



U.S. Department of the Interior
Office of Inspector General

AUDIT REPORT

**ROAD CONSTRUCTION PROGRAM,
BUREAU OF INDIAN AFFAIRS**

**REPORT NO. 96-I-870
JUNE 1996**



United States Department of the Interior

OFFICE OF INSPECTOR GENERAL
Washington, D.C. 20240

JUL - 9 1996

MEMORANDUM

TO: The Secretary

FROM: Wilma A. Lewis
Inspector General

SUBJECT SUMMARY: Final Audit Report for Your Information - "Road Construction Program, Bureau of Indian Affairs"
(No. 96-I-870)

Attached for your information is a copy of the subject final audit report.

The Bureau of Indian Affairs road construction projects that we reviewed were generally well constructed. However, the Bureau needed to improve certain aspects of its road construction activities as follows:

- Some projects contained avoidable planning and design deficiencies that resulted from such factors as the Bureau rushing to award contracts or complete force account work to obligate funds; inexperienced personnel performing tasks; and inadequate reviews of plans and specifications. Consequently, project completions were delayed, and excess costs of about \$3.3 million were incurred.

- Some road construction projects contained construction deficiencies because the Bureau did not adequately monitor or control construction crew performance and did not verify materials test results and quantities and qualities of materials used. As a result, excess costs of about \$1.2 million were incurred.

We made seven recommendations to improve road construction project planning, design, and construction. Based on the Bureau's response, we considered all the recommendations resolved but not implemented. We also addressed matters relating to road construction projects administered by tribes under Public Law 93-638 contracts and the tracking of Highway Trust Funds allocated by the Albuquerque Area Office.

If you have any questions concerning this report, please contact me or Ms. Judy Harrison, Assistant Inspector General for Audits, at (202) 208-5745.

Attachment



United States Department of the Interior

OFFICE OF THE INSPECTOR GENERAL

Washington, D.C. 20240

JUN 17 1996

Memorandum

To: Assistant Secretary for Indian Affairs

From: Judy Harrison *Judy Harrison*
Assistant Inspector General for Audits

Subject: Final Audit Report on the Road Construction Program, Bureau of Indian Affairs (No. 96-I-870)

We have completed our review of the Bureau of Indian Affairs road construction program. The objective of the audit was to determine whether: (1) project planning, project design, and other preliminary work were accurate and complete; (2) construction was monitored to ensure that roads were built according to specifications; and (3) road construction funding was distributed according to the relative needs of reservations.

We concluded that Indian reservation roads were generally well constructed. However, the Bureau of Indian Affairs needed to improve certain aspects of its road construction activities as follows:

Some road construction projects contained avoidable planning and design deficiencies. For example, incomplete and inaccurate project plans and specifications were prepared, inaccurate surveys and inadequate analyses of site conditions were performed, construction was started before an archeological clearance was obtained, and projects were scheduled to start late in the construction season. Defective planning and designs were attributable to numerous causes, including rushing to award contracts or complete force account work to obligate funds in order to avoid returning funds to the Federal Highway Administration; inexperienced personnel performing tasks; and inadequate reviews of plans and specifications. These deficiencies frequently resulted in delays in project completion, as well as excess costs of about \$3.3 million.

Some road construction projects contained construction deficiencies because the Bureau did not adequately monitor or control construction crew performance and did not verify materials test results and the quantities and qualities of materials used. These construction deficiencies resulted in excess costs of about \$1.2 million.

In addition to the finding and recommendations, we addressed matters relating to Public Law 93-638 road construction procurements that were retroceded to the Bureau by two tribes and the tracking of Highway Trust Funds allocated by the Albuquerque Area Office.

The April 29, 1996, response (Appendix 2) to our draft report from the Assistant Secretary for Indian Affairs concurred with all seven recommendations. The Bureau's proposed actions were sufficient for us to consider the seven recommendations resolved but not implemented. Accordingly, the unimplemented recommendations will be referred to the Assistant Secretary for Policy, Management and Budget for tracking of implementation, and no further response to the Office of Inspector General is required (Appendix 3).

The legislation, as amended, creating the Office of Inspector General requires semiannual reporting to the Congress on all audit reports issued, the monetary impact of audit findings (Appendix 1), actions taken to implement audit recommendations, and identification of each significant recommendation on which corrective action has not been taken.

We appreciate the cooperation of Bureau personnel in the conduct of our audit.

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INTRODUCTION

BACKGROUND

The mission of the Bureau of Indian Affairs road construction program is to construct Indian reservation roads that provide safe and accessible transportation of people and goods. Road construction includes planning, surveying, designing, engineering, and building roads and bridges. (Road construction does not include road maintenance activities.) The memorandum of agreement between the Bureau and the Federal Highway Administration describes the roles and responsibilities of each in the performance of the program. The Bureau of Indian Affairs Manual (57 BIAM) describes the responsibilities of the Bureau's central, area, and agency offices regarding road construction.

The Washington, D.C., office of the Bureau's Division of Transportation is responsible for determining policy matters related to road construction and maintenance, developing program budgets, coordinating with other entities internal and external to the Bureau, and advocating road improvement needs of Indian people. The Division of Transportation has 29 employees. The Division's Branch of Engineering and Operations, which is located in Albuquerque, New Mexico, is primarily the technical support staff of the Division. Bureau area and agency offices are responsible for funding, planning, scheduling, constructing, and inspecting Indian reservation roads. Area and agency offices have about 470 full-time equivalent employees assigned to road construction. Tribes may perform many of the Bureau's road construction tasks through Public Law 93-638 (Indian Self-Determination and Education Assistance Act) contracts.

Appropriations for Bureau road construction are made to the Secretary of Transportation, who transfers annual contract authority from the Highway Trust Fund to the Bureau. The amounts transferred were \$77.3 million in fiscal year 1991, \$157.4 million in fiscal year 1992, \$185.2 million in fiscal year 1993, and \$184.1 million in fiscal year 1994. Generally, funds are available for obligation only in the same year that they are received from the Federal Highway Administration.

Prior to fiscal year 1993, the Bureau was to distribute road construction funds to tribes according to a formula that equally considered the reservation area (33 1/3 percent), the local Indian population (33 1/3 percent), and the miles of Bureau-owned roads (33 1/3 percent). In 1987, the Bureau conducted a national relative needs study that identified and recommended a new funding formula. The new formula considers costs to improve roads to desired conditions (50 percent), vehicle miles traveled (30 percent), and local Indian population (20 percent). After consultation with the tribes, the Bureau adopted the new formula early in 1993. The new formula was to be phased in over 4 years, with the percentage of funds distributed using the new formula to increase each year as follows: fiscal year 1993-25 percent; fiscal year 1994-50 percent; fiscal year 1995-75 percent; and fiscal year 1996-100 percent.

OBJECTIVE AND SCOPE

The objective of this audit was to determine whether: (1) project planning, project design, and other preliminary work were accurate and complete; (2) construction was monitored to ensure that roads were built according to specifications; and (3) road construction funding was distributed according to the relative needs of reservations.

The audit was performed from June 1994 through August 1995 at the Albuquerque, Navajo, Aberdeen, and Phoenix Area Offices and at the Division's Branch of Engineering and Operations. The review of project planning, design, and construction objectives included projects substantially completed during fiscal years 1992 through 1994. The review of fund distributions included fiscal years 1990 through 1994.

Our review was made in accordance with the "Government Auditing Standards," issued by the Comptroller General of the United States. Accordingly, we included such tests of records and other auditing procedures that were considered necessary under the circumstances.

As part of our review, we evaluated the system of internal controls to the extent that we considered necessary. Internal control weaknesses related to road construction are addressed in the Finding and Recommendations section of this report. If implemented, the recommendations should improve the internal controls.

PRIOR AUDIT COVERAGE

Neither the Office of Inspector General nor the General Accounting Office has audited the Bureau's road construction program during the past 5 years.

FINDING AND RECOMMENDATIONS

PROJECT PLANNING AND DESIGN AND CONSTRUCTION

Generally, Indian reservation roads were well constructed. Specifically, agency road maintenance and local law enforcement personnel whom we contacted reported that most of the recently constructed roads required only normal maintenance and were safe in that the roads were not a factor in accidents. However, we noted that some road construction projects contained planning and design and construction deficiencies that could have been avoided. The Bureau of Indian Affairs Manual requires that road construction surveys and designs be performed in accordance with general professional standards and that construction be properly monitored to ensure conformance with project plans and specifications. In those instances where deficiencies existed, the Bureau of Indian Affairs did not meet the requirements because of its rush to obligate funds before fiscal year-end in order to avoid returning funds to the Federal Highway Administration or because of its inadequate oversight or control of construction activity. As a result, 24 projects had planning and design deficiencies and/or construction deficiencies, which could have been avoided, that resulted in excess costs of about \$4.5 million. Further, the expenditure of additional funds to correct construction deficiencies adversely affected the tribes' road construction programs because the increased costs were financed from the tribes' allocation of Highway Trust Funds, thereby reducing the amount of funding available for future projects.

During fiscal years 1992 through 1994, the Aberdeen, Albuquerque, Navajo, and Phoenix Areas completed 185 road construction projects that cost about \$194 million. We reviewed 84 of these projects (about \$84 million) and found that 24 had planning and design deficiencies and/or construction deficiencies, which could have been avoided, that resulted in excess costs.

Planning and Design

We found that 16 of the 84 projects reviewed had planning and design deficiencies that resulted in excess costs of about \$3.3 million (2 of these projects also had construction deficiencies). Planning deficiencies included the relocation of utilities not being coordinated, construction being started before an archeological clearance was obtained, materials not being purchased to coincide with construction, and projects scheduled to start late in the construction season. Design deficiencies included project plans and specifications that were incomplete and inaccurate, surveys that were inaccurate, analyses of site conditions that were inadequate, pavement thickness that was insufficient, and drainage that was inadequate. Defective planning and designs were attributable to causes such as rushing to award

contracts or complete force account work¹ to obligate funds during the fiscal year in which the funds were received from the Federal Highway Administration in order to avoid returning the funds; having inexperienced personnel perform tasks; designing projects based on outdated traffic information; and performing inadequate reviews of plans and specifications. These deficiencies frequently resulted in delays in project completion and in unnecessary costs.

The Bureau of Indian Affairs Manual (57 BIAM) requires that road construction surveys and designs be performed according to general professional standards and that roads be constructed by the most economical, efficient, and safe methods.

Planning and design deficiencies that we found included the following:

- The Bureau started subsurface construction and awarded a pavement contract for a project before an archeological clearance was obtained. When the Bureau encountered a known archeological site, it moved the equipment and crew to another project. Upon completion of the archeological clearance, the equipment was moved back, and the crew resumed work. This condition occurred because area office road construction personnel did not adequately review the project files to ensure that an archeological clearance had been obtained before construction began. Consequently, unnecessary mobilization costs of about \$340,000 were incurred.

- The Bureau suspended construction on a project because the original plans would have resulted in the project being constructed on a right-of-way of a public utility company. This error was caused by inexperienced staff performing land surveys. The redesign of the project and construction delays resulted in unnecessary costs of about \$224,000.

- The Bureau awarded a contract, and the contractor started construction before the Bureau completed project plans, coordinated utility relocation, and performed accurate surveys. These deficiencies occurred because the Bureau rushed to award the contract to obligate funds before the end of the fiscal year. Consequently, contractor performance was delayed while these deficiencies were corrected, resulting in unnecessary costs of about \$326,000.

- The Bureau awarded a construction project which specified that the chip seal (a critical process to protect the road surface) was to be applied between May 15 and October 21. However, the Bureau authorized the contractor to begin construction too late in the construction season for the chip seal to be completed before the October 21 winter weather limitation deadline. Without the protection that the chip seal was designed to provide, winter precipitation and spring heat caused the recycled asphalt to deteriorate. The Bureau spent about \$246,000 to resurface the road, a cost that could have been avoided with better planning.

¹This is the method of construction that utilizes Bureau and/or tribal employees to construct the project.

Construction

Ten of the projects reviewed contained construction deficiencies that resulted in excess costs of about \$1.2 million. Specifically, roads were not constructed in conformance with project specifications. Construction deficiencies occurred because the Bureau did not adequately monitor or control construction crew performance and did not verify test results of the materials and the quantities and qualities of materials used.

The Bureau of Indian Affairs Manual (57 BIAM, Supplement 2) requires that agency office field inspectors monitor construction to ensure conformance with project plans and specifications and that area office engineers review and verify all materials test results for conformance with project specifications.

Construction deficiencies that we found included the following:

- The Bureau accepted completion of a road-surfacing project before it analyzed asphalt pavement samples to determine compliance with specifications. A subsequent analysis by the Bureau revealed that about 20 percent of the pavement samples were less than the minimum acceptable thickness of 2 inches. An area office engineer indicated that the road would have to be resurfaced after 7 years instead of after 20 years as anticipated, which will result in unnecessary costs of at least \$240,000. These excess costs could have been avoided if the Bureau had analyzed the samples and required the contractor to correct the deficiencies before the project was accepted and final payment was made.

- The chip seal portion of a road surfacing project was not applied uniformly because a subcontractor did not use the proper equipment to apply the seal. Bureau employees said that they were aware the chip seal was not applied according to contract specifications but allowed the subcontractor to complete the application. The final inspection report for the project stated that the chip seal was of “poor quality (workmanship, materials, and equipment).” Nonetheless, the Bureau accepted the project and paid the contractor for the chip seal. The Bureau said that it planned to issue another contract at an estimated cost of about \$510,000 to correct this deficiency.

Recommendations

We recommend that the Assistant Secretary for Indian Affairs ensure that the Bureau’s area road construction management:

1. Obtains the required clearances and construction materials before beginning construction or before awarding construction contracts.
2. Coordinates the relocation of utilities to avoid construction delays.

3. Reviews project plans, designs, and specifications to ensure that all information is accurate and complete. Designs should be based on relevant traffic information.

4. Verifies the accuracy of surveys.

5. Schedules construction so that critical processes have been completed before there is a need to suspend work because of inclement weather conditions.

6. Monitors construction and analyzes material samples for compliance with contract specifications before making final payments to contractors.

7. Requires contractors to correct their construction deficiencies at no cost to the Bureau.

Bureau of Indian Affairs Response and Office of Inspector General Reply

The April 29, 1996, response (Appendix 2) from the Assistant Secretary for Indian Affairs concurred with all seven recommendations. Based on the Bureau's response, we consider the seven recommendations resolved but not implemented (see Appendix 3).

OTHER MATTERS

During our review, we also identified matters concerning road construction projects administered by tribes under Public Law 93-638 contracts and the tracking of Highway Trust Funds allocated by the Albuquerque Area Office. We believe that the Bureau of Indian Affairs should review these matters to ensure that the road construction program is administered efficiently and effectively.

Public Law 93-638 Contracts

As part of our audit, we reviewed 18 road construction projects administered by tribes under Public Law 93-638 (Indian Self-Determination and Education Assistance Act). As previously noted, the roads were well built. However, we identified two road construction contracts, which separate tribes retroceded to the Bureau, that subsequently cost \$1.3 million in excess of the contract amounts for the projects to be completed. The expenditure of the additional funds adversely affected the tribes' road construction programs because the increased costs were financed from the tribes' allocations of Highway Trust Funds. We are highlighting the circumstances surrounding these projects for Bureau consideration in improving future award and administration of Public Law 93-638 road construction contracts.

Background. Public Law 93-638 was amended in October 1988, in part, to authorize tribes to contract for construction and in October 1994 to significantly reform the self-determination contracting process. However, regulations to address these amendments had not yet been published in final form as of August 1995. In the interim, the Bureau of Indian Affairs Manual (20 BIAM, Supplement 1, Release 1), issued in September 1990, specifies that the Code of Federal Regulations (25 CFR 271) is applicable to construction contracts. These regulations are oriented, however, to service programs, such as education and social services, which are continuous, and not to construction programs, which are usually on an intermittent (project-by-project) basis.

Application for a Contract. One tribe retroceded a road construction contract that was for grading and drainage of a 10-mile road. The tribe proposed to build the project by force account, that is, using tribal employees, rented equipment, and purchased materials--all under the supervision of a tribal official. Although the tribe had successfully completed numerous self-determination contracts for service-oriented programs, it had not previously contracted for any portion of the road construction program.

The Code of Federal Regulations (25 CFR 271.14) specifies the information that a tribe must submit to the Bureau when it applies for a Public Law 93-638 contract. Applications should include sufficient information for the Bureau to determine that the road project can be completed properly. Accordingly, an application for a contract should contain: (1) a statement of the tribal organization's substantive knowledge of road construction; (2) a plan of operation, including the organization,

methods, and procedures to be used, for the work to be performed; (3) a list of equipment needed to carry out the contract and an indication as to how the tribal organization intends to obtain these items; and (4) identification of the subcontractors.

We noted that the tribe's application to contract did not include the required detailed plan of operation, a statement of the tribe's substantive knowledge of road construction, or a list of equipment needed. Furthermore, the Bureau did not obtain this information or inquire about tribal plans for hiring and using qualified personnel, organizing and performing the work, and obtaining and using necessary equipment. That notwithstanding, on September 30, 1992, the Bureau awarded the contract to the tribe. The Bureau has the authority to decline to contract with a tribe if it substantiates that the tribe cannot properly complete a proposed project. In these instances, however, technical assistance should be offered to overcome declination issues.

In its construction oversight reports, the Bureau reported that construction activities lacked direction and coordination because the tribe did not have expertise and experience in constructing roads. However, the Bureau allowed the work to continue without improvements. In September 1993, the tribe retroceded the contract to the Bureau because the tribe could not complete the project without incurring expenses in excess of the contract price. Specifically, employee salary and equipment rental costs were exceeding the contract prices.

To complete the project, the Bureau spent additional costs of about \$1.1 million. According to contract file documents, the project should have cost about \$2.4 million, which consisted of the Bureau's original cost estimate of about \$1.9 million and eight modifications of about \$500,000. However, the Bureau spent about \$3.5 million to complete the project, which consisted of payments of about \$1.4 million to the tribe and its suppliers and payments of about \$2.1 million to the contractor that completed the project.

We believe that project costs of \$1.1 million (about 28 percent of the tribe's annual Highway Trust Fund allocation) could have been saved or reduced if the Bureau had obtained and analyzed all of the information that the tribe was required to submit when it applied for a contract. This information would have permitted the Bureau to identify potential performance deficiencies and either provide the necessary technical assistance or decline to contract with the tribe if the deficiencies could not be corrected with technical assistance.

Subcontractor Relationship. Another tribe retroceded a road construction contract for bridge work at three sites on its reservation. The Bureau awarded a contract for \$674,553 to the tribe on August 24, 1992, and notified the tribe to proceed with construction on September 15, 1992. The tribe subcontracted the actual construction work to a nontribal construction company.

The Code of Federal Regulations (25 CFR 271.71) states that “tribal governing bodies . . . have a right to return responsibility for the operation of a contracted program or portion thereof to the Bureau for any reason they deem appropriate.” Within 60 days after retrocession, the tribe and Bureau are required (25 CFR 271.72(f)) to jointly develop a report to the Commissioner of the Bureau of Indian Affairs outlining why retrocession occurred.

In June 1993, the tribal council passed a resolution to retrocede the contract to the Bureau. The resolution stated, “The business relationship between the tribe and the subcontractor has been severely damaged.” However, the tribe and the Bureau did not prepare the required report stating the reason for the retrocession.

Although the details surrounding the termination of the agreement between the tribe and the construction contractor were not well documented, we were informed that the tribe did not make timely progress payments to the construction contractor and that it denied the construction contractor access to the construction sites. However, the area office’s Branch of Roads employees stated that the subcontractor’s progress was not significantly deficient and that most of the major tasks had been completed when the resolution to retrocede was passed by the tribal council.

To complete the project, the Bureau awarded a contract to another construction company. This subsequent contract included additional costs of \$169,000, which related to deteriorated site conditions, mobilization, and inflation, that would not have been incurred if the original contractor had been allowed to complete the project. The additional costs represented 63 percent of the tribe’s annual Highway Trust Fund allocation.

Since the original contractor’s performance was generally adequate and the majority of the construction was completed, we believe that efforts should have been made to complete the project either by having the Bureau require the tribe and the contractor to work together or by having the Bureau oversee the completion of the construction.

We are aware that regulations to implement the 1988 and 1994 amendments to Public Law 93-638 are currently being developed by tribal and Federal representatives through negotiated rule making. In that regard, we suggest that the Bureau consider these other matters when it prepares internal agency procedures for the evaluation and oversight of road construction projects performed pursuant to Public Law 93-638.

Tracking of Highway Trust Fund Money

The Albuquerque Area Office did not periodically report to each tribe within its jurisdiction the amount of Highway Trust Fund money that was available for road construction projects on each reservation. This occurred because the Area Office did not track and compare the amount of road construction funds obligated on

reservation projects with those amounts determined based on the applicable relative needs formula. As a result, some tribes did not submit a sufficient number of road construction projects to the Area Office to fully obligate their funding allocations, even though they had identified unmet needs. This condition was previously identified by the Bureau in a May 24, 1989, management report.

Section 126 of the Surface Transportation Assistance Act of 1982 specifies that funds for road construction are to be allocated based on the relative needs of the various reservations. At the beginning of the fiscal year, the Bureau's Branch of Engineering and Operations was responsible for determining the road construction fund needs of each area office using the applicable relative needs formula. The area offices were responsible for distributing these funds among their respective agencies and reservations. In the latter part of each fiscal year, the Bureau's Central Office and area offices contact area and agency offices, respectively, to determine whether all Highway Trust Fund money will be obligated by the end of the fiscal year. In order to obligate funds in the fiscal year in which they are received, any funds that a particular area office cannot obligate by fiscal year-end are transferred to other area offices that have unfunded projects for which construction is ready to begin.

Based on the applicable fund distribution formula and financial information obtained from the Branch of Engineering and Operations and area and agency offices, we determined the Highway Trust Fund needs and obligations for fiscal years 1990 through 1994 for 17 of the 25 reservations of the Albuquerque Area Office. We found that five reservations of two agencies had obligations of from \$1.3 million to \$2.9 million less than their available allocations. For example, one tribal reservation had a road construction funding allocation of about \$2 million but had obligations for road construction projects totaling only about \$528,000, or a difference of about \$1.5 million. An official of this tribe stated that "major road improvements were needed and that the tribe's road construction needs were not being met." The agency for this reservation was not aware of the funding allocations for its reservations. Consequently, the agency did not determine whether reservations fully obligated their allocations and did not assist tribes in submitting additional projects. Conversely, another reservation of the same agency had a road construction funding allocation of about \$1.1 million and project obligations totaling about \$4.5 million, or a difference of about \$3.4 million. This situation had occurred previously at reservations of one of these agencies. The Bureau's May 24, 1989, management report identified a funding deficiency of \$4.6 million for fiscal years 1983 through 1988 and recommended that procedures be established to ensure that agencies received their fair share of funds.

Although the Bureau is not required to adjust future allocations to resolve such overfunding or underfunding, we believe that the Albuquerque Area Office should, as the other area offices do, track Highway Trust Fund money obligated for its reservations and compare these amounts with the applicable needs based on the formula. Further, the Area Office should inform each tribe of its unobligated allocation and assist the tribe in submitting priority projects to the Bureau for it to design and construct.

CLASSIFICATION OF MONETARY AMOUNTS

<u>Finding</u>	<u>Funds To Be Put To Better Use</u>
Project Planning and Design and Construction	\$4.5 million



United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

APR 29 1996

Memorandum

To: Assistant Inspector General for Audits

From: Ada E. Deer *Ada E. Deer*
Assistant Secretary - Indian Affairs

Subject: OIG Draft Audit on BIA Road Construction Program
(C-IN-BIA-O19-94)

Thank you for the opportunity to respond to the subject draft audit. I am pleased that the audit found that Indian reservation roads were generally well constructed. The Bureau of Indian Affairs concurs with the seven recommendations in the "Project Planning and Design and Construction" section of this draft report. Our reasons for concurrence and our proposed corrective actions are described below.

Project Planning and Design and Construction

A primary factor for these road project deficiencies is a shortage of staff to handle the rapid growth in the Bureau's Indian Reservation Roads Program (IRR) with the passage of the Intermodal Surface Transportation and Efficiency Act (IS TEA) of 1991. As the audit points out, program finding increased from approximately \$80 million in FY 1991 to nearly \$160 million in FY 1992, and \$185 million in FY 1993 and FY 1994. The IRR program now approaches \$200 million. The program has not had a proportionate increase in the number of qualified engineers to manage the expanded project workload. The current vacancy rate of engineer and engineering technician positions within the IRR program is about 25 percent. The draft audit report confirms the findings of a number of Program Process Reviews that the BIA Division of Transportation (BIADOT) conducts jointly with the Federal Highway Administration (FHWA). This extensive road program review process is a valuable tool to evaluate the success of BIADOT's program which is administered at the Area level and is required in the BIA/FHWA Memorandum of Agreement. Several reviews have documented a serious shortage of trained civil engineering staff and have recommended hiring additional road engineers. A copy of a recent road program review is provided for reference.

Other problems can be attributed to unusual circumstances. In at least one instance, a project in the Phoenix Area was identified as an example of a planning and design deficiency because the project was started too late in the construction season. While we agree that such delays should be avoided, this project was unique in several respects. While the contract was awarded on October 1, 1990, the Notice to Proceed was delayed until September 25, 1991. The contractor had to mill and recycle the asphalt surface and all work was completed by October 24, 1991, except for the application of the

chip seal coat. A winter shutdown was directed because our specifications do not permit application of chip seal coats between October 21 and May 15. Similar projects involving a winter shutdown prior to application of the chip seal coat had been completed successfully. However, the winter of 1991 produced more rainfall than the last ten years. This unusual weather combined with the heavy truck traffic and very hot spring temperatures caused damage to the roadway, which had to be repaired.

Generally, the problems addressed by the first five recommendations can be attributed to a lack of compliance with existing procedures. Therefore, the following corrective actions apply to all five recommendations. Specifically:

Recommendation 1: Obtain the required clearances and construction materials before construction commences or construction contracts are awarded.

Recommendation 2: Coordinate the relocation of utilities to avoid construction delays.

Recommendation 3: Review project plans, designs, and specifications to ensure that all information is accurate and complete. Designs should be based on relevant traffic information.

Recommendation 4: Verify the accuracy of surveys.

Recommendation 5: Schedule construction so that critical processes have been completed before there is a need to suspend work because of inclement weather conditions.

Response: The Bureau concurs with recommendations one through five. These are standard construction procedures already in place as required in the 57 BIAM. The Deputy Commissioner for Indian Affairs will issue a memorandum to all Area Directors by May 17, 1996, instructing them to:

- Ensure that existing 57 BIAM procedures are followed.
- Use the scheduled joint BIADOT/FHWA Program Process Reviews to monitor program implementation and compliance with 57 BIAM and implement corrective action plans to resolve deficiencies identified by reviews. Program Process Review results will help establish critical performance standards for Area road engineers and to assess their annual performance.
- Establish and fill road construction engineering positions necessary to fulfill the requirements of 23 U.S. C. and the BIADOT/FHWA Memorandum of Agreement.

In addition, the Chief, BIADOT will be instructed to:

- Monitor implementation of the corrective action plans based on the Joint BIADOT/FHWA Program Process Reviews.
- Ensure that all Area road programs obtain Certification Acceptance (CA) Authority similar to that exercised by state highway departments. Operation under CA authority requires an internal second level review of project plans and procedures which would help to minimize deficiencies like those noted in the audit.

The Area Directors and Chief, BIADOT will be responsible for compliance with the provisions of the memorandum immediately upon receipt. Road engineer positions could be advertised by July 15, 1996, with a target date to fill the vacancies by October 1, 1996. However, the isolated locations and the lack of amenities associated with the lifestyle in Indian country frequently hinder our efforts to recruit qualified applicants for the positions.

The problems addressed by the next two recommendations can be attributed to inadequate training. The following corrective actions apply to recommendations six and seven.

Recommendation 6: Monitor construction and analyze material samples for compliance with contract specifications before making final payments to contractors.

Recommendation 7: Require contractors to correct their construction deficiencies at no cost to the Bureau.

Response: The Bureau concurs with these two recommendations. Procedures which require proper monitoring of construction projects and inspecting material samples are found in the Standard Specifications For Construction of Roads and Bridges on Federal Highway Projects, FP-92, as amended and published by the FHWA. To ensure that Area road engineers are aware of and carry out the requirement, the Chief, BIA Division of Transportation, will provide construction management training to Areas during FY 1996. The training will also address contract management, which will stress that Area road engineers are responsible for ensuring that no final payment is made to contractors before acceptance of a project.

The Chief, BIADOT, will work with Area Directors to develop a schedule for training Area road engineers by May 31, 1996 and training should be completed by October 1, 1996.

Attachment

STATUS OF AUDIT REPORT RECOMMENDATIONS

<u>Finding/Recommendation Reference</u>	<u>Status</u>	<u>Action Required</u>
1-7	Resolved; not implemented	No further response to the Office of Inspector General is required. The recommendations will be referred to the Assistant Secretary for Policy, Management and Budget for tracking of implementation.

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