002

Mr. Barton W. LaBelle, Chairperson
State Transportation Commission
and
Mr. Gregory J. Rosine, Director
Michigan Department of Transportation
Transportation Building
Lansing, Michigan

Dear Mr. LaBelle and Mr. Rosine:

This is our report on the performance audit of the Construction and Technology Division, Bureau of Highway Technical Services, Michigan Department of Transportation.

This report contains our executive digest; description of agency; audit objectives, scope, and methodology and agency responses; comments, findings, recommendations, and agency preliminary responses; and a glossary of acronyms and terms.

Our comments, findings, and recommendations are organized by audit objective. The agency preliminary responses were taken from the agency's responses subsequent to our audit fieldwork. The *Michigan Compiled Laws* and administrative procedures require that the audited agency develop a formal response within 60 days after release of the audit report.

We appreciate the courtesy and cooperation extended to us during this audit.

Sincerely,

Thomas H. McTavish, C.P.A.
Auditor General

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TABLE OF CONTENTS

CONSTRUCTION AND TECHNOLOGY DIVISION
BUREAU OF HIGHWAY TECHNICAL SERVICES
MICHIGAN DEPARTMENT OF TRANSPORTATION

INTRODUCTION

	Page
Executive Digest	1
Report Letter	5
Description of Agency	8
Audit Objectives, Scope, and Methodology and Agency Responses	9

COMMENTS, FINDINGS, RECOMMENDATIONS,
AND AGENCY PRELIMINARY RESPONSES

Construction Project Supervision and Testing	11
1. Final Estimate Reviews	11
2. Consultant Monitoring	13
Project Payment and Finalization Processes	15
3. Bonus Performance Program Monitoring	15
4. Timely Finalization of Construction Projects	21
5. Contractor and Consultant Evaluation Monitoring	22

GLOSSARY

Glossary of Acronyms and Terms	24

Description of Agency

The Michigan Department of Transportation (MDOT) was organized under Sections 16.450 - 16.458 of the *Michigan Compiled Laws* (sections of the Executive Organization Act of 1965). MDOT is governed by the State Transportation Commission, which is made up of six members who are appointed by the Governor with the advice and consent of the Senate. The Commission is responsible for establishing policies. MDOT is managed by a director, appointed by the Governor, who is responsible for administering MDOT and implementing the policies established by the Commission. MDOT was established to provide the people of Michigan with a safe, efficient, and environmentally sound total transportation system in the most cost-effective manner.

The Construction and Technology Division is 1 of 5 divisions within the Bureau of Highway Technical Services that provides services to MDOT staff at its 7 regional offices and 26 transportation service centers (TSCs). The Division is organized into three sections: Construction Section, Bridge and Pavement Operations Section, and Testing and Research Section. The first two Sections are responsible for providing technical and administrative support to MDOT's construction program, including road and bridge construction and related activities on the interstate and trunkline systems. The Testing and Research Section provides Statewide consulting services in support of all of MDOT's programs through expert staff and applied research and development. This includes conducting technical investigations and evaluating new materials and construction/maintenance methods in response to requests or identified needs. The Division is also responsible for publishing MDOT's *Standard Specifications for Construction* and all testing and materials procedure handbooks.

The Division's funding is provided from vehicle gas, weight, and value taxes plus sales taxes on vehicles, parts, and accessories. This funding is distributed to transportation programs in accordance with Sections 247.651 - 247.674 of the *Michigan Compiled Laws* (Act 51, P.A. 1951). Funding is also provided by the U.S. Department of Transportation from federal fuel and excise taxes on certain commodities.

Division expenditures totaled approximately $11.7 million for the fiscal year ended September 30, 2000. As of December 31, 2000, the Division had 158 full-time employees.

Audit Objectives, Scope, and Methodology and Agency Responses

Audit Objectives

Our performance audit of the Construction and Technology Division, Bureau of Highway Technical Services, Michigan Department of Transportation (MDOT), had the following objectives:

1. To assess the effectiveness of MDOT's policies and procedures in ensuring that construction projects are properly supervised and that tests of materials used in construction projects are in accordance with industry standards and/or MDOT specifications.

2. To assess the effectiveness and efficiency of MDOT's project payment and finalization processes.

Audit Scope

Our audit scope was to examine the program and other records of the Construction and Technology Division for the period October 1, 1997 through December 31, 2000. Our audit was conducted in accordance with *Government Auditing Standards* issued by the Comptroller General of the United States and, accordingly, included such tests of the records and such other auditing procedures as we considered necessary in the circumstances.

Audit Methodology

Our audit procedures were conducted from January through December 2000. Our audit methodology included conducting a preliminary survey of the Construction and Technology Division to develop an understanding of its responsibilities and the methods that it uses to monitor the accomplishment of these responsibilities. We reviewed prior audit reports and working papers of audits conducted by MDOT's Office of Commission Audits. We also reviewed a report on the Division's bridge inspection program conducted by the Federal Highway Administration. We obtained Division construction and testing manuals for use as reference materials during our audit.

We obtained a download of MDOT's construction project database to allow us to identify projects on which construction had begun on or after October 1, 1997. We used this data for selecting projects for review for various audit tests. We obtained project and

expenditure information from the Division for follow up during our field visits. We reviewed MDOT's bonus performance program to determine the propriety of payments to or assessments against contractors as a result of their completing projects ahead of or behind schedule.

We conducted field visits to perform various tests of construction project records at MDOT regional offices and transportation service centers and at the offices of consultants that MDOT hired to perform construction engineering and testing services.

Agency Responses

Our audit report contains 5 findings and 7 corresponding recommendations. The agency preliminary responses indicated that MDOT concurs with all 7 recommendations. In addition, MDOT informed us that it has initiated or will initiate corrective action for all of the recommendations.

The agency preliminary response that follows each recommendation in our report was taken from the agency's written comments and oral discussion subsequent to our audit fieldwork. Section 18.1462 of the *Michigan Compiled Laws* and Department of Management and Budget Administrative Guide procedure 1280.02 require MDOT to develop a formal response to our findings and recommendations within 60 days after release of the audit report.

COMMENTS, FINDINGS, RECOMMENDATIONS, AND AGENCY PRELIMINARY RESPONSES

CONSTRUCTION PROJECT SUPERVISION AND TESTING

COMMENT

Background: The Michigan Department of Transportation (MDOT) annually awards approximately 350 construction contracts for State road and bridge construction projects. MDOT engineers at the transportation service centers (TSCs) are responsible for developing project progress schedules and determining whether the project would benefit from the use of MDOT's bonus performance program. MDOT uses either its own staff or a consultant's staff to supervise a project during construction. Project engineers are responsible for authorizing payments to contractors while a project is under construction and initiating the finalization process when a project is completed.

Audit Objective: To assess the effectiveness of MDOT's policies and procedures in ensuring that construction projects are properly supervised and that tests of materials used in construction projects are in accordance with industry standards and/or MDOT specifications.

Conclusion: We concluded that MDOT's policies and procedures were generally effective in ensuring that construction projects were properly supervised and that tests of materials used in construction projects were in accordance with industry standards and/or MDOT specifications. However, we noted two reportable conditions involving final estimate reviews and consultant monitoring.

FINDING

1. Final Estimate Reviews

MDOT did not complete final estimate reviews in accordance with procedures to ensure that final payments are accurate for work completed by the contractor. In addition, MDOT did not ensure that consultants performing final estimate reviews were independent.

MDOT procedures require that after completion of a construction project, either MDOT staff or a consultant's staff will conduct a final estimate review of the

project's records to verify that final contract quantities are properly supported and paid in accordance with MDOT specifications. The review also provides MDOT with assurance that the project was constructed in accordance with plans and specifications and that the project records contain required material certifications and testing records. MDOT's Construction Manual contains procedures for performing these reviews. According to these procedures, the review team is to select 10% of the pay items (unique payment codes assigned to specific work activities or materials on a construction project) for review, and if irregularities are found, the review is to be expanded.

We examined the final estimate reviews for 8 construction projects and noted:

a. Irregularities were noted in all 8 reviews; however, the review teams did not expand their test of pay items. We noted that the exception rate ranged from 7% to 86%, with 5 of the 8 projects having error rates of 50% or higher. As a result of not expanding the test of pay items, MDOT cannot be certain that the projects were completed in substantial compliance with the projects' plans and specifications.

b. MDOT used a consultant to perform reviews for 4 of the 8 projects. We determined that this consultant had also worked for the paving contractor on 2 of the 4 projects. For both of the projects, the consultant had collected bituminous* samples for testing, and for one of the projects, the consultant had performed tests on these samples. As a result, the consultant was not independent because he was reviewing pay items for projects that he had worked on. Without assurance that a consultant is independent, MDOT cannot be certain that review teams are unbiased.

RECOMMENDATIONS

We recommend that MDOT complete final estimate reviews in accordance with procedures to ensure that final payments are accurate for work completed by the contractor.

We also recommend that MDOT ensure that consultants performing final estimate reviews are independent.

** See glossary at end of report for definition.*

AGENCY PRELIMINARY RESPONSE

MDOT concurs with the first recommendation. MDOT will issue a Bureau of Highway Instructional Memorandum by July 1, 2002, which will remind final estimate reviewers that the proper review procedures as outlined in MDOT's Construction Manual must be followed. When review deficiencies are found, it will be emphasized that the review of project records must be expanded as explained in the Construction Manual.

MDOT also concurs with the second recommendation. All future project review contracts with consultants will prohibit consultants from having any other involvement in the construction phase of the contracts they are reviewing. In addition, consultants, when submitting a price proposal for a project review contract, will be required to submit a written statement that they have not had and will not have any other involvement in the construction phase of the project they are proposing to review.

FINDING

2. Consultant Monitoring

MDOT needs to improve its monitoring of consultants hired to perform construction engineering and testing services.

During 1997, MDOT lost approximately 500 employees because of an early retirement program. At the same time, its road construction program experienced a significant increase in activity from various initiatives undertaken to improve the State's roadways. As a result, MDOT increased its use of consultants to provide construction engineering and testing services on many road construction projects. MDOT construction engineers at TSCs are responsible for overseeing consultants hired to provide construction engineering and testing services in their respective TSC area.

We reviewed 8 consultant-managed construction projects overseen by construction engineers at 6 TSCs and noted that the degree of MDOT oversight of consultant-managed projects varied by construction engineer. Our review disclosed:

a. Consultants for 3 (38%) of the 8 projects had not submitted required bituminous test reports to the Construction and Technology Division as

required. This information is used to monitor bituminous test results so that appropriate MDOT staff can be notified of unacceptable test results. The TSC construction engineers responsible for these projects were unaware of this deficiency until the project was completed. The TSC construction engineers responsible for these projects had made only infrequent visits to these projects during their construction and none of them had held an expectations meeting with the consultants prior to construction.

In contrast, the TSC construction engineers for the remaining 5 projects visited the projects at least weekly and held expectation meetings with the consultants prior to construction of 4 of the projects.

b. The TSC construction engineers did not prepare any of the required forms documenting visits to 7 of the 8 construction projects. According to MDOT's Construction Manual, construction engineers are to complete an interim evaluation form each time they visit or drive through a construction site. A copy of this form is to be given to the consultant and a second copy is to be retained in the TSC project file. This form allows the construction engineer to document any observations that are made and actions that are necessary and communicate these to the consultant.

Improved consultant monitoring and communication, including regular, documented site visits and preconstruction expectation meetings with consultants would improve MDOT's assurance that construction projects are completed in accordance with project plans and specifications.

RECOMMENDATION

We recommend that MDOT improve its monitoring of consultants hired to perform construction engineering and testing services.

AGENCY PRELIMINARY RESPONSE

MDOT concurs with this recommendation. MDOT will issue a Bureau of Highway Instructional Memorandum by July 1, 2002, which will:

a. Require a meeting to be held with the consultant before the work begins to ensure that the consultant clearly understands the expectations of the project engineer in carrying out the oversight of the construction engineering. The

Instructional Memorandum will reiterate the expectations presently noted in the Construction Manual.

b. Direct project managers, or their representatives, to schedule sufficiently frequent meetings with the consultant, based on the project complexity, to ensure that consultant activities are properly monitored. These meetings will include review of project records and site visits.

c. Reiterate the requirement in the Construction Manual that an interim consultant evaluation is to be filled out each time a project site is visited, or driven through, by the project manager or the manager's representative.

The Construction Manual will also be revised, as necessary, to require these actions, and the appropriate manuals and guides for testing and inspection will be added to the meeting topics.

PROJECT PAYMENT AND FINALIZATION PROCESSES

Audit Objective: To assess the effectiveness and efficiency of MDOT's project payment and finalization processes.

Conclusion: We concluded that MDOT's project payment and finalization processes were generally effective and efficient. However, we noted reportable conditions involving bonus performance program monitoring, timely finalization of construction projects, and contractor and consultant evaluation monitoring.

FINDING

3. Bonus Performance Program Monitoring

MDOT needs to establish a review procedure to ensure that documentation supporting bonus performance program determinations is on file and that the determinations are made in accordance with contract provisions. Without a review procedure, MDOT cannot be certain that bonus performance program determinations are documented and correct.

Since the early 1980s, MDOT has utilized the bonus performance program to encourage early completion of high impact construction projects. MDOT gives

bonus performance payments (incentives) to contractors who complete work ahead of schedule and assesses a deduction of the contract price (disincentives) to contractors who fail to complete work on schedule. The project engineer is responsible for initiating the payment of an incentive or the assessment of a disincentive. MDOT does not have a procedure that requires bonus performance program determinations be reviewed for propriety.

We reviewed MDOT bonus performance program determinations made during the period October 1, 1997 through August 31, 2000. During the period, MDOT made incentive payments of $7,227,135 on 26 construction contracts and disincentive assessments of $634,500 on 5 construction contracts. Our review of these determinations disclosed:

a. Two contractors were paid $800,000 additional incentive as a result of changing the criteria for when the incentive calculation would begin. These contract changes were not supported by a contract modification at the time of our audit. The following are explanations of these changes:

   (1) The first contract required that all roadway lanes and ramps had to be open to traffic before the incentive calculation would begin. According to the MDOT project engineer responsible for this project, the incentive requirement was changed to exclude having the ramps open to traffic to avoid a possible contractor claim for additional work on the ramps. We reviewed the contract for this project and noted that it provided that the contractor would be compensated for any additional work and that such work was not to affect the incentive. According to the project engineer, the contractor was paid approximately $760,000 for the additional ramp work. Based on the documentation on file at the time of our audit, we concluded that changing the incentive criteria resulted in the contractor receiving an additional $600,000 incentive. As a result of our audit, MDOT processed a contract modification 18 months after the incentive was paid to change the incentive criteria to support this payment.

   (2) The second contract required that the contractor open all three lanes of traffic in both directions on a roadway for the incentive calculation to begin but was changed to only two lanes after the project work was completed. This change increased the incentive paid this contractor by $200,000. Although documentation was in this project's file explaining

this payment, we question the propriety of the change because no contract modification was prepared. As a result of our audit, MDOT processed a contract modification 18 months after the incentive was paid to change the incentive criteria to support this payment.

b. In four instances, the number of days used for calculating bonus performance determinations were not properly counted, based on the documentation on file at the time of our audit. Based on the documentation available, we concluded:

(1) Two contractors were not assessed disincentives totaling $350,000 and $4,000, respectively.

After our audit, MDOT processed contract modifications adjusting the days counted during the incentive/disincentive period so that neither contractor would be assessed a disincentive. These contract modifications were processed 16 and 22 months, respectively, after MDOT concluded that no disincentive would be assessed.

(2) One contractor's incentive was overstated by $15,000.

After our audit, MDOT processed a contract modification to adjust the number of days counted toward the incentive because of damage to the project from a tornado, thereby making the incentive paid to the contractor correct. This modification was made 43 months after the contractor was paid the incentive.

(3) One contractor received an incentive of $25,000 rather than a disincentive of $20,000.

After our audit, MODT processed a contract modification to increase the length of the incentive period that MDOT concluded would have made the incentive paid to the contractor correct. This modification was made 45 months after MDOT agreed with the contractor to extend the incentive period. However, we concluded that the number of days MDOT used for calculating the performance determination was still incorrectly counted and the incentive paid to the contractor was still overstated by $5,000.

Requiring reviews of all incentive determinations for propriety would help to ensure that documentation is on file and that contractors receive appropriate bonus performance program determinations.

RECOMMENDATION

We recommend that MDOT establish a review procedure to ensure that documentation supporting bonus performance program determinations is on file and that the determinations are made in accordance with contract provisions.

AGENCY PRELIMINARY RESPONSE

MDOT concurs with the recommendation. MDOT completed a thorough review of each project noted in the audit and found that the engineers' actions relative to the incentive/disincentive provisions were justified and supported. In its review, however, MDOT did find that the documentation supporting the engineers' actions was not adequately recorded in the project files at the time of the auditors' review. MDOT's findings with regard to each of the projects are as follows:

a.(1) Additional work was required on this project, which was not in the original contract. MDOT analyzed the three options that were available to it to complete the project. MDOT decided to modify the contract to change the open-to-traffic provisions to exclude the ramps while still assessing ramp rental until they were fully open to traffic. This decision allowed the contractor to complete the additional work without added acceleration costs and avoided any claims against the State for delays beyond the control of the contractor. The option selected was the least costly to the State and the motoring public. The analysis supporting the decision is now documented in the project files.

a.(2) This project was delayed because of bridge grade problems. The grade problems, which were out of the control of the contractor, prevented the completion of the incentive portion of the project as originally planned. In order to avoid significant claims, region staff, with concurrence from the Federal Highway Administration, modified the open-to-traffic provisions of the contract.

b.(1) MDOT requested the first contractor to close the roadway one day in advance of the date set forth in the contract. This was done to provide a safer shutdown on a Sunday, which has significantly less traffic than on a Monday.

MDOT also suspended construction work for 6 calendar days during the project. These shutdowns were necessary to meet the needs of the motoring public and for the safety of the public. Documentation is now in the project file that supports the day counts, which resulted in no incentives and no disincentives being assessed.

A utility relocation was necessary for the incentive portion of the second contract. Prior to the contract, MDOT had received a commitment from the utility that the necessary relocations would be completed prior to the contractor performing work. However, the utility was not relocated in a timely fashion, which prevented the contractor from working on the incentive portion of the project. MDOT and the contractor negotiated an agreement in which they mutually agreed to waive any incentive/disincentive for the project. MDOT avoided any costs associated with claims of downtime/idle equipment and incentive payments. The contractor avoided any disincentives associated with not completing the incentive portion of the project within the initial contract parameters.

b.(2) This project was still active when the audit was completed. As noted in the audit report, an extension of time was processed extending the contract open-to-traffic date by two additional days after the audit was done. The original open-to-traffic date was revised due to the late award of the contract. In addition, a two-day extension of time was required due to a tornado damaging the job site. If this information had been available during the audit, the finding of a $15,000 incentive overstatement probably would not have been made.

b.(3) Based on MDOT's follow-up of documentation from inspectors' daily reports and daily journals for this project, it appears that it would have been reasonable to assess 32 workdays, rather than 31 workdays, as shown on the weekly statement of working days charged. In MDOT's follow-up, the assessment of workdays in the last 2 days of the project raised a question. On October 9, 1997, it was raining and the contractor had a work force of only 3 employees to complete miscellaneous work items, and on October 10, 1997, the only operation of work was to remove traffic control devices and place pavement markings across the structure. Traditionally, these are short-term operations and, on an incentive/disincentive project, these would not be strung out for 2 workdays, nor would a small work force be deployed to complete the work. Documentation was not present showing that the

contractor was prepared to place the pavement markings on October 9, 1997. However, if the contractor was ready to place the markings, it would have been the controlling operation of work, and a workday may not have been assessed on October 9, 1997. Therefore, MDOT feels that the incentive allowed on this project was correct.

Contract modifications have now been processed to complete the paperwork and to bring the actions into compliance with the contract provisions. To ensure that incentive determinations are made in compliance with the contract provisions and that contract modifications are processed, MDOT will issue a Bureau of Highway Instructional Memorandum by July 1, 2002, which will:

a. Provide instruction on proper procedures for determination of bonus performance amounts.

b. Provide instruction on the proper process to modify the contract bonus performance provisions, should it be necessary.

c. Require all bonus performance determinations to be reviewed and approved by the TSC manager prior to submitting the final pay estimate.

In addition, MDOT will review its guidelines for the establishment of incentives to ensure that incentives are based on the critical portion of the projects where it is essential that traffic inconvenience and delays be minimized. MDOT will review its contracts, specifications, and procedures to ensure that its processes for modification of incentive/disincentive provisions are clearly understood by all parties. These reviews will be completed by July 1, 2002.

FINDING

4. Timely Finalization of Construction Projects

MDOT did not process final pay estimates on completed construction projects on a timely basis in accordance with its guidelines.

In 1996, MDOT issued guidelines for processing final pay estimates on completed construction projects. According to these guidelines, final pay estimates are to be submitted to the Finance Division as soon as possible after the contract is

completed and MDOT accepts the project, but no longer than 120 days after contract completion.

We reviewed projects that were finalized during the period October 1, 1997 through March 31, 2000. We determined that 1,776 (82%) of 2,170 projects finalized during the period were finalized over 120 days after contract completion and 1,507 (69%) were finalized over 120 days after MDOT accepted the project. We also determined that, on the average, MDOT finalizes a project 438 days after completion and 326 days after acceptance.

Timely processing of final pay estimates on completed construction projects permits the reprogramming of federal aid funds.

RECOMMENDATION

We recommend that MDOT process final pay estimates on completed construction projects on a timely basis in accordance with its guidelines.

AGENCY PRELIMINARY RESPONSE

MDOT concurs with this recommendation. The following steps have been taken to improve the timeliness of processing final pay estimates:

a. Performance management plans have been established for TSC managers and region engineers that include objectives to substantially reduce the number of late final payments (50% reduction by April 30, 2002).

b. The Phase Financial Closeout Data Base and other monitoring tools have been developed by the Bureau of Finance and Administration and the Bureau of Highway Operations to provide the region engineer with a monthly status report of the overdue final pay estimates for tracking purposes.

c. Consultants are being hired to assist in the finalizing process when needed to provide timely project closeouts.

d. Pilot projects are under contract that require contractors to provide contract documentation within specific time frames after the completion of the work so that payments can be made in a timely manner. Many overdue final pay

estimates are caused by contractor delay in submission of contract documentation.

FINDING

5. Contractor and Consultant Evaluation Monitoring

MDOT needs to improve its monitoring of contractor and consultant evaluations to ensure that they are properly completed and submitted in a timely manner. In addition, MDOT needs to implement its automated contractor evaluation program to allow it to effectively monitor contractor evaluation ratings.

MDOT requires the completion of evaluations for all contractors and consultants hired to perform services on construction projects. These evaluations are used to determine MDOT's satisfaction with the services of the contractors and consultants. Negative evaluations can affect whether a contractor or consultant will be allowed to perform further work for MDOT.

We reviewed contractor and consultant evaluations and noted:

a. Of 81 contractor evaluations reviewed, 23 (28%) had below average ratings and 5 (6%) had unsatisfactory ratings. Ten (43%) of the 23 evaluations with below average ratings and all 5 (100%) of the evaluations with unsatisfactory ratings did not include explanations for the engineers' lack of satisfaction with the respective contractor as required by the procedure. Failure to explain below average and unsatisfactory ratings reduces the evaluations' effectiveness and may result in MDOT not taking action to adjust a contractor's prequalification rating.

b. Of 17 consultant files reviewed, 6 (35%) did not contain final evaluations even though MDOT had paid the final invoices for their services. According to MDOT procedure, the MDOT employee responsible for administering the contract with a consultant is to submit a final evaluation on the consultant when the final invoice is submitted to MDOT for payment. Without completed evaluation forms, MDOT loses its means of evaluating consultants' performance for future contract considerations.

c. As a result of programming problems, MDOT had not implemented its automated contractor evaluation program and, therefore, could not generate historical listings of contractor performance ratings. Without these listings, MDOT's prequalification committee must rely on the Construction and Technology Division to notify it of contractors that received poor evaluations. We determined that the prequalification committee did not always receive notice of contractor evaluations with poor ratings. Therefore, MDOT could not ensure that contractors' prequalification ratings reflected their performance on construction projects.

RECOMMENDATIONS

We recommend that MDOT improve its monitoring of contractor and consultant evaluations to ensure that they are properly completed and submitted in a timely manner.

We also recommend that MDOT implement its automated contractor evaluation program to allow it to effectively monitor contractor evaluation ratings.

AGENCY PRELIMINARY RESPONSE

MDOT concurs with the first recommendation. MDOT informed us that the Bureau of Highways has developed a new procedure for evaluating construction contractors. This procedure was put into place January 18, 2002. MDOT now has safeguards in place that will ensure submission of the consultant evaluation prior to final consultant payment.

MDOT concurs with the second recommendation. MDOT informed us that the automated contractor evaluation program is now implemented and is being updated for the new procedures noted above.

Glossary of Acronyms and Terms

bituminous	A term used synonymously with "asphalt" but more encompassing because it includes materials such as tars and aggregates.
effectiveness	Program success in achieving mission and goals.
efficiency	Achieving the most outputs and outcomes practical for the amount of resources applied or minimizing the amount of resources required to attain a certain level of outputs or outcomes.
MDOT	Michigan Department of Transportation.
performance audit	An economy and efficiency audit or a program audit that is designed to provide an independent assessment of the performance of a governmental entity, program, activity, or function to improve public accountability and to facilitate decision making by parties responsible for overseeing or initiating corrective action.
reportable condition	A matter coming to the auditor's attention that, in the auditor's judgment, should be communicated because it represents either an opportunity for improvement or a significant deficiency in management's ability to operate a program in an effective and efficient manner.
TSC	transportation service center.