Construction Inspector-In-Charge Reference Guide

pennsylvania
DEPARTMENT OF TRANSPORTATION
www.dmv.pa.gov

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PREFACE

Contents:

The Construction Inspector-In-Charge Reference Guide contains common IIC duties required on most projects. This guide is intended only as a reference in order to provide guidance on how to approach various activities. This guide is not a substitute for any of the current published standards, publications, and/or policies the Department has in place and is intended solely for use by PennDOT Department employees and representatives. This guide is to be used in conjunction with the latest publications, standards, contract, plans, and special provisions for any activity for a specific project. This guide is true and accurate at its time of version release.

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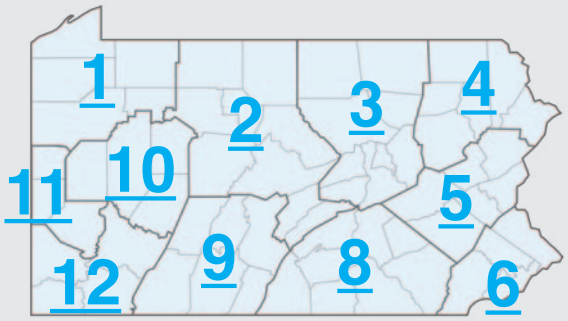

A. Pre-Construction Meeting

A preconstruction meeting is held prior to the start of each project. The project Assistant Construction Engineer/Manager (ACE/M) will likely have responsibility to schedule and run this meeting, but the Inspector-in-Charge (IIC) has an important role in making the meeting effective and time worthy.

The IIC should:

- ✔ Review the plans and contract documents to have a general understanding of the project and the topics discussed at the meeting.
- ✔ Review all addendums, special provisions, pre-bid questions and applicable permits for dates and restrictions.
- ✔ Be prepared to answer contractor-generated questions or questions by other attendees that may require additional clarification or further discussion, particularly regarding coordination of inspection staff, administrative information, or documentation issues.
- ✔ Take notes on important details conveyed at the meeting including any concerns expressed by the contractor. In some instances, the IIC may be responsible for compiling meeting minutes that will require more detailed note taking.
- ✔ Exchange contact information with the project attendees. A copy of the sign-in sheet with pertinent contact information should be distributed at the end of the meeting.
- ✔ Discuss details of the field office setup (location, size, electric/internet service, etc.).
- ✔ Discuss the contractor's anticipated mobilization date.
- ✔ Ensure the contractor's health and safety program has been submitted and that it is reviewed and discussed with the district project safety officer.
- ✔ Discuss the labor compliance requirements for the project and how failure to comply will affect payment of estimates.
- ✔ Ensure the Issue Escalation Matrix (Form CS-8) is completed at the pre-construction meeting.
- ✔ Confirm the frequency of progress control meetings and when first meeting will be held.
- ✔ Determine if a weekly look ahead schedule should be provided. On projects requiring a CPM schedule, a 60-day work plan must be submitted at the pre-construction meeting and maintained until an acceptable CPM baseline schedule is submitted.
- ✔ Gain an understanding of the project schedule and confirm if intended inspection staffing needs match.

Resources and References

- Publication 2 (Project Office Manual) Part A Sec. 3 Page 1-1
- Publication 408 Section 103

B. Other Preconstruction Meetings

Additional preconstruction meetings may be required prior to the start of construction depending on the scope and details of your project. Additional project meetings may include:

1. **Environmental**
   An onsite environmental meeting is often held at the beginning of the project. This meeting is important to discuss all requirements of the project's environmental permits, conditions, commitments, and plan implementation. The meeting should be held prior to the start of construction and after the notice-to-proceed. If there is an NPDES permit associated with the project, the Department of Environmental Protection (DEP), County Conservation District, and Licensed Professional (individual who will oversee critical stages of the Best Management Practice Installation) at a minimum should be invited. The Transfer/Co-Permittee application should be completed prior to the meeting. If there is no formalized permit or E&S plan, the County Conservation District must be notified prior to working.

   The IIC should:

   - ✔ Review the Erosion and Sediment Control Plan, Post Construction Stormwater Management Plan, Environmental Permit Documents, Special Provisions and the Environmental Commitments and Mitigation Tracking System (ECMTS) Worksheet.
   - ✔ Understand what entities are involved and who should be notified throughout the different phases of construction.
   - ✔ Be cognizant of the limits of disturbance and the proposed locations of temporary and permanent BMPs.
   - ✔ Review contractor's baseline schedule and check that any environmental restrictions are accounted for (i.e. in-stream restriction, Indiana Bat, etc.)
   - ✔ Be familiar with items identified on ECMTS Worksheet and make sure inspection staff and contractor are aware of issues and the process required to complete the form.

2. **Utilities**
   A project utility coordination meeting may be required depending on the number of affected utilities. Many projects require coordination with the utility companies to keep the project on schedule, ensure public safety, and prevent utilities from being damaged during construction.

   The IIC should:

   - ✔ Contact the District Utility Coordinator to schedule a project utility meeting. The District Utility Coordinator will set up the date and time of the meeting based on communication with the affected utility companies. The meeting agenda shall be established by the coordinator and the IIC to reflect specific issues pertaining to the job.
   - ✔ Review the contract prior to the meeting to be aware of any utility work that may have been scheduled or addressed previously in the contract.
   - ✔ Review and enforce any utility permit agreements and notification deadlines.
   - ✔ Be prepared to discuss PA One Call requirements and the Alleged Violation Reporting (AVR) system. Refer to Publication 2 (Project Office Manual) Part B Sec. 4 Page 20-1 for further details.

3. **Railroad**
   When a railroad is impacted by the project, it is important to meet with the railroad representatives to understand their requirements and set up lines of communication. It is important to coordinate efforts to reduce possible delays to the project.

   The IIC should:

   - ✔ Contact the District Railroad Coordinator to schedule a railroad coordination meeting. The District Railroad Coordinator will set up the date and time of the meeting.
   - ✔ Work with the Coordinator to establish an agenda to reflect specific issues pertaining to your job. Items to discuss may include railroad flaggers, track outages needed, and work to be completed over top of or close to tracks and any other related issues.

- ✔ Review the contract prior to the meeting to understand the impacts to the railroad and have an idea of the impact duration.
- ✔ If railroad flagman is needed, make sure the Railroad is aware of contractor's planned schedule and times the flagmen will be needed.

4. **Partnering**

In order to encourage the formation of a cohesive partnership between the Department, the Contractor, and its principal Subcontractors and suppliers, a Partnering Meeting may be held to draw on the strengths of each organization and to identify mutual goals.

There are three types of partnering facilitation:

a. **Internal Facilitation –** Co-facilitated by the Department Manager and Contractor Project Manager at the pre-construction meeting.

b. **Semi-Formal Facilitation –** Department Manager and Contractor Project Manager will meet to organize a partnering workshop. They will determine the dates, locations, required attendees, and third-party facilitator (optional) for the partnering workshop. Typically, the workshop should be a half day long.

c. **Formal Facilitation –** Similar to Semi-Formal, but a professional facilitator is required, and the workshop should last a full day.

The IIC should:

- ✔ Assist the Department Manager as necessary with generating a list of topics, identifying potential project issues, creating presentations, and developing a mission statement for the project.
- ✔ Attend the meeting with an open mind and listen to the information shared by the facilitator, Department key personnel, and Contractor key personnel, design project managers, and others in attendance.
- ✔ Be ready to share your goals and convey your expectations.
- ✔ Use this meeting as an avenue to establish lines of communication for issue resolution.

Resources and References

- Publication 2 (Project Office Manual)
- Publication 408 - Specifications

NOTIFICATIONS: SECTION A.2

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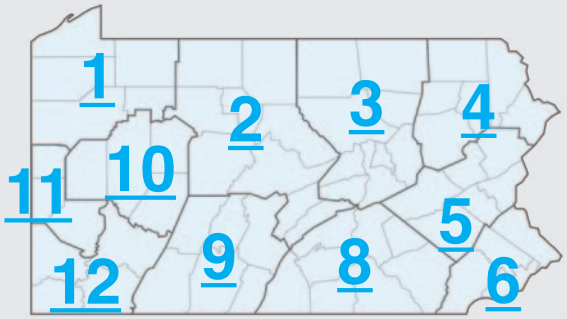


A. Stakeholders

The process of community engagement is an important step to create a positive public impression and minimize adverse impacts to the project. IIC participation is necessary in stakeholder outreach as the IIC often has the most direct and current knowledge of the project. Interested parties include but are not limited to local property owners, public officials, emergency services, school districts, local businesses, U.S. Postal Services, PennDOT county maintenance, Pennsylvania Turnpike Commission (if impacted), and municipal managers.

1. **Local Property Owners**
   Adjacent and local property owners or businesses can be directly affected by construction activities. Property owners should be informed of relevant project details through mail, flyers, or at a public meeting during the design phase.

   The IIC should:

   - ✔ Ask the design team what community outreach was done during the design phase.
   - ✔ Verify the contractor has notified local property owners of construction activity prior to start of work.
   - ✔ Contact the community relations coordinator to inform the media and other PennDOT units of project start and completion dates, detours, and other traffic impacts.
   - ✔ Document in detail notifications or conversations that take place on the project.
   - ✔ Archive correspondences in PennDOT Project Collaboration Center (PPCC) and project files.

2. **Public Officials**
   Public officials, including appropriate county maintenance managers, were to be notified by mail, email, telephone discussions, or through meetings prior to construction starting. However, there are times when a legislator or their staff contacts the field office during construction with questions or issues.

   The IIC should:

   - ✔ Notify the ACE/M that a public official did make contact.
   - ✔ Complete a Legislative Contact form and send it to the district executive's administrative assistant and copy the ACE, ADE, press officer, and community relations coordinator on the email.
   - ✔ Save all completed Legislative Contact Report in PPCC and/or project files.

Resources and References

- Publication 2 (Project Office Manual) Part A Sec. 1 Page 2-1
- Legislative Contact Report (Appendix)

B. Inspection Staff

After the preconstruction meeting and prior to the start of project operations, the staffing needs should be evaluated with the ACE to determine the use of department and/or consultant personnel. If consultant inspection service will be used, a process control letter or email needs to be submitted to the consultant firm requesting staff positions, number of staff, start date, and project field office location. Inspection staff requests have a minimum notification of two weeks. It is advised that more time be given if possible.

The IIC should:

- ✔ Work with the ACE to estimate manpower and resources needed to efficiently inspect the project.
- ✔ Verify the process control letter or email was sent to the consultant firm if consultant inspection services are being used.
- ✔ Share project scope so the consultant can provide experienced staff.
- ✔ Discuss expectations with the inspection staff, add individual to the project team in Engineering and Construction Management System (ECMS) and PPCC, and provide a reporting structure (if applicable).
- ✔ Promote a team atmosphere.

C. Construction Permits and Notifications

1. **Oversized Loads, Hauling, and Travel Restrictions**
   Vehicles that are oversized or overweight are often prohibited from entering construction projects with restricted or narrow lanes. It is critical to notify the district permitting office within the required time frame of any restrictions or closures occurring on the project. If the required times are not met, the contractor cannot restrict the roadway in any way until the time allotment has passed.

   The IIC should:

   - ✔ Complete Route Restriction forms and send them to the district permitting office within the proper time frame, as indicated below. This is critical information for route restrictions because they use a state-wide automated system that cannot be overridden.
     - Route/Bridge Restriction Form M-937R – 10 working days before restriction (does not include the day you submit the form or holidays)
     - Route/Bridge Opening Form M-937RO – 5 working days before opening
   - ✔ Save all completed forms in PPCC and/or project files.

2. **Construction Notification Application**
   A motor carrier is required to coordinate any movement through construction project areas. The motor carrier must also verify the construction contactor's approval to travel through the construction project area on the specified date(s) using the permitted sizes and weights. A motor carrier will need to apply to the department for acceptance by the IIC and permitting unit.

   The IIC should:

   - ✔ Review the Construction Notification Application, Form M-936CN and coordinate with the district permitting office for processing.

3. **Work Notification Signs**
   Most contract special provisions stipulate preconstruction signs be installed prior to the start of physical work. Advanced warning signs are typically installed 10 days prior to construction, and at times the contractor may elect to place detour signs prior to implementing the detour. All detour signs should be covered until the detour is implemented.

   The IIC should:

   - ✔ Refer to Publication 213 for guidelines on temporary traffic control.
   - ✔ Review the work notification signs and verify messages are correctly displayed on all Dynamic Message Signs (DMS).
   - ✔ Document the review by using the MPT App to complete Form CS-901.

- ✔ Check for conflicts with existing signage or signage from another construction project detour.
- ✔ Ensure signs are placed and oriented safely and equipped with software to help prevent hacking.

4. Environmental Permits and Notifications

It is common for construction projects to impact the environment. In those cases, a permit must be issued by the governing environmental agency. It is critical to review and understand the guidelines and commitments set forth by these permits and verify that proper notifications are being sent. Failure to do so can result in fines to the contractor and/or the department.

The IIC should:

- ✔ Review and understand contract attachments for all applicable permits.
- ✔ Coordinate with the district environmental manager if a permit needs to be signed over from the department to the contractor, signed by the contractor as a co-permittee, or obtained by the contractor.
- ✔ Verify the contractor has notified the Pennsylvania Fish and Boat Commission a minimum of 10 working days prior to the start of work if there is an National Pollutant Discharge Elimination System (NPDES) permit.

5. Roadway Condition Reporting System (RCRS)

The regional traffic management centers rely on field notifications to compile information about construction-related incidents, restrictions, or closures. The information received from the construction project representative is used in the event of a major incident that would require a traffic detour. The inspection staff has the most direct knowledge of the jobsite and should be prepared with contact information to report conditions. Accurate information of current roadway conditions helps PennDOT implement an effective incident management plan.

The IIC should:

- ✔ Be familiar with the process for the RCRS system and have the contact information to report an event. A reportable event is defined as a planned restriction, closure of a roadway, or an unexpected event (crash, downed lines, or flood) and the duration is estimated to be longer than 30 minutes.
- ✔ Provide the traffic management center a written list of the designated responsible parties who are authorized to call the TMC with information.
- ✔ Verify that daily or long-term phone calls to the TMC are being made.

6. Railroad Notifications

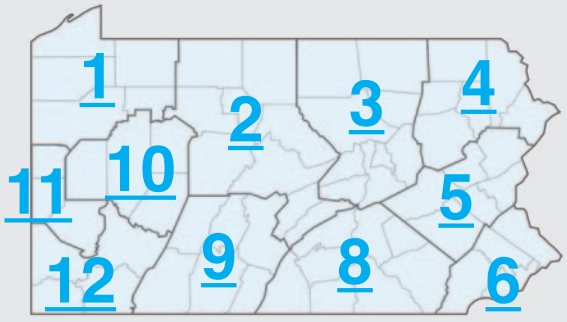
If construction is performed at or near a railroad, a railroad company is usually involved with flaggers, outages, and ongoing communication.

The IIC should:

- ✔ Obtain point of contact information from each impacted railroad company.
- ✔ Verify the contractor has notified impacted railroad companies of anticipated start date or any dates requiring coordinated efforts. Various applications and forms can be found here.
- ✔ Be sure to document flaggers hours working onsite.

PLANS & SUBMITTALS: SECTION A.3

Click on the District Number to be directed to Website.



A. PPCC Role Assignment

The ACE/M and/or IIC will setup their individual project for special PPCC roles and will add consultants to the PPCC hierarchy as needed. Accurate and organized role assignments can reduce the review time of submissions if delegation steps can be eliminated.

The IIC should:

- ✔ Coordinate with ACE/M to understand the role assignments and ensure they are accurate.
- ✔ Add department and/or consultant inspection staff to PPCC in the appropriate role so that they can access the necessary documentation.
- ✔ Make sure the contractor's staff understands how to correctly submit documents using the PPCC system (i.e. naming conventions, appropriate tab locations, etc.).

B. Submittals

The contractor is responsible for submitting the appropriate documentation prior to performing most construction activities on the job. There are numerous types of submittals and it is critical that these are monitored to ensure timely acceptance and avoid delay claims. Most job submittals can be prepared and submitted into PPCC prior to the pre-construction meeting. Additional submittals will arrive during the project but must be prior to performing the work or incorporating materials. Submittals are uploaded into PPCC for appropriate approval or response workflow. (PPCC Submittal Work Flow)

1. **Source of Supply**
   The contractor will submit Source of Supplies (SOS) in ECMS for approval by the district materials unit or other responsible party. All materials incorporated into the project must come from an approved supplier. Most materials will reference specific sections in Bulletins 14, 15, 41, and 42 or a special provision. If non-Bulletin material is to be incorporated, approval is based on requirements specified in Publication 408, Sec. 106.02(a)2. Most SOS submissions should be completed prior to the pre-construction meeting, but some may be submitted after the preconstruction meeting and prior to use.

   The IIC should:

   - ✔ Verify the contractor is submitting Source of Supplies in ECMS.
   - ✔ Understand which materials are to be incorporated and verify that all were submitted.
   - ✔ Ensure material has been accepted prior to use on the project
   - ✔ Inspect the material when it arrives onsite and verify that accepted Source of Supply is accurate.

2. **Shop Drawings**
   The contractor is required to submit shop drawings to PPCC for review and approval by the department or its representatives. Another option is to have the contractor submit the shop drawings as part of their SOS submission in ECMS. You should check with your District Materials Engineer/Manager (DME/M) for desired procedure. The contract and/or Publication 408 specifies a duration for review by the department. The contractor submits the drawings to the ACE/M for review or delegation to appropriate district staff. If

there are significant comments, the contractor needs to revise and resubmit. Timeliness is of utmost importance since a lengthy response time can potentially delay the project.

The IIC should:

- ✔ Confirm that Shop Drawings are approved before product is incorporated into the project.
- ✔ Be familiar with the shop drawings details and refer to them during field inspection.

3. **Work Schedule**
The pre-bid schedule found in the Bid Package is developed by the Department or Representative for information purposes only. It is the Contractor's responsibility to create a baseline schedule and submit it in PPCC for Department acceptance after they have been awarded the project. Depending on the contract, the type of schedule required could be a Narrative Schedule, Critical Path Method (CPM) Schedule, or Resource Loaded CPM Schedule. This document, once accepted, becomes an important tool to continuously track to make sure the project is progressing on schedule.

The IIC should:

- ✔ Verify that the Contractor has submitted the construction schedule in PPCC.
- ✔ Review the Contractor's construction schedule and coordinate any concerns with the ACE/M prior to acceptance.
- ✔ Review and understand Publication 408 Sec 689 to ensure requirements are being met.
- ✔ Verify that the construction schedule has been accepted prior to completing an estimate.
- ✔ Monitor the schedule and document circumstances that impact the critical path.

4. **Waste/Borrow Agreements**
If the contractor intends to use land outside the limits of work for purposes of wasting or borrowing material, the proper approval process must be completed prior to use. A Form CS-4345 will need to be completed with all required signatures and submitted in PPCC for approval. Acceptance must be granted prior to using Waste or Borrow Sites.

The IIC should:

- ✔ Check that documents are complete and accurate.
- ✔ Obtain a copy of the waste/borrow site's environmental permit and spot check periodically during construction to ensure compliance.
- ✔ Coordinate with County Conservation District as needed to ensure contractor is in conformance.

5. **Authorization to Enter**
Authorization to Enter (ATE) forms are permissible to use only on the following when construction activities extend beyond the legal right-of-way:

- ADA Curb Ramp Construction
- Minor Driveway Adjustments
- Design Build Projects (i.e. Emergency Slide Repair)
- Ditch & Drainage Act
- Minor Maintenance Work

If the Contractor is planning to utilize property outside the legal right-of-way or a temporary construction easement for any other reason, you must contact your District Right-of-Way Manager to assist with the proper plan of action. A PennDOT Representative must be present when obtaining signature from property owner on the appropriate ATE form. Contractors are not to be using these forms as their own. There are two types of ATEs:

- RW-397A (Waiver of Claim) - ADA Curb Ramps, Minor Driveway Adjustments and Ditch and Drainage Work - Form is only to be used by PennDOT and not available on the website
- RW-397 (Non-Waiver of Claim) - Emergency Slides and Design Build - Form is only to be used by PennDOT and not available on the website

On projects where there was a Right-of-Way acquisition, a Temporary Construction Easement (not ATE) must be used for driveway adjustments.

The IIC should:

- ✔ Review Publication 2 (Project Office Manual) Part B Sec. 1 Page 8-1 for guidelines on using ATE forms.
- ✔ Verify that the Contractor is not intending to perform any work outside the legal right-of-way with out authorization.
- ✔ Coordinate with the District Right-of-Way Manager prior to utilizing an ATE on a project.

6. Requests for Information

Requests for Information (RFI) queries are used by the Contractor or Department to obtain clarification on any items or portions of the plans that are not clear, specific, or consistent with the conditions in the field. An RFI is submitted in PPCC and a response time will be dictated. RFIs may be submitted at any point during pre-construction or construction phase.

The IIC should:

- ✔ Review RFIs and provide clarification to the reviewer so that an accurate response can be created.
- ✔ Monitor the review status of the RFI and contact the reviewer or ACE/M for an expediated response if necessary.

C. Contract

The contract is the binding agreement between the Commonwealth of Pennsylvania and the Contractor. It will include Special Provisions, Plans, Bid Items, Attachments, Surety and Insurance information, and Disadvantaged Business Enterprise (DBE) Participation. In case of a discrepancy among the contract documents, the following order of precedence will apply:

(1) Special Provisions

(2) Plans (excluding cited Standard Drawing)

(3) Specifications (other than Special Provisions)

(4) Standard Drawings

(5) Electronic Files

1. Special Provisions

Special Provisions are additions and revisions to the Standard Specifications covering conditions pertaining to an individual project. Special Provisions are used to incorporate changes to the standard specifications.

The IIC should:

- ✔ Review all Special Provisions and understand the requirements and how it can impact construction activities.
- ✔ Contact the Design Project Manager with questions or concerns so that there is clarity in the design intent.

2. Plans

Plans provide a visual representation of what exactly needs to be performed on a construction project. Plans may include general project information, notes, details, quantity tabulation sheets, profile views, cross-sections, and other details of the prescribed work.

The IIC should:

- ✔ Have a general understanding of the plans prior to the Pre-construction Meeting and gain a more thorough understanding before the start of physical work.

3. Specifications

Specifications are information pertaining to the method and manner of performing the work, or to the quantities or qualities of material to be furnished under the contract.

The IIC should:

- ✔ Be familiar with Publication 408 and utilize it as a continual reference throughout the project.
- ✔ Be sure to reference the correct Publication 408 edition and change number.

4. Standard Drawings

Standard Drawings are approved drawings that are produced to use repeatedly on projects.

The IIC should:

- ✔ Pay attention to what standard drawings are referenced on the plans.
- ✔ Understand that standards are to be used in conjunction with the plans.

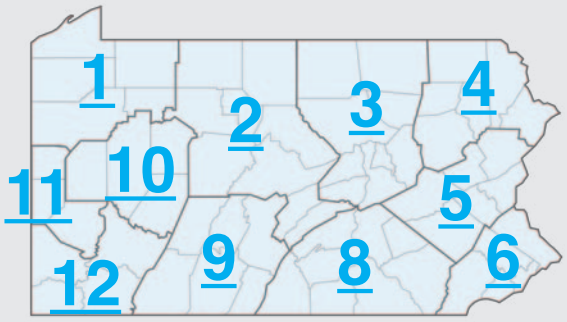
5. Electronic Files

Electronic files may be provided at the beginning of a job that contain CADD drawings, design calculations, district specific forms or checklists, and other miscellaneous information. These files may be used as a resource to better understand the project, but if they conflict with the contract, it must be coordinated with the ACE/M, Contractor, and Design team. The IIC should:

- ✔ Review design calculations and compare it to plan quantities to verify accuracy and better understand how quantities were derived.

PROJECT OFFICE: SECTION B.1

Click on the District Number to be directed to Website.



A. Field Office Setup

1. Field Office

It is the Contractor's responsibility to provide an adequate field office that meets the requirements specified in the contract. Since the field office will be the reporting location for the inspection staff for an extended duration and a place to hold project meetings, it is important that the condition of the field office is satisfactory to the Department.

The IIC should:

- ✔ Review the contract and specifications to determine the correct type of field office that is to be provided. This information is available in ECMS under the Project Development Checklist, Form CS-101. Refer to Publication 408 Sec 609 for types and requirements.
- ✔ Be sure to inspect a prospective field office before deeming it acceptable.
- ✔ Ensure the field office meets the dimensional and furniture criteria per the specification.
- ✔ Verify that the field office is equipped with the essential supplies including a first aid kit and inspected fire extinguisher.

2. Computer

As part of the file and documentation system, a field office computer will need to be obtained through the Department's IT or Finals Unit with the Computer Request Form (unless it is a local project). This request should not be made until the Contractor establishes electricity and internet connections at the field office.

The IIC should:

- ✔ Check the contract to understand what is required under the Equipment Package and verify that the Contractor is meeting the requirements.
- ✔ Confirm the field office has electricity and internet connections.
- ✔ Complete the Computer Request Form and submit to the appropriate personnel in the district.
- ✔ Contact the IT helpdesk with any technical issues or concerns at: (717)-783-8330 or toll free at (855)783-8330.

3. File System

The file system is used to help keep project records organized and to help in the audit process. A default PPCC filing system is automatically setup during ECMS programing for the project. The filing system can be modified by a PPCC administrator which is commonly the ACE/M and IIC. It may be necessary to also maintain hard-copy files that must be organized in a logical filing system and protected in a fire-proof filing cabinet.

The IIC should:

- ✔ Maintain an organized and easily navigable filing system in PPCC and/or file cabinet.
- ✔ For assistance, contact the Finals Unit Manager to obtain any District specific filing system or review District Specific lists on PPCC under References, District Folder, IIC Reference Guide.

- ✔ Refer to Publication 2 (Project Office Manual) Part B Sec. 1 Page 5-1 for examples of general filing systems.

B. Minimum Office Library

It is very important to establish your project library at your field office with the specific versions of Publications and Standards related to the project. This is made easier with current technologies and in most instances, the iPad will be equipped with all the applicable publications and standards needed to properly inspect the project and ensure quality construction.

The IIC should:

- ✔ Ensure the inspection staff can access all applicable publications and standards through their assigned iPads. Each inspector must be added to the ECMS project team and have a Commonwealth of Pennsylvania (CWOPA) account to gain access to project specific resources.
- ✔ If internet access is an issue, ensure hard copies of the reference materials are in the field office.
- ✔ Refer to Publication 2 (Project Office Manual) Part B Sec. 1 Page 1-1 for the minimum library required at the field office.

DOCUMENTATION AND PROJECT RECORDS: SECTION B.2

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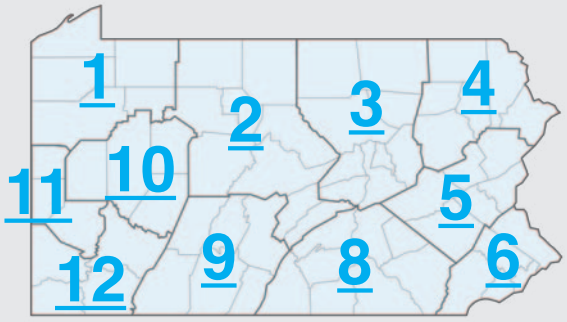


A. Reference and Source Documents

1. Request for Information (RFI)

An RFI is the formal process for the contractor to ask a question and/or seek clarification on a specific work item or element of the contract. RFIs should be submitted through PPCC and will follow the prescribed workflow originally setup in the system. RFIs can be delegated in PPCC to various district units or consultant designers to provide the contractor with a suitable response.

The IIC should:

- ✔ Understand the reason for the RFI and be prepared to discuss it with Department staff responsible for responding to it.
- ✔ Monitor the workflow of the RFI and verify that response times are met. If an expedited review is needed, try to coordinate with the reviewer to get a quicker response.

2. Waste and Borrow Sites

The contractor is required to identify potential waste and borrow sites at the beginning of the project so proper acceptance of the site(s) can be granted prior to use. This can help avoid any possible delays to the construction project.

The IIC should:

- ✔ Ensure the contractor submits the Borrow and/or Waste Agreement form (Form CS-4345) in PPCC to the District Environmental Unit for acceptance. A copy of an active environmental permit for the offsite property should be attached with the form. If an active permit does not currently exist for the waste/borrow site, coordination with County Conservation District or appropriate environmental agency may be required.
- ✔ Verify that any E&S controls needed at the waste/borrow site is installed by the contractor.
- ✔ Check the waste site and make sure the contractor is compliant with the permit.
- ✔ Verify that the waste/borrow site is not used until approval is granted.

3. Item Quantity (IQ) Book

An item quantity book is required if you are using hand calculations rather than quick calcs or a computation sheet in the MCPSA application. The item quantity book is a record of quantities, sketches, and calculations that support payment entries. Entries must include the related item number and fund number, an accurate and neat sketch and calculation, and a signature area for the following fields: “Measured by:”, “Calculated by:”, “Checked by:”, and “Paid by:”.

The IIC should:

- ✔ Review and sign off on all calculations before payment is submitted.
- ✔ Ensure references to the IQ book are present in the payment entry to establish an audit trail.

4. Materials Book

The materials book is a record of material quantities received on the project. It can be checked against certifications to ensure all materials incorporated in the project are certified.

The IIC should:

- ✔ Review all certifications received on the project and ensure the supplier shown matches the approved source of supply of material and the correct CS-4171 is used.
- ✔ Log the material quantity under the appropriate item and generate a cumulative total.
- ✔ If certification is acceptable, file it according to district preference.

5. CID Book and Application

The Concrete Inspectors Daily (CID) book is a record of information regarding concrete placements performed on the project. The CID logs specific information about the type of placement, type of concrete, weather information, delivery method, testing results, and more. The CID application on iPads collects all the same information as the book, however, it has added features like reminders of compressive strength tests and air meter calibrations.

The IIC should:

- ✔ Review the Concrete Quality Control plan submitted by the contractor and supplier and enter the appropriate mix design and testing information into the CID report.
- ✔ Ensure proposed job mix formulas have been accepted by the district materials unit.
- ✔ Coordinate with the contractor prior to placement to obtain information about the quantity of concrete being placed. This will determine the material sampling requirements.
- ✔ Review all testing apparatuses and ensure they have been calibrated before first use and every two weeks thereafter.
- ✔ Complete all fields in the CID report accurately and ensure the Project Site Activity (PSA) references the CID report.

6. Component Item Schedules

Component Item Schedules (CIS) are used as a payment guide for certain lump sum items (i.e. bridge structure item) in the contract. It provides quantities and unit prices for component items associated with that lump sum pay item. No payments are to be made for any item of work until the CIS is submitted and approved in ECMS.

The IIC should:

- ✔ Review the CIS(s) to see if they appear to be reasonably close to costs for associated work items.
- ✔ Ensure lump sum payments are made according to the accepted CIS and tracked in project files.

7. Bridge Deck Crack Survey

If the project contains construction of a new bridge deck or latex overlay, the bridge deck crack survey form and sketch must be completed. Each day's placement requires its own survey tab since placement data varies. Two surveys are required for each placement: one after curing and prior to opening to traffic and the second after opening to traffic and after the winter freeze-thaw cycle.

The IIC should:

- ✔ Inspect the bridge deck and identify any cracks.
- ✔ Complete the Bridge Deck Crack Survey form (Appendix) and attach a sketch using the Deck Slab Plan View sheet to show location of cracks.
- ✔ Submit the form and sketch to the district structure control unit.

8. Environmental Permits

Information concerning environmental requirements can be found throughout the contract documents. It is important that all bid documents, attachments, special provisions, etc. are reviewed.

The IIC should:

- ✔ Check the contract attachments in ECMS for all project permits issued.
- ✔ Reference the Environmental Commitments and Mitigation Tracking System (ECMTS) sheet accessed through ECMS from the Project Information screen > "Project Development Checklist" > "Environmental Clearances".
- ✔ Make sure the contractor completes and submits the NPDES Co-permittee/Transferee form and agreement page to the Local CCD for approval for projects with NPDES permits.
- ✔ Ensure the contractor installs and maintains erosion and sediment pollution control devices as indicated or submits an alternate plan if a change is proposed to accomplish equal or better temporary and permanent erosion and water pollution control. If an alternate plan is submitted, don't start the work until the plan is approved by the CCD, DEP, and Army Corps of Engineers if the project has 105/404 permits, and the Department. If an NPDES Permit is involved, don't start work until the plan is approved and a permit has been issued by the DEP and/or Department of Conservation and Natural Resources (DCNR) or their designee and the Department, as stated in Publication 408, Section 107.28.
- ✔ Be cognizant of environmental permit expiration dates:
  - NPDES permits are issued for five years
  - Chapter 105 permits:
    - GP-1-6, 9, 10, and 15 are the only GPs without an expiration date.
    - GP-7 – Expires three years from the issued date.
    - GP-8 – Expires one year from the issued date.
    - GP-11 – No expiration date
    - E39-9999 – Expires two years from the issued date
    - Joint Permit – Expires December 31st on a three-year construction cycle
    - PASPGP-4 – Expired June 30th, 2016 (replaced with PASPGP-5)
    - PASPGP-5 – Effective July 1st, 2016 – June 30th, 2021.

9. Hazardous Waste Removal

Hazardous waste such as soil containing high levels of lead and other regulated materials such as petroleum- and fuel-contaminated soil must be properly managed to comply with federal and state requirements. If contamination or hazardous materials are discovered during construction or generated from a construction project, a detailed waste tracking profile is required. The key component of this tracking profile is the Uniform Hazardous Waste Manifest, a form required by the EPA and the Department to track the transportation and disposal of all hazardous waste and contaminated materials. Only a Department representative who has been trained in hazardous materials regulations can sign the hazardous waste manifest on behalf of the Department.

The IIC should:

- ✔ Contact the district environmental manager or hazardous waste specialist early in the construction phase to aid with hazardous waste and contamination issues.
- ✔ Ensure a Department representative trained in hazardous materials signs the manifest form on behalf of the Department. All construction personnel are required to take a DOT Hazmat General Awareness Training course. Review the manifest form and contact the district environmental manager or hazardous waste specialist with any concerns.
- ✔ Maintain a copy of the manifest packet at the project field office and forward a copy to the district environmental manager or hazardous waste specialist. They will retain a long-term copy.
- ✔ Refer to Project Office Manual Part B Sec. 4 Page 14-1 for more information on hazardous waste, completing a manifest form, and using a lead paint removal checklist.

B. PPCC Workflow

As the submittals are placed in PPCC, it is important to monitor the response times and ensure items are addressed. It's not uncommon to have hundreds of submittals for any given project, and that is why it is critical to stay as current as possible.

The IIC should:

- ✔ Review outstanding submittals weekly and communicate with the contractor regularly to inquire where the submittal stands.
- ✔ Ensure all submittals are addressed. Outstanding submittals will create issues during the finalization of the project.

C. ECMS

The Engineering and Construction Management System (ECMS) is one of the most important resources for PennDOT's project delivery process. The IIC will use the ECMS daily to perform a variety of activities including:

Setup – The IIC can edit the construction team, check contract funding, find minority goals, and review structure and roadway information.

Solicit – The IIC can find useful information from the design development such as the project development checklist, special provisions, and the bid package.

Award – The IIC can access all the contract information like component item schedules, bid items, the contract, and minority participation.

Construct – This is where all construction information is stored; as such, the IIC will use this section the most. It contains content and documentation like source of supplies, PSAs, work authorizations, work orders, force accounts, estimates, adjustments, and erosion and sediment visual site inspections.

Closeout - The IIC can review project audits, complete contractor evaluations, design quality surveys, develop punchlists, and track finalization items.

The IIC should:

- ✔ Understand the ECMS platform so it becomes easier to navigate and locate information.

D. Mobile Construction

1. **Application Rundown – Click on links below to access user guides**

   MCDOCS - Mobile Construction Documentation: any documents that pertain to the projects.

   MCPSA - Project Site Activity reports.

   MCMPT - Mobile Construction Maintenance and Protection of Traffic.

   MCCID - Mobile Construction Concrete Inspection Diary: a daily concrete placement diary for tracking project concrete placement and testing.

   MCPL - Mobile Construction Punchlist: application for semi inspections or final inspections.

   VSIR - Environmental Visual Site Inspection report.

   MHL - Consultant hours and mileage application.

   MCFA - Mobile Construction Force Account: Daily tracking of force account records.

   Geo Snap - A guidance locator longitudinal and latitudinal project information.

   Sample ID - A materials testing application for all testing parameters.

E. Maintenance & Protection of Traffic

Proper maintenance and protection of traffic (MPT) must be provided so the traveling public can proceed through work zones without incident. It is important to follow the approved Traffic Control Plans (TCP) entirely and know what to do when a change occurs. If there is a discrepancy, a revision to the TCP must be approved by the designer prior to implementation.

The IIC should:

- ✔ Conduct an initial inspection of traffic control setup and use the MCMPT application to complete Form CS-901.
- ✔ Ensure routine inspections of MPT are performed and documented accurately on time and regularly.
- ✔ Review all CS-901s submitted by inspection personnel using the MCMPT application or website.
- ✔ Discuss and agree on short term MPT setups with the contractor one workday prior to implementing the pattern.
- ✔ Review Section 901 Special Provision to assure contract compliance and to understand Road User Liquidated Damages (RULDs) that should be issued for non-compliance.
- ✔ Be cognizant of pedestrian and ADA accessibility requirements throughout the work zone and inspect temporary facilities as required.
- ✔ Verify that flaggers are certified by checking for their wallet-sized certification cards.
- ✔ Contact the Traffic Management Center (TMC) with any roadway restrictions or closures.
- ✔ Refer to the following publications for more information:
  - Project Office Manual Part C Sec. 9 Page 2-1
  - Publication 213 (Temporary Traffic Control Guidelines)
  - Publication 408 Sec 901
  - Publication 212 (Official Traffic Control Guidelines)

F. Project Site Activity Reports

PSAs are source documents which are admissible in court. When a legal issue arises, project claims will require these documents for review. Only facts should be documented in a PSA and opinions should be omitted. It is important for the inspection staff to complete all diary entries in a timely manner to keep records up to date and accurate. PSAs will include information such as:

Inspector Hours Worked – the IIC will check inspection staff hours. Consultant inspector hours should match what is submitted on the Consultant Mileage and Hours (CMH) Log.

Weather – two weather readings must be recorded for each day.

General Comments – information regarding commute mileage, on-the-job mileage (OJM), and lunch periods must be included. Detailed, accurate information about daily activities should be provided. And, statements about specific inspection duties like MPT or E&S should be included when performed.

Contractor – hours, labor, and equipment information must be provided for all contractors working onsite.

Utilities – information about utility companies working or scheduled to work onsite must be documented.

Work Items – accurate payments for contract work must have supporting calculations and references as needed. Payment entries must have an accurate completion date and indicate the physical location where work was performed.

Files – electronic files and/or photos can be attached to the PSA for supporting documentation.

The IIC should:

- ✔ Ensure inspection staff is completing PSAs in a timely fashion.
- ✔ Review PSA daily reports and verify that the information is accurate.
- ✔ Check all calculations and verify that appropriate references are made to create an audit trail.
- ✔ Verify that an adequate work history has been provided.
- ✔ Reject/Revise any PSAs that require corrections or more information.
- ✔ Approve all acceptable PSAs in ECMS.

G. Interim Audits

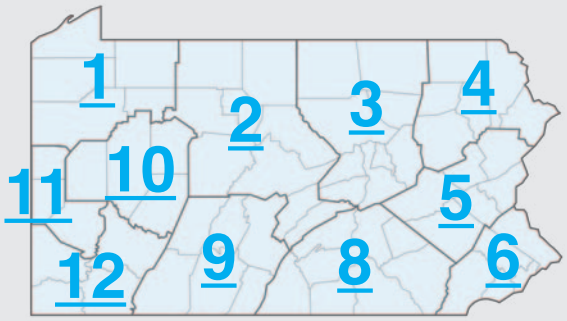
An audit can be performed at any time during the project and can be beneficial in reducing the amount of time needed for project closeouts. Individuals from the district finals unit and materials unit can perform audits. Interim audits are discretionary and should be coordinated with district staff to determine meeting time, date, and frequency. Some auditors may not need to visit the project field office, in which case they will perform the audit by accessing ECMS and PPCC. Audits include payment reviews, references, material files, and any source documentation to justify payments.

The IIC should:

- ✔ Communicate with the appropriate unit to schedule the audit.
- ✔ Ensure inspectors are providing an audit trail to justify payments and quickly locate supporting documents.
- ✔ Address any audit punchlist items found by the auditor. Typically, these are found in ECMS under the closeout section of the project information page.

MANAGEMENT: SECTION B.3

Click on the District Number to be directed to Website.



A. Project Schedule

The contractor's project schedule must be submitted within a certain number of calendar days from the notice to proceed. The time frame for submittal differs depending on the schedule type. Refer to Publication 408 Sec 689 for submittal requirements. Once the contractor's baseline schedule is submitted and accepted in PPCC, it becomes a critical resource that must be monitored and updated throughout the life of the project. If a time extension is requested or a dispute occurs, the accepted schedule may be the controlling document to determine a resolution.

The IIC should:

- ✔ Monitor the contractor's schedule and bring attention to any delayed activities.
- ✔ Coordinate with ACE/M if a controlling activity has been delayed 14 days or more. The contractor may be required to submit a recovery plan. Publication 408 Sec 108.03(b)5
- ✔ Document changes to the project operation's sequence when the extent of those changes results in the contractor no longer following the accepted schedule. This may require a schedule revision.
- ✔ Ensure the contractor is submitting a report two days prior to a project control meeting that includes: current progress of construction activities, impacts on the current schedule, two-week look-ahead schedule, and any other schedule-related information.
- ✔ Verify schedule updates are submitted monthly by the contractor.
- ✔ Refer to Publication 408 Sec 689.4 for a payment schedule and ensure payments are made on time.

B. Project Meetings

1. Project Control Meeting

Project control meetings are scheduled as needed by the IIC and the contractor (generally every two weeks) to monitor and control the project schedule and discuss potential issues. At a minimum, the project IIC, ACE/M, and contractor superintendent should attend. Other attendees can be invited as needed and can include other contractor representatives and foremen, inspectors, inspector supervisors, consultant managers, structure control personnel, material managers, railroad representatives, utility representatives, and/or anyone else who may have a role on the project.

The IIC should:

- ✔ Prepare an agenda and be ready to discuss project specifics.
- ✔ Revisit unresolved issues from previous meetings.
- ✔ Review work progress against the contractor's accepted schedule.
- ✔ Ensure the contractor has provided a two-week look-ahead schedule to discuss at the meeting.
- ✔ Be prepared to share information pertaining to the status of estimates, work authorizations, and work orders.

- ✔ Check the status of DBE percentage versus the commitment.
- ✔ Confirm meeting minutes are recorded at each meeting. A sign-in sheet must be circulated and kept with the meeting minutes. Meeting minutes should be distributed to those involved with the project before the next meeting.

2. Utility Meetings

Utility meetings are required if there is coordinated or incorporated utility work for the project. Effective coordination with utility companies reduces delays and damage to facilities. At a minimum, attendance should include the district utility coordinator, ACE/M, IIC, contractor representative(s), utility company representative(s), and municipal representatives.

The IIC should:

- ✔ Understand the details of the utility work and its impact on the project.
- ✔ Coordinate with the district utility coordinator to schedule meetings with appropriate utility representatives.
- ✔ Take detailed notes on the information discussed at each meeting and save in project files.
- ✔ Instruct inspection staff to note when the utility company will be on the jobsite in the daily PSA.

3. Other Meetings

Other meetings may be required depending on the project's scope of work. These meetings are held prior to a critical work activity to set expectations, review requirements and procedures, and reinforce quality control. These meetings include:

Pre-Demolition Meeting – held prior to the demolition of an existing structure. At a minimum, the contractor, subcontractor (if applicable), district structure control engineer, and IIC should attend.

The IIC should:

- ✔ Ensure the contractor has submitted a demolition plan and received acceptance prior to the meeting. Sometimes the demolition plan is not accepted prior to the meeting, but it must be accepted prior to the operation.
- ✔ Be prepared to discuss any concerns with the demolition plan and share your expectations with the contractor.
- ✔ Ask the contractor who will oversee the operation and be sure to exchange contact information.
- ✔ Take detailed notes and provide meeting minutes if necessary.

Pre-Erection Meeting – held prior to erecting structure elements (i.e. bridge beams, pre-cast culverts, sign structures, etc.). At a minimum, the contractor, subcontractor (if applicable), district structure control engineer, and IIC should attend this meeting.

The IIC should:

- ✔ Ensure the contractor has submitted an erection plan and received acceptance prior to the meeting. Sometimes the erection plan may not be accepted prior to the meeting but it must be accepted prior to the operation.
- ✔ Be prepared to discuss any concerns with the erection plan and share your expectations with the contractor. Pay special attention to crane placement, beam delivery sequence, and conflicts with overhead utilities.
- ✔ Ask the contractor who will oversee the operation and be sure to exchange contact information.
- ✔ Take detailed notes and provide meeting minutes if necessary.

Concrete Pre-Placement Meeting – held before concrete is placed on the project (i.e. sub structures, bridge deck, sidewalk, etc.). At a minimum, the contractor, subcontractor (if applicable), district materials unit representative, supplier, QA representative, and IIC should attend this meeting. On structure projects, an additional meeting should be held two weeks before the bridge deck placement and include the district structure control unit.

The IIC should:

- ✔ Notify the district material manager when and where the meeting will occur.
- ✔ Invite the district structure control engineer if a pre-deck placement meeting is needed.
- ✔ Ensure the contractor has submitted a concrete quality control plan and received acceptance prior to the meeting. Sometimes the QC plan may not be accepted prior to the meeting, but it must be accepted prior to placing the concrete.
- ✔ Be prepared to discuss any concerns with the QC plan such as approval of mix designs, level of communication with the plant, field technician(s) who will be testing the material, location of wash out areas, mixer truck access, use of pump trucks, etc.
- ✔ Ask the contractor who will oversee the operation and be sure to exchange contact information.
- ✔ Take detailed notes and provide meeting minutes if necessary.

Ashphalt Pre-Placement Meeting – held prior to performing pavement operations. At a minimum, the contractor, subcontractor (if applicable), district materials unit representative, supplier, QA representative, and IIC should attend this meeting.

The IIC should:

- ✔ Notify the district material manager when and where the meeting will occur.
- ✔ Ensure the contractor has submitted an asphalt quality control plan and received acceptance prior to the meeting. Sometimes the QC plan may not be accepted prior to the meeting but it must be accepted prior to placing the asphalt.
- ✔ Be prepared to discuss any concerns with the QC plan such as level of communication with the plant, field technician(s) who will be collecting samples, equipment and labor needs, method of paving, etc.
- ✔ Ask the contractor who will oversee the operation and be sure to exchange contact information.
- ✔ Take detailed notes and provide meeting minutes if necessary.
- ✔ Refer to Publication 408 Sec 409.3 for additional requirements pertaining to extended season paving.

C. Consultant Management

The Department uses consultants as an extension of their staff to meet the construction management and inspection needs of their projects. Depending on the complexity of the project, consultants can be used in a variety of roles from construction management (project manager, scheduler, technician, etc.) to construction inspection (TCM, TCIS, TCI, TA). It is important for the IIC to know how to effectively manage the consultant staff and monitor their use.

The IIC should:

- ✔ Coordinate with the ACE/M to request the appropriate number of staff from the consultant firm.
- ✔ Verify the notice-to-proceed was issued for the agreement prior to scheduling consultant staff.
- ✔ Review the consultant agreement to ensure the company is complying with the requirements.
- ✔ Coordinate with the ACE/M to monitor the use of design construction consultation.

- ✔ Monitor the consultant's hours and mileage charged to the project by reviewing their hours and mileage logs in ECMS. The IIC is responsible for approving the logs, which are later used in the consultant invoicing process. It is important to verify that the hours and mileage submitted on the inspector's log matches what is shown on the PSA for each date.
- ✔ Review monthly cost reports submitted by the consultant firm and verify that there are sufficient funds remaining. If it appears that there are not enough funds to complete the project as projected, a meeting should be scheduled with the ACE, IIC and consultant company to make staffing changes within the existing budget or begin the process of adding funds to the agreement.
- ✔ Coordinate with the ACE/M to provide a minimum two week notice prior to staff layoffs.
- ✔ Provide information to the ACE/M about each consultant staff member's performance. This information may be used to complete a performance evaluation, which is sent to the consultant firm.

D. Project Funding Control

If your project has multiple funding sources, the staff should establish early on in the project which funds apply to which work items. If funds are charged incorrectly, they will require work order changes at project completion. This is usually a difficult process because it requires a great deal of investigative work in project documentation. Common specially-funded items are curb, sidewalk, and ADA ramps which are partially or fully paid for by local municipalities and utility work that is incorporated into the project.

The IIC should:

- ✔ Identify the funding sources on the project and which items fall under each fund.
- ✔ Ensure payments are charged to the appropriate fund.
- ✔ Continuously monitor the project costs and complete Construction Budget Summary sheets used by your district.
- ✔ Contact the ACE/M if your project is running into overrun on costs. You may have to contact the DPMC or request a maximum change amount for the project.

E. Estimate Preparation

The frequency of estimates should have been established at the pre-construction meeting for the project (estimates are commonly processed semi-monthly). It is important that estimates are processed in a timely manner to ensure a continual flow of monies to the contractor and subcontractor(s) to cover the work that was performed in accordance to the contract.

The IIC should:

- ✔ Verify that all necessary payments that are to be included on the estimate have been entered into a PSA, checked for accuracy, and appropriate supporting documentation has been received.
- ✔ Prepare and process accurate estimates in ECMS on time according to the dates established for the project.
- ✔ Refer to Publication 408 Sec 110 for information on payments.
- ✔ Refer to Publication 2 (Project Office Manual) Part B Sec. 2 .Page 1-1 for more information on estimates and payments to contractors.

1. Payment for Material Stored or On Hand

Certain materials can be purchased before being incorporated into the work. If eligible material will be stored onsite or at an approved area off site for more than 30 days, the contractor can receive a payment for the cost of the material. As the stored material is incorporated into the work, any payable quantity is discounted until the entire prepayment amount has been recouped.

The IIC should:

- ✔ Confirm the contractor has submitted Form CS-110 to request payment for stored material. If acceptable, the IIC and ACE/M will sign the form and retain it with project records.

- ✔ Refer to Publication 408 Sec 110.06 for stored material payment requirements.
- ✔ Refer to Publication 2 (Project Office Manual) Part B Sec. 2 Page 3-1 for further instructions on making stored material payments.

F. Preparing Work Authorizations and Work Orders

1. Work Authorizations

If additional or extra work is required on a project, the contractor must receive authorization and acknowledge the scope of work prior to performing the work. If the work is adding additional quantity to an existing contract item, it is considered additional work. If the work is adding a new item and quantity to the contract, it is considered extra work. The scope of work must be detailed and accurate and include specific limits of the work and be written as a directive to the contractor.

The IIC should:

- ✔ Ensure the contractor does not perform any additional/extra work prior to acknowledging a work authorization. Any work the contractor performs before receipt of a written authorization from the Department is at the contractor's own risk.
- ✔ Create an accurate and descriptive work authorization in ECMS that includes a scope of work, location, and item of work/quantity (if known).
- ✔ Use directive language in the description of work such as, "The contractor is hereby directed to…". It may be good practice to follow up with a phone call or email to the contractor to notify the work authorization was created and further action is needed in ECMS prior to work commencement.
- ✔ Understand that unit costs for additional/extra work do not need to be agreed upon to begin work. If an agreed price cannot be reached prior to the start of work, proceed as force account work until a price agreement can be reached.
- ✔ Be sure to estimate any additional days that may be required to complete the work. This may be used as justification for a time extension later in the project.
- ✔ Be sure to code any new items correctly: extra work = "E", force account = "A", and for price re-negotiation items = "C1, C2, etc." Refer to Post Construction Section C.2.C for more information on renegotiated items.
- ✔ Refer to Publication 2 (Project Office Manual) Part B Sec. 3 for detailed information on work authorizations.

2. Work Orders

A work order is required to modify a contract by altering existing contract items or adding additional items to the contract. Work Authorizations are attached to work orders to provide further justification as required. A work order will establish a cost of the additional/extra work and provide a justification to support the cost. Some common methods of justifications are; contract unit pricing, allied contracts, historical data, engineering analysis, force account and force account estimate.

The IIC should:

- ✔ Ensure that quantities and prices are negotiated and agreed to on the work authorization and linked to the applicable work order within 10 days of acknowledgement of the authorization.
- ✔ Confirm force account records are kept until a price has been approved for any work without a contract unit price.
- ✔ Create the work order in ECMS and provide all required supporting data and item cost justification information.
- ✔ Manually run the "Execute Rules" program prior to submitting to check for any errors. Any errors must be corrected before submitting.
- ✔ Contact the district finals unit manager or work order specialist with any questions regarding the work order submission.

- ✔ Monitor the status of the work order and make any necessary revisions until it is approved.
- ✔ Refer to Publication 2 (Project Office Manual) Part B Sec. 3 for detailed information on work orders.
- ✔ Refer to Publication 408 Sec. 110.03 for additional work order details.

3. Force Account

Most projects will experience the need to keep force account records at some point. Whether the force account is for initial documentation of extra work until a cost is negotiated and agreed to, or for the complete justification for a work order, it is important to accurately document the work daily. Force account work is often supported by one of the following methods:

Actual Force Account – Daily records are kept for labor, materials, and equipment to be agreed upon at the end of the workday and signed by both parties. Cost of materials need invoices. Labor requires certified payroll for the time period covered, and equipment will be based on the daily sign off form CS-4347 and the values listed in the blue book.

Force Account Estimate – An estimate of the cost will be based upon materials, labor, and equipment to provide a method of progress payment to the contractor for the work performed on form CS-4347CJ. To be supported by daily records and an adjustment made at the end of work supported by the force account records. Daily sign off and CS-4347 series forms will be used to perform a force account adjustment.

Agreed to Price – Both the Department and the contractor agree to a price for the work prior to it being performed and supported by a breakdown of cost on form CS-4347CJ. If an agreed to price has not been reached prior to work needing to be done, keep force account records until a price is reached.

The IIC should:

- ✔ Ensure that accurate daily force account information is documented via the MCFA (Force Account) application/ECMS or Form CS-4347 and signatures are obtained by a contractor representative and Department representative.
- ✔ Cross reference daily force account records with certified payrolls.
- ✔ Re-evaluate inspection forces to determine if additional inspection of the work is required.
- ✔ Upon completion of the force account work, review the contractor's submission that should include all the completed daily sign off sheets, plus all necessary forms that breakdown the costs associated with material, labor, equipment, consumables, subcontractors (if applicable), and service by others (if applicable).

G. Adjustments

There are a variety of different adjustments that can be made during a project that may withhold (or add) money from the contractor's estimate. A few common adjustment types include: adjustment for deficiency, asphalt price adjustment, diesel price adjustment, disincentive payment, incentive payment, percent within tolerance, road user liquidated damages, work zone liquidated damages, and other.

The IIC should:

- ✔ Review the contract and understand any constraints set forth that may result in incentive/ disincentives or liquidated damages.
- ✔ Refer to Post Construction Section C.2.B for more information on asphalt, diesel, and steel adjustments.
- ✔ Refer to Publication 408 Sec 110.04 for asphalt price adjustments.
- ✔ Refer to Publication 408 Sec 110.12 for diesel price adjustments.

H. Health and Safety

The Department is committed to monitoring and protecting the safety of the Department staff, consultant staff, the public, and the contractor staff. Every person on the jobsite is responsible for safety and it must be the priority at the start of every operation.

The IIC should:

- ✔ Complete a general safety inspection of the construction site, checking for inspected fire extinguishers, first aid kits, tripping hazards, drop offs, debris, fire hazards, or other potential safety hazards.
- ✔ Ensure all workers and inspectors are wearing the proper PPE for the job activity being performed. Fall protection must be worn if there is a potential fall hazard. Leggings or Class 3 vest must be worn if working at night, and hard hats and vests are always to be worn.
- ✔ Enforce the use of safety glasses, hearing protection, and dust masks if applicable to the job.
- ✔ Ensure the contractor's safety plan has been submitted and remains in the project files.
- ✔ Keep emergency contact information readily available in the project field office and on the construction site.
- ✔ Verify the contractors are holding weekly safety meetings and encourage the inspection staff to participate in those meetings. Safety meetings should be documented in a PSA, and the contractor should submit to the project field office for processing.
- ✔ In the event of an accident, immediately contact medical assistance followed by the appropriate district office personnel. Next, collect as much information as possible including taking witness statements, taking photographs, and documenting potential factors to the cause of the accident.
- ✔ Contact the district safety officer and/or District Labor Contract Compliance Agent (DLCCA) if there are any safety concerns on the project.
- ✔ Refer to Publication 445 Safety Policy Manual for all safety responsibilities, rules, and procedures.

I. Environmental

It is important that the contractor is following the requirements set forth by any environmental permits approved by the CCD, DEP, and/or Army Corps of Engineers. In the event changes are proposed to the E&S plan, approval from the appropriate environmental agency must be obtained prior to implementation of changes. Violations can result in the shutdown of the project causing a delay in the construction schedule or financial penalties to the contractor and/or Department.

The IIC should:

- ✔ Review and understand the environmental requirements in the contract documents.
- ✔ Ensure the contractor implements and maintains the proper Best Management Practices (BMPs) approved by the environmental agencies.
- ✔ Ensure inspections of the environmental controls are being completed weekly and after a measurable storm event. Inspections are to be done using the VSIR application found on the iPad. For NPDES permits, the inspections must be performed until the Notice of Termination (NOT) is issued.
- ✔ Monitor the Environmental Commitments and Mitigation Tracking System (ECMTS) sheet and obtain signatures as items are completed.
- ✔ Contact the district environmental manager if there are any questions or concerns about the project.

J. Utilities

Utilities exist on almost every project and in some cases, they are directly impacted by the project scope of work. It is important to know where the utilities are located on the project and all precautions are taken to avoid damaging a utility. Utilities can sometimes cause delays to the construction schedule if a utility is damaged or if coordinated utility work is not completed on time. On projects with major utility impacts, the Department may have reimbursement agreements with utility companies to identify the completion of utility work prior to a certain date.

The IIC should:

- ✔ Verify that the contractor has contacted the PA One Call service to locate all utilities in a specified area. The contractor cannot begin work earlier than the start date established by the PA One Call (typically three business days following the notification) even if the area has been marked.
- ✔ Document in a PSA when utility companies are on site or scheduled to be on site but did not report. This is to be documented in the Utility Section of the MCPSA app. The Utility Company will need to be added to the Project Team in ECMS prior to adding them in the PSA. The inspector entering the information into the PSA should record the stations/offsets for the work being performed in the comments section and determine if work is causing a delay to the contract completion date.
- ✔ Report any damaged utilities to the PA One Call service through an Alleged Violation Report (AVR) within 10 days of the alleged violation. Refer to Publication 2 (Project Office Manual) Part B Sec. 4 Page 20-1 for further details.

K. Right of Way

It is important to know where the legal right of way is located on the plans and that it is accurately reflected on the job site. Using property outside the legal right of way or temporary construction easement can result in legal ramifications between the property owner, contractor, and Department.

The IIC should:

- ✔ Verify that the contractor has clearly demarcated the legal right of way and temporary construction easement(s) using stakes or fencing.
- ✔ Ensure the contractor is not using private property to store materials, park vehicles, create access to the project or for any other purposes.
- ✔ Refer to Pre-Construction Section A.3.B.e of this manual for information about Authorization to Enters (ATEs)
- ✔ Contact the district right-of-way manager for any questions or concerns.

L. Labor Compliance and Equal Employment Opportunity (EEO)

PennDOT projects must comply with Federal and State provisions, regulations, and requirements regarding the treatment of labor forces on its projects.

The IIC should:

1. **Labor Compliance**

   The IIC should:

   - ✔ Ensure weekly wage rate checks of approximately ten percent of the total work force is being performed by the inspection staff on the appropriate form.
   - ✔ Confirm that certified payrolls are being submitted in PPCC and reviewed for classification and wage rate errors.
   - ✔ Cross reference the weekly wage rate checks with the certified payrolls and contract prevailing wages to determine if there are any deficiencies.

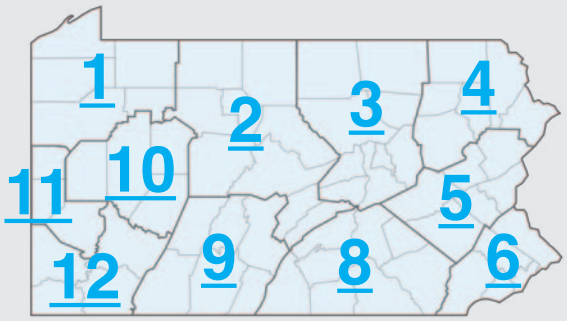
- ✔ Verify the contractor and subcontractors have submitted fringe benefit letters in PPCC.
- ✔ Ensure subcontract agreements are submitted in PPCC and subcontractor requests are submitted and approved in ECMS
- ✔ Contact the DLCCA with any questions or concerns.

2. EEO

- ✔ Ensure the contractor has placed a bulletin board prior to the start of work, in an area where employees always have access to it and has all the required postings in place and clearly visible. The bulletin board should be protected from the weather and maintained in satisfactory condition for the life of the project.
- ✔ Complete the bulletin board checklist to ensure all required documentation is in place.
- ✔ Confirm the contractor and its subcontractors are completing the Monthly EEO Form EO-400 and has it available upon request. This may be discussed at the project control meetings or it may be required to submit to central office.
- ✔ On larger projects, ensure the contractor is submitting the proper paperwork within the required timeframes to have a Trainee candidate approved.
  - Form EO-363 – Contractor's On-The-Job Training Program Classifications
  - Form EO-364 – Trainee Enrollment Form
  - Form EO-365 – Monthly Training Report
- ✔ Verify the contractor is meeting the DBE/MBE/WBE goal indicated in the contract.
- ✔ For Federally funded projects, complete the DBE Commercially Useful Function Report (Form EO-354) within five days from the date the DBE begins work. A new CUF Report must be completed once in a construction season; and anytime a DBE performs a new or different scope of work.
- ✔ Contact the DLCCA with any questions or concerns
- ✔ Refer to Publication 2 (Project Office Manual) Part B Sec. 11 for EEO contract compliance guidelines and responsibilities.

MATERIAL CONTROL: SECTION B.4

Click on the District Number to be directed to Website.



A. Material Control ON Project

The contractor is responsible for the control and quality of the material and construction. However, the IIC is responsible for overseeing and ensuring material compliance.

There are three levels of responsibility for material control:

- Quality control
- Acceptance sampling and testing
- Quality assurance monitoring, sampling, and testing

All materials incorporated into the project must be accepted by the following methods:

- Certification
- On-site inspection at point of production by Department representatives
- Acceptance sampling and testing

1. Quality Control Plans (QC Plans)

The contractor is responsible for submitting, via PPCC, a quality control plan for all materials requiring project sampling and testing. The most common items that require QC plans are bituminous paving and concrete.

- The minimum quality control plan for field bituminous paving operation form is CS-409
- The minimum quality control plan for field placement concrete operation form is CS-704

Some other operations requiring QC plans to be submitted and approved include:

- Deck placement
- Hydro-demolition
- Micro-piling
- Pressure grouting
- Epoxy overlay
- Latex Modified Concrete Overlay
- Mass concrete
- Ultra-High Performance Concrete (UHPC)

The IIC should:

- ✔ Coordinate the review of all QC plans with the ACE/M and district materials manager/engineer. Based on the review, the QC plan may be accepted, accepted as noted, returned for revisions, or it may be discussed and revised at an on-site pre-placement meeting.
- ✔ Ensure no work is being performed using materials requiring a QC Plan until the QC Plan is approved.
- ✔ Provide all inspectors with a copy of the most current approved QC Plans.
- ✔ Be familiar with individual mixes, equipment, technicians, etc. listed in the QC Plan.
- ✔ Ensure contractor is in compliance with approved QC Plan.
- ✔ Contact the district materials engineer or QA representative with any unique issues or questions.

2. Material Sampling and Testing

Determining Sampling and Testing Requirements - Project sampling procedures should be reviewed early in the project so that sampling frequencies can be established to fulfill requirements. Determining the sampling requirements early in the project can help avoid material being incorporated into the project without proper testing and sampling. Project sampling frequencies are determined by the chart located in Publication 2 (Project Office Manual) Part B Sec 6 Page 5. Publication 408 and the contract special provisions will also specify sampling and testing procedures under the applicable item.

The IIC should:

- ✔ Be proactive and determine sampling frequencies by calculating the material usage shown on the project plans.
- ✔ Ensure proper oversight of project sampling and testing throughout the entire project.
- ✔ Refer to POM, Pub 408, and contract special provisions to review sampling and testing requirements.
- ✔ Communicate with the district's materials unit on sample collection time frames.
- ✔ Coordinate with the district's materials unit to determine who is responsible for data input into eCAMMS system.
- ✔ Be cognizant of requirements for small quantities acceptance sampling and testing. Refer to Publication 2 (Project Office Manual) Part B Sec 6 Page 6.

Sampling and Testing Requirements - Once samples (i.e. bituminous cores/loose boxes, rebar, mechanical couplers, etc.) are taken and shipment to Laboratory Testing Section (LTS) is required, TR-447 forms must be completed for sample identification. Refer to Pub 2 for TR-447 Instructions. One copy is sent to LTS with the sample, one copy is sent to the district materials unit, and one copy is retained on the project file. Samples must be delivered by the project staff to a county maintenance office for pick-up and delivery to LTS within three days of obtaining the sample. The TR-447 needs to be delivered to the district materials unit via fax, scan or hard copy prior to the sample being sent. Training is available for all inspectors needing assistance entering TR-447's into the Electronic Construction and Materials Management System (eCAMMS).

After LTS has completed testing, they will return an eCAMMS report that identifies whether the material has passed or failed and includes reports used to determine the test results.

- If the material fails to meet specifications requirements, complete the Disposition of Failed Material form (TR-455) and send to the district materials manager/engineer.
- Refer to Publication 2 (Project Office Manual) Part B Sec 9 Page 1 for further information on material deviations.

For concrete sampling and testing, the CS-458A is a concrete tracking form where the concrete cylinder compressive strength information is recorded at specific intervals during its curing period (commonly 7 and 28 days). This form is completed via the MCCID application or on paper if the application is unavailable.

- Refer to Publication 408, Sec. 704.1(b) for concrete strength requirements.
- Forms must be signed by the certified concrete technician and Department representative.
- Once the form is completed, the IIC must review and provide an acceptance signature. One copy should remain on file at the project office, the other two copies should be sent to the district materials unit and QA for review and filing.

The IIC should:

- ✔ Verify the contractor's testing and sampling procedures are in compliance with approved QC plan, Publication 408, and contract special provisions.
- ✔ Confirm the contractor's material technicians are certified with a copy of certification card on file.
- ✔ Ensure that all on-site and off-site samples are handled properly (i.e. on-site concrete cylinder curing, concrete supplier lime bath curing)

- ✔ Ensure appropriate material sampling and testing forms are completed accurately and timely and that proper signatures are obtained.

3. Source of Supplies (SOS) and Material Certification

All materials incorporated into a construction project must have an approved source and be properly certified. The contractor must submit SOS in ECMS for Department representative approval. Materials listed in the Bulletins (Bulletin 14 - Aggregate, Bulletin 15 - Materials eligible on Department Projects, Bulletin 41- Bituminous and Bulletin 42- Concrete) are accepted solely by certification on Form CS-4171 except for specific types and material classes. Exceptions include: structural steel, aluminum, or precast/pre-stressed concrete products produced in a Bulletin 15 approved facility with an on-site state inspector who will stamp the acceptable fabricated material.

Certificates of Compliance:

- **CS-4171** Certificate of Compliance **-** This form has been modified to allow the form to be signed electronically. Please note that the electronic signature is optional and must be approved by Central Office; the form may still be signed in ink, if preferred by the supplier. The instructions have also been modified to include the reference to the project office manual (Publication 2 (Project Office Manual) Part B Sec 6 Page 3) for guidance in completing the form.
- **CS-4171B** Certificate of Compliance for Daily Bituminous Mixtures **-** This form replaced Form TR-465 to group the material certification forms together in the CS-4171 series. The form is now a fillable pdf with added dropdown fields to ease completion. Payment factor checkboxes have been added to ensure compliance with Publication 408, Sec. 409.4(a) Table H. This form may also be signed electronically, if desired.
- **CS-4171** LA Certificate of Compliance for Locally Approved Non-Bulletin Materials - This new form was developed to provide a form to certify locally approved non-Bulletin materials which are now defined in Publication 408, Sec. 106.02. Certifications may require additional attachments to support special provisions or Pub 408 specifications including test reports or invoices. This form may also be signed electronically, if desired.

Steel Products:

- All steel to be left in place must be certified as made and manufactured in the USA.
- The CS-4171 will list required documentation to accompany certification, such as, unidentifiable steel mill certifications.
- Rebar fabricators who are also the coating company need only to provide a CS-4171F certification along with mill certs. If a fabricator is using an outside coating company, then they should provide a CS-4171F with mill certs and a CS-4171C from the coating company.
- Steel products containing foreign steel require the submission of supplemental Form CS-4171S.

Material Rejection:

- Material not conforming to the requirements of the specifications will be rejected. Remove such material promptly from the site of the work, unless otherwise directed. The decision made by the Department Representative will be as to the acceptance, rejection, or acceptance at the adjusted price of sampled lots.
- For non-conforming lots, remove and replace them or have them accepted at an adjusted unit price.

The IIC should:

- ✔ Review all certifications that are received for accuracy and completeness.
- ✔ Make sure all material arriving on site is approved per the bulletins.
- ✔ Ensure that all material has an approved SOS and corresponding certification prior to incorporation into the project.
- ✔ Make sure bituminous and concrete certifications received match the job mix formulas specified in the contractor's QC plans.

B. Material Control OFF Project

1. Notification of Inspection (CS-430)

The notification is done during the source of supply submission process in ECMS. By choosing "YES" for fabrication required when the contractor submits the SOS for the material in ECMS, it triggers the need for shop inspection for precast products and fabricated materials. This process can also be done by having the contractor submit Form CS-430 into PPCC to the district material engineer, who will then submit the form to Harrisburg. The preferred option should be discussed with the ACE/M and district material engineer.

Shop drawings should be submitted as early as possible to allow for review and approval. In order to avoid project delays, the shop drawings need submitted and approved early to allow for varying durations in manufacturing for specialty products. This process could be as-long-as 3 to 4 months.

The IIC should:

- ✔ Verify the contractor has submitted the Notification for Inspection Form in ECMS or PPCC.
- ✔ Monitor shop drawing submittals for timely reviews, revisions, and acceptance.
- ✔ Refer to Publication 2 (Project Office Manual) Part A Sec 2 Page 3 for shop inspection information.
- ✔ Refer to Publication 2 (Project Office Manual) Part B Sec 7 Page 18 for notice of inspection information.

2. Construction Aggregates

Aggregates are accepted by the Department by the certification process commonly referred to as "certification acceptance." This acceptance is based on quality control tests conducted by the producer at the quarry and district quality assurance source verification samples tested by the Department plant inspector.

Aggregate placed on the project is subject to additional testing. These additional tests are project verification samples that are taken at the point of placement and tested by the Department representative. Typically, the contractor will furnish the Department with an estimate of tonnage for each type of aggregate at the beginning of the project. This estimate of tonnage is what the lot/sublot sample points are based on.

The IIC should:

- ✔ Keep track of tonnage for each aggregate type incorporated into the project and make sure samples are being produced per the established lot/sublot sample points.
- ✔ Make sure aggregate samples are taken correctly.
- ✔ Refer to Publication 2 (Project Office Manual) Part B Sec 7 Page 13 for further information.
- ✔ Refer to Publication 408, Section 703.5(b) for procedures for acceptance of construction aggregates.

3. Delivery Ticket

Suppliers of material such as aggregate, concrete, bituminous, topsoil, seeding, etc. must provide a delivery ticket to the Department. Material should not be incorporated into the project without a delivery ticket.

Information provided on the delivery ticket must include:

- Supplier information (company, address/location)
- Type of material provided
- Quantity
- Truck number for concrete or load number for asphalt

- For concrete and bituminous material: job mix formula data
- For concrete: time of day that load/discharge occurred
- For bituminous: temperature of mix
- Contract, state project, or purchase order number

The IIC should:

- ✔ Ensure all information on the delivery ticket is accurate and document the physical location of placement on the ticket.
- ✔ Verify the delivery ticket provided for material corresponds with the bulletins and approved source of supplies.
- ✔ Confirm that bituminous and concrete material meets the contractor's submitted and approved quality control plan.

C. Sample Material Management

1. eCAMMS System

The Electronic Construction and Materials Management System (eCAMMS) is a web-based application that PennDOT uses to track material samples and their test results. The system is a database that receives, generates, and distributes information and reports in a timely manner.

The IIC should:

- ✔ Ensure information accuracy for samples that are input into the eCAMMS system.
- ✔ Reference Publication 2 (Project Office Manual) Part B Sec 8 Page 1 for more information.

2. Material Deviations

Occasionally, materials incorporated into the project will fail quality and acceptance testing. When this occurs, it is essential to document actions taken to either accept the material with reduced payment or reject and remove the material. Include all documentation in project records. It is the Department's policy to reject all non-specification material unless there is a valid justification to accept the material.

The IIC should:

- ✔ Document the disposition of all material deviations.
- ✔ Ensure that if material fails to meet specification requirements, the Disposition of Failed Material form (TR-455) is sent to the district materials manager/engineer.
- ✔ Notify the project ACE and the prime contractor of failure so he or she can take corrective action.
- ✔ Reference Publication 2 (Project Office Manual) Part B Sec 9 Page 1 for material deviation procedures.

3. Bituninous Lot Acceptance

When a lot of Section 409, Bituminous RPS paving material is identified by LTS as "Remove and Replace", the district executive may, for practical purposes, request written permission from the chief engineer to leave the deficient lot in place at a reduced pay, provided only one characteristic has a PWL of 64 or less. Refer to the project specific special provision (or applicable Pub. 408 section) for detailed payment information. When the PWL of two or more characteristics are 64 or less, the material must be removed and replaced.

- Recent approvals have contained a stipulation requiring the continued monitoring of these lots on an annual basis to demonstrate the lots are providing adequate long-term service

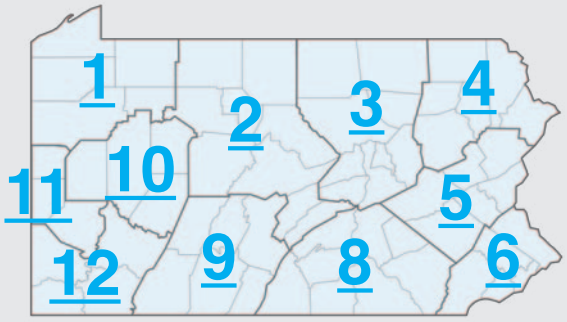
The IIC should:

- ✔ Communicate with the district materials unit regarding any bituminous lot failures.
- ✔ Reference the following publications for procedures:
  - Publication 2 (Project Office Manual) Part B Sec 9 Page 4

- Publication 2 (Project Office Manual) Part B Sec 9 Page 9 (Handling Defective Bituminous Lots)
- Publication 408 Section 409

INSPECTIONS: SECTION C.1

Click on the District Number to be directed to Website.



A. Semi-Final & Final Inspections

1. Semi-Final Field Inspection

The semi-final inspection is an optional meeting requested by the contractor in which key personnel involved with the project are invited to review the project and call attention to any deficiencies observed. The semi-final inspection will have no direct impact on the establishment of interest, time charges, or contractor responsibility, but will give the contractor an opportunity to correct deficiencies. More than one semi-final inspection can be used throughout project stages. Some examples include, prior to a winter shutdown, prior to a phase change, or when accessibility to completed structure elements are still in place.

The IIC should:

- ✔ Work with the inspection staff prior to the meeting to review the project and call attention to any outstanding contract items or plan deficiencies.
- ✔ On structure projects, notify the district bridge unit to allow ample time to complete a thorough inspection of the structure.
- ✔ Update the project punchlist in ECMS or the MCPL application to document all outstanding construction-related and documentation-related deficiencies.
- ✔ Make sure the superintendent and/or project manager are provided a copy of the project punchlist.
- ✔ Refer to Publication 2 (Project Office Manual) Part D Sec. 1 Page 1-1 for more information concerning the process for semi-final inspections.

2. Final Field Inspection

The contractor should request a final inspection when the project reaches substantial completion, which means the contract work is at least 90 percent complete and the project is ready for its intended use. This should allow a few weeks for the contractor to make any necessary corrections without warranting a time extension. The project final inspection is held on-site with individuals from the contractor(s), inspection staff, designer(s), county maintenance staff, and construction management staff. An acceptance certificate is issued upon satisfaction of all contractual requirements as indicated by the final inspection form.

The IIC should:

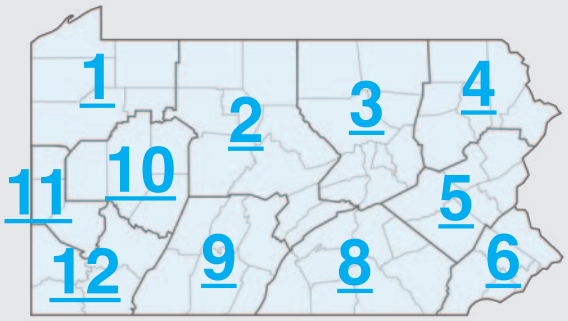
- ✔ Work with the project's inspection staff to review the project for issues. The IIC should ensure the electronic punchlist found in ECMS is updated prior to the final review/inspection meeting.
- ✔ Document any additional deficiencies and add them to the punchlist. A completed punchlist is required in ECMS before the project is considered in post-construction status.
- ✔ For structure projects, ensure the district bridge unit has performed a thorough inspection of the structure(s).
- ✔ Create a sign-in sheet and transfer to the ECMS punchlist or use direct entry into ECMS under the final punchlist to enter all the attendees to the project final.

✔ Complete Form CS-4137 as per Publication 2 (Project Office Manual) Part D Sec. 1 Page 1-1. The date of physical work completion and the date of project acceptance will be established on this form. A copy of the completed final inspection form will be provided to the contractor.

Resources and References

- Publication 408 Section 110.08
- Publication 2 (Project Office Manual) Part D Sec. 1 Page 1-1

FINALIZATION: SECTION C.2



Click on the District Number to be directed to Website.

A. Close-Out Audit

A project close-out audit is performed when the last physical work has been completed on the project and a final estimate is to be developed. At this point, a comprehensive, complete check of each project must be made by the finals unit with reference to pay quantities and project recording of operations. As part of the close out audit, a final material review must also be performed. Finalization of the project cannot proceed until all issues found in the materials review or close-out audit are 100 percent resolved.

The IIC should:

- ✔ Schedule meetings on-site with a materials manager and finals unit auditor to review all project documentation and create a list of any missing or deficient items.
- ✔ Review deficiencies and work with inspection staff, contractor, suppliers, etc. to resolve any found issues.
- ✔ Complete and sign the district's letter of project materials certification (Form TR-4238A) and submit to finals unit once all issues with materials review have been resolved. Refer to Publication 2 (Project Office Manual) Part D Sec. 3 Page 7-1 for more information.
- ✔ Respond to all audit punchlist items created by the final unit auditor.
- ✔ Follow the district's finalization checklist (if applicable) and complete all items that pertain to your project.

B. Asphalt, Diesel & Steel Adjustments

1. Asphalt Adjustment

Asphalt adjustments will be paid, or rebated, upon approval of an estimate adjustment to be prepared after completion of all work. Cumulative price adjustments amounting to less than $500 will be disregarded. Upon written request by the contractor, partial payments may be made, before total completion, when the unpaid accrued price increase exceeds $10,000 or once every 12 months. The minimum amount of asphalt oil used to qualify for an asphalt adjustment is 100 tons. This means 100 tons of the actual asphalt oil used to make the mixture (not the sand and stone weight mixed into the asphalt pavement).

The IIC should:

- ✔ Refer to the project specific contract to identify the qualifying items of work.
- ✔ Check all automatic asphalt adjustments that are done through ECMS
- ✔ Refer to Publication 408, Section 110.04 for more information.

2. Diesel Adjustment

Diesel adjustment will be completed on a quarterly basis. Adjustments amounting to less than $1,000.00 will be disregarded. The minimum amounts to qualify for a diesel adjustment depends on the category of work (earthwork, subbase, asphalt pavement, concrete pavement, structure, and milling).

The IIC should:

- ✔ Check project specific contract special provisions to make sure there are no overriding adjustment factors.

- ✔ Ensure the correct factors are being used from ECMS when completing adjustments
- ✔ Check all automatic diesel adjustments done through ECMS
- ✔ Refer to Publication 408, Section 110.12 for more information.

3. **Steel Adjustment**

   The IIC should refer to Publication 408, Section 110.14 for requirements to provide a price adjustment for fluctuations in the cost of steel used as part of the construction work.

C. Final Balancing Work Order & Notice of Final Quantities

1. **Final Balancing Work Order**

   The final balancing work order is typically done at the end of a project to adjust quantities of contract work items that are above or below the planned quantity. All the items need to show zero remaining quantity and zero overrun quantity to bring the project to 100 percent completion in ECMS. When the item quantity is increased or decreased to greater than or equal to 25 percent, an additional question is automatically generated in ECMS that must be answered in the work order. The answers to the +/- 25 percent questions are as follows:

   - If the item quantity is increased or decreased to greater than or equal to +/- 25 percent and the unit of measure (UOM) is anything other than dollar, the proper response is “No change in scope of work. The contractor agrees to accept contract unit price.”
   - If the item quantity is increased or decreased to greater than or equal to 25 percent and the unit of measure is dollar, the proper response is “section 110.02(d) does not apply.” Check item special provision to ensure measurement and payment section includes language that exempts the work from the provisions of Section 110.02(d).
   - If the item quantity is eliminated, the proper response is “Item being eliminated.”

   The IIC should:

   - ✔ Coordinate final quantities with the contractor prior to creating the final balancing work order in ECMS.
   - ✔ Submit a work authorization and ensure the contractor concurs with all final quantities.
   - ✔ Refer to Publication 2 (Project Office Manual) Part B Sec. 3 Page 1-3

2. **Notice of Final Quantities**

   Once balancing work order has been approved, along with all other work orders for the final estimate, the IIC should review all the contract items with the contractor to ensure they agree with all the quantities that have been paid. The request for review of final quantities should be extended by the contractor to their subcontractors to account for all contract items.

D. As-Built Drawings

As-builts serve as the long-term record of which work was performed. The assumption is that when a job is completed it is constructed exactly as the original plans show unless it is noted otherwise in the as-builts. As-builts are critical pieces of information when designing a job for rehabilitation or reconstruction in later years. It is particularly important to show changes to underground facilities such as drainage, conduits, and foundations, since these features are not visible at job completion.

The IIC should:

- ✔ Collaborate with the inspection staff to create a working set of plans that are updated throughout the project.
- ✔ Ensure the as-builts are clean, neat, accurate, and completed in a timely fashion.
- ✔ Submit completed as-builts to the design project manager to create the final plan.
- ✔ Refer to Publication 2 (Project Office Manual) Part B Sec. 1 Page 16-1 for more information.

E. PPCC Closeout

Documents that were submitted in PPCC must be resolved prior to project completion. To search for outstanding submittals, go to the reports tab and run an "outstanding" report for each category. Every submittal in all categories must be greyed out and completed. If a submittal cannot be closed out correctly because staff are no longer working, contractors are no longer available, or for other reasons, the IIC can use the "reconcile" button to close out a submittal. This method should only be used as a last resort and requires comments as to why the submittal could not be completed correctly.

The IIC should:

- ✔ Check all categories in PPCC and identify any submittals that are still outstanding.
- ✔ Work with responsible parties to resolve any outstanding submittals
- ✔ After all submittals are greyed out, transfer all files in the "Shared Files" tab to the "Project Files" tab and check in for archiving.

F. Record Retentions

Pertinent final project documents must be retained for a certain period of time depending on the funding type of the project.

The IIC should:

- ✔ Refer to Publication 2 (Project Office Manual) Part D Sec. 2 Page 3-1.

G. Other Closeout Documents

1. **Roadway & Bridge Restriction Lifting**

   To lift restrictions, the Roadway Notifications form (RNA) (M-937RO) must be completed and submitted to the district permit office in at least five working days prior to the route's opening.

2. **Construction (RMS) Pavement Data Sheets**

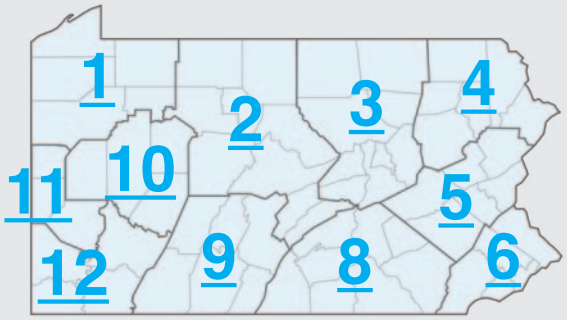
   RMS Pavement data must be completed and submitted to the district pavement manager within 30 days of completing the paving. This sheet reports the milling and paving operations completed during the project. The RMS form includes information such as changes to roadway alignment, width of roadway by segment and offset distances, and roadway material. Details about asphalt courses and thicknesses and other work completed on the project will help maintenance log and track existing structure and roadway conditions (which must be done).

3. **Drainage Installation Form**

   The drainage installation form needs to be completed and submitted to the district pavement manager within 30 days of installing pipes. This sheet reports all pipe installation, inlets, and outlets. The drainage form includes information such as new installation or replacement.

REPORTS & EVALUATIONS: SECTION C.3

Click on the District Number to be directed to Website.



A. After-Action Review

An after-action review is a formal meeting held after or in conjunction with the final inspection where most of the same attendees will discuss the overall quality of the design plan set. This is the opportunity for the construction personnel and contractor to provide feedback to the design team.

The IIC should:

- ✔ Be prepared to share overall design evaluation.
- ✔ Give examples of design aspects that went well.
- ✔ Give examples of design aspects that needed improvement.
- ✔ Take notes and be prepared to produce meeting minutes and file them in PPCC (Districts may have a standard agenda and minutes template to follow).

B. Evaluations

1. Contractor Evaluations

Contractor evaluations must be completed in ECMS for the prime contractor and all subcontractors at the completion of the project. After completion, the ACE approves, and the contractor must review the evaluation and either accept or dispute the evaluation. Final DBE payment must be paid before the final evaluation for the prime contractor can be completed.

- Interim evaluations can be performed during various stages of the project, especially on projects of longer durations or projects where the contractor has issues that are not being addressed.

2. Designer Evaluations

Quality surveys for designers must be completed by the project IIC and contractor. These evaluations are completed in ECMS. Once completed, the IIC, ACE, and ADE must approve.

3. Consulatant Evaluations

Complete a consultant evaluation for all prime and sub-consultants who provided construction management and/or inspection services on the job.

C. Environmental Documents Sign-Off

1. NPDES Permits (Earthwork Disturbances)

Upon permanent stabilization of earth disturbance activity and installation of permanent BMPs in accordance with the approved plan, the permittee and/or co-permittee must complete the Notice of Termination (NOT) form (Form 3150-PM-BWEW0229b) and submit to the Department of Environmental Protection (DEP) or authorized conservation district. A final site inspection/meeting will need to be scheduled with the local county conservation district (CCD) so they can field view the site and confirm it is stabilized and constructed per the plans prior to approving the NPDES - Notice of Termination (NOT). Until written approval of NOT is received, the permittee and/or co-permittee will remain responsible for compliance with the permit conditions. This process can take time, so it is important to start the NOT procedures as early as possible.

The IIC should:

- ✔ Notify the ACE/M when earth disturbance activity is permanently stabilized.
- ✔ Monitor the NOT submission process for timely submissions and responses.
- ✔ Document dates of when NOT was submitted and when site inspection will occur.
- ✔ Ensure visual site inspections are performed until approval of NOT is received.

2. Chapter 105 Permits (State issued Permits)

Coordinate with the district environmental manager and ACE/M to ensure completion of the Water Obstruction and Encroachment Permit Completion report that closes out the Chapter 105 permit.

The IIC should:

- ✔ Send the district environmental manager a copy of the paperwork so the permit can be closed out in the Keystone Environmental e-Permitting System (KEES).

3. PASPGP Permits (Federal Issued Permits)

Coordinate with the district environmental manager and ACE/M to ensure completion of the PASPGP-5 Permit, Self-Certification Form that closes out the PASPGP permit.

The IIC should:

- ✔ Complete the form and obtain the original permittee signature.
- ✔ Attach photos of the mitigated areas to the completed form.
- ✔ Send package to the appropriate address for the Army Corps of Engineers.

4. Environmental Commitments and Mitigation Tracking System (ECMTS)

The ECMTS Sheet can be accessed through ECMS from the Project Information screen, “Project Development Checklist” “Environmental Clearances”. The sheet must have the appropriate signatures next to each item and a completion date. Once completed, the ECMTS is submitted to the district environmental manager and/or finals unit manager as part of the close out process.

The IIC should:

- ✔ Ensure accurate and timely completion of ECMTS Sheet.
- ✔ Submit the completed form to the appropriate person within his or district.

pennsylvania
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LEGISLATIVE CONTACT REPORT

Senate/Legislative District: _____ Legislator: _____ Aide: _____

Penn DOT Contact Name: _____ Org: _____ Phone: _____

List any other Legislators concerned or involved in the problem: _____

_____

Date of meeting/contact: _____

Private meeting: ☐ Public Meeting: ☐ Phone: ☐ Letter: ☐

Purpose of contact/service requested (including major elements, previous contact on subject & specifications):

☐ Design ☐ Construction ☐ Maintenance ☐ Administration

_____

_____

_____

_____

General comments (include your opinion on success of contact):

☐ Satisfied ☐ Unsatisfied (explain) ☐ Additional Action

_____

_____

_____

_____

E-mail to:

Administrative Assistant to the District Executive

E-mail cc to:

District Executive
Press Officer
Community Relations Coordinator

Updated 12/21/2017

M-937CM (9-19)

pennsylvania DEPARTMENT OF TRANSPORTATION

REVIEW FOR BRIDGE DECK CRACKING

	Type of Review:	Initial (post construction):	
		Follow-Up (1-year):	
Project Information:			
Refer to BMS2 for data	ECMS		
	SR/Section		
	NBI Structure Number (NBI Bridge Key)		
	BMS Structure ID		
Date of Deck Review			
Date of Scheduled Opening (enter for initial review)			
Date Opened to Traffic (enter for 1-year review)			
Structure Information	Beam Type.		
Refer to plans for data	Number of Spans		
	Construction: New or Preservation?		
	Struct Config		
	Beam Spacing c-c (in)		
	Deck Thickness (in)		
	Total Deck Area (sy)		
Concrete Mix Design	Concrete Supplier (Bulletin #42 supplier code)		
Refer to approved mix design form	Deck Concrete Type		
	Mix Design (JMF# from mix design form)		
	Cement (pcy)		
	Slag/GGBFS (pcy)		
	Fly Ash (Type F/C) (pcy)		
	Silica Fume (pcy)		
	Admixture - WR (Y/N)		
	Admixture - AE (Y/N)		
	Admixture - RE (Y/N)		
	QC Target Slump (in)		
	Water/Cement Ratio (from mix design form)		
	28-Day Break (psi) (from mix design form)		
	28/7-Day Break Ratio (from mix design form)		
Concrete Placement Data	Actual Curing Duration (days) (14-days per Pub-408)		
Refer to construction data	Ambient Temperature High (F) include curing time		
	Ambient Temperature Low (F) include curing time		
	Average slump at point of placement (in.)		
	7-Day Break Range (High/Low) (psi)		
	28-Day Break Range (High/Low) (psi)		
	28/7-Day Break Ratio (based on average strengths)		
	Half-Width or Staged Construction (Y/N)		

Deck Cracking per Span

Span No.	Span Length (ft)	Span Width (ft)	Moment	Transverse Crack Length (yd)	Longitudinal Crack Length (yd)	Transverse Cracks/Span (yd/sy)	Longitudinal Cracks/Span (yd/sy)
			positive			#DIV/0!	#DIV/0!
			negative			#DIV/0!	#DIV/0!
			positive			#DIV/0!	#DIV/0!
			negative			#DIV/0!	#DIV/0!
			positive			#DIV/0!	#DIV/0!
			negative			#DIV/0!	#DIV/0!
			positive			#DIV/0!	#DIV/0!
			negative			#DIV/0!	#DIV/0!
			positive			#DIV/0!	#DIV/0!
			negative			#DIV/0!	#DIV/0!
			positive			#DIV/0!	#DIV/0!
			negative			#DIV/0!	#DIV/0!
			TOTALS	0	0		

Total Transverse Deck Cracking (yd/sy)	**#DIV/0!**
Total Longitudinal Deck Cracking (yd/sy)	**#DIV/0!**

Comments: did placements follow design pour sequence? Specify evaporation rate or if foggers were used. Time pours started and ended.

Performed By	

*** LINK TO BRIDGE DECK MAPPING CRACK LOCATIONS AND POUR SEQUENCE**