VDOT
Virginia Department of Transportation

Post-Construction Manual

Guidelines for the Review, Preparation, and Submittal of Final Estimates

Office of the State Construction Engineer (December 2016)

Governance Document

Abbreviations and Acronyms

ACE	Area Construction Engineer
CAE	Contract Administration Engineer (Central Office)
CD	Construction Division (Central Office)
CM	Construction Manager
CPE	Contractor Performance Evaluation
DA	District Administrator
DBE	Disadvantaged Business Enterprise
DCE	District Construction Engineer
DCM	District Contract Manager
DCRM	District Civil Rights Manager
DWR	Daily Work Report
FHWA	Federal Highway Administration
FO	Federal Oversight
FOIA	Freedom of Information Act
MOI-MD	Manual of Instructions – Materials Division
NOI	Notice of Intent (to file a Claim)
OAG	Office of the Attorney General
PCM	Post Construction Manual
PI	Project Inspector
SCE	State Construction Engineer
SME	State Materials Engineer
SMART	Site Manager Access Reporting Tool[1]
SP	Special Provision
SPCN	Special Provision Copied Note
SS	Supplemental Specification
VDOT	Virginia Department of Transportation

[1] https://insidevdot.cov.virginia.gov/div/IT/PORT/TRNSP/SITEMNG/Lists/Quick%20Links/AllItems.aspx

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Reporting Levels of Accuracy: Based on a study and recommendations initiated by VDOT District Construction Engineers, VDOT Construction Engineer Mark Cacamis authorized effective May 6, 2011 that the level of accuracy for pay quantity items shall be recorded to 0.01 units both for daily and final contract payments. This applies to Imperial as well as Metric units.

Introduction/Overview

Enclosed on the following pages is the **December 2016** update to VDOT's PCM to include Guidelines for the Review, Preparation, and Submittal of Final Estimates

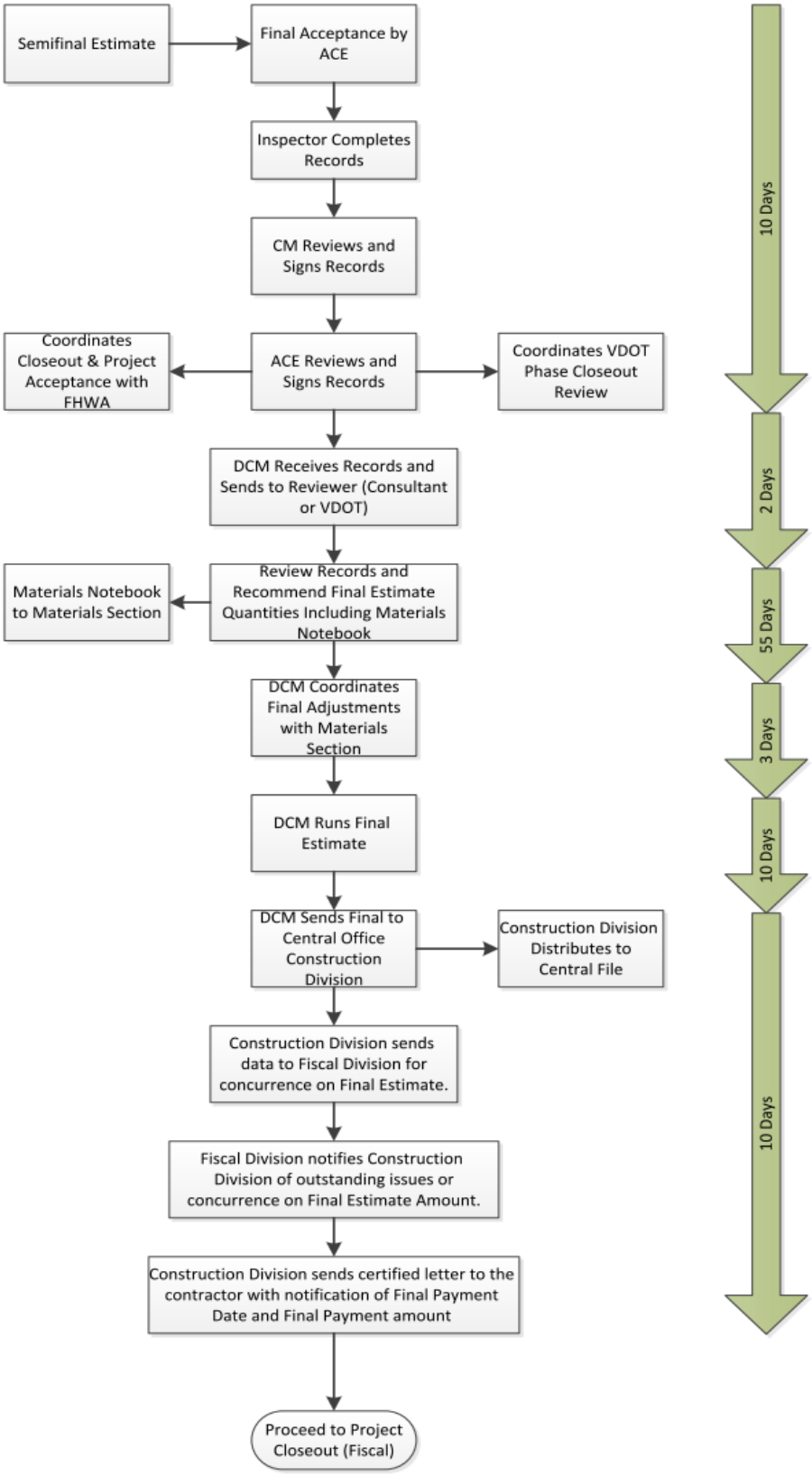
The PCM shall not supersede any contract terms, or the Road and Bridge Specifications, but should be used as guidance and recommended best practices for defined VDOT close-out processes.

The review and preparation of the project Final Estimate requires the coordinated effort of the Location and Design, Construction, Fiscal, Internal Audit, Structure and Bridge, Civil Rights and Materials Divisions. However, it is the responsibility of the DA (or designee(s)) to utilize the local Regional and District Sections, led by the DCM in creating, completing, processing, and submitting the Final Estimate package to the CD.

The objective in preparing a Final Estimate is to determine that the records present a factual representation of the work performed by the contractor on a project. It is necessary to determine that all work was performed and paid for in accordance with the plans and specifications (including authorized changes), and that all required documentation is available and included in the Final Estimate package. It is the intent of these guidelines to establish uniformity in the review and preparation of each Final Estimate. As in every operation of this nature, there exists some variation in District operational procedures; however, these differences should not vary from the basic principle and flow as presented herein.

In certain instances, the nature of the project (complexity, size, or unusually large number of items included in the contract) will require some deviation from regular procedure in order to meet the date for final payment. Such deviations should occur only when the ACE determines procedures outlined herein will cause an untimely delay, and then they must be evaluated to assure that the validity of the Final Estimate will not be jeopardized. Any deviation from prescribed procedures must be documented and included in the project files.

Post Construction Flow Chart – Construction Phase Only



Terms Used in this Manual

All terms used in this manual shall be as defined by the VDOT Road and Bridge Specifications, or the applicable contract documents. Where additional terms are used, the information below is intended to further define the term and provide supporting references, if available.

1. Audit: A review of the post-construction project records to determine whether or not sufficient documentation exists to certify payment for all work performed on a VDOT construction project. It is also to certify that the project documentation is complete and that the PI administered payment for all work in accordance with the contract and VDOT policies.
2. Change Order: Also referred to as a Work Order. Effective January 2014, Change Order is the official term. For additional information, see IIM-CD-2013-13.01.
3. Form C-5: Reporting Starting and Completion of projects.
4. Pay Item or Work Item: Contract items eligible for measurement & payment

Pre-Final Project Reviews

Time is always a critical factor in the preparation, review, and submittal of the Final Estimate as final payment is due within ninety (90) days after project acceptance from the contractor. It is essential that every effort is made to complete as much final accounting of completed contract items as soon as possible prior to VDOT's acceptance of the project.

For long duration projects (generally more than 18 months), it is recommended that the Consultant, or VDOT, review the project records during construction, at a reasonable project milestone (i.e. completion of a bridge, phase or a year-end point for multi-year 'on-call' contracts). During construction, the reviewer should check all available records, to include the DWRs, materials notebook and asphalt adjustment worksheets. The reviewer should also check the records after the records are submitted to the DCM. This follow-up review should only be a check of any new information added to the records since the first review, and will include a final recommendation for the quantities to be paid by the Final Estimate.

After Final Project Acceptance

The ACE has the responsibility for the assembly, field review, verification, and submission of all required final project records as listed in these guidelines, including any additional information necessary for the proper computation or documentation of quantities.

This submission should be made as soon as possible after project acceptance. However, the DCE shall establish the due dates for the District. Only with rare exception should the given time limit exceed ten (10) days after project acceptance.

The ACE has the additional responsibility for review and certification of project expenditures to complete closeout of the construction phase. The District Planning and Investment staff will assist in phase closeout. This phase cannot close out until after the claims submission period has closed, in accordance with Section 105.19.

Area Construction Office – Project Personnel

Note - Additional guidance for preparation of project records during construction is provided in Appendix 1.

Primary Procedures of the PI

1. Complete all books and reports maintained during construction, as outlined in the 2012 Trial Use and Comment version of the Construction Resource Guidebook.
2. Complete the Semi-Final Estimate.
3. For both the Prime and Sub-Contractors, a final CPE is due at the completion of the project (IIM-CD-2013-03.01). However, the CPEs may be completed after the records are delivered to the DCM, but must be completed within 90 days of the project acceptance date.
4. Verify all asphalt price adjustments, and use Site Manager SMART Tool Report "PAID AC ITEMS BY DATE INSTALLED" to check tonnages by estimate periods and months.
5. Complete Reasons for Differences Report (in Site Manager) from bid or Change Order quantities to Semi-Final paid quantities.
6. Complete as-built plans as described in Appendix 2.
7. Obtain signed disposal and borrow pit releases from the Contractor, unless changed by SPCN.
8. Deliver all project records to the CM to include:
    a. All DWRs, supporting sketches, "as-built" plans, the materials notebook (TL-142), and the general notes. The TL-142S shows an example of the details and format required for a typical materials notebook.
    b. Printed copies of any electronic files required to support the Semi-Final Estimate quantities paid, or adjustments made.
        i. As Site Manager is intended to be a paperless system, and the official record copy of the payments made reside on the Site manager server, printed copies of DWRs and Site manager reports are not required. However, if desired for the review of records, or for local archiving, paper copies of Site Manager reports (including DWRs) may be generated at the discretion of the ACE, DCM or DCE.
        ii. Electronic project records should be stored in accordance with VDOT's Critical Infrastructure Information/Sensitive Security Information (CII/SII) Policy Guide, as well as the Library of Virginia's Electronic Records Guidelines, and Email Management Guidelines. If a Notice of Intent to File Claim, or Claim, has been filed, the Claims Manual outlines the requirements for preservation of electronic records and the handling of documents that may be Attorney/Client privileged.
    c. All other necessary supporting data, such as Form TL-102As, weigh tickets, and invoices to substantiate that the tested quantities match or exceed the pay quantities. The Source of Materials (C-25) form will show the data required for each item and supplier.

The above listed items may be performed by the CM or the PI, as typically dictated by project and staffing requirements.

Primary Procedures of the CM

1. Prepare or collect letters:
    a. Listing the items that were accepted by visual inspection.
    b. Concerning the fulfillment of all Right of Way Agreements.
    c. Contractor certification that materials, labor, equipment and supplies have been paid (un-bonded contracts only).

d. Contractor's Certification of Compliance of use of domestic material (as applicable by Special Provision)
e. Advising if a final survey is warranted and required. Survey may be warranted if the final Right-of-Way lines are in question, to verify as-built drawings or payments, and to ensure that any significant changes to the plans were incorporated in the final project.

2. Review all project records for completeness.
3. Sign and date all project books.
4. Review Semi-Final Estimate for completeness and accuracy.
5. Deliver all project books and records to the ACE.

Primary Procedures of the ACE

1. Complete the C-5 using the electronic C-5 found in SMART or Site Manager.
2. Enter the Administer Contract Actual End Date and ensure that the project status changes to "CN Complete".
3. Send a letter to the Contractor, within five (5) days of acceptance, informing them of the acceptance of the project, addressing DBE goals/requirements, and any known delinquent documentation. See also IIM-CD-2013-04.01. The Civil Rights section should be notified in advance of the acceptance date, to allow the Civil Rights section adequate time to determine if the required records are available, and if the DBE goals have been met.
4. Complete Final Contractor Performance Evaluation (CPE) on Prime and Sub Contractors. However, the CPEs may be completed after the records are delivered to the DCM, but must be completed within 90 days of the project acceptance date.
5. Complete and distribute Form LD-433. (Design Quality Index Evaluation Form, available at: http://vdotforms.vdot.virginia.gov/)
6. Review and approve the Semi-Final Estimate and any other data needed to complete the records within 10 days of project acceptance.
7. Submit project records to the office of the DCM within ten (10) days of final acceptance. This submission should be made as soon as possible after project acceptance; however, the DCE shall establish the due dates for the District. Only with rare exception should the given time limit exceed ten (10) days after project acceptance.

The documents listed above are the ACE's responsibility and may require an ACE's signature, however the documents may also be drafted by the PI, or CM, for the ACE's approval or signature.

Primary Procedures of the District Civil Rights Office

The District Civil Rights Office has the primary responsibility for administering the EEO, DBE, On-the-Job Training and Labor Compliance programs, and monitors and reviews all requirements of these programs. As part of the post construction process this office will provide or perform the following, but may not be limited to:

1. Provide a letter memorandum, or email, from the DCRM to the ACE (copied to the DCM) certifying all required Civil Rights documents are up to date and on file in the District Civil Rights Office.
2. Check that restitution has been made to any and all employee's not meeting Davis Bacon minimum wage requirements, and that any labor classifications that do not appear on Davis-Bacon list have proper documentation and approval.

The ACE, or designee, should notify the Civil Rights section in advance of the project acceptance date, so as to allow the Civil Rights section to check the project records and request any missing or final records required for final close-out.

DCM Office

Review and Estimate Preparation Procedures

Note – Appendices 3 through 8 further detail and explain the procedures for checking records as the project pertains to various Divisions.

The DCM shall be assigned the direct responsibility for the preparation of a Final Audit Assembly. The DCM shall ensure review of the construction plans, including all revisions, contract documents, SPCN, change orders, FHWA inspection reports, Materials Section/ Division depth checks, and non-compliance of material reports, and any correspondence or other reports affecting payment for work, materials on the project and as-built plans. Particular note shall be made of the edition of specifications and standards governing project construction. The DCM may delegate the review of the records to a consultant, or VDOT staff. Prior to assigning a consultant to the review task, the DCM should verify that no consultant staff actively involved in the audit of final records on a subject contract also inspected the work or made payments on the same subject contract. The consultant or VDOT reviewer should provide an independent and unbiased review of the records.

The DCM shall ensure completion of the necessary operations in the final review and estimate preparation process. Among the more significant are:

1. Review DWRs for content and sufficiency of records as outlined in Appendix C of the 2012 Trial Use and Comment version of the Construction Resource Guidebook.
2. Check the transfer of all items from diaries and/or "As-built" plans against the Final Summaries report, or Transaction report (Site Manager). Check the totals of all summarized items.
3. Verify that documents of items paid for on a tonnage basis are in compliance with current procedures outlined in the 2012 Trial Use and Comment version of the Construction Resource Guidebook Appendix C and the Manual of Instruction Materials Division, Chapter VI and VIII, (MOI-MD, Ch. VIII).
4. Check the depth measurement reports of pavement elements for compliance with specified tolerances. Verify deductions and adjustments in accordance with the Road and Bridge Specifications, Section 300, and 2012 Trial Use and Comment version of the Construction Resource Guidebook. Reports for non-compliance should be completed within two weeks of project acceptance.
5. Check reports for non-compliance of materials and then compute price adjustments for non-compliance in accordance with the Road and Bridge Specifications, MOI-MD, Chapter II, and SPCN.
6. Verify that the Materials Section, or consultant, has checked all material notebooks for evidence of sufficient test quantities to cover all materials being shown for payment to the Contractor. Reference material covering this topic can be found in the TL-142S, MOI-MD, Road and Bridge Specifications, and the 2012 Trial Use and Comment version of the Construction Resource Guidebook.
7. Check all notebooks and records for certification by the Inspector, CM, and the ACE, as required by the 2012 Trial Use and Comment version of the Construction Resource Guidebook -Appendix C, and MOI-MD, Chapter VIII.
8. Check weigh sheets, (Summary of Time, Theoretical, and Other Measurements), DWRs, and as-built plans (as applicable) for signatures in compliance with the 2012 Trial Use and Comment version of the Construction Resource Guidebook -Appendix C, MOI-MD, Chapter VIII.

9. If ride-ability is a pay item on the contract, check to see if information has been furnished and is included.
10. Prepare a draft of the Final Estimate.
11. Verify quantities of work performed by State Forces and make certain that items are clearly separated from those performed by the Contractor.
12. Prepare form C-26.
13. Receive Certification of Materials (TL-131) from District Materials Engineer.

Upon completion of the Final Estimate, the contractor is to be notified that the draft Final Estimate is available for review during the ten (10) day period specified in the Road and Bridge Specifications, Section 109.10. A copy of this notification should be forwarded to the ACE.

After review of the Final Estimate by the Contractor (upon expiration of the 10 day review period), or upon notification by the contractor of its intent not to review, the Final Estimate will be signed by the DA or designee (typically the DCM) and forwarded to the CAE (Central Office).

Submission to Central Office

The DCM is normally assigned the responsibility of performing the following functions relating to the Final Estimate, to include the Final Audit Assembly (paper) to be transmitted to the CAE:

1. One copy of the C-5 with the starting and ending dates. The C-5 should also be sent to the FHWA (FO projects).
2. Materials certification (Form TL-131) is received from the District Materials Engineer and forwarded to the FHWA (FO projects). Also, forward one copy of Form TL-131 to the CD. The Final Audit Estimate submittal cover letter addressed to the CAE should note that this submission has been made to the FHWA.
3. Include one copy of the Reasons for Differences Report. The report should also be sent to the FHWA (FO projects).
4. Form C-26, and sent to the FHWA, for Federal Oversight projects.
5. For contracts that are not covered by a payment bond, one copy of each of the subcontractor/supplier letters of certification regarding payment of bills is required.
6. Include a letter from the Civil Rights Section certifying that all required documents are up to date, and on file in the Civil Rights office (one copy for all Federal Aid Projects).
7. Copy of Letter from ACE accepting the project.
8. Copies of all adjustments and supporting calculations on the project, which may include asphalt price, ride-ability, incentives/disincentives, Steel Price, or Liquidated Damages. The asphalt price adjustment calculations and fuel adjustment calculations are required for Design-Build projects.
9. Prepare copies of the Final Estimate, both Detailed (DETCONT) and Estimated (ESTIMATE SUMMARY) version, for signature of DA or designee.
10. With respect to the Final Estimate, one copy of the Site Manager Detail / Summary to Contractor ("DETCONT") and one copy of the Estimate Summary (which shows change orders, liquidated damages and contract adjustment history) should be forwarded to the CD with the Final Estimate Package.

A cover letter should accompany the Final Estimate Package to the CD identifying exactly what items are submitted as well as what items have been submitted directly to the FHWA. A standard cover letter indicating that items were submitted as applicable is not acceptable. Summary of what is provided to FHWA (FO projects only):

1. Original of transmittal letter.

2. One copy of the Final Estimate (Site Manager Report "DETCONT").
3. One copy of Final Form C-5 – Reporting Starting and Completion of Projects.
4. Two (2) copies of Reasons for Differences from bid quantities to the Semi-Final payment quantities (as Generated from Site Manager Process Report).
5. Materials Certification by the District Materials Engineer. (TL-131 or TL-131-2).
6. Form C26- Computation of Extension of Time and Liquidated Damages or Bonus.

*No submission is required to FHWA for state or federal aid projects with VDOT only oversight (NFO).

Before submitting the Final Estimate for contracts containing asphalt price adjustment, the DCM should ensure that the following has been done by the auditor of the records, and check the asphalt adjustment worksheets for the following:

1. The correct base price and current prices are used in the calculations.
2. Make sure that the total asphalt quantity for which asphalt price adjustment is paid equals the total tonnage of asphalt concrete on the contract that was paid for and designated for asphalt price adjustment. Use SMART report "PAID AC ITEMS BY DATE INSTALLED".
3. For non 64-22 based asphalt mixes, invoices showing the price of the liquid asphalt in accordance with the SPCN.

One copy of the SMART Report (or equal) identifying all contract adjustments paid on a given contract grouped and subtotaled by category should accompany the Final Estimate package.

The above documents are to be submitted to the CD as soon as the final audit process is completed, but not less than ten (10) days prior to the due date for payment of the Final Estimate to the contractor.

The DME is responsible for sending a copy of the Final Estimate and each of the Form TL-131 or TL-131-2 to SME.

The DCM should advise the Contractor in writing of any data required from the Contractor that has not been received. If money will be due the Contractor, the DCM also advises that payment of the Final Estimate will be delayed pending receipt of the data and that payment of interest in accordance with Section 109.10 of the Specifications will not apply. If data is not received within (15) days of this notification, the DCM should seek further guidance from the DCE. Copies of letters to the Contractor are also forwarded to the ACE as well as the CAE. Upon receipt of the required documentation for the Final Estimate package, the DCM completes preparation of the Final Estimate.

In the event any pay quantity is not adequately covered by test report or certification, as applicable, payment for such quantity is to be withheld from the Final Estimate. Upon receipt of acceptable test or certification within sixty (60) days from the Final Estimate date, payment is then to be made by Supplemental Final Estimate. The Supplemental Final Estimate should be completed and submitted to the CD within ten (10) days of receipt of the data justifying payment.

Depending on the status of the Final Estimate, the DCM proceeds as follows.

A. <u>Money due to the Department</u>
   1. The DCM transmits the Final Estimate assembly to the CAE. If the submission of the Final Estimate assembly is late, the reason(s) for the delay is set forth in the transmittal letter and any delay attributable to the Contractor is identified.
   2. If money is due to VDOT, it must be paid by the contractor within 30 days of receipt by the Contractor of a certified letter from the Construction Division giving notification of the amount owed. The Contractor may be assessed interest by the Fiscal Division for any balance that remains unpaid after 37 days from receipt of the letter.

3. Submission of the Final Estimate package is not to be delayed pending receipt of data from the Contractor. Upon receipt of the delinquent data, the DCM submits the same to the CAE.

B. Money due Contractor and the Contractor ***Has Not*** Furnished All Required Data;
   1. The DCM holds the Final Estimate at the District Office until all data is received from the Contractor. Exception: If missing data is invoices, material certifications, or other documentation for quantities paid, the affected quantities are to be removed from the Final Estimate and the Final Estimate then forwarded to the CD. Removed quantities may be paid later on a Supplemental Final Estimate within sixty (60) days from the Final Estimate date, if the required documentation is furnished.
   2. Upon receipt of the delinquent data, make any needed adjustment to the Final Estimate assembly and transmit the final assembly to the CD with explanation of cause of delay.

C. Money due Contractor and Contractor ***Has*** Furnished All Required Data
   1. Transmit the Final Assembly to the CD.
   2. If the final assembly is late, state the reason(s) for the delay in the transmittal letter and identify any delay attributable to the Contractor.

CD (Central Office) Process

The complete Final Estimate assembly is received from the DCM by the CAE (CD). A general review is made of the assembly by CD in order to determine whether the Final Estimate is ready to be processed. As part of this general review, the CD's contract file folder is pulled and reviewed for any correspondence that would affect the processing of the Final Estimate. The CAE performs the following operations during the processing of the Final Estimate:

1. Review the assembly to determine that all data as listed and required has been submitted, to include:
   a. Final Estimate has been signed by the DA or designee
   b. Appropriate submissions have been made to the FHWA for FO projects by the respective district offices
   c. Extensions of contract time are authorized by change order
   d. Project start and completion dates are entered in Site Manager and match the dates on Form C-5.
   e. Support data is provided and calculations are correct for contract adjustments including but not limited to the following items:
      i. Asphalt Price Adjustment
      ii. Ride-ability
      iii. Materials pay adjustments
      iv. Incentive / Disincentive
      v. Fuel adjustment (when manual adjustments are necessary, typically for Design-Build projects)
2. Determine if any NOIs exist. Continue to maintain the Division contract file if there is a NOI, a Claim, or other outstanding issues.
3. Enter key dates, such as Final Estimate Date and Date Final Assembly Sent to Fiscal Division, into Site Manager.
4. CD sends the contractor a certified letter which includes the Final Estimate Date, final balance due, and the summary sheets of the DETCONT from Site Manager. The letter is also copied to the OAG, Fiscal Division, DCM, and the Surety if funds are due back to VDOT.

5. The CD also forwards a complete Final Estimate package to the Fiscal Division at the same time as it is sent to the contractor. If the Fiscal Division is not in agreement with the Final Estimate it will so notify the CAE.
6. After the 60 day period to submit a claim has passed, the CD checks outstanding balances to see if the contractor has submitted a claim or paid any balance due to VDOT.
7. If no claim has been submitted, and the outstanding balance to VDOT has not been paid, the Construction Division sends the contractor a second billing letter noting the following:
    - Payments that are not received within 30 days may be subject to interest.
    - Failure to make prompt payment may result in suspension of Prequalification privileges.
    - Failure to make prompt payment may result in the matter being turned over to the OAG for collection.

Distribution to the Fiscal Division

As part of the processing of the Final Estimate, the following items should be distributed to the Fiscal Division from the CAE (CD).

1. Original of the transmittal letter to the Fiscal Manager.
2. Original signed copy of the Final Estimate; The Estimate should be signed by the DA as well as the State Construction Engineer (or their authorized representatives).
3. One copy of Form C-5 with the starting and ending dates.
4. One copy of Form C-26. (FO projects)
5. Materials certification (FO projects)
6. One copy of adjustment for non-compliance forms, asphalt price adjustment work sheets, and worksheets for any other manually computed contract adjustments.
7. One copy of the letter from the Contractor certifying that he has paid all bills for materials, labor, and equipment for un-bonded contracts.
8. One copy of the DA's letter transmitting the final assembly to the CD.
9. Letter from the Civil Rights section certifying that all required documents are up-to-date and are in file the Civil Rights office (Federal Aid Projects only).

The CD will scan the Final Estimate assembly and save the electronic file as part of the CD final contract records. Files will be saved in folders by district under the contract ID on SharePoint.

Distribution to Central File

The following contract items shall be distributed to Central File by the CD as part of the procedures in processing the Final Estimate.

1. One copy of transmittal letter to Fiscal Manager;
2. Original of transmittal letter from the District, with notation indicating that the proper Final Estimate submittals have been made to the FHWA (FO projects).
3. One copy of the C-5 with the starting date and one copy with the starting and ending dates.
4. One copy of form C-26 is also submitted to Central file, as well as Materials Certification for all FO projects. It is not necessary to submit the Reasons for Differences to Central File since this record is stored electronically in Site Manager.
5. One copy of adjustment sheets for any non-compliance items.
6. Letter from Civil Rights section certifying all required documents are up-to-date and are on file in the office of the Civil Rights section (Federal-Aid projects only).

Records may be disposed of in accordance with the Records Retention and Disposition Schedule 101 (GS-101, included herein as Appendix 10), and VDOT through their District Records Retention

Designee. Fiscal Division sends out a list of projects that have been vouchered by the FHWA, and the Project Closeout Database also includes the destruction date, and a report can be generated from the database identifying when project records can be disposed. The Project Closeout Database can be accessed through the Fiscal Section of insideVDOT:
https://insidevdot.cov.virginia.gov/div/km/COP/PC/SitePages/Project%20Closeout%20Resources.aspx

See also Appendix 10 for additional information regarding records retention.

Appendices

APPENDIX 1 - Pre Project Acceptance - Construction Activities that will Facilitate Finals Acceptance

Time is always a critical factor in the preparation, review, and submittal of the Final Audit Assembly because final payment is due within ninety (90) days after project acceptance from the contractor. It is essential that every effort be made to complete as much work as possible prior to VDOT's acceptance of the project.

Consideration is to be given to the following activities that will help keep documentation up to date:

<u>Inspectors</u>

1. Read specifications, contract, inspection manual, and review plans prior to start of a project, and prior to new activities commencing.
2. As excavation progresses, calculate excavation quantities as necessary and prepare sketch for each area. Use SiteManager attachment function as necessary to add sketches of any changes or measured work (i.e. undercut areas, supporting calculations, etc…) to the SiteManager electronic file.
3. Complete DWR daily with the required information as outlined in Appendix C of the 2012 Trial Use and Comment version of the Construction Resource Guidebook.
4. Update the materials notebook – to include the Source of Materials forms (C-25), delivery tickets, TL-102As/weigh sheets, and the summary of tested and paid quantities.
5. Incorporate notes related to issues in the monthly CPEs.
6. Complete environmental and work zone safety checklists as required.
7. Estimate likely overruns, or underruns, of items while preparing monthly estimates, and report these to the CM. Particular attention should be paid to Major Items, as these item may eb subject to unit price changes in accordance with Section 104.02.
8. Review all adjustment calculations at estimate time to ensure they are correct.
9. Some items such as traffic signals and utilities require a long lead-time. Track submittal and approval progress of materials certification "CT" numbers. The Tracking Log should be the responsibility of the CM.
10. Prepare "as-built" drawings and records during the construction of the project, as described in Appendix 2.

<u>ACEs and CMs</u>

1. Visit project regularly.
2. Review DWRs and other documentation.
3. Ensure inspector has the knowledge and ability to cover work activities and create/collect all required documentation.
4. Provide guidance as needed.
5. Provide training as needed.

APPENDIX 2 – As-Built Drawings

Projects Designed by Structures and Bridge

All projects with plans should be marked for the "as-built" condition upon completion of the work. This should include, but not be limited to bridges, retaining walls, box culverts, demolition plans if separate from structure plans and any other plans that requires the posting of finals by the Structure and Bridge Division or which will be filed within Structure and Bridge files for future reference. Appropriate entries on the "as-built" plans shall be provided to maintain an accurate permanent record of completed construction. The "as-built" plan preparation should be considered as important as the checking of any other project documentation that serves to support the authorization and payment of final quantities on the Final Estimate. Prepared correctly and thoroughly, the "as-built" plans provide a permanent record of the actual structure features that may influence or affect future work at the project site.

Specific guidance and requirements are detailed in the CADD Manual, Volume V – Part 2 "General Drafting Procedures, As-Built Plans, General", and available at: http://www.virginiadot.org/business/locdes/vdot_cadd_manual.asp).

Typical items to be shown on the "as-built" drawings of the bridge plan using red pencil include:

- Actual Quantities
- Date and name of person posting the as-built drawings
- Average deck thickness in inches or mm for each span (two decimal places x.xx or xxx)
- Actual pile lengths to the nearest tenth or 0.1m, for each pile in each substructure unit
- Line thru "PROPOSED" and mark "AS-BUILT" on the front sheet title block
- Line thru "ESTIMATED" and mark "ACTUAL" on the quantity table title
- All changes to stem or column lengths of substructure units
- Average footing depths to the nearest tenth or mm, sketch if large variance
- Type of foundation material if different from proposed plan
- All deviations from proposed plan, (noted in General Correspondence folder, structure diary, half size "construction" plan, etc.)
- Weight per square foot (x.xx PSF) or Newtons per square meter or (Pa) of stay-in-place deck forms under GENERAL NOTES
- Note if parapet was slipformed and if the out-to-out bridge width was adjusted to accommodate the slipform machine
- Show all "bridge" WORK ORDERS near the quantity table with a complete description (do not show dollar amount)
- Never erase or obliterate original plan, line thru and mark above
- Use VDOT standard accuracy for noting adjustments to quantities (See Post-Construction Manual)

Upon completion of the "as-built" plans, the original drawings shall be transmitted back to the Central Office Structure and Bridge File Room for filing and eventual archiving. The preparation and transmittal of the "as-built" plans should be considered a routine task within the scope of the finals posting process and performed in an expeditious manner in order to ensure an accurate permanent file record.

Hand-drawn (red-lined) as-built drawings will be acceptable from the Inspector, but should be turned-over to the District Structure and Bridge Office to be converted to CAD files. In lieu of drawings, a letter may be provided to the District Structure and Bridge Office by the project ACE or inspector stating that the structure was built or repaired exactly as shown on the "as-bid", or latest revised, plans, with no changes to the dimensions, quantities, alignment, or any other details.

Other Projects:

The District Utility Construction Section should prepare "as-built" plans during the relocation phase and provide hard copies to the Construction project staff and contractor at the pre-construction conference. Updated utility "as-builts" should be provided to the utility companies, to update records and provide the new location to "MISS Utilities". The use of the RFID technology, and GPS coordinate locating should be encouraged in the development of "as-builts". The American Society of Civil Engineers (ASCE) has developed a National Consensus Standard titled ASCE C-I 38-02, Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data. This document has been adopted by the FHWA and should be used by Utility Sections in the collection of data for "as-builts". http://www.fhwa.dot.gov/programadmin/asce.cfm

The Inspector is also encouraged to document all changes, to grade, drainage, pavement and other 'as-built" items, including inverts, outfall grades, pavement structure, right-of-way or easement changes. The "as-built" plans should also show overrun and under run item locations. As-built-plans are also useful in the audit process for standard as well as Design-Build or Lump Sum projects.

APPENDIX 3 - Procedures for Checking Individual Pay Items

Procedures for determining the final pay quantity on projects with Regular Excavation are outlined in the following.

1. Using the contract documents (notably the Plan Sheet Grading Summary), verify whether regular excavation is to be paid by Plan Quantity, measured or a combination of both.
2. Check the plans for revisions to the Plan Quantity (increase or decrease) items.
3. Compute the total quantity of topsoil removed from fill areas.
4. On "Minimum" or "No Plan" projects, extra excavation should be calculated from computation of volumes from field measurements, and can be verified by load counts.
5. As shown in the contract documents, measure any regular excavation not included in the Plan Quantity, including ditches and channels, unsuitable, and cut entrances and calculate total quantity of regular excavation.
6. Pay quantity equals the additional/extra quantities (#5 above) plus planned quantity.

Procedures for determining the final pay quantity on projects with Borrow Excavation are outlined in the following.

1. Pay for Borrow Excavation by cross sectioning the area excavated, or if approved by the ACE as measured by vehicular measurement in accordance with Section 109.01 of the Specifications.

Procedures for determining the final pay quantities on projects with Box Culverts are outlined in the following.

1. Description should include the station, length, size, standard, and degree of skew, height of cover, and type of wings. As box is being built inspector should verify this information for as-built plans.
2. Quantities for both concrete and steel are to be verified against the plans and standards quantities.
3. Note that when a box culvert structure is completed without the necessity of altering either the length, size, or number of reinforcing bars detailed on the plans, the Department will pay for the plan estimated quantity for reinforcing steel, provided the plan and shipping invoice quantities agree within plus or minus one (1) percent.
4. In the event that an alteration was made in the structure which affected the quantity of reinforcing steel, or in the event that the plan and shipping invoice quantities do not agree within plus or minus one (1) per cent, payment must be made for the actual quantity used as determined by the Engineer of Record, and based on the total length of each size of bar multiplied by its theoretical unit weight. The weight of the reinforcing steel used for lapping will not be allowed.
5. Computations should indicate any additional concrete and steel required in both the headwall and curtain wall due to the skew of the structure.

Procedures for Pipe Culverts

1. Verify each length of pipe, the size of pipe, the type of pipe, the number of joints and the length of each, and the number and type of endwalls before and during installation.
2. The number of joints times the individual length should equal the total pay length of pipe. Payment for partial joints should be in accordance with the 2012 Trial Use and Comment version of the Construction Resource Guidebook. Note number of joints in a run in the DWR for each installation when the item is completed. Include station numbers beginning and ending.
3. Verify the amount of concrete used for endwalls against the standard quantities for diameter and type of pipe used.
4. Check the transfer of quantities from the diary to the summary and check the totals.
5. A Materials Technician should check the total quantity to ascertain that the total quantity used has been tested.

6. Inspector should call District Structures & Bridge Section to let them know when structure is completed and ready for final inspection.

Review Procedures for Drop Inlets

1. Compare the plan height to the actual height and apply payment adjustment as outlined in Section 302.04 of the Specifications if necessary.

Procedures for Linear Foot (Meter) Measured Items (including standard and radial curbing, curb, & gutter)

1. Inspector should note in the DWR - beginning and ending stations, and sufficient dimensions necessary for determining the actual length used.

Procedures for Retaining Walls

1. Inspector should note in the DWR - beginning and ending stations, elevations, type of wall, and sufficient dimensions for determining the actual volume of concrete or reinforcing steel used. Standard retaining walls (RW-2 & RW-3) are typically Plan Quantity items.

Procedures for Steps

1. Inspector should note in the DWR - the station, width, and number. If standard, the pay quantities may be obtained from the tables in the Book of Standards. If not standard, the full dimensions must be given and computations shown for the concrete and reinforcing steel quantities.

Procedures for Fencing

1. Inspector should note in the DWR the beginning and ending stations, type, length, location and number of line and corner braces, and the number, type and size of gates.

Procedures for Guardrail

1. Inspector should note in the DWR the stations and the lengths shown for each type, utility locations, and end treatments specified.

Procedures for Concrete Class A-4 (Class 30) Bridge Approach Slab

1. Inspector should review the roadway plans to determine which bridges have Concrete Class A-4 (Class 30) bridge approach slabs.
2. Inspector measures dimensions, ensures proper reinforcing steel placement, and verifies concrete quantity installed for payment.

Procedures for Paved Ditch

1. Inspector should check the stations, length, type, and depth. It is noted that this item is normally listed as a Plan Quantity item and as such, detailed measurements would not be required**.**

Review Procedures for Allaying Dust

1. Inspector should record hour(s) in the DWR.

Review Procedures for Liquid Asphalt Material

1. Inspector should verify the application rate and daily quantity and record in the DWR.
2. Inspector should add net gallons (already adjusted to 60ºF (15ºC) on the invoice) to obtain the total quantity shipped.
3. Ensure that asphalt adjustment calculations are performed using asphalt ticket quantities and square yard measurements. Theoretical/contract application rates may be used to determine volumes of liquid asphalt for surface treatment asphalt adjustment calculations. However, slurry seal and latex specifically require the utilization of actual ticket quantities in the contract special

provisions to calculate rates of application, and as such, ticket quantities should be used for asphalt adjustments.

Review Procedures for Asphalt Concrete Courses

1. Inspector collects tickets for all trucks ensuring the quantity delivered matches the total tonnage on Form TL-102A and calculates daily quantity, noting in the DWR.
2. Inspector should check the deductions that are required for quantities outside allowable tolerances noted of form TL-102A.

Procedures for Crusher Run Aggregate

1. Inspector should collect tickets and add up daily total, noting in the DWR.

Review Procedures for Sub-Base Course and Aggregate Base Material

1. Inspector should collect tickets and add up daily total, noting in the DWR.

Procedures for Fertilizer & Lime

1. Inspector should total the invoices by adding the "total shipped" on the invoices and note in DWR.
2. Inspector should check for any changes in fertilizer type and make adjustments for the ratio used, noting in DWR.

Procedures for Seeding

1. The inspector should document regular seeding (which includes mulch) or over-seeding (which does not include mulch) in DWR. This documentation will serve as a record of the quantity of seed used and when completed, the tag on the bag of seed may be disposed of.

Procedures for Concrete Class A-4 (Class 30)

1. Inspector should check the applicable plan sheets to verify the total quantity(s). Inspector should note dimensions, rebar placement and quantity, and changes such as extended backwall in DWR. Inspector should make reference to the deck probe depths in DWR and include appropriate forms/sketches to support probe depths.

Procedures for Reinforcing Steel

1. Inspector should check the plans for revisions.
2. Inspector should note structure number, quantities, and placement in the DWR.
3. Note that when a structure is completed without the necessity of altering either the length, size, or number of reinforcing bars detailed on the plans, the Department will pay for the plan estimated quantity for reinforcing steel, provided the plan and shipping invoice quantities agree within plus or minus one (1) percent.

Procedures for Piles

1. Inspector should complete Form C-1, noting quantities in DWR.
2. Inspector should compute the center of gravity of each pile group and note in DWR.

Procedures for Structure Excavation

1. Inspector should review the Bridge or Structure Plans prior to work to locate bottom of footing elevations and to verify the neat lines shown on the plans.
2. Inspector should verify the cut depths and note excavation depth and dimensions in the DWR (measured to nearest 0.1' or 0.05 meter). As for all payments, the final calculated value shall be paid to the nearest hundredth. If footing excavation is different from the planned quantity, inspector should provide detailed sketch with dimensions in DWR.
3. Inspector should provide a record of measurements and survey checks that were made for verification of the accuracy of the calculated volume.

Borrow Pits

1. Inspector should use load count measurement if borrow pit is not cross-sectioned prior to use.

Contract Surveying

1. Inspector should note percentage of survey in DWR, with supporting documents provided to ensure survey was performed in accordance with the contract.

APPENDIX 4 - Procedures for Computing Final Quantity Excavation by Data Processing Methods

For guidance on adjustment to final excavation, quantities refer to Specifications Section 517:

517.04—Construction (C) projects
The following specific requirements shall apply:
(a) Digital Terrain Model (DTM) and Construction Cross-sections: Original location Digital Terrain Model (DTM) will be provided by the Department and will serve as a basis of payment for earthwork. The Contractor shall be responsible for taking construction DTMs or cross-sections of areas that, in their determination, do not agree with the Department furnished original location DTMs. The Contractor shall submit the disputed DTM information to the Engineer for verification prior to any excavation by the Contractor in these alleged areas of change. The DTM information furnished by the Department and submitted by the Contractor shall be compatible to the Department's current DTM format.
(b) Borrow Pits: All borrow pit DTMs or cross-sections, originals and finals, will be secured by the Engineer through the Department Survey party. The Contractor is encouraged to also secure DTMs or cross-sections of borrow areas. A claim of discrepancy in borrow volume will not be considered by the Engineer unless survey data was obtained and submitted by the Contractor to substantiate their claim.

517.05—Minimum Plan (M) projects
The following specific requirements shall apply:
(a) Digital Terrain Model (DTM) and construction cross-sections: "M" projects are based on plan quantities; therefore, DTM and construction cross-sections are not required. Should the Engineer determine at any time that an actual measurement is warranted, the Department will make the necessary measurement in the field.
(b) Borrow Pits: All borrow pit DTM's, originals and finals, will be secured by the Department. The Contractor is encouraged to also secure DTMs or cross-sections of borrow areas. A claim of discrepancy in borrow volume will not be considered by the Engineer unless survey data was obtained and submitted by the Contractor to substantiate the claim.

APPENDIX 5 - Procedures for the Review and Preparation of Bridge Finals

Before final acceptance and during construction, the bridge should be inspected by the District Structures and Bridge Engineer for general conformity to the contract, plans and specifications, and then accepted as complete after any necessary corrections have been made by the Contractor. All of the above activity should be recorded by the Inspector in a DWR(s).

The following steps should be followed by personnel preparing bridge finals after the project is completed and accepted:

1. Receive the as-built drawings, diaries, delivery tickets, pile-driving records, summary of quantities, certifications, Reasons for Differences and all other project final records.
2. Obtain the project final records from the DCM to review the contract and all change orders.
3. Obtain approved shop drawings from reviewing authority (VDOT/Consultant).
4. Verify that the inspector has marked in red any changes on the BW prints such as elevations, dimensions, footing depths (showing average depths in feet and to the nearest tenth of a foot), etc. The inspector should provide sketches of pile layouts consisting of pile locations, test piles, north arrow, and identification number of each pile to correspond to the pile driving records and show all information on BW prints that is necessary for computation of final quantities.
5. Verify that alterations in construction are minor and reasonable or in accordance with general notes, specifications, change orders or as directed by the ACE. Call in the PI (if needed) to explain any discrepancies or answer questions that the reviewer may have.
6. Check the inspector's computations of quantities in red with light marks near the inspector's figures. When computations disagree with those of the inspector, mark corrections nearby, making the computations as brief as possible. Never erase, mark over, or alter any of the inspector's recorded data. The names of the first and second reviewers shall be noted on the front cover of the document being checked, along with the date and the function performed, with the same color pencil used while performing the function. Project records shall not be submitted for filing without appropriate signature.
7. Check delivery tickets, and diaries for proper signatures and authorization in compliance with the Construction Manual – Appendix C and the Manual of Instruction – Materials Division, Chapter VIII.
8. For bridge projects included in roadway contracts, prepare the Final Estimate and combine it with the roadway Final Estimate for the contractor's review.
9. For bridge only contracts, contact the District Materials Section to verify that the contract items are covered by tests/certifications/approved lists/etc. and consequently eligible for payment. Bridge projects are typically handled the same as other projects, just that the Bridge Section checks the final records. Prepare the Final Estimate and transmit along with a copy of the District Materials Division letter of approval to the DCM for the contractor's review. After the contractor's review of the Final Estimate, complete the draft of the Final Estimate and return it to the DCM.
10. If a contract is for a federally funded project greater than $5,000,000.00 or the project has Federal Oversight, complete a Reasons for Differences Report and submit it with the Final Estimate after the Contractor's review.
11. Bridge and structure projects with plans, both contract and state forces work, shall be marked for the "as-built" condition upon completion of the work, as described in Appendix 2.
12. Bridge and structure projects without plans (i.e. SAAP projects) will require a Maintenance Data Sheet to include the name of contractor, types of work performed, location of work, actual quantities, pertinent sketches from SAAP contracts and types of materials such as expansion dams and paint systems or other special items used.
12. The Maintenance Data Sheet shall be marked "Finals posted by (name) District on (date of posting)" near the title block.

13. Upon completion of the Maintenance Data Sheet, it shall be transmitted to the Central Office Structure and Bridge File Room for filing and eventual archiving. The preparation and transmittal of the Maintenance Data Sheet should be considered a routine task within the scope of the finals posting process and be performed in an expeditious manner in order to ensure an accurate permanent file record.
14. Shop drawings shall be transmitted to the Structure and Bridge File Room for archiving. Cut sheets shall be archived as directed by the District Structure and Bridge Engineer.
15. The final records are then sent to the District Location and Design Section for filing.
16. Posting Final Quantities – Tabulate and index final quantities in the inspector's summary for all pay items shown in the contract (including change orders) following the order shown on the plans. Substructure items are listed first and totaled before superstructure items are summarized.
17. The records are then crosschecked, and the estimate and reasons for differences assembly is then sent to the District Design Unit.
18. If the contract was for a bridge project only, the final records are crosschecked. The Contract Manager copies ACE on a letter to the contractor advising the contractor that they have 10 days to review the final After the Contractor's review of the Final Estimate, complete the draft copy of the final assembly.

APPENDIX 6 - District Materials Engineer – Review Procedures

Operations and Procedures in the District – For more detailed instructions on acceptance, reporting, and certification of materials, refer to the Manual of Instructions for the Materials Division.

1. Materials Notebooks are received from the DCM's Office by cover letter, or other agreed upon procedure.
2. Materials records, test reports, and certifications are obtained from project files for checking.
3. If the project is a Special Project (subject to modified inspection and acceptance procedures) refer to the Manual of Instructions, for special documentation procedures.
4. The title sheet of the Materials Notebook is checked. Check the proper posting of Estimated Quantity of Materials, change orders, or any special handling of material quantities. Check to see if the notebook has been signed by the ACE, the CM, and the PI.
5. Each item in the Materials Notebook is checked in red pencil denoting that the material meets VDOT specifications and that a test report, certification, etc. has been issued. All items should be summarized. The summary is then checked against the section column showing the total tested quantity. Quantities of tested materials must equal or exceed quantities of used materials.
6. All transfers of materials are crosschecked as being released from and received on a project for the applicable items.
7. Price adjustment data on specifications for central mixed aggregate, asphalt concrete, and any other materials on which price adjustment may have been applied is checked. Standard deviation for variability (statistical specifications) from each source is checked and sent out, if this applies. Test reports and materials notebook are crosschecked with Form TL-102A to see if they agree.
8. If a Federal-Aid (NHS) project is involved, the necessary number of Independent Assurance Samples are checked, as well as the comparison with applicable acceptance samples and documented reasons for differences if necessary. (See the Materials Division Manual of Instructions)
9. Verify all depth and density reports.
10. Verify Form TL-136 reports for Independent Assurance depth and density tests, if required.
11. The DCM's office checks for price adjustment data before computing the quantities for the Final Estimate on central-mixed aggregate and asphalt concrete. After computation of pay quantities for the Final Estimate, a review is then made to see that tested quantities equal or exceed actual pay quantities for the Final Estimate.
12. If a shortage of tested materials exists at the time of final checking, every effort is made to secure the necessary test or certification coverage for the item in question before releasing the Final Estimate. If coverage cannot be obtained at this time, an explanation of the missing documentation is made and a request for the deduction to be made if proper test coverage cannot be received.
13. If everything is in order, certification is attached to the Materials Notebook and signed by the District Materials Engineer.
14. The District Materials Engineer then prepares a materials certification on Form TL-131 or TL-131-2 for the DA or his designee and for transmittal to the Federal Highway Administration. The certification states that the appropriate reports covering tests or certifications as to the conformity with specifications of materials on the project are on file by project numbering in the office of the District Materials Engineer. Currently, price adjustment data is not sent to the F.H.W.A. The form TL-131 reports only whether or not the amount of proper testing was performed and whether or not all materials meet specifications. Materials not meeting specifications are listed along with explanations justify their use on the project. Price adjustments are done within specifications and therefore are not listed.
    a. The TL-131 shall only be sent to the FHWA on projects that are on the National Highway System and receive federal aid.

b. This document should be forwarded to the DCM's office, and included in the finals package that is then forwarded to the CD's Contract Section.
c. Price adjustment sheets for any materials that are accepted outside of specification limits, and showing to the extent to which they do not meet the specifications are to be attached to the certification.

16. This assembly is then forwarded to the District Design Unit Finals Section / DCM's Office by cover letter for issuance of the certification to the Federal Highway Administration. One copy of the certification (TL-131 or TL-131-2) is sent to the Federal Highway Administration by the DCM, before final payment can be made on a Federal-Aid project (NHS).
17. One (1) copy of the certification with attachments noted and one (1) copy of the estimate are sent to the State Materials Engineer.
18. The Materials Notebook may be retained by the DCM's Office, Materials Office, or the DA's Designee, until notification is received to purge / archive files. The Materials Notebook, prior to purging, may be subject to further review and audit (on a random basis) by the office of the State Materials Engineer. (See "Materials Division – Operations and Procedures – Central Office" herein for additional details.)
19. The Materials Section has forty–five (45) days from the time of receipt of the records to check the materials notebook.

APPENDIX 7 - Regional Traffic Engineer – Procedures for Recordkeeping

The following steps should be followed by the Regional Traffic Engineering Section when a project is completed and accepted.

1. Receive the "As Built" Traffic Control Device plans and other records related to the installation of traffic control devices, which are the responsibility of the Department for maintenance purposes.
2. File the applicable shop drawings for signal poles, lighting poles, overhead sign structures, other traffic control device structures, and foundation designs for such with the "As Built" Traffic Control Device Plans received in Item 1.
3. Retain shop drawings until such structure is removed and no longer utilized. Retain "As Built" Traffic Control Device Plans and other records until new construction provides new "As Built" Traffic Control Plans and other records.
4. Modify "As Built" Traffic Control Device Plans when minor changes are made in the field by state forces or others and new "As Built" Traffic Control Plans are not required.
5. The Regional Traffic Engineer should dedicate a specific location for these files to be retained in their office. In order to conserve space, archiving of all data is allowable.

APPENDIX 8 - Materials Division – Central Office Personnel

The following guidelines should be followed by the Central Office Section of the Materials Division when processing project finals.

1. After the receipt of the Final Estimate and TL-131, the Central Office Materials Division will randomly select projects to audit / review. Generally, 10 percent of the projects will be selected or a minimum of one (1) per month per District. The District Contract Manager be notified which projects have been selected, and will forward the Materials Notebook to the Central Office Materials Division for review. (See "Operation and Procedures in the District" herein.)
2. The book is then reviewed and checked by the Central Office Materials Division using similar procedures, as outlined for the District Materials Engineer in a previous section.
3. Central Files are checked against the Materials Notebook to determine that they contain all necessary test reports, etc. Any missing reports are obtained. These files are then maintained for the required retention period.
4. After determining that the Materials Notebook is in order, the Central Office Materials Division will return it with a transmittal letter to the District Contract Manager for retention. If any discrepancies have been found during review, these will be noted in the transmittal letter together with any corrective measures necessary.

APPENDIX 9 - Internal Audit Division

The PI and designated review team are responsible for ensuring that the TL-102As represent information contained in the recorded delivery tickets. The TL-102As may be examined in connection with the performance of planned internal audits. The TL-102A is processed in the following manner:

The TL-102A is distributed after the inspector has verified that it represents the material received on the project. The original copy and all other data is processed up to the finalization state and filed, since it will be the certified record of material delivered to the project. The TL-102A may be handwritten and delivered in person or electronically generated and e-mailed for acceptance of materials being shipped. (MD 281-06 / CD-2006-3)

The District process is as follows:

1. The PI processes and reconciles the delivery tickets and the TL-102A as set forth in the above paragraph.
2. The District Design Unit or other designated review team confirms that the TL-102A does represent the material used on the project as evidenced by the delivery tickets.
3. During the performance of planned audits, the Internal Audit Division will:
    a) Review the reasonableness of TL-102As during the performance of planned audits.
    b) Review a sample of the delivery tickets and compare the same to applicable TL-102As during the performance of audit test-work.
    c) Report exceptions noted during the review of delivery tickets and TL-102As to the appropriate authority.
    d) Recommend appropriate corrective action to resolve noted exceptions.

APPENDIX 10 – VDOT Records Retention System

Records Retention System

	Applies To
Schedule	501-000
Series	004117
Division	General
Function	General
Applies To	VDOT-wide
Sub Function	All Divisions and Districts
Record Series Title	Project Files – **State Funded**
Record Series Description	Series documents the design and construction of state funded highway construction projects. Includes designs, studies, surveys, field inspections, and contract administration. (Project Files - State Funded) Project records consist of, but not limited to, the following: 1. Copy of the Contract and Special Provisions. 2. A complete set of plans that include the latest revisions. 3. Notice to Proceed. 4. A copy of the "Report of Starting and Completion of Project", Form C-5. 5. A copy of Subletting Requests, Form C-31. 6. A copy of all approved change orders, Form C-10. 7. One copy of approved working drawings and shop plans that are required for the project. 8. Copies of all utility plans and agreements when the PI inspects such work. 10. A copy of the project's correspondences and reports. 11. A copy of the Right-of-Way Agreement between the Commonwealth and the property owners within, and adjacent to, the project limits. 12. Records of work performed under Force Account Specifications, Forms C-115 and C-116. 13. Copies of all shutdowns issued on calendar day contracts, Form C-12, and correspondence relative to extensions of time. 14. Electronic Project Diary 15. Source of Materials 16. Materials Test Reports 17. Work Zone Inspection Checklists 18. Materials Invoices / Delivery Tickets 19. Materials Notebook. 20. A complete and accurate file should be kept on the project concerning information pertaining to Equal Opportunity and Form C-67 for on-the-job training by the Contractor. 22. Progress Estimate. 23. Progress Schedule, Working Schedule, Plan of Operations, or CPM. 24. As built plans, if required. 25. Contractor's weekly payroll or payroll roster. 26. Form C-36 (CPE) Contractor's Performance Report 27. Form C-36i (CPE) Project Performance Interim Report 28. Form C-36s (CPE) Contractor's Performance Report (Subcontractor 29. Form C-107 Construction Runoff Control Inspection Form

Retention Statement	Retain for three (3) after project completion or until settlement of all outstanding claims, whichever is longer, and then destroy.[2]
Retention Time	3.00
Comments:	
Period Type	1.00
Status	Approved
Approval Date	9/19/2002 12:00:00 AM
Records Format	[Other]
Medium	
Original Records	False
Duplicate Records	False
Department Originated	False
Record Copy	False
Vital Records	No
Access	No Restrictions
Physical Access	No
Analyst	Snyder
Records Activity	New

CID	Title	Detail

[2] Refer to the Fiscal Division's Project Closeout Database for official Project Completion dates: https://insidevdot.cov.virginia.gov/div/km/COP/PC/SitePages/Project%20Closeout%20Resources.aspx

Records Retention System

Applies To

Schedule	501-000
Series	004071
Division	General
Function	General
Applies To	VDOT-wide
Sub Function	All Divisions and Districts
Record Series Title	Project Files - **Federally Funded**
Record Series Description	Documents the design, construction, and administration of projects funded through the Federal Highway Administration (FHWA). Types of documents include designs and surveys, field inspections, correspondence, and other contract administration types of records. This series supersedes those on all retention schedules.

1. Copy of the Contract and Special Provisions.
2. A complete set of plans that include the latest revisions.
3. Notice to Proceed.
4. A copy of the "Report of Starting and Completion of Project", Form C-5.
5. A copy of Subletting Requests, Form C-31.
6. A copy of all approved change orders, Form C-10.
7. One copy of approved working drawings and shop plans that are required for the project.
8. Copies of all utility plans and agreements when the PI inspects such work.
9. A copy of the project's correspondences and reports.
10. A copy of the Right-of-Way Agreement between the Commonwealth and the property owners within, and adjacent to, the project limits.
11. Records of work performed under Force Account Specifications, Forms C-115 and C-116.
12. Copies of all shutdowns issued, Form C-12, and correspondence relative to extensions of time.
13. Site Manager records
14. Source of Materials
15. Materials Test Reports
16. Work Zone Inspection Checklists
17. Materials Invoices / Delivery Tickets
18. Materials Notebook.
19. A complete and accurate file should be kept on the project concerning information pertaining to Equal Opportunity and Form C-67 for on-the-job training by the Contractor.
21. Progress Estimates.
22. Progress Schedule, Working Schedule, Plan of Operations, or CPM.
23. As built plans, if required.
24. Contractor's weekly payroll or payroll roster.
25. Contractor Performance Evaluation (CPE) reports
26. Form C-107 Construction Runoff Control Inspection Form

(Project Files - Federally Funded)

Retention Statement	Retain for three (3) years after receipt of final payment from FHWA, and then destroy.[3] Electronic records should be retained in accordance with VDOT's Critical Infrastructure Information/Sensitive Security Information (CII/SII) Policy Guide, as well as the Library of Virginia's Electronic Records Guidelines, and Email Management Guidelines. [4]
Retention Time	3.00 3years starts after final voucher to FHWA is processed and approved by FHWA
Comments:	Project records consist of, but not limited to, the following:
Period Type	1.00
Status	Approved
Approval Date	
Records Format	[Other]
Medium	
Original Records	False
Duplicate Records	False
Department Originated	False
Record Copy	False
Vital Records	[Unknown]
Access	No Restrictions
Physical Access	No
Analyst	Snyder
Records Activity	New

CID	Title	Detail

[3] Refer to the Fiscal Division's Project Closeout Database for official Project Completion dates: https://insidevdot.cov.virginia.gov/div/km/COP/PC/SitePages/Project%20Closeout%20Resources.aspx

[4] Please refer to the Library of Virginia's "Electronic Records Guidelines", of which the most recent version is dated "December 2009", and is available online at: **http://www.lva.virginia.gov/agencies/records/electronic/INDEX.HTM**

As noted in this document, it is only intended to represent the *"best practices in the field of electronic records"* and is *"not meant to define mandatory standards"*. Inspectors, CMs, ACEs and DCAs should use these guidelines to develop an appropriate set of procedures for managing electronic records. If a project is subject to litigation, Notice of Intent or Claim, the OAG should also be consulted to provide further guidance as to the processing, protection, sharing and retention of all documentation.

APPENDIX 11 – Hyperlinks to VDOT Fiscal Division Close-out

One of the primary reasons for the PCM update is to address the proper procedures necessary for the financial closeout of the construction phase of projects. Development of VDOT's financial closeout procedures incorporated input from a wide cross-section of VDOT to ensure understanding and appropriateness of the needed financial management across all phases - from the time a project begins design until it is built and the project's accounting is ultimately resolved. Adding the financial closeout workflow to this manual gives a more complete, cradle-to-grave explanation of things that need to happen to successfully perform project management responsibilities after a project has been completed and accepted in the field.

A full detailing of the entire financial closeout process – across all phases – is documented in other guidance. The Financial closeout guidance contained in this manual simply addresses the construction phase, with electronic links to sites set up by the Fiscal and Programming Division with detailed information on this topic. These items are now shown and updated at the inside VDOT web address shown below:
\\Coitd05\prog_public\Process_Improvement_PCO\Database\Financial Management of Projects and Programs_Post Construction.docx

The Project Closeout Database can also be accessed through the Fiscal Section of insideVDOT:
https://insidevdot.cov.virginia.gov/div/km/COP/PC/SitePages/Project%20Closeout%20Resources.aspx

APPENDIX 12 – Design-Build Close-out

1. Initializing Available Bid Items –As the Department moves forward with Design –Build contracts, and recognizing that many districts desire to more accurately capture costs incurred on Design-Build contracts, five categories and five pay items will be used in new contracts initialized in Site Manager . The five items are:

   Item # 00104 – Design-Build – Construction Items
   Item # 25591 – Design-Build – Preliminary Engineering
   Item # 25593 – Design-Build – QA/QC
   Item # 40012 – Design-Build Utilities
   Item # 70093 – Design-Build ROW (Admin. Costs)

   A construction activity (631 or 731) will be associated with each of the five items.

   Recognizing that some districts still prefer not to distribute the contract price among the listed five items, they will still have the option to carry all contractor payments against one item (Item #00104) in Site Manager.

2. Change Orders – For the conversion to Site Manager, historical Change Orders for lump sum Design-Build contracts were combined in a single dollar value Change Order. The Change Order did not require a new category or funding. The Change Order was a normal overrun/under-run function Change Order. The item associated was the single lump sum contract item where the change in quantity was the net dollar value of the change orders to date. This process adjusted the current contract value, but did not increase the number of contract items. Future Change Orders on Design-Build contracts that require an increase or decrease can be handled the same way as above, or the Change Order process can mirror the Change Order process that is used on all other construction and maintenance contracts. The Change Order tracking method will be at the discretion of the ACE.

3. Site Manager Approvals – DCMs are advised to set up approval levels for progress estimates, change orders, etc., to mirror the methods currently used on all other construction and maintenance contracts. Final Estimate approvals will be set the same way as they are handled for all other contracts with approval required from the SCE.

4. The final audit of Design-Build contracts should, in general, follow a similar process as that used on all other construction and maintenance contracts. Design–Build contracts may have various time lines for processing final payment. For this reason be sure to be governed by any specific language in the contract concerning the time allowed for processing final payment to the contractor.

5. The submittal of the Final Estimate package to the CD will require the same types of documentation currently required for all other contracts. In addition, fuel adjustment documentation and calculations will be required since fuel adjustments will not be automatically calculated by Site Manager. All FHWA submittals that are normally required for FHWA oversight projects will need to be made.

6. It will be necessary for the Districts to retain all records for Design-Build Contracts in accordance with the Design-Build contract, which is typically five years.

APPENDIX 13 –Guidelines to Final Audit Process

The Department's current practice is to comprehensively audit every project upon completion of work and prior to release of the final payment to the contractor. This practice is at times burdensome and results in an unnecessarily lengthy closeout process. The intent of these guidelines is to provide flexibility to the Districts when determining the appropriate level of effort for a particular final audit. This flexibility will allow the Districts to ensure that resources are being spent prudently on final audit efforts and that the 90 day closeout timeframes are achieved.

Recommendations:

- It is not necessary to audit every single project. It is acceptable for projects that are relatively low risk for significant financial discrepancies to not be audited. Audits should be focused on projects with extended durations, staff turnover, or complex scope. However, the District should make sure that at least cursory final audits are performed across a representative sample of the program. .

- The District should continue with the current practice to fully audit all federal oversight (FO or PODI) projects until additional data on Federal Oversight Audit findings can be obtained.

- Projects that have staff turnover (inspectors, record keepers, construction managers) should have their records checked more thoroughly. Consider reconciling project records at the time of transition instead of waiting until the final audit.

- Promote the good practices of reconciliation of project records with the contractor at regular intervals. This will greatly alleviate the need to perform a comprehensive final audit at project completion. This can be done as part of the monthly progress meetings. The frequency of the reconciliations should be determined by the Responsible Charge Engineer based upon the needs of the project.

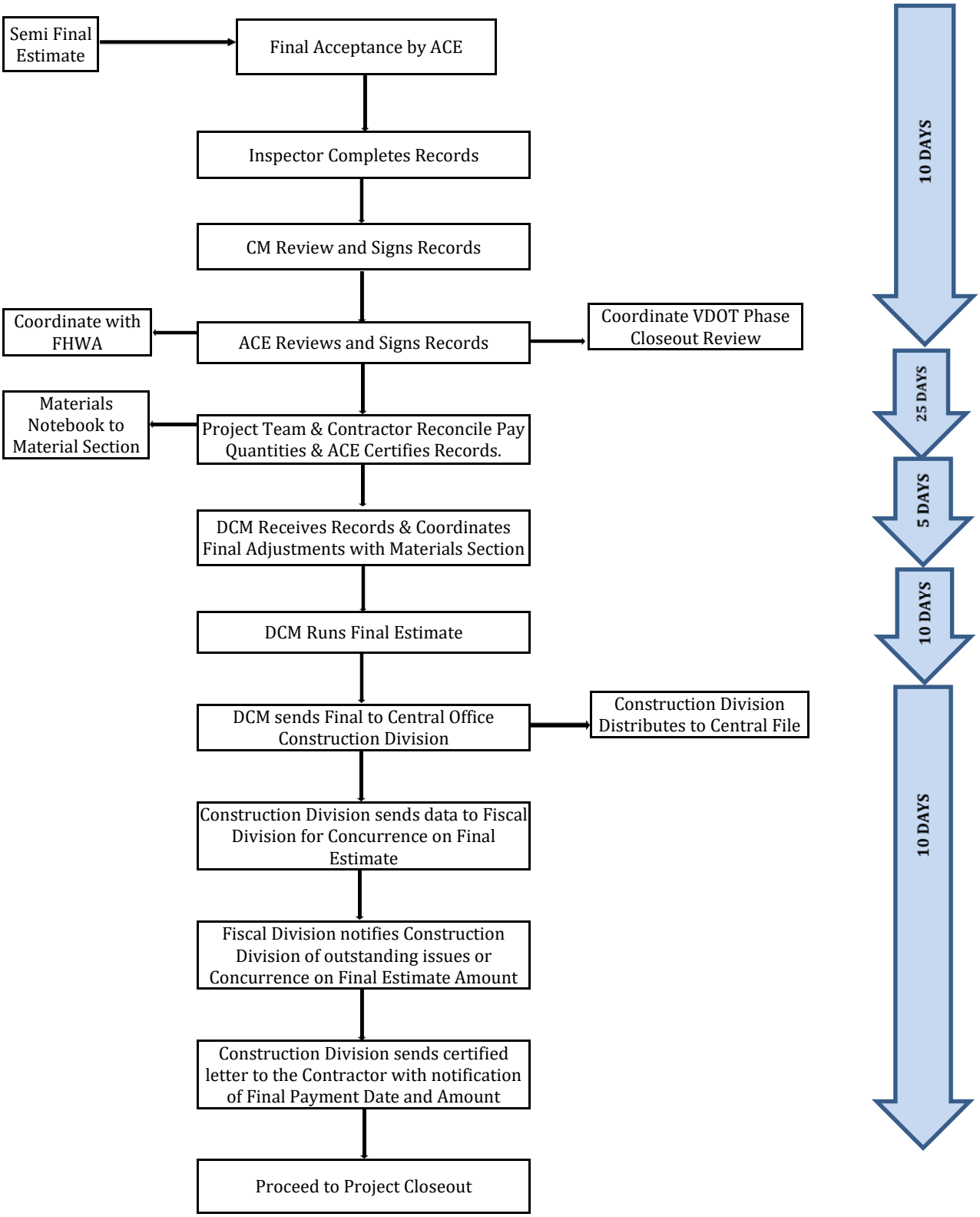
- At the conclusion of project, the Project inspector, CM and ACE should make sure that all documents and books are in order according to Post Construction Manual, before submitting it to District Contracts Manager (DCM). Please refer the alternate flow chart located in Appendix 13, which provides for additional time for these tasks to be performed for in-house audits.

- The Districts should consider the use of cursory reviews to reasonably ensure that the project records are accurate and complete. If work load permits, Districts should strive to utilize VDOT staff to spot check 10% of projects selected for cursory review. If significant

discrepancies are discovered, then a full audit should be performed. No further action is required if the 10% cursory review does not discover any significant discrepancies. The use in-house available resources (Inspectors and CMs) to audit some projects during off peak time / winter timeframe. This will also enhance their knowledge base and reinforce the importance of keeping good records. Consider the use of hourly employees to conduct in-house audits.

- Post construction coordination with the Materials Division remains unchanged as part of these guidelines.

- A mandatory closeout meeting with the contractor to facilitate the reconciliation of records should be held prior to the final records being submitted to the DCM. These meetings should be attended by the Contractor, inspection staff, DCM, District Materials and others deemed necessary by the Responsible Charge Engineer. Proper meeting minutes shall be prepared and circulated within 3 days of the meeting to all involved. Any missing information shall be provided to project team, to be incorporated in the project records, within 10 business days. Consider conducting closeout meetings on larger projects at the completion of significant milestones or phases.

- The Districts should track total expenditures to perform audits / reviews on each project, as well as the amount of any financial adjustments made as a result of the audits / reviews. This will allow the Districts to better assess the value of audit efforts and make adjustments to their audit program accordingly.

POST CONSTRUCTION FLOW CHART - INHOUSE AUDIT