

# **SECTION 900**

## **PROJECT RECORDS & CLOSEOUT**

# CONSTRUCTION MANUAL

MAINE DEPARTMENT of TRANSPORTATION

Bureau of Project Development

April 1, 2003

Section 901 Preparation of Project Records -- 5 Pages

## PREPARATION OF PROJECT RECORDS

### 901-1 GENERAL

This Section describes the requirements for preparation of the project records by the Resident and his/her Inspectors for final review. Field record keeping and testing procedures for the individual pay items are explained in the appropriate sections of this Manual.

### 901-2 PROJECT RECORDS

#### a. Final Quantity Computations Book

This book contains all computations that support pay quantities and that are done on 8 ½ by 11 sheets or other loose sheets. These computations may be done manually or may be computer generated. Dimensions, measurements, and computer data used in the computations must be referenced to source, whether it is plans or field measurements. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date his/her work.**

Computation sheets will be filed by pay item, beginning with the lowest numbered. Example: Item 201 - Clearing. A summary sheet will precede the computations for each pay item. Totals shown on each summary sheet will be transferred to the appropriate pay item in the Final Quantity Book. The pages of each item should be numbered consecutively. Computation sheets will be bound together in a red acco-press binder, titled in one-inch lettering: Project Number, P.I.N., Town, and "Final Quantity Computations Book".

Daily Reports of Hourly Work and Flagger Reports should be filed in the Final Quantity Computations Book, located as items 629-631, and item 652, respectively. Following the item computation sheets is a copy of all Extra Work Orders, and Resident's Work Orders. A list of plotting rolls and plans, and a list of field books is also required. Index tabs will be used to locate each pay item or list.

#### b. Field Books

A project will have, typically: a Project Diary, a Final Quantity Book, and a Construction Book; these field books may be combined if the job is small. A full construction project, complex in nature, would probably also have one or more Drainage Books, a Grade Check Book, and an Inspector's Diary. For identification purposes, all field books will have: project number and town noted on the

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front cover, and labeled on the inside: MDOT, 16 State House Station, Augusta, Maine 04333-0016. 287-2127. Books must also be indexed and titled as to content. The binding must be left blank for use by the Augusta Office.

If the Resident uses the computer program Field Manager, the Final Quantity Book would be replaced by the "Item History to Date" and the Project Diary would be called the Daily Diary. This would be supplemented by the Inspector's Daily Report, also known as the IDR, which has to be made out in order that a progress estimate can be generated. The Resident can combine the IDR and the Daily Diary to avoid duplication.

Whether or not the Resident uses Field Manager, a Construction Book will be required on every job to record field measurements, layout notes, and other field data that cannot be readily entered in Field Manager.

#### (1) Final Quantity Book

The Final Quantity Book, or Item History to Date if the job is set up using Field Manager, is the mainstay of the project records. Every bid item originally in the contract and all contract modifications involving additional payment must be entered in this book; no job can be paid off without it.

Funding of a contract is sometimes divided into several funding sources, which usually result in pay items being grouped under different categories and P.I.N.s within the contract. The Final Quantity Book must be organized to reflect the different categories and P.I.N.s. P.I.N.s and categories will show on the first Progress Estimate, but if the Resident needs this information before the first estimate is issued, the Contracts Section will provide it.

Urban full construction or reconstruction projects usually involve the town, sewer/water districts or other utilities. A formal agreement called a Municipal Agreement or a City-State Agreement drawn up between the parties will stipulate payment responsibilities and other contractual responsibilities. These agreements will frequently make the Town or the Utility District liable for a share of the project cost. The Resident should have in their possession a copy of this agreement; there may be several and they are available from the Project Manager. Items involved will normally show as a category in the Progress Estimate, but if not, they still need to be entered separately in the Final Quantity Book.

The Final Quantity Book/Item History to Date will have no more than one item per page. Item number, description, and estimated quantity will be entered at the top of the page. Final pay quantity will be entered at the bottom and so labeled. **All entries must be signed, dated, and checked; the checker must sign and date his/her work.**

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A reference trail from the final pay quantity to the original documentation, whether it is notes of inspection and acceptance, measurements, or computations, must always be provided. It is suggested that the Resident and his/her Inspectors enter original documentation and calculations to the extent feasible, directly in the Final Quantity Book.

#### (2) Project Diary

Every job must have a Project Diary, or, in the case of Field Manager, a Daily Diary or a combination Daily Diary and Inspector's Daily Report. The Project Diary is intended to give the reader a general accounting of the Contractor's and subcontractors' day-by-day activities such as: pay items worked and locations, source and disposition of excavation, borrow, gravel, and pavement grindings. Non-routine matters must be recorded as well. Examples are: the Contractor not paying attention to traffic maintenance and erosion control, disregarding contract specifications, not staffing the job enough to complete work within required time limits, and other issues that could result in contractor claims. Matters dealing with town officials, utilities, developers, and other abutters should also be recorded.

The Resident will enter such boilerplate information in the Diary as:

- a. Day, month, year, Contractor's and subcontractors' working hours, and weather.
- b. Contractor's and subcontractors' personnel and equipment. This information may be recorded once a week if there are no changes.
- c. State inspection personnel on the project, and visitors.
- d. Signature of the Resident, or typed name if Field Manager is used. If someone other than the Resident makes out the diary, then the Resident should initial the diary entry under the signature of the person making out the diary, to signify that they have read and agree with the entry.

#### (3) Construction Book

This book is a catch-all; whether the Resident uses Field Manager or the conventional method of keeping project records, i.e., field books, a "construction book" is usually necessary and handy to have. Complex field measurements, field data, or sketches that must be recorded before that work is buried and cannot be easily recorded in the Final Quantity Book can be entered in the Construction Book.

Typically, measurements for riprap, loam, seed, mulch, undercuts, top of ledge elevations, boulders, gravel used for traffic maintenance, grade checks on concrete forms and drainage systems, and layout in general will be entered in the Construction Book.

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#### (4) Drainage Book

If a job has a large quantity of drainage, such as on a complex urban project, documentation of drainage installations should be entered in a separate book called a Drainage Book. This book should be organized before the work is done; each run of pipe and each catch basin or manhole would have its own page or pages.

As the work progresses, Inspector's notes and measurements would be entered under the appropriate run. The entries may include length of pipe and catch basins installed, gravel used for traffic maintenance, undercutting and bedding material used, ledge removed, riprap at pipe inlets or outlets, or utilities encountered. Quantities for payment would then be summarized in this book and transferred into the Final Quantity Book.

#### (5) Inspector's Diary

If a job is staffed by more than one inspector, the Resident may want his inspectors to keep diaries. This diary would contain the same boilerplate information as the Project Diary but would have a more detailed accounting of the Contractor's activities and progress of work. The Inspector's observation notes and some measurements may also be recorded.

#### (6) Grade Check Book

On a large, full construction project a grade check book should be set up prior to the work being done. The Inspector will then have at their disposition a handy tool to use for checking subgrade, top of gravel ("fine-grading"), ditches and backslopes. A copy may be given to the Contractor's grade foreman for their use. The Contractor's foreman is in effect performing a Quality Control activity and the Department's Inspector is performing a Quality Assurance activity by checking, at random, the Contractor's grading accuracy.

#### c. Testing File

This file contains all test reports and test data that document the quality of materials incorporated into the project. Reports and related data will be filed chronologically with the most recent on top and will be grouped by pay item in the same order as shown on the list of Minimum Testing Requirements, a copy of which must be included in the front. The Testing File will be bound by a black acco-press binder and labeled in gummed white labels: Testing File, Project No., P.I.N., and Town. Index tabs will be used to separate and identify the items.

The Minimum Testing Requirements, also known as the "Minimums", specify the frequencies and types of tests to be taken of materials used on the project. The Minimums are determined by the

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Materials Section in Bangor, web address: Network Neighborhood/DOTBGR1/ Shared/Minimums, telephone 941-4545. General testing requirements will be found in each Section of this Manual. The Minimums may vary from these general testing requirements to meet the needs of each particular project. The Northern Area Acceptance Testing Supervisor issues the "Minimums" for all projects; e-mail the requirements will be sent to the Resident if it is known who is assigned to the job. However, if you don't receive them, they are available at the above noted address.

The Resident is to use the list of Minimum Testing Requirements as their guide to test job materials. The minimum number of any particular test should not be less than the listed requirement without serious reason. Changes are to be explained by memo filed with the item involved. The most frequently seen change is a decrease in the number of densities required. However, due to changes in material sources, borderline materials, or work being done in several small sections (mostly on urban projects), more tests than the minimum may be necessary. The Resident must use their discretion to determine when more tests are necessary. The Resident must also explain the outcome of failing materials, i.e., removed and replaced, or accepted on the basis of substantial conformance.

If the contract contains a QC/QA specification for hot bituminous pavement and for concrete, the Contractor's QC test data and the Engineer's QA test data will be filed together for each day under the pertinent item. Pay factor computations will also be filed with the test data. They will be done by the Resident and checked by someone knowledgeable in the calculation of pay factors. The Contractor should be given the opportunity to review the factors before the Resident submits the project records to the Contracts Section for review.

#### 901-3 PROJECT FILES

Project files consist of job records exclusive of final quantity computations, field books, and test data, and are turned in to the Contracts Section at the completion of the project. The following types of records should be grouped and submitted in manila envelopes: general correspondence, right-of-way records, utility records, submittals (shop drawings), permits, payrolls, delivery slips, and cover slips. The envelopes should be labeled with the project number, town, and contents. Work orders, flagger reports, and daily work reports become part of the Final Quantity Computations Book when the Resident assembles it. Test data become part of the Testing File. The preliminary engineering file, known also as "PE" file, the engineer's estimate and one copy of the bid book (Special Provisions) should also be turned in with the project records. Extra copies of the proposal book, and progress estimates, vouchers, and estimate computations may be discarded before the project records are submitted for final review. Delivery slips for hot mix asphalt should be kept until the Contractor has agreed with all of the Final Pay Quantities, after final review. The most recent progress estimate must be kept, as it will be used to prepare the Final Quantity Estimate during final review.

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## **REVIEW, CLOSEOUT, and FINAL PAYMENT**

### 902-1 GENERAL

This Section describes the procedure the Resident is to follow when he/she submits the project records to the Project Review Unit of the Contracts Section for final review and close-out of the project.

The purpose of the final review is to assure that both the quality and quantity of materials and work performed by the Contractor are tested and documented according to Departmental policy and procedure.

After the job records have been assembled as described in Section 901 of this Manual, the Resident will contact the Project Review Unit and make an appointment to submit the records for final review. This should take place within 60 calendar days of physical completion of the project. Physical completion is described in Section 107.9.3 of the Standard Specifications.

### 902-2 REVIEW

The Resident and the Reviewer will go over the project records together to assure that the Final Quantities for payment are substantiated by field measurements and other original documentation as required. A “project review checklist”, is to be used as a guide. Also at this time, the Testing File will be reviewed to verify that materials have been tested according to the list of Minimum Testing Requirements and Departmental policy.

Work and materials that are not documented and tested in accordance with departmental policy may require additional tests, measurements, or field documentation, or may be shown as “non-participating” on the Final Quantity Estimate; that is, ineligible for Federal funds.

As part of the review, the Final Quantity Estimate will be made out and labeled as such, signed and dated by the Resident and co-signed by the Reviewer. If the Resident uses “Field Manager” to make progress payments, he/she should contact the Project Review Unit, prior to submitting records for review, so that a paper copy of the most recent progress estimate can be prepared. This estimate will then be used to make out the Final Quantity Estimate. Every project must have a paper copy of the Final Quantity Estimate as part of the final contract documents.

Quantities to be billed to Towns, Sewer & Water Districts, Utility Companies, Developers, and Abutters are to be summarized and forwarded to the Bureau of Finance & Administration. Municipal Agreements, discussed under Subsection 901(b) 1 of this Manual, are to be reviewed and billings done accordingly.

In addition, the following final documents are also required:

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a. Time Charge Report: This report shows the required contract completion date and actual completion date. The Resident will discuss time overruns with his/her supervisor and document resolution of such overrun by a memo to the Project Review Unit, whether it is a time extension or assessment of liquidated damages. A meeting with the Contractor may be required in the process. All waivers of liquidated damages need to be explained in memo form to be forwarded to FHWA.

b. Right-of-Way Encroachment Memo: This memo lists kind and location of encroachments within the right-of-way, only if new right-of-way is taken. Pre-existing encroachments need not be reported.

c. Contractor Evaluation: This form is an evaluation of the Contractor's performance during construction of the project. It must be completed and signed by the Resident and co-signed by the Contractor's Superintendent.

d. Explanation of Overruns and Underruns: Policy for explanation of overruns and underruns is given below: (Only required in FHWA oversight Projects)

1. Tabulation of Items. This is a list of items in the contract and those added by work order. The following information will show in the heading portion: project number, town, estimated cost, final cost, and percent over or under for the contract. In the body of this document will be listed: estimated quantity, actual quantity, and percent over or under estimated quantity for each item.

2. Explanations. Rules for explanations are: If the final cost of the project is 3 percent or less over the estimated cost, explanation of quantity overruns and underruns are not required. The 3 percent limitation is concurrent with the Department's work approval policy which gives the Resident authority to direct or approve changes up to 3 percent of the estimated contract cost. If the final cost of the project is in excess of 3 percent over the estimated cost, the following rules apply:

a. If both original cost and final cost for any one item are under \$3000, no explanation is necessary, regardless of the percent over or under.

b. If the original cost for the item is under \$3000 and the final cost is over \$3000, an explanation is needed if the final cost is more than 50 percent.

c. If the original cost for the item is between \$3000 and \$10,000, an explanation is needed if the overrun or underrun is more than 50 percent.

d. If the original cost exceeds \$10,000 for the item, an explanation is needed of the overrun or underrun is more than 10 percent.



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If an overrun or an underrun requires an explanation, only the quantity over or under the allowed percent needs to be explained, not the entire amount. When explanations are written, it is necessary to give reasons why the item overruns; a comparison of the estimated quantity and the final quantity in itself is not sufficient.

The Resident should complete the above documents prior to final review; these documents are available from the Contracts Section in Augusta. The Final Quantity Estimate will be made out during the final review process.

Two brief reports, in the form of memos to the project file and usually one page each in length, will be written by the Reviewer stating that project records have been reviewed and properly substantiate the quantity and quality of work and materials incorporated into the job. Deficiencies and how they are resolved will be noted. A memo will be written addressing quantities, and one will be written addressing quality of materials.

It may be the situation that, at the completion of final review, there remains contractor issues that are unresolved, usually: potential liquidated damages, disagreement over pay factors for hot mix asphalt or concrete, or Contractor claims. The Resident likely will be called on to help settle these items by meeting in Augusta with his/her Supervisors and with the Contractor; this will be done before the Project Review Unit makes final payment and the project is closed out.

### 902-3 CLOSEOUT AND FINAL PAYMENT

A project cannot be closed out until all outstanding issues are resolved on the project, and final payment is made.

Following the final review, the Project Review Unit will send a copy of Final Quantities to the Contractor, with a cover letter stating that the Final Quantities are included, and what final documents are to be submitted and issues remaining to be settled before final payment can be made. Contractor's final documents are:

1. Certificate of Materials. See Standard Specifications, Section 700
2. "Buy America" Statement. See Standard Specifications, Appendix A to Section 100, Section 3, Subsection A
3. Letter "All Bills Paid". See Standard Specifications, Subsection 107.9.4
4. FHWA Form "PR-47" on projects with full Federal oversight over \$1 million in estimated cost. See Standard Specifications, Appendix A to Section 100, "Start of 1273 Required Contract Provisions", Section VI, Subsection 1, Paragraph C (page A-31)

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5. Letter stating amounts paid to Disadvantaged Business Enterprises, Division 100, Appendix A, Section 1, Section D (page A-12)

Standard Specifications, Section 101.2 - Closeout Documentation discusses the above listed documents. Contract Evaluation Forms, Resident Evaluation Forms, and PR-47 Forms are available from the Contracts Section in Augusta.

Contractors will not generally submit the “All Bills Paid” letter until they have seen the Final Quantity Estimate and have settled all items of contention with the Department, liquidated damages being the most frequent problem.

A portion of the monies withheld from the Contractor (the “retent”) may be paid at the time of final review or prior to it, depending on the status of the job. If there are no liquidated damages, no claims or disagreements with quantities, or no remaining work to be done in the field (such as clean-up), most of the retent may be paid. A fixed amount will be held pending the receipt of final documents. The retainage will not be released on a Project without consulting the Resident.

After the Contractor submits the final documents to the Project Review Unit and all issues have been settled, final payment is made. This payment includes final adjustments, and also the remainder of the retent. When the “Final Estimate” is paid, the project records are filed with the Program. The Bureau of Finance and Administration will continue the closeout process by issuing the last check to the Contractor, and working with the FHWA for reimbursement for the Federal share of the project.