

STATE OF NORTH CAROLINA

OFFICE OF THE STATE AUDITOR

BETH A. WOOD, CPA



DEPARTMENT OF TRANSPORTATION

RALEIGH, NORTH CAROLINA

STATEWIDE FEDERAL COMPLIANCE AUDIT PROCEDURES

FOR THE YEAR ENDED JUNE 30, 2016



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STATE OF NORTH CAROLINA
Office of the State Auditor



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AUDITOR'S TRANSMITTAL

The Honorable Roy Cooper, Governor
Members of the North Carolina General Assembly
James H. Trogdon, III, Secretary
Department of Transportation

As part of our audit of the State of North Carolina's compliance with requirements applicable to its major federal programs, we have completed certain audit procedures at the Department of Transportation for the year ended June 30, 2016. We conducted our audit in accordance with the auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Governmental Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Our audit was performed by authority of Article 5A of Chapter 147 of the *North Carolina General Statutes*.

Our audit objective was to render an opinion on the State of North Carolina's major federal programs and not the Department's administration of major federal programs. However, the report included herein is in relation to our audit scope at the Department and not to the State of North Carolina as a whole. The State Auditor expresses an opinion on the State's compliance with requirements applicable to its major federal programs in the State's *Single Audit Report*.

The audit findings in this report are also evaluated to determine their impact on the State's internal control and the State's compliance with rules, regulations, contracts and grants. If determined necessary in accordance with *Government Auditing Standards*, these findings are reported in the State's *Single Audit Report*.

North Carolina General Statutes require the State Auditor to make audit reports available to the public. Copies of audit reports issued by the Office of the State Auditor may be obtained through one of the options listed in the back of this report.

A handwritten signature in cursive script that reads "Beth A. Wood".

Beth A. Wood, CPA
State Auditor



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State Auditor

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INDEPENDENT AUDITOR'S REPORT

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**INDEPENDENT AUDITOR'S REPORT ON COMPLIANCE WITH REQUIREMENTS
THAT COULD HAVE A DIRECT AND MATERIAL EFFECT ON EACH MAJOR
PROGRAM AND ON INTERNAL CONTROL OVER COMPLIANCE IN
ACCORDANCE WITH THE UNIFORM GUIDANCE**

James H. Trogdon, III, Secretary
and Management of the Department of Transportation

Report on Compliance

As part of our audit of the State of North Carolina's compliance with the types of requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on each of its major programs for the year ended June 30, 2016, we have performed audit procedures at the Department of Transportation. Our report on the State of North Carolina's compliance with requirements that could have a direct and material effect on each major program and on internal control over compliance in accordance with Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance) is included in the State's *Single Audit Report*. Our federal compliance audit scope at the Department of Transportation included the following:

- CFDA 20.205, 20.219, and 23.003 Highway Planning and Construction Cluster

The audit results described below are in relation to our audit scope at the Department and not to the State of North Carolina as a whole.

Management's Responsibility

Management is responsible for compliance with federal statutes, regulation, and the terms and conditions of its federal awards applicable to its federal programs.

Auditor's Responsibility

Our responsibility is to express an opinion on compliance for each of the State of North Carolina's major federal programs based on our audit of the types of compliance requirements referred to above, which we issue in the State's *Single Audit Report*. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States;

and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion. However, our audit does not provide a legal determination of the Department's compliance with those requirements.

Opinion on Each Major Federal Program

As stated above, our opinion on compliance for each of the State of North Carolina's major federal programs is included in the State's *Single Audit Report*.

Other Matters

The results of our audit procedures at the Department of Transportation disclosed instances of noncompliance that are required to be reported in accordance with the Uniform Guidance and which are described in findings 1 and 2 in the Findings, Recommendations, and Responses section of this report.

Report on Internal Control Over Compliance

Management is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered internal control over compliance with the types of requirements that could have a direct and material effect on a major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of internal control over compliance.

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of the internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies, and therefore, material weaknesses or significant deficiencies may exist that were not identified. However, as described in the accompanying Findings, Recommendations, and Responses section, we identified certain deficiencies in internal control that we consider to be material weaknesses and significant deficiencies. We consider the deficiencies described in finding 1 in the Findings, Recommendations, and Responses section of this report to be a material weakness in internal control over compliance. Furthermore, we consider the deficiency described in finding 2 in the Findings, Recommendations, and Responses section of this report to be a significant deficiency in internal control over compliance.

Department of Transportation's Response to Findings

The Department's responses to the findings identified in our audit are included in the Findings, Recommendations, and Responses section of this report. The Department's responses were not subjected to the auditing procedures applied in the audit of compliance, and accordingly, we express no opinion on the response.

Purpose of Report on Internal Control Over Compliance

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.



Beth A. Wood, CPA
State Auditor

Raleigh, North Carolina

March 16, 2017



FINDINGS, RECOMMENDATIONS, AND RESPONSES

Matters Related to Federal Compliance Audit Objectives

The following audit findings were identified during the current audit and describe conditions that represent deficiencies in internal control or noncompliance with laws, regulations, contracts, grant agreements, or other matters.

1. HIGHWAY QUALITY POTENTIALLY AT RISK DUE TO INSUFFICIENT TESTING

The Department did not ensure the required minimum tests were performed neither for aggregate materials¹ nor for asphalt mix formulas used in highways and other construction projects funded by Highway Planning and Construction grants.

For aggregate materials compliance, auditors sampled 12 of 59 contracts that required density acceptance testing and 6 of 37 contracts that required aggregate roadway assurance tests. The following errors were identified:

- 2 of 12 (17%) contracts that required density acceptance tests did not receive sufficient testing.
- 1 of 6 (17%) contracts that required aggregate roadway assurance tests did not receive sufficient testing.

For asphalt mix compliance, auditors sampled 60 of 776 asphalt mix formulas. The following errors were identified:

- 5 of 60 (8%) asphalt mix formulas did not receive sufficient testing.²

The Department's failure to meet minimum testing standards could result in the use of lower quality materials. Materials that do not meet quality standards could result in roads with shorter lifespans and increased highway maintenance cost. Quality assurance programs are the principal way the State verifies construction, material, and product quality meets safety and durability standards set for highway projects.

The aggregate materials errors and the asphalt mix errors occurred for different reasons.

The three aggregate materials errors occurred because of insufficient training, according to Department management. Although staff was aware of the required sampling procedures for aggregate materials, the procedures were inconsistently applied. Department management said that additional training was needed to reinforce Department policy.

The five asphalt mix errors occurred because of inadequate monitoring and the production of small quantities of mix.

- For two of the five asphalt mix errors, staff failed to take corrective action when the spreadsheets used to monitor testing indicated that an insufficient number of quality assurance tests had been performed.

¹ Hard, durable particles or fragments of crushed stone, crushed slag, or crushed gravel.

² The vendor producing the asphalt mix and the Department perform separate tests on the mix to verify the quality of the product. The vendor performed sufficient tests, but the Department did not consistently perform the required minimum tests.

- For three of the five asphalt mix errors, samples could not be taken before production was completed because of the small quantities of the mix produced, according to Department management. However, the Department did not have a policy exception for testing small quantities of asphalt mix formulas.

Per 23 CFR 637.207(a)(1)(i)(A), each state transportation department's quality assurance program shall include frequency schedules for verification sampling and testing. The Department's federally approved Minimum Sampling Guide details the minimum testing and interval at which samples must be taken for asphalt and aggregate materials to ensure the quality of materials used in North Carolina highway construction projects.

Significant aspects of this finding were reported in the fiscal year 2015 Statewide Single Audit as finding # 2015-017.

Federal Award Information: CFDA 20.205 Highway Planning and Construction Cluster 2016

Recommendation: Department management should provide training as needed to ensure that technicians are aware of and comply with the testing requirements in the federally approved Minimum Sampling Guide.

Department management should identify a method to ensure that staff takes appropriate action when monitoring reports indicate that sufficient testing has not been performed.

Department management should document an approved policy exception for testing small quantity asphalt mix productions.

Agency Response: The Department agrees with the finding and is taking the below corrective actions.

For aggregate materials compliance, the corrective actions are as follows:

- Materials and Tests staff have created a Technical Bulletin detailing proper sampling methods, the appropriate sample frequencies for roadway assurance and density, and an example of how to determine the size of the density test section. This technical bulletin will be distributed to appropriate staff in all 14 divisions including the Division Engineer, Division Construction Engineer and all contract administration engineers for each division. In addition, it will be posted on the Materials and Tests Unit web site along with the presentation on this topic that will be presented at the upcoming Contract Administration Workshops. There are four workshops across the state occurring over the next month in which the contract administration engineers from each division will be attending. Distribution of the bulletin will occur immediately and the presentations will be made over the course of the next month.
- Materials and Tests Technical Trainers are emphasizing the importance of program compliance with students attending certification classes for aggregate materials. This will be an ongoing effort.

- Technical Trainers will address the findings with technicians during the field certification/assessment process and emphasize the importance of compliance. This is a one-on-one discussion with technicians who have recently attended certification classes. The emphasis will continue throughout 2017 and beyond as needed.
- Materials and Tests representatives will develop a program that analyzes the sampling and testing data from the contract administration database on a monthly basis. The program will automatically notify appropriate Materials and Tests staff if there are deficiencies. Staff will then contact the appropriate Resident Engineer's Office to explain the deficiency and work to correct the issue. A similar process has been developed for Asphalt Densities and has been effective. The process will be developed and implemented by April 1, 2017.
- Materials and Tests staff is in the process of further investigating each occurrence noted in the report and visually inspecting the actual locations where the material was placed to determine if further evaluations or corrective actions are necessary.

For asphalt mix formulas compliance, the corrective actions are as follows:

- Materials and Tests Management reviewed sampling and testing procedures with all QA Supervisors (responsible for the Department's sampling and testing). This was completed on January 31, 2017.
- For the cases where staff failed to take action, a technician training issue was identified. The QA Supervisor responsible for sampling and testing these particular Job Mix Formulas was relatively new to the role. The technician was visiting the plant at an appropriate frequency, however, the technician failed to sample appropriately while on those visits. Due to miscommunication, he did not understand that both QA samples and V samples can be taken on the same visit. A meeting between this QA Supervisor and his direct supervisor occurred on November 22, 2016 to correct the miscommunication and discuss all aspects of appropriately meeting the requirements associated with this process.
- A similar process to analyze data as noted in the aggregate corrective actions is being developed to notify QA Supervisors and Asphalt Specialists on a monthly basis when deficiencies in asphalt mix samples occur. Management responsible for these functions will also be notified and will ensure corrective actions will be taken immediately. This process will be implemented on March 1, 2017.
- A draft of a "Small Quantities" policy exemption has been developed and is being shared with industry partners and the Federal Highway Administration for feedback on the potential impacts and risks. Small Quantities exceptions will allow all available test data (QC, QA or Verification) to be used in the acceptance decision when samples are not taken due to limited production of a particular Job Mix Formula. The final policy will be in place by May 1, 2017.
- Materials and Tests staff is in the process of further investigating each occurrence noted in the report and visually inspecting the actual locations where the material was placed and determine if further evaluations or corrective actions are necessary.

2. NO DOCUMENTATION TO SUPPORT SELECTING LOWER RANKED HIGHWAY CONSULTANT FIRMS

The Department did not document the rationale for awarding highway consultant contracts to firms determined by the selection committee to be less qualified than competing firms. During state fiscal year 2016, the Department spent \$86.8 million in federal highway funds on 717 consultant contracts.

When procuring highway consultant contracts for professional design, engineering, or other services, the Department uses a selection committee. The selection committee will evaluate, rank, and recommend firms based on factors such as past performance, experience, location, and present workload.

Auditors reviewed selection committee evaluation documentation for 61 of the 717 consultant contracts that had expenditures during state fiscal year 2016. In three instances, the firms awarded contracts were ranked lower by the selection committee than the firms not selected. The rationale for the selection committees' deviation from its initial qualification rankings was not documented. The three contracts, which span multiple years, had a total contract value of \$3.5 million and expenditures of \$358,081 during fiscal year 2016.

The Department's failure to ensure that the selection committee documents its rationale for deviating from its qualification rankings could result in substandard design and engineering services on highway projects.

According to Department personnel, highway consultant contracts are normally awarded to the highest ranked firms. The selection committee may then reevaluate relevant factors beyond the initial evaluation rankings and award contracts to lower ranked firms. However, the reevaluations and justifications for awarding the contracts to lower ranked firms were not documented.

Federal regulations³ require states to use qualifications-based selection procedures and retain supporting documentation for the selection procedures and selection. Additionally, the Department's internal "Policies and Procedures for Major or Specialized Service Contracts" requires that the results of the selection committee meeting be maintained.

This finding was reported in the fiscal year 2013 Statewide Single Audit as finding # 2013-024

Federal Award Information: CFDA 20.205 Highway Planning and Construction Cluster 2016

Recommendation: Department management should document all factors considered by selection committees when ranking and selecting contractors for engineering and design-related services for highway projects. Specifically, the documentation should include all subsequent reevaluations performed and any justifications for selection of firms other than the highest ranked firms.

³ 23 CFR 172.7

Agency Response: The Department agrees with the finding and is taking the below corrective action.

All engineering firms considered for selection first must be pre-qualified by the Department to ensure they have the qualification to perform the advertised scope of work. The selection process ensures the most highly qualified firm is selected for each scope of work.

Professional Services Firms are selected by committee. Each committee member scores each proposing firm's Letter of Interest based on several evaluation criteria. These scores are transmitted to the ex-officio selection facilitator who then compiles the scores and calculates the average scores of the committee members, which provides a draft of the collective scores from the committee. The selection facilitator then calls a meeting of the selection committee to discuss the evaluation criteria and the draft collective scoring. This meeting affords a critical opportunity for committee members to exchange information related to each firm's qualifications. The final selection of a firm or firms is determined by the draft average scores in conjunction with information gathered from the committee discussion. Based on that information, it is possible that a firm or firms with lower draft scores are ultimately determined to be more highly qualified for that particular advertised scope of work.

The department has implemented a new process for all future selections that requires the selection facilitator to prepare a summary of the selection results and factors determining the decision in the event that the highest scored firm or firms are not selected. This summary also will be signed by the selection facilitator, the Director of Technical Services and Chief Engineer, and maintained on file along with all other procurement documentation maintained by the department. This process has been communicated to all appropriate department personnel.

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This audit was conducted in 1941 hours at an approximate cost of \$199,923.