



Chapter Twenty-five
CONSTRUCTION AND
MAINTENANCE

BUREAU OF LOCAL ROADS AND STREETS MANUAL

Chapter Twenty-five
CONSTRUCTION AND MAINTENANCE - Federal Funds

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25-1 CONSTRUCTION

The Federal Highway Administration (FHWA) defines construction as:

“the supervising, inspecting, actual building, and all expenses incidental to the construction or reconstruction of a highway...and improvements which directly facilitate and control traffic flow...”

Section 25-1 briefly describes the policies and procedures for projects constructed with Federal funds.

25-1.01 Responsibilities

For the purposes of this Section, responsibilities are limited to activity between the preconstruction conference and the termination of construction by the contractor.

For information on the preconstruction conference, see Section 13-1.01 and the Bureau of Construction Memorandum No. 70, “Preconstruction Conference Guidelines.”

25-1.01(a) Contractor Responsibilities

The *IDOT Standard Specifications* and contract documents detail the contractor’s responsibilities.

25-1.01(b) Local Public Agency Responsibilities

If the construction is under the direct supervision of the local public agency (LPA), the LPA will provide a full-time LPA employee in responsible charge, a resident construction supervisor, and project inspectors to perform the functions outlined in Section 25-1.02 and the *IDOT Construction Manual*.

The full-time LPA employee in responsible charge and the resident construction supervisor represents the LPA and IDOT in dealings with the contractor, governmental agencies, and the public.

When a LPA uses its own forces to construct a project, the LPA also assumes the contractor’s responsibilities.

25-1.01(c) IDOT Responsibilities

IDOT has been designated as the official agency to administer Federal funds subject to FHWA review. The Regional Engineer is the project approval authority for construction matters coordinated with the Central Bureau of Construction for State-let and most local day labor projects.

25-1.01(d) Federal Responsibilities

The FHWA is the designated Federal agency to review highway project compliance with Federal rules and regulations.

25-1.02 Supervision and Inspection**25-1.02(a) General**

Federal Regulations provide that IDOT has responsibility for construction work involving Federal funds and requires that the work be satisfactorily completed according to the plans and specifications. All materials that are used for construction will be inspected and tested for compliance with the requirements of the *IDOT Standard Specifications*, the *Project Procedures Guide (PPG)*, and the project Special Provisions.

Supervision and inspection will be performed in accordance with the *IDOT Construction Manual* issued by the Bureau of Construction and the *PPG* issued by the Bureau of Materials and Physical Research. All reports will be on forms required for State construction contracts distributed in the manner indicated in the introduction to the forms and reports section of the *IDOT Construction Manual*.

25-1.02(b) IDOT Review

This general supervision by IDOT is not intended to replace the supervision and inspection required of the LPA. However, engineers from the district will make inspections on Federal-aid projects at times selected by them. LPA employees and consultants will cooperate with the IDOT representatives with their inspections. Any deviations from the plans and *Specifications* noted by the district will be called to the attention of the LPA. The district will note their comments in the project diary, and refer matters that require action promptly to full-time LPA employee in responsible charge and the resident construction supervisor. The district will also conduct progress and final documentation reviews in accordance with the documentation procedures in the *IDOT Construction Manual*.

The Regional Engineer will designate one or more staff engineers to be responsible for the supervision of construction for Federal-aid projects. The staff engineer's responsibilities are as follows:

- Inspect each contract at an early stage to determine that project personnel are knowledgeable of the *Specifications* and contract documents and are performing proper contract administration and documentation.
- Be present during or prior to the onset of major work items.
- Make final inspection in conjunction with the LPA.
- Notify FHWA of satisfactory completion of the contract.

25-1.02(c) Local Public Agency Construction Supervision

Supervision of construction is a function of the LPA and its engineers and inspectors.

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1. Local Public Agency Resident Construction Supervisor. Preferably, the county engineer, municipal engineer, or a full-time publicly employed registered professional engineer should be named the resident construction supervisor for the project. If this is not possible, the LPA will submit to the district for approval Form BC-775 that recommends a qualified full-time publicly employed individual or consulting engineer to serve as the resident construction supervisor.

If a consulting engineer is requested as the resident construction supervisor, the local public agency will:

- provide a full-time employee of the LPA to be in responsible charge of the project;
- require the consulting engineering firm to have Construction Inspection prequalification and for the consultant employee named as resident construction supervisor to have Documentation of Contract Quantities certification; and
- attach approved Form BC-775 to the appropriate LPA/consultant agreement form.

The full-time public employee in responsible charge of the project should perform the following duties and functions:

- Administer inherently governmental project activities, including those dealing with cost, time, adherence to contract requirements, construction quality and scope of projects;
- Maintain familiarity of day to day project operations, including project safety issues;
- Make or participate in decisions about changed conditions or scope changes that require change orders or supplemental agreements;
- Visit and review the project on a frequency that is commensurate with the magnitude and complexity of the project;
- Review financial processes, transactions and documentation to ensure that safeguards are in place to minimize fraud, waste, and abuse;
- Direct project staff, agency or consultant, to carry out project administration and contract oversight, including proper documentation; and
- Aware of the qualifications, assignments and on-the-job performance of the agency and consultant staff at all stages of the project.

The selection and Regional Engineer approval of the resident construction supervisor will be completed prior to the start of construction and the pre-construction conference minutes should reflect the name and position of the resident construction supervisor and the full-time public employee in responsible charge if different than resident construction supervisor.

2. Trained Technicians and Qualified Laboratories for Material Testing. Requirements for trained technicians and qualified laboratories are covered in IDOT's *Project Procedures Guide*.

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3. Local Public Agency Construction Inspectors. The individuals who perform the day-to-day duties of layout, inspection, quantity measurements, and documentation may be either public employees or consultant employees. It is the responsibility of the resident construction supervisor to ensure that adequate instructions have been given to the project inspectors concerning the requirements of the contract documents and the procedures contained in the *IDOT Construction Manual*.

The LPA will submit Form BC-776 to the district certifying that inspector(s) are trained and qualified to perform the day-to-day duties. If a consultant is selected as a project inspector, Documentation of Contract Quantities certification is required and the LPA will attach BC-776 to the appropriate consultant agreement form.

25-1.02(d) Inspection and Testing of Material

See Section 13-3 for detailed guidance on material inspection and testing.

25-1.03 Progress Billing

After the "Authorization to Proceed" has been given and a portion of the work has been completed, progressive billing (partial payments) may begin. The methods of payment will depend upon the type of work involved.

25-1.03(a) Utility Adjustments and Relocations

The LPA may pay the utility company for partial work completed in accordance with the provisions of the utility agreement. A request for reimbursement of the Federal funds should be sent to the district with supporting documentation.

25-1.03(b) Railroads

The railroad will conduct progressive billing in accordance with the stipulations and conditions included in the railroad agreement. The majority of agreements contain the following basic procedures:

The railroad company, for performance of its work, may bill IDOT monthly for the Federal share of the estimated work. In addition, the railroad company may bill the LPA monthly for the LPA's share of the expenses incurred. The progressive invoices will be rendered on the basis of the estimated expense, plus allowable additives. IDOT and the LPA, after verifying that the bills are reasonable and proper, will promptly reimburse the railroad company for the amount billed. Payment will not be claimed for any bill totaling less than \$500 excluding the final bill. If the agreement provides for the railroad to bill the LPA for the entire cost, the LPA should request reimbursement for the Federal share from the district. A copy of the railroad bill and a copy of the LPA's checks to the railroad must be submitted with the request.

25-1.03(c) Construction

Contractor payments for construction projects will be conducted in accordance with Construction Memorandum No. 76, "Contractor Payments – Articles 109.07 and 109.08." Retainage is not allowed on Federal-Aid construction projects.

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25-1.03(d) Construction Engineering

Payments for construction engineering will be submitted to the district for review prior to submittal to the Central BLRS for reimbursement. Any project using Federal funds for construction engineering must be audited by the Central BLRS. The construction engineering agreement between the LPA and consultant or construction engineering by the LPA must be approved by the Central BLRS prior to reimbursement of Federal funds.

25-1.04 Project Closeout and Final Acceptance

25-1.04(a) General

Closure and final acceptance occur after the completion of project activity. The district is responsible for the general construction supervision of the entire project and for ensuring Federal procedures are followed. The projects will not be entered into the Bureau of Construction pay system. The LPA will be reimbursed by the State, through the Central Bureau of Construction, for the Federal share of construction work on the basis of periodic billings, provided the billings contain sufficient cost information and show evidence of payment by the LPA. The bills should be broken down to reflect the MFT portion, non-participating items, and Federal participating items. Also, although several project numbers may relate to a common project, each project number must be closed out separately.

Documents required to close a local let project include the following:

- Form BLR 13231 (Engineer's Final Payment Estimate);
- Form BLR 13510 (Final Report), showing both MFT and Federal funds expended on the project; and
- material certification.

25-1.04(b) Utility Adjustment and Relocation Projects

When utility adjustments or relocations have been completed, the LPA is responsible for ensuring that all work has been accomplished in accordance with the approved agreement and the PS&E. All deficiencies should be corrected and accepted prior to notifying the district of the project completion. After receiving this notification, the district will schedule a final inspection with the LPA. If acceptable, the FHWA will be notified of the completion of the work. Consider the following when closing utility projects:

1. Final Invoice. A final invoice of costs incurred by the utility will be submitted to the district. This invoice should be submitted within 90 days of the completion of the work. The final invoice should follow as closely as practical the order of the items in the estimate and include the following:
 - description and location of the project;
 - the Federal-aid project number, section number, and job number;
 - the date the agreement was executed and the date on which the earliest item of billed expense was incurred;
 - the date on which the work was completed or the last billed expense was incurred;

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- the location of all supporting records; and
 - the summation of actual costs (see Item 2 below).
2. Summation of Actual Costs. When covered by an approved agreement for lump sum payment, the summation of actual costs will consist of copies of the approved utility agreement, estimate of cost, and the final invoice from the utility. The summation of actual costs will also include:
 - a. Labor. Include the total cost and detailed breakout of labor.
 - b. Equipment. Include the total cost and detailed breakout of equipment.
 - c. Installation and Removal. Include the total cost of installation and removal.
 - d. Material. The final invoice must account for all materials used or removed in completing the adjustment. Recovered material will be processed as follows:
 - Suitable Condition. Materials recovered in suitable condition for reuse by the utility are to be credited to the project. The credit allowances are subject to audit.
 - Unsuitable Condition with Salvage Value. Recovered materials that are not suitable for reuse by the utility, but which have a salvage value, will be sold by solicitation of bids or by a regularly practiced disposal system used by the utility. IDOT or the LPA will be given the opportunity to inspect the material. The utility may be held accountable for material disposed of without notice.
 - Unsuitable Condition without Salvage Value. Recovered materials that are not suitable for reuse by the utility and have no apparent salvage value may be considered worthless providing the LPA is given the opportunity to inspect the material. This notice to the LPA of the proposed inspection is the responsibility of the utility. The utility will be held accountable for full value of materials disposed of without notice.
 - e. Administrative Cost. Include administrative costs as follows:
 - overhead;
 - preliminary engineering, shown separately; and
 - construction engineering, shown separately.
 3. State-Job Completion Notice — Form AA-336. Upon receipt of the final invoice, the district will prepare Form AA-336 to notify the appropriate offices of the project completion.
 4. Documentation. The LPA will retain copies of all invoices and supporting documentation for auditing purposes for a period of 3 years after payment of the final voucher.
 5. Audits. IDOT will audit invoices in accordance with the FHWA approved auditing procedures. Upon completion of the audit and resolution of any findings, IDOT will close out the Contract Obligation Document (COD) and submit a final voucher to the FHWA.
 6. Form BLR 13510. When MFT or State funds are used to pay a portion of the cost, the LPA is required to submit Form BLR 13510 upon completion of the project. This will close out the MFT or other State funds administered by IDOT portion of the project.

25-1.04(c) Railroad Project

The railroad company, upon completion of its work, will promptly submit a certification of inspection of active protective devices and will render a detailed final statement of its actual expenses as incurred to IDOT. The LPA is responsible for performing an inspection to ensure that all work conforms to the approved agreement, including the final PS&E approved supplements. All deficiencies should be corrected and accepted prior to notifying the Central BLRS of the project's completion. After receiving this notification, the district will schedule a final inspection with representatives of the LPA. If acceptable, the FHWA will be notified of final acceptance of the project. Consider the following when closing railroad projects:

1. Final Invoice. The railroad company will submit to the Central BLRS or the LPA a final invoice for costs incurred on the project. This invoice should be submitted within 90 days of the completion of the work. The invoice should follow as closely as possible the order of items in the estimate and should also include the following:
 - description and location of the project;
 - the Federal-aid project number, section number, ICC order number (if applicable), and job number;
 - the date the agreement was executed and the date on which the earliest item of billed expense was incurred for the invoice;
 - the date on which the last work was performed or the last billed expense was incurred;
 - the location of all supporting records, including names and addresses; and
 - the summation of actual costs.
2. Summation of Actual Costs. The summation of actual costs will require the following:
 - a. Labor. The total cost and detailed breakout of labor.
 - b. Equipment. The total cost and detailed breakout of equipment.
 - c. Transportation. Include the following transportation costs:
 - Employee Transportation/Subsistence. The company's cost, consistent with the company's overall policy, of necessary employee transportation and subsistence directly attributable to the project.
 - Materials/Supplies/Equipment. The most economical movement of materials, supplies, and equipment to and from the project site, including loading and unloading. This may include the company using its own lines at the actual rate the company charges its customers.
 - d. Installation and Removal. The total cost of installation and removal of the railroad warning devices and/or crossing surface.
 - e. Materials and Supplies for Crossing Surfaces. Materials and supplies, if available, are to be furnished from company stockpile, except they may be obtained from other sources near the project site when available at a lesser cost. When not available from company stockpile, they may be purchased either under competitive bids or existing continuing contracts, under which the lowest available prices are developed. Include the costs for materials and supplies as follows:

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- Company Stockpile. Materials and supplies furnished from company stockpile will be billed at current stock price of new or used material at the time of issue.
 - Non-company Material. Materials and supplies not furnished by the company will be billed at actual cost to the company, delivered to the point of entry on the railroad company's line nearest the source of procurement.
- f. Materials Recovered. Recovered material will be processed as follows:
- Reusable. Materials recovered from temporary use and accepted for reuse by the company will be credited to the project at prices charged to the job, less a consideration for loss in service life at 10% for rails, angle bars, tie plates, and metal turnout materials, and 15% for all other materials. Materials recovered from the permanent facility of the company that are accepted by the company for return to stock will be credited to the project at current stock prices of used material.
 - Non-Reusable. Materials recovered and not accepted for reuse by the company, if determined to have a net sale value, will be sold to the highest bidder following an opportunity for inspection and appropriate solicitation for bids, or if the company practices a system of periodic disposal by sale, credit to the project will be at the going prices supported by the records of the company. Where applicable, credit for materials recovered from the permanent facility in length or quantities in excess of that being placed should be reduced to reflect any increased cost of railroad operation resulting from the adjustment.
- g. Overhead and Indirect Construction Costs. Overhead and indirect construction costs are not directly identified with a single, final cost objective. These costs will be distributed to all applicable work orders and other functions on an equitable and uniform basis in accordance with generally accepted accounting principles. The costs must be reasonable and those actually incurred.
- h. Administrative Cost. The company will include and show separately the construction engineering and preliminary engineering costs. If the LPA is billed, they should request reimbursement of the Federal share from the district.
3. State-Job Completion Notice — Form AA-336. Upon receipt of the final invoice, the district will prepare Form AA-336 to notify the appropriate offices of the project's completion.
4. Payment. IDOT and the LPA will reimburse the railroad company an amount equal to the total billing minus previous payments.
5. Documentation. The railroads will retain copies of all invoices and supporting documentation for auditing purposes for a period of 3 years after payment of the final voucher.
6. Audits. IDOT will audit invoices in accordance with FHWA approved auditing procedures. Upon completion of the audit and resolution of any findings, IDOT will close out the COD and submit a final voucher to the FHWA.
7. Form BLR 13510. When MFT or other State funds are used to pay a portion of the cost, the LPA is required to submit Form BLR 13510 upon completion of the project. This will close out the MFT or State-funded portion of the project.

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25-1.04(d) Construction Project

Upon completion of a construction project, the LPA is responsible for ensuring that all work has been accomplished in accordance with the approved agreement and the PS&E, including any approved changes. Any deficiencies on the project should be corrected and re-inspected before acceptance. Construction projects will be closed as follows:

1. Forms BC-71, BC-111, and BC-608. After acceptance, the LPA should submit Forms BC-71, BC-111, and BC-608 to the district.
2. Supporting Documentation. Include the following information with Form BLR 13231:
 - field measurement books;
 - Inspector's Daily Report (Form BC-628), if identified as a "Final Field Measurement";
 - cross sections;
 - weight tickets, bound and summarized by means of an adding machine tape;
 - project diary, not individual's diary;
 - calculation file for such items as concrete and reinforcement bars;
 - Form BC-981;
 - force account file with Form BC-635 with the contractor's invoice; and
 - Form SBE-1014 file with signed reports for "TRAINEES."

Use the *IDOT Construction Manual* to assist with documentation preparation. The *IDOT Construction Manual* contains detailed explanations of various documentation, project checklists, and forms.

3. Final Inspection. Upon receiving Items 1 and 2, IDOT will schedule a final inspection with representatives of the LPA. If acceptable, the FHWA will be notified of the final acceptance of the project.
4. Form BC-111. Prior to submittal of the final payment estimate, IDOT will review the project documentation using Form BC-111 and prepare a certification of materials.
5. Form BC-107 and Form AA-336. After final acceptance and documentation review, the final payment estimate will be processed for payment. At this time, the Central Bureau of Construction will complete Form BC-107 to notify the LPA and the contractor of the final acceptance of the project. The district will complete Form AA-336 to notify the appropriate IDOT offices of the project completion.
6. Audits. IDOT, in accordance with FHWA approved audit procedures, will audit all project costs. Upon completion of the audit and resolution of findings, a final voucher will be submitted to the FHWA, and the COD will be closed out. The LPA must keep copies of all payment estimates and supporting documentation on file for a period of 3 years after payment of the final voucher.
7. Form BLR 13510. When MFT or State funds are used to pay a portion of the cost, the LPA is required to submit Form BLR 13510 upon completion of the project. This will close out the MFT or State-funded portion of the project.

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25-1.05 Miscellaneous

25-1.05(a) Borrow, Use, and Waste Areas

See Section 13-4.02 for information on borrow, use, and waste areas.

25-1.05(b) Work Zone Traffic Control

See Section 13-4.03 for information on work zone traffic control.

25-1.05(c) Temporary Sidewalk

See Section 13-4.04 for information on temporary sidewalks.

25-1.05(d) Erosion and Sediment Control

See Section 13-4.05 for information on erosion and sediment control.

25-1.05(e) Equipment

See Section 13-2.05 for information on equipment used on construction projects.

25-1.05(f) Mobilization

See Section 13-4.06 for information on mobilization.

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25-2 MAINTENANCE OF PROJECTS

25-2.01 General

The State highway department is responsible for maintaining or causing to be maintained any project constructed with Federal-aid funds (23 USC Section 116). It also requires that IDOT enter into a formal agreement for the maintenance of projects under LPA jurisdiction. Form BLR 05310 is used to establish this agreement between IDOT and the LPA.

An additional provision of the *United States Code* provides that if the Federal authorities find that any project is not being properly maintained, the highway agency will be notified. If the project is not restored to a proper condition of maintenance, authorization of additional Federal-aid projects for the highway agency will be withheld until the project is properly maintained.

“To maintain” is considered as to perform normal maintenance operations for the preservation of the entire project, including roadway surface, shoulders, roadsides, structures, and traffic control devices that are necessary for its safe and efficient utilization.

Federal funds may be used for selected maintenance activities as mutually determined by the LPA and IDOT.

25-2.02 Maintenance Monitoring

Local roads field engineers from the districts, during official highway travel over LPA projects, are responsible for observing general compliance with the provisions of this Section.

Either during official highway travel throughout the year or during a special review, the District Local Roads Engineer, or designated representative, will review completed LPA Federal-aid projects to determine the LPA’s maintenance effort. The district will review each county and urban area at least once in every 4-year period. More frequent reviews should be made if discovered deficiencies warrant.

The primary concern is whether or not Federal-aid projects are being maintained at an acceptable level of physical integrity and operation. The maintenance review is not meant to be a detailed review of a roadway system, but rather a brief review to observe the overall status of maintenance. The local roads field engineers should include positive comments when appropriate.

After the review, the district will forward a report of their findings during the calendar year to the LPA by December 1. The Maintenance Review Check Sheet, or similar format, will be used for this purpose.

Should an unsatisfactory condition be observed that threatens the integrity of a project constructed with Federal funds, it should be brought to the attention of the appropriate LPA officials. LPA officials will take corrective measures to avoid further deterioration. Based on further inspection, if within 90 days after receipt of the notice the highway or street has not been restored to a condition satisfactory to IDOT, IDOT may, with FHWA consent, withhold approval of any Federal projects.

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| The district should retain a copy of the maintenance report sent to the LPA and ensure it is available to representatives of the FHWA and Central BLRS upon request.