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pennsylvania
DEPARTMENT OF TRANSPORTATION

TRANSMITTAL LETTER

PUBLICATION:

PUBLICATION 693
2015 EDITION

DATE:

Feb. 6, 2015

SUBJECT:

2015 EDITION
SPECIFICATION REVIEW MANUAL

INFORMATION AND SPECIAL INSTRUCTIONS:

Attached is the 2015 Edition of Publication 693, Specification Review Manual. Publication 693 has been updated to include the incorporation of publications into the Department's clearance transmittal process. Minor changes were also made to comply with Publication 51 - Plans, Specifications and Estimate Package Delivery Process Policies and Preparation Manual.

All District Offices should distribute this Publication to the appropriate staff within their organization responsible for preparing Specifications and ultimately bid packages.

CANCEL AND DESTROY THE FOLLOWING:

The February 2011 Edition of Publication 693

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Publication 693

Specification Review Manual

pennsylvania
DEPARTMENT OF TRANSPORTATION
BUREAU OF PROJECT DELIVERY

PUB 693 (02-15)

SPECIFICATION REVIEW MANUAL

TABLE OF CONTENTS

CHAPTER **SUBJECT** **PAGE**

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LIST OF FIGURES

LIST OF TABLES

CHAPTER 1

GENERAL

1.0 INTRODUCTION

Publication 693, *Specification Review Manual* has been developed as a guide primarily to assist those involved in the writing and coordination of changes to PennDOT Specifications—Publication 408, *Specifications* and associated Standard Special Provisions (SSPs). This manual has also been developed to clarify the process, including the sequence of activities and associated transmittals and documentation. Furthermore, it addresses the related process and documentation involved in making changes to Publication 7, *Construction Items Catalog*. Lastly, it concludes with chapters relevant to specification writing and to risk factors associated with various PennDOT Specifications.

Publication 408 exists in two versions—hardcopy and internet. Changes to these versions are issued semiannually in the form of new pages to Publication 408, resulting in a completely new publication. Changes are documented in the form of individually numbered Change Packages, with an Index of Changes and the associated new pages.

SSP indices and individual SSPs are maintained and converted for posting on the internet. Each version of an SSP is identified by letter and an effective date. An initially issued SSP is designated as Version "A". Subsequent revisions are assigned a new letter (i.e., Version "B" for first revision, Version "C" for second revision, etc.) and effective date.

From time to time, PennDOT may issue a Strike-Off Letter with new or revised design and use guidelines. These new or revised design and use guidelines should be incorporated into other Publications within 12 months after the Strike-off Letter has been issued. The Strike-off Letter may include an SSP that describes the new or revised design and use guidelines. Typically, this SSP will be included in bid packages for construction projects until it can be officially incorporated into Publication 408.

Upon receipt of the signed and dated approval(s) from FHWA, an effective date will be assigned, and the SSP(s) will be issued along with changes to the appropriate SSP Index. A memorandum will be sent to the Districts of the revised SSP(s) and their effective date.

Publication 408 and associated SSPs typically contain measurements in English units. Proposed revisions and changes are typically processed with dual measurements.

It is PennDOT's policy to use Publication 408 and SSPs. Project-specific special provisions should be used sparingly, as warranted by specific project needs. This policy is to ensure consistency and uniformity across the Districts and regions and to minimize risks and uncertainties to bidders.

There may be situations where a PennDOT District develops its own special provisions and uses the special provision in bid packages for multiple construction projects. As a result, these special provisions may promote inconsistency and non-uniformity with other Districts. The PennDOT Districts are strongly encouraged to continuously evaluate the use of their own special provisions and, when appropriate, to work with the Specification Review Unit (see Section 1.3) in elevating these District-developed special provisions into either: (1) SSPs owned by Central Office or (2) specifications in Publication 408. Chapter 2, *Coordination of Changes to Publication 408 and Standard Special Provisions*, provides procedures for the development and implementation of new or modified PennDOT Specifications and SSPs. Districts may also follow these procedures to adopt District-developed special provisions as SSPs or as specifications in Publication 408.

1.1 PURPOSE

The overall purpose of the *Specification Review Manual* is:

1. To provide a detailed explanation regarding the Clearance Transmittal (CT) procedure for issuing and revising PennDOT publications and Specifications.

2. To provide administrative procedures and instructions for initiating and processing revisions to Publication 7, *Construction Items Catalog* and ECMS Master Items.

3. To provide a guide for effective writing of PennDOT Specifications and an explanation of related NHI training available to the PennDOT staff.

4. To describe risk factors potentially associated with different aspects and types of specifications.

1.2 THE SPECIFICATION REVIEW COMMITTEE

The Specification Review Committee is made up of representatives from each of the Bureaus within Highway Administration—Bureau of Project Delivery (BOPD), and Bureau of Maintenance and Operations (BOMO)—and representatives from the Federal Highway Administration (FHWA) and the Pennsylvania Turnpike Commission (PTC). The Committee meets the second Thursday of every month. The Committee reviews the status of changes to Publication 408 and the SSPs. Issues regarding the changes are discussed.

The Specification Review Committee exists to inform Department staff of changes being made and how or if they affect other Sections or Publications such as:

- Publication 2, *Project Office Manual*
- Publication 13M, Design Manual Part 2, *Highway Design*
- Publication 14M, Design Manual Part 3, *Plans Presentation*
- Publication 15M, Design Manual Part 4, *Structures*
- Publication 46M, *Traffic Engineering Manual*
- Publication 72M, *Roadway Construction Standards*
- Publication 111M, *Traffic Control Pavement Markings & Signing Standards-TC 8600 & 8700*
- Publication 148, *Traffic Standards (TC-7800 Series) Signals*
- Publication 149, *Traffic Signal Design Handbook*
- Publication 236M, *Handbook of Approved Signs*
- Publication 218M, *Standards for Bridge Design-BD-600M*
- Publication 219M, *Standards for Bridge Construction-BC-700M*
- Publication 236M, *Handbook of Approved Signs*
- Publication 242, *Pavement Policy Manual*
- Publication 647, *Intelligent Transportation System-Standard Drawings*

Committee Representatives usually act as the Specification Coordinators (SC) for their Bureau. These Committee Representatives:

1. Coordinate the CTs coming into their Bureaus for comment and leaving their Bureaus for comment by other Bureaus.

2. Provide a chart or update the Specification Review Unit with information on the CTs (pertaining to Section and SSP changes) coming from their Bureaus.

3. Provide the CT tracking number. This is a unique number for each change going through the CT process. It is similar to numbering for Strike-off Letters. An example of the CT tracking number is B-13-121 and what each part means is as follows:

D-09-121

where: B = Originating Division*
13 = Originating Year
121 = a consecutive number generated by the originating Bureau's Specifications Coordinator

*Originating Bureau Key:
A = Asset Management
B = Bridge Design and Technology
F = Fleet Management
H = Highway Delivery
L = Maintenance Technical Leadership
P = Maintenance Performance
S = Innovations and Support Services
T = Highway Safety and Traffic Operations

Districts should also designate a point of contact for all review and coordination matters with PennDOT Specifications. Districts who originate and coordinate changes will perform all originator/SC responsibilities, similar to the responsibilities in a Bureau.

1.3 THE SPECIFICATION REVIEW UNIT

The Specification Review Unit is in the Department's Bureau of Project Delivery, Highway Delivery Division, Project Schedules, Specifications and Constructability Section.

The Specification Review Unit's functions and responsibilities include:

1. Developing, coordinating, reviewing, updating, prioritizing, and issuing PennDOT Specifications (to Publication 408 and SSPs), including posting on the Department's ECMS website and issuing in hardcopy format (Refer to Publication 51, *Plans, Specifications and Estimate Package Delivery Process Policies and Preparation Manual).*

2. Providing interpretation to users on critical PennDOT Specifications including changes to Publication 408 and to the SSPs.

3. Dealing with specification-related decisions on complex projects.

4. Coordinating and reviewing final changes in CTs for PennDOT Specifications.

5. Securing FHWA approval for the implementation of PennDOT Specifications.

6. Coordinating effective letting dates associated with PennDOT Specifications revisions used in construction contracts, particularly SSPs since the Publication 408 effective dates are set to occur every six months (April and October of each year).

7. Updating and maintaining the master items in Publication 7, *Construction Items Catalog* and in ECMS.

8. Rendering all changes and revisions in internet and hardcopy formats.

9. Coordinating with the Engineering Districts in minimizing the number of Non-Standard Construction Items, PennDOT Specifications, and District Special Provisions. (The Engineering Districts should seek assistance from PennDOT Central Office when writing special provisions.)

10. Conducting and leading the monthly PennDOT Specification Review Committee meetings.

11. Publishing and updating guidance for developing PennDOT Specifications, including coordination with FHWA/NHI in providing training courses for writing, understanding, and interpreting PennDOT Specifications.

12. Reviewing PS&E packages in accordance with Publication 51, *Plans, Specifications and Estimate Package Delivery Process Policies and Preparation Manual.*

13. Maintaining Microsoft Word documents of Publication 408 and SSPs and Adobe PDF documents of Publication 408.

14. Providing originators with Microsoft Word documents so they can easily show their changes.

CHAPTER 2

COORDINATION OF CHANGES TO PUBLICATIONS AND STANDARD SPECIAL PROVISIONS

2.0 CLEARANCE TRANSMITTAL (CT) PROCESSES

A. Introduction. The Federal Highway Administration (FHWA) / PennDOT Stewardship and Oversight Agreement addresses additions or modifications to PennDOT publications and Standard Special Provisions (SSPs), referred to herein as policy documents. These policy document additions or modifications include managing, processing, reviewing, obtaining approval, distributing, and implementing the proposed changes. Part of these procedures requires a proposed change to be circulated for review and comment through the PennDOT Clearance Transmittal (CT) process. The process described in this chapter, in accordance with the Stewardship & Oversight Agreement between PennDOT and FHWA, applies to any revision or addition to PennDOT publications or SSPs affecting the development or administration of Federally-funded projects (including non-NHS projects) and is subject to FHWA approval before changes can be issued. Although the CT process is not required for all Department policy documents, it is recommended as a best practice. In this application, Department policy documents that are not subject to FHWA approval, would require approval from the applicable Deputy Secretary (in lieu of FHWA) before the policy change could be issued.

Depending on the topic, proposed changes may impact more than one policy document and require coordination with other Departmental units to prepare the additional revisions. These additional policy revisions may either be issued as a Strike-off Letter, if the change in policy is urgent, or as an official publication change. The scope of the proposed change and this coordination should be kept in mind throughout the CT process.

Proposed changes as required by law and clarifications of existing approved policies and procedures, or updates for obsolete or out of date requirements, references, forms or test methods may not require a CT. However, implementation of changes required by law and/or as clarifications of existing approved policies and procedures must be fully coordinated with FHWA and OCC. CTs are required for all other policy and procedure changes.

B. Roles. Within Bureaus and Districts are the subject matter experts who champion specific revision initiatives. These individuals are referred to as "Originators." However, the overall responsibility for the coordination and issuance of Changes to Publication 408 and SSPs is that of the Bureau of Project Delivery's Specification Review Unit. Within this Unit, the Specification Review Engineer is the primary action officer for all related revision activities. All other publications will be managed in a similar manner by the Originator working with the Publication Owner and the designated Clearance Transmittal (CT) Coordinator, as assigned in the publication's Owning Bureau/Division.

The Specification Engineer/CT Coordinator will assign CT numbers, maintain a tracking chart for each publication owned by their respective unit, and will coordinate as needed with change Originators throughout the CT process. When the CT process is applied to Publication 408 and/or SSPs, the Specification Engineer will act as the liaison for change coordination. For all other publications and manuals, the CT Coordinator within the owning publication's Bureau/Division will be the primary point of contact.

Key to the process is the Originator working in conjunction with the Publication Owner, and the Specification Review Engineer/CT Coordinator. For Changes to Publication 408 and SSPs, Bureau and District Specification Coordinators are also involved in the process, as these individuals track and administer all revisions specific to their organization's focus and participate in monthly Specification Review Committee Meetings and semiannual publication reviews.

C. Preparation of Changes. Proposed changes for PennDOT publications or SSPs are to be prepared in the original file format of the subject publication or SSP (i.e., Microsoft Word, Microsoft Excel). To incorporate proposed changes, the Originator should request from the Publication Owner or Specification Review Unit (for Publication 408 and SSPs only) the relevant electronic file(s) in their original file format. The Publication Owner is responsible for version control if multiple initiatives are under way within the same document.

When proposing minor changes, the "track changes" feature in Microsoft Word is required for use. The "track changes" feature allows reviewers to view the proposed additions, deletions, comments, and formatting changes. The "tracked changes options" must be configured to show a vertical line in the left margin, indicating lines of changed text, a change in font color to indicate new text, and a strikethrough to indicate deleted text. The CT number assigned to the proposed change must be added to the heading of each "changed page" and page breaks should be adjusted as appropriate. The proposed changes are then converted into two PDF format documents for distribution; one document shows all of the tracked changes made and the other "clean" version shows the proposed change in its proposed final format. Exceptions to using the "track changes" feature are: (1) there are a substantial amount of proposed changes with existing PennDOT publications or SSPs; or (2) new publications, new sections of existing publications, or SSPs are proposed. When in doubt, consult with the Publication Owner or the Specification Review Unit.

D. Overview. In order to facilitate and enhance changes to policy documents, PennDOT has three CT Processes to implement changes efficiently and expeditiously. Below is a brief explanation of how each process works and when it is to be used.

1. Standard Two-Step CT Process. The Standard Two-Step CT Process is to be used for the majority of changes for policy documents.

a. Step-One distribution is used to receive comments on proposed changes. Depending on the nature of the policy being changed, this step can be performed as an internal or external review. Internal reviews are distributed to all Highway Administration Bureaus, each District Office, and Office of Chief Counsel (OCC). External reviews include all internal reviewers with the addition of the other Commonwealth agencies (e.g., the PA Turnpike Commission, PA Department of Environmental Protection), federal agencies (e.g., FHWA, FTA, Army Corps. of Engineers), and business partner organizations (e.g., Associated Pennsylvania Constructors (APC), American Council of Engineering Companies of Pennsylvania (ACEC/PA)), as appropriate.

b. Step-Two distribution is used to review how comments were addressed, and for approval on the final change. At a minimum, this step is circulated to the individuals and organizations that provided comments via the Step-One Review. Step-Two review may be waived based on the lack of complexity of the change or lack of significant feedback received in Step-One, as determined by the Originator and the Specification Review Engineer/CT Coordinator (see Section 2.0.B) or if all returned Step-One CTs are indicated approved.

c. Upon resolution of all comments, the final draft is sent to FHWA for concurrence.

d. Once FHWA approval is received, a final version of the changes should be forwarded to the Owning Bureau's Director (or designee), Attn: Specification Review Engineer/CT Coordinator for approval. If minor revisions from FHWA regarding the Step-Two CT are received with their concurrence, a revision of the final draft of the changes should be prepared for approval.

e. Once approved, the change is incorporated into the appropriate PennDOT publication or SSP and distributed for implementation. Implementation prior to the completion of this step requires consent from FHWA.

2. Task Force CT Process. The Task Force CT Process can be used when the change or new policy is initiated from a Task Force. Note that a Task Force can have various names, such as "Tiger Team", “PNG Teams,” etc. This process can be used for items that have statewide impact and require more industry input.

a. The Task Force typically should include members from PennDOT, FHWA, and/or industry.

b. Prior to a Step-One distribution, Task Force Members review and comment on the proposed changes.

c. Once all Task Force comments are addressed, a Step-One External Review is conducted to receive comments on the proposed changes. As described in Section 2.0.D.1.a, this includes internal reviewers from all Highway Administration Bureaus, each District Office, Office of Chief Counsel (OCC), and

external reviewers from other Commonwealth agencies, federal agencies, and business partner organizations, as appropriate.

d. Upon resolution of all comments, the final draft is sent to FHWA for concurrence.

e. Once FHWA approval is received, a final version of the changes should be forwarded to the Owning Bureau's Director (or designee), Attn: Specification Review Engineer/CT Coordinator for approval. If minor revisions from FHWA regarding the Step-Two CT are received with their concurrence, a revision of the final draft of the changes should be prepared for approval.

f. Once approved, the change is incorporated into the appropriate PennDOT publication or SSPs and distributed for implementation. Implementation prior to the completion of this step requires consent from FHWA.

3. Pro-Team CT Process. The Pro-Team CT Process is used for policy changes that need immediate implementation due to reasons such as material failure, changes in statutes, or other time sensitive issues.

a. The Pro-Team CT Process is to be used on a limited basis and requires approval from the Bureau Director or designee to utilize.

b. A small group of experts, called a Pro-Team, is formed at the request of the Bureau Director or designee and should include members from PennDOT, FHWA and/or industry.

c. A Modified Step-One Review may be conducted with approval from the Owning Bureau's Director (or designee). In a Modified Step-One Review, the CT is only distributed to the Pro-Team members and a select group of Subject Matter Experts (SMEs) identified by the Bureau Director or designee.

d. Upon resolution of all comments, the final version is sent to FHWA for concurrence.

e. Once FHWA approval is received, a final version of the changes should be forwarded to the Owning Bureau's Director (or designee), Attn: Specification Review Engineer/CT Coordinator for approval. If minor revisions from FHWA regarding the Modified Step-One CT are received with their concurrence, a revision of the final draft of the changes should be prepared for approval.

f. Once approved, the change is incorporated into the appropriate PennDOT publication or SSPs and distributed for implementation. Implementation prior to the completion of this step requires consent from FHWA.

Table 2.1 summarizes the typical timeframe of the three CT processes described above.

TABLE 2.1
MINIMUM TIMEFRAME
FOR CLEARANCE TRANSMITTAL PROCESSES

Process Flow Steps	Standard (Weeks)	Task Force (Weeks)	Pro-Team (Weeks)
Originator prepares draft of proposed change to PennDOT publication or SSP	Varies	Varies	Varies
Step-One CT (comment period)	3-4	3	1-2*
Originator coordinates and resolves comments	2-4	1-2	1-2
Step-Two CT (comment period)	2**	N/A	N/A
Originator coordinates and resolves comments. Finalizes changes to PennDOT publication or SSP and sends to Owning Bureau's Director (or designee) for approval	1-2	N/A	N/A
Bureau Director or designee acceptance	1-2	1	1
FHWA approval***	1-2	1-2	1
Total Time (Weeks)	10-16	6-8	4-6

*Modified Step-One CT to the Pro-Team members and select SMEs only.

**May be waived based on the complexity of the change or feedback received in the Step-One CT (1-2 weeks). Requires coordination with FHWA point of contact if an external review is not conducted.

***In accordance with the Stewardship & Oversight Agreement between PennDOT and FHWA, any revision or additions to PennDOT publications or SSPs affecting the development or administration of Federally-funded projects (including non-NHS) will be submitted, with a formal Transmittal Letter, to the FHWA Division Office for approval and/or concurrence. Revisions or additions to policy and procedure statements, design manuals, letters containing policy, rules and regulations, and standards may require longer review times because of the complexity of the changes.

E. Packaging of Submissions. Submissions for CTs are to be packaged and circulated for review and comment in a consistent fashion. Refer to Appendix C, *Sample Exhibits for Clearance Transmittals* and Appendix E, *Packaging of Clearance Transmittals for Changes to PennDOT Publications and Specifications*, for sample exhibits and procedures to assist in packaging CTs for review and comment.

2.1 STANDARD CT PROCESS

Figure 2.1 provides a flow chart of the Standard Two-Step CT Process. The subsections below provide more detailed information about this process.

A. Step-One CT. Once the proposed changes are drafted, the Originator will forward the draft changes to the Owning Bureau's Director (or designee), Attn: Specification Review Engineer/CT Coordinator requesting a Step-One CT (assume one to two weeks minimum). Submissions should include:

- Information on why the change is necessary.
- Recommendation and justification for proposed format.
- Updated draft version of specification, SSP, or publication.

- A copy of revised design guidelines and drawings (depending on the nature of the proposed change).
- Usage Instructions (as needed).
- New Items (as needed).
- Draft Strike-off Letter (as needed).

The Originator or Specification Review Engineer (for Publication 408 and SSPs only) will review the draft changes for:

- Conforming to proper language and format. As needed, the Publication Owner should be consulted to ensure consistency with the existing content.
- Ensuring there is no overlap or conflict with changes for PennDOT publications or SSPs in other stages of development.

For Publication 408 changes, before circulating the draft changes further, the Specification Review Engineer will clear any modifications with the Originator and with the Specification Review Committee.

In response to the formal Step-One submission package, the Specification Review Engineer/CT Coordinator will issue the next sequential number, based on the publication's tracking chart, for the CT Review. The Originator will distribute the draft changes with Form OS-329 (CT) (see Appendix C, *Sample Exhibits for Clearance Transmittals*, for sample form). Refer to Section 2.0.D.1.a for specific instructions regarding internal and external reviews. Depending on the nature and extent of the proposed changes, a response time of three to four weeks (minimum) should be requested.

The Originator should work directly with the Specification Review Engineer/CT Coordinator to add the dates (sent and due) and relevant information into the appropriate tracking chart (i.e., Specification Database and Coordination Chart (SDCC)). The assigned tracking number for the proposed change (i.e., the CT number) will stay the same throughout the entire process. The Originating Bureau will maintain a file of all CTs returned including comments and resolutions.

After the Originator compiles and addresses the review comments (assume two to four weeks minimum) (see Appendix C, *Sample Exhibits for Clearance Transmittals*), the Originator will revise the draft changes. If any of the responses require major changes or are marked disapproved, the Originator will arrange a meeting with the responders to address their concerns. If the resulting revisions are substantial as determined by the Originator and the Specification Review Engineer/CT Coordinator, the draft changes should be recirculated as a Step-Two CT.

If revisions from the Step-One CT are minor and it has been determined that a Step-Two CT is not warranted, a revision of the draft changes for PennDOT publications or SSPs should be prepared and sent to FHWA for concurrence.

Once FHWA approval is received, a final draft of the changes should be forwarded to the Owning Bureau's Director (or designee), Attn: Specification Review Engineer/CT Coordinator for approval. If minor revisions from FHWA regarding the Step-One CT are received with their concurrence, a revision of the final draft of the changes should be prepared for approval. The Specification Review Engineer/CT Coordinator will add the date of the submission to the Bureau Director or designee onto the appropriate tracking chart. The Originator, Specification Review Engineer/CT Coordinator and FHWA will review and determine, based on complexity and feedback received, whether to proceed with the Step-Two CT process or to proceed for approval and implementation.

B. Step-Two CT.

1. Final Sign-Off Circulation (Formal Step-Two). The Originator will forward the final draft changes to the Owning Bureau's Director (or designee), Attn: Specification Review Engineer/CT Coordinator requesting a Step-Two CT (assume one to two weeks minimum). The change package should include:

- Information on why the change is necessary.
- Recommendation and justification for proposed format.
- A statement that all Step-One CT review comments have been received and resolved (see Appendix C, *Sample Exhibits for Clearance Transmittals*).
- Updated draft version of specification, SSP, or publication.
- A copy of the Step-One CT comment resolution matrix.
- A copy of revised design guidelines and drawings (depending on the nature of the proposed change).
- Usage Instructions (as needed).
- New Items (as needed).
- Draft Strike-off Letter (as needed).

The Originator or Specification Review Engineer (for Publication 408 and SSPs only) will review the draft changes for:

- Verifying that review comments from the Step-One CT were addressed.
- Conforming to proper language and format. As needed, the Publication Owner should be consulted to ensure consistency with the existing content.
- Ensuring there is no overlap or conflict with changes for PennDOT publications or SSPs in other stages of development.

For Publication 408 changes, before circulating the draft changes further, the Specification Review Engineer will clear any modifications with the Originator and with the Specification Review Committee.

The Originator should work directly with the Specification Review Engineer/CT Coordinator to prepare a final draft of the Step-Two CT, which, at a minimum, is sent for a final review to the individuals and organizations that provided comments via the Step-One Review. The OS-329 Form that is prepared for the Step-Two CT will instruct reviewers that another full scale review of the proposed revisions is NOT to be undertaken at this time, unless significant changes were made to the policy to resolve the Step-One review comments. Reviewers will be directed to review the Step-One comment response matrix and select areas of the revised policy document, as appropriate.

The due date for responding to the Step-Two CT will be two weeks (minimum). Whether the final draft of the changes is approved, disapproved, or modified, the CT form must be signed and returned to the Originator.

The Originator should work directly with the Specification Review Engineer/CT Coordinator to add the dates (sent and due) of the Final Sign-Off Circulation (Step-Two) onto the appropriate tracking chart.

If any of the responses require major changes or are marked disapproved, the Originator will arrange a meeting with the responders to address their concerns.

2. Approval and Implementation. Upon receipt of signed responses from the Step-Two CT, the Originator should work directly with the Specification Review Engineer/CT Coordinator to forward the final draft changes to FHWA for concurrence. Once FHWA approval is received, the final draft changes will be submitted to the Owning Bureau's Director (or designee) for approval prior to distribution and implementation (see Appendix C, *Sample Exhibits for Clearance Transmittals*). If any responses received from the Step-Two CT indicate modifications, the Originator will incorporate the minor changes prior to its submission.

The Originator should work directly with the Specification Review Engineer/CT Coordinator to add the date that the proposed change was sent for approval onto the appropriate tracking chart.

a. Change Package for Publications. Upon receipt of the signed and dated approval(s), the accumulated changes will be combined into a change package (see Section 2.1.B.1) along with a draft Transmittal Letter. The Transmittal Letter, bearing the change number and the effective date, will be submitted to the Owning Bureau's Director (or designee) for signature (on behalf of the Secretary of Transportation). Once the Transmittal Letter is signed, the Originator will coordinate with the Bureau of Office Services, Forms and Pubs Resource email account (RA-pdFormsandPubs@pa.gov) to place the publication on the Department's website. Once on the website, the Originator will issue a notification to internal and external users, as appropriate, that the change or new publication is available for use.

b. SSPs. Upon receipt of the signed and dated approval(s), an effective date will be assigned, and the SSP(s) will be issued along with changes to the appropriate SSP Index. A memorandum will be sent to the Districts of the revised SSP(s) and their effective date (see Appendix D, *Sample Exhibits for Publishing Specification Changes*).

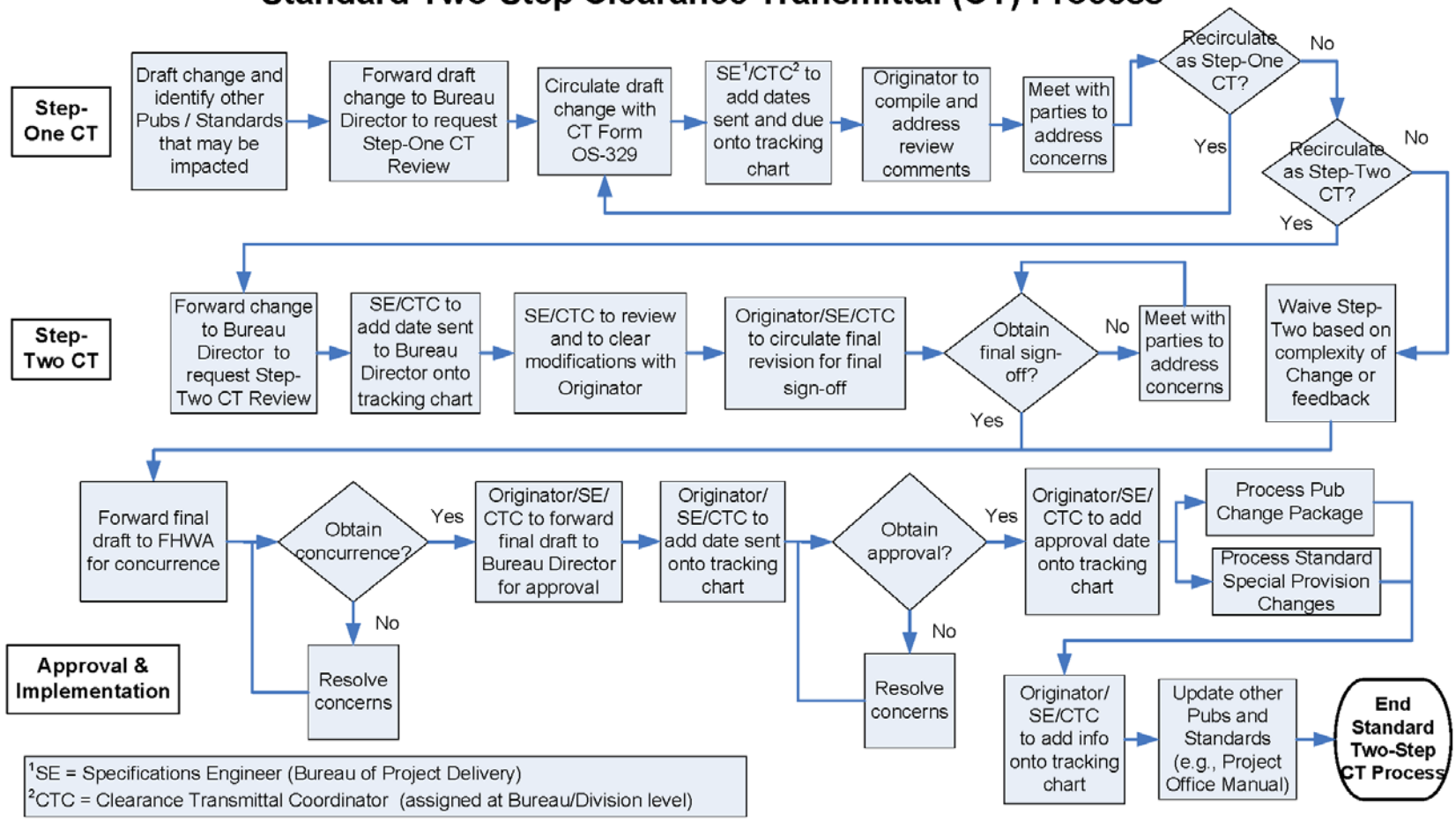
If necessary, a publication update should be issued by the Originator in coordination with the Specification Review Engineer to provide additional guidance and information about how the SSP should be implemented.

C. Publication 408 and SSPs Change Coordination. The Originator is responsible to coordinate with the Specification Review Committee (see Section 1.2) to process approved policy changes made in other Publications, Design Manuals, and/or Standard Drawings that may impact Publication 408, *Specifications* or SSPs. The Originator and Specification Review Committee will work together to determine: (1) what revisions are required; (2) how the revisions can be made (timing); and (3) whether the revisions will be issued as an official change to the Publication 408, *Specifications*.

The Specification Review Engineer is responsible to coordinate with the various Publication Owners to process approved policy changes made in Publication 408, *Specifications* that may impact other Publications, Design Manuals, and/or Standard Drawings. The Specification Review Engineer and the Publication Owner(s) will work together to determine: (1) what revisions are required; (2) how the revisions can be made (timing); and (3) whether the revisions will be issued as an official change to the identified policy document. The content of an official change should be arranged to ensure: (1) the changes are consistent with the established format of the affected Publications, Manuals, and/or Standard Drawings; (2) the changes may be directly incorporated into the affected Publications, Design Manuals, and/or Standard Drawings when an official change is issued and (3) the timing is consistent with the issuance and effective date of Publication 408, *Specifications* and the affected Publications, Manuals, and/or Standard Drawings.

D. Publications, Manuals, and Standards Change Coordination. The Originator is responsible to coordinate with the various Publication Owners to process approved policy changes made in any Publication, Design Manual, and/or Standard Drawing that may impact other Publications, Design Manuals, and/or Standard Drawings. The Originator and the Publication Owner(s) will work together to determine: (1) what revisions are required; (2) how the revisions can be made (timing); and (3) whether the revisions will be issued as an official change to the identified policy document. The content of an official change should be arranged to ensure: (1) the changes are consistent with the established format of the affected Publications, Manuals, and/or Standard Drawings; (2) the changes may be directly incorporated into the affected Publications, Design Manuals, and/or Standard Drawings when an official change is issued and (3) the timing is consistent with the issuance and effective date of Publication 408, *Specifications* and the affected Publications, Manuals, and/or Standard Drawings.

Figure 2.1
Standard Two-Step Clearance Transmittal (CT) Process



2.2 TASK FORCE CT PROCESS

The Task Force CT Process is an available option to expedite changes. It may be used when the change is initiated from a Task Force or a Task Force is formed specifically to draft changes that are very technical in nature. In either case, a Task Force typically includes members from PennDOT, FHWA, and industry. The Task Force CT process can be used for items that have statewide impact and require more industry input.

Figure 2.2 provides a flow chart of the Task Force CT Process. The sections below provide more detailed information about this process.

A. Step-One CT. The Task Force will develop draft changes. The Specification Review Engineer/CT Coordinator will issue the next sequential number, based on the publication's tracking chart, for the CT Review. The Task Force's Coordinator, acting as the change Originator within the Task Force, will then distribute the draft changes on Form OS-329 (Clearance Transmittal) (see Appendix C, *Sample Exhibits for Clearance Transmittals*). Refer to Section 2.0.D.2c for specific instructions regarding the external review. Depending on the nature and extent of the proposed change, a response time of three weeks (minimum) should be requested.

The Task Force's Coordinator should work directly with the Specification Review Engineer/CT Coordinator to add the dates (sent and due) and relevant information into the appropriate tracking chart. The assigned tracking number for the proposed change will stay the same throughout the entire process. The Originating Bureau will maintain a file of all CTs returned including comments and resolutions.

After the Task Force compiles and addresses the review comments (assume one to two weeks minimum), the Task Force will revise the draft changes. If the revisions are substantial, the draft changes should be recirculated as a Step-One CT.

The Task Force Coordinator working directly with the Specification Review Engineer/CT Coordinator will forward the final draft changes to FHWA for approval (assume one to two weeks minimum) prior to implementation (see Appendix C, *Sample Exhibits for Clearance Transmittals*).

If revisions from FHWA regarding the Step-One CT are minor, a revision of the final draft changes should be forwarded to the Bureau Director, Attn: Specification Review Engineer/CT Coordinator (see Section 2.0.B) for implementation.

The Specification Review Engineer/CT Coordinator will add the date of the submission to the Bureau Director or designee onto the appropriate tracking chart.

B. Approval and Implementation. The Task Force will forward the final draft changes approved by FHWA to the Owning Bureau's Director (or designee), Attn: Specification Review Engineer/CT Coordinator for approval and implementation (assume one week minimum). The change package should include:

- Information on why the change is necessary.
- Recommendation and justification for proposed format.
- A statement that all Step-One CT review comments have been received and resolved (see Appendix C, *Sample Exhibits for Clearance Transmittals*).
- Updated draft version of specification, SSP, or publication.
- A copy of the Step-One CT comment resolution matrix.
- A copy of revised design guidelines and drawings (depending on the nature of the proposed change).
- Usage Instructions (as needed).

- New Items (as needed).
- Draft Strike-off Letter (as needed).

If any responses received indicate modifications, the Task Force Coordinator working with the Specification Review Engineer/CT Coordinator will incorporate the minor changes prior to its submission to FHWA.

The Task Force Coordinator should work directly with the Specification Review Engineer/CT Coordinator to add the date that the proposed change was sent for approval onto the appropriate tracking chart.

1. Change Package for Publications. Upon receipt of the signed and dated approval(s), the accumulated changes will be combined into a change package (see Section 2.2.B) along with a draft Transmittal Letter. The Transmittal Letter, bearing the change number and the effective date, will be submitted to the Owning Bureau's Director (or designee) for signature (on behalf of the Secretary of Transportation). Once the Transmittal Letter is signed, the Task Force Coordinator will coordinate with the Bureau of Office Services, Forms and Pubs Resource email account (RA-pdFormsandPubs@pa.gov) to place the publication on the Department's website. Once on the website, the Task Force Coordinator will release the change or new publication.

The Task Force Coordinator should work directly with the Specification Review Engineer/CT Coordinator to add the date the proposed change was approved onto the appropriate tracking chart.

2. SSPs. Upon receipt of a signed and dated approval(s), an effective date will be assigned, and the SSP(s) will be issued along with changes to the SSP Index. A memorandum will be sent to the Districts of the revised SSP(s) and their effective date.

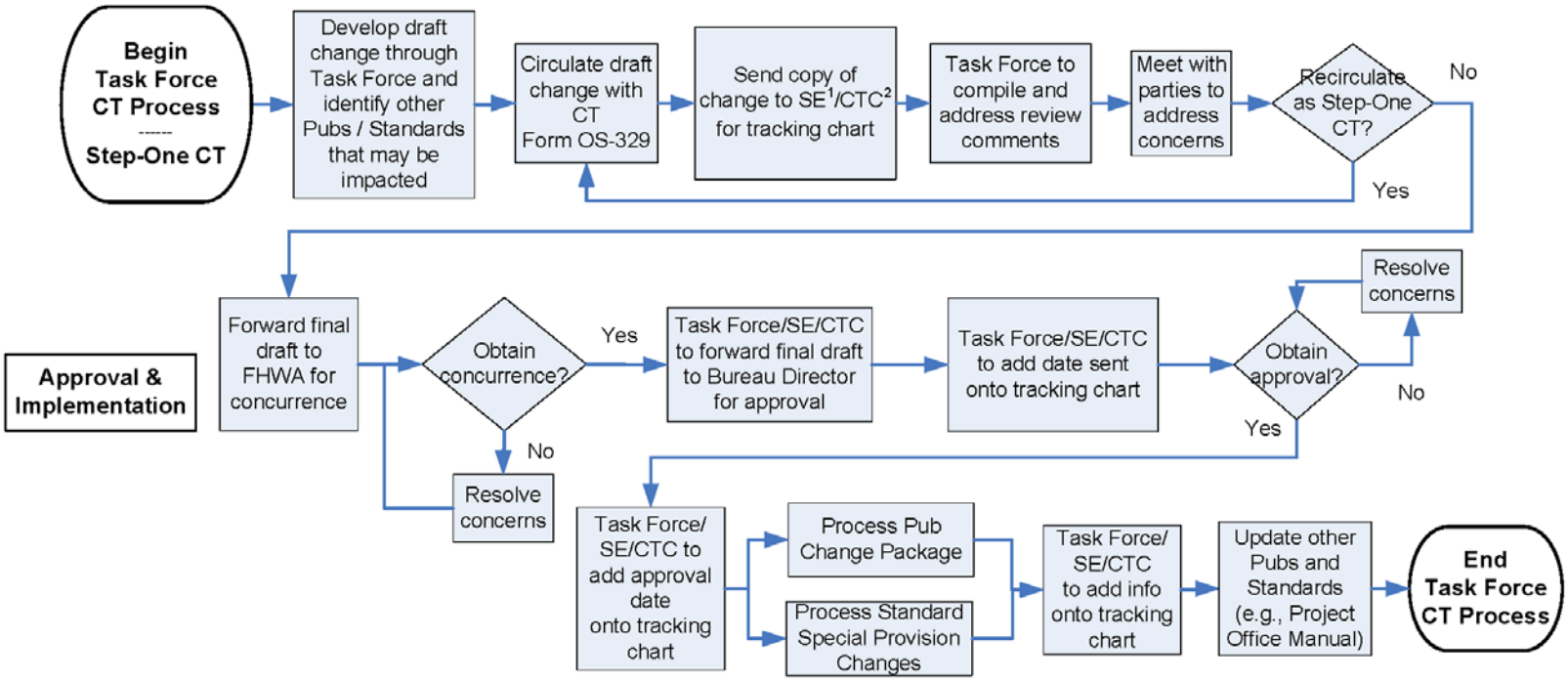
If necessary, a publication update should be issued by the Task Force Coordinator in coordination with the Specification Review Engineer to provide additional guidance and information about how the SSP should be implemented.

C. Publication 408 and SSPs Change Coordination. The Task Force Coordinator is responsible to coordinate with the Specification Review Committee (see Section 1.2) to process approved policy changes made in other Publications, Design Manuals, and/or Standard Drawings that may impact Publication 408, *Specifications* or SSPs. The Task Force Coordinator and Specification Review Committee will work together to determine: (1) what revisions are required; (2) how the revisions can be made (timing); and (3) whether the revisions will be issued as an official change to the Publication 408, *Specifications*.

The Specification Review Engineer is responsible to coordinate with the various Publication Owners to process approved policy changes made in Publication 408, *Specifications* that may impact other Publications, Design Manuals, and/or Standard Drawings. The Specification Review Engineer and the Publication Owner(s) will work together to determine: (1) what revisions are required; (2) how the revisions can be made (timing); and (3) whether the revisions will be issued as an official change to the identified policy document. The content of an official change should be arranged to ensure: (1) the changes are consistent with the established format of the affected Publications, Manuals, and/or Standard Drawings; (2) the changes may be directly incorporated into the affected Publications, Design Manuals, and/or Standard Drawings when an official change is issued and (3) the timing is consistent with the issuance and effective date of Publication 408, *Specifications* and the affected Publications, Manuals, and/or Standard Drawings.

D. Publications, Manuals, and Standards Change Coordination. The Task Force Coordinator is responsible to coordinate with the various Publication Owners to process approved policy changes made in any Publication, Design Manual, and/or Standard Drawing that may impact other Publications, Design Manuals, and/or Standard Drawings. The Task Force Coordinator and the Publication Owner(s) will work together to determine: (1) what revisions are required; (2) how the revisions can be made (timing); and (3) whether the revisions will be issued as an official change to the identified policy document. The content of an official change should be arranged to ensure: (1) the changes are consistent with the established format of the affected Publications, Manuals, and/or Standard Drawings; (2) the changes may be directly incorporated into the affected Publications, Design Manuals, and/or Standard Drawings when an official change is issued and (3) the timing is consistent with the issuance and effective date of Publication 408, *Specifications* and the affected Publications, Manuals, and/or Standard Drawings.

Figure 2.2
Task Force Clearance Transmittal (CT) Process



[1]SE = Specifications Engineer (Bureau of Project Delivery)
[2]CTC = Clearance Transmittal Coordinator (assigned at Bureau/Division level)

2.3 PRO-TEAM CT PROCESS

The Pro-Team CT Process is an available option to expedite changes. It may be used on a limited basis and requires prior approval from the Bureau Director or designee.

The change for PennDOT publications involves a Pro-Team (i.e., a small group of experts) when the change needs immediate implementation due to reasons such as material failure, or other time-sensitive issues.

Figure 2.3 provides a flow chart of the Pro-Team CT Process. The sections below provide more detailed information about this process.

A. Modified Step-One CT. A Pro-Team is formed and develops draft changes for PennDOT publications or SSPs. The Pro-Team's Coordinator, acting as the change Originator within the Pro-Team, will then seek the Bureau Director's approval (or designee) to distribute the draft changes on a Modified Step-One CT Review to the Pro-Team members and a select group of SMEs identified by the Bureau Director or designee on Form OS-329 (Clearance Transmittal) (see Appendix C, *Sample Exhibits for Clearance Transmittals*). Before the Form OS-329 can be distributed, the Specification Review Engineer/CT Coordinator will issue the next sequential number, based on the publication's tracking chart. Depending on the nature and extent of the proposed change, a response time of one to two weeks minimum should be requested.

The Pro-Team's Coordinator should work directly with the Specification Review Engineer/CT Coordinator to add the dates (sent and due) and relevant information into the appropriate tracking chart. The assigned tracking number for the proposed change will stay the same throughout the entire process. The Originating Bureau will maintain a file of all CTs returned including comments and resolutions.

After the review comments are compiled and addressed (assume one to two weeks minimum), the Pro-Team will revise the draft changes. If the revisions are substantial as determined by the Pro-Team Coordinator and the Specification Review Engineer/CT Coordinator, the draft changes should be recirculated as a Modified Step-One CT.

The Pro-Team Coordinator should work directly with the Specification Review Engineer/CT Coordinator to forward the final draft changes to FHWA for approval (assume one to two weeks minimum) prior to implementation (see Appendix C, *Sample Exhibits for Clearance Transmittals*).

If revisions from FHWA regarding the Modified Step-One CT are minor, a revision of the draft changes should be forwarded to the Bureau Director, Attn: Specification Review Engineer/CT Coordinator (see Section 2.0.B) for implementation.

The Specification Review Engineer/CT Coordinator will add the date of the submission to the Bureau Director or designee onto the appropriate tracking chart.

B. Approval and Implementation. The Pro-Team will forward the final draft changes approved by FHWA to the Owning Bureau's Director (or designee), Attn: Specification Review Engineer/CT Coordinator for approval and implementation (assume one week minimum). The change package should include:

- Information on why the change is necessary.
- Recommendation and justification for proposed format.
- A statement that all review comments have been received and resolved (see Appendix C, *Sample Exhibits for Clearance Transmittals*).
- A copy of the Modified Step-One CT comment resolution matrix.
- A copy of revised design guidelines and drawings (depending on the nature of the proposed change).
- Usage Instructions (as needed).

- New Items (as needed).
- Draft Strike-off Letter (as needed).

The Pro-Team's Coordinator should work directly with the Specification Review Engineer/CT Coordinator to forward the final draft changes to FHWA for approval (assume one week minimum) prior to distribution and implementation. If any responses received indicate modifications, the Pro-Team's Coordinator working with the Specification Review Engineer/CT Coordinator will incorporate the minor changes prior to its submission.

The Pro-Team's Coordinator should work directly with the Specification Review Engineer/CT Coordinator to add the date that the proposed change was sent for approval onto the appropriate tracking chart.

1. Change Packages for Publications. Upon receipt of the signed and dated approval(s), the accumulated changes will be combined into a change package (see Section 2.3.B) along with a draft Transmittal Letter. The Transmittal Letter, bearing the change number and the effective date, will be submitted to the Owning Bureau's Director (or designee) for signature (on behalf of the Secretary of Transportation). Once the Transmittal Letter is signed, the Pro-Team's Coordinator will coordinate with the Bureau of Office Services, Forms and Pubs Resource email account (RA-pdFormsandPubs@pa.gov) to place the publication on the Department's website. Once on the website, the Pro-Team's Coordinator will release the change or new publication.

The Pro-Team's Coordinator should work directly with the Specification Review Engineer/CT Coordinator to add the date that the proposed change was approved onto the appropriate tracking chart.

2. SSPs. Upon receipt of a signed and dated approval(s), an effective date will be assigned, and the SSPs will be issued along with changes to the appropriate SSPs Index. A memorandum will be sent to the Districts and Bureaus of the revised SSPs and their effective date.

If necessary, a publication update should be issued by the Pro-Team's Coordinator in coordination with the Specification Review Engineer to provide additional guidance and information about how the SSP should be implemented.

C. Publication 408 and SSPs Change Coordination. The Pro-Team's Coordinator is responsible to coordinate with the Specification Review Committee (see Section 1.2) to process approved policy changes made in other Publications, Design Manuals, and/or Standard Drawings that may impact Publication 408, *Specifications* or SSPs. The Pro-Team's Coordinator and Specification Review Committee will work together to determine: (1) what revisions are required; (2) how the revisions can be made (timing); and (3) whether the revisions will be issued as an official change to the Publication 408, *Specifications*.

The Specification Review Engineer is responsible to coordinate with the various Publication Owners to process approved policy changes made in Publication 408, *Specifications* that may impact other Publications, Design Manuals, and/or Standard Drawings. The Specification Review Engineer and the Publication Owner(s) will work together to determine: (1) what revisions are required; (2) how the revisions can be made (timing); and (3) whether the revisions will be issued as an official change to the identified policy document. The content of an official change should be arranged to ensure: (1) the changes are consistent with the established format of the affected Publications, Manuals, and/or Standard Drawings; (2) the changes may be directly incorporated into the affected Publications, Design Manuals, and/or Standard Drawings when an official change is issued and (3) the timing is consistent with the issuance and effective date of Publication 408, *Specifications* and the affected Publications, Manuals, and/or Standard Drawings.

D. Publications, Manuals, and Standards Change Coordination. The Pro-Team's Coordinator is responsible to coordinate with the various Publication Owners to process approved policy changes made in any Publication, Design Manual, and/or Standard Drawing that may impact other Publications, Design Manuals, and/or Standard Drawings. The Pro-Team's Coordinator and the Publication Owner(s) will work together to determine: (1) what revisions are required; (2) how the revisions can be made (timing); and (3) whether the revisions will be issued as an official change to the identified policy document. The content of an official change should be arranged to ensure: (1) the changes are consistent with the established format of the affected Publications, Manuals, and/or Standard

Drawings; (2) the changes may be directly incorporated into the affected Publications, Design Manuals, and/or Standard Drawings when an official change is issued and (3) the timing is consistent with the issuance and effective date of Publication 408, *Specifications* and the affected Publications, Manuals, and/or Standard Drawings.

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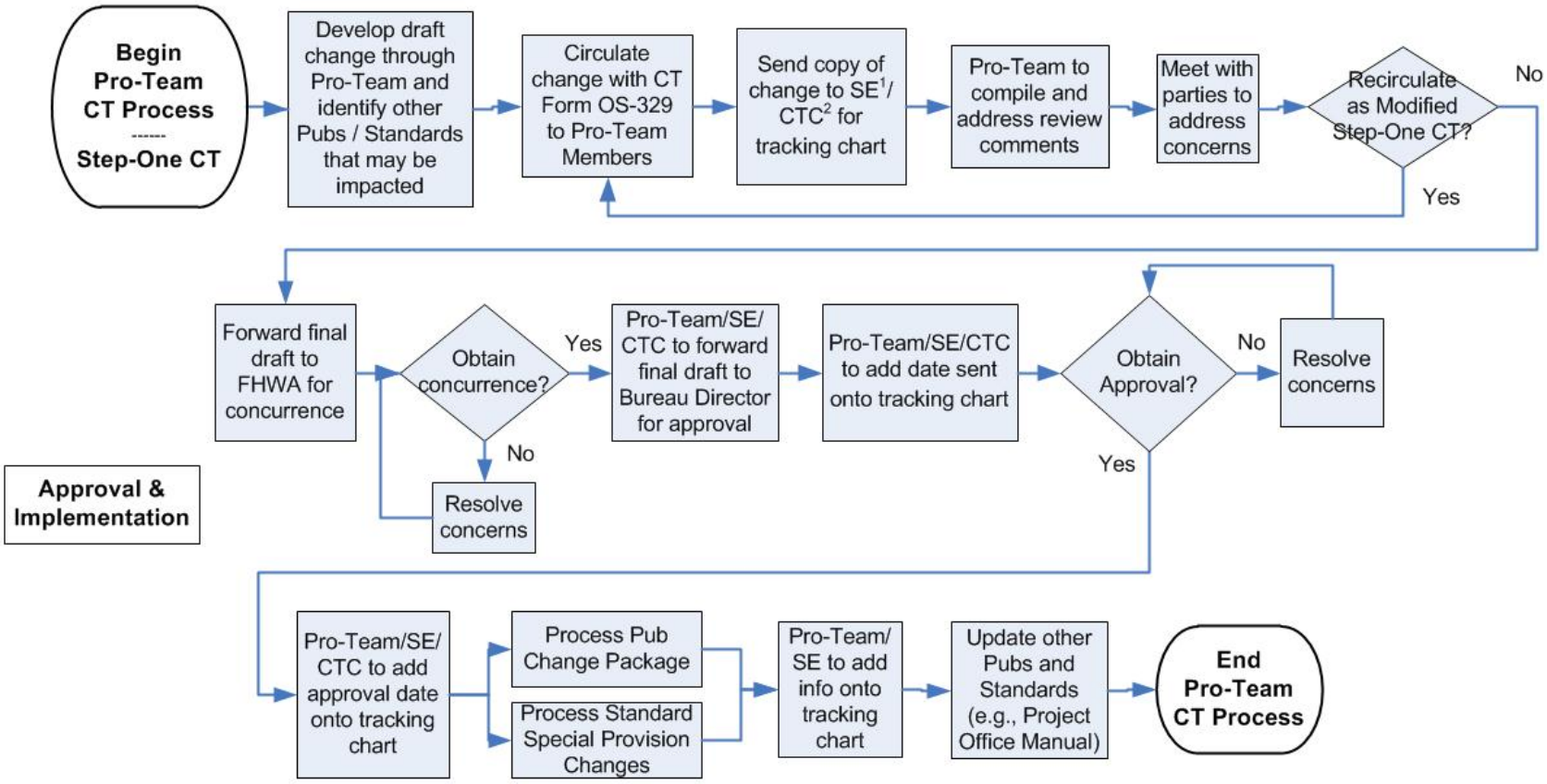
Figure 2.3
Pro-Team Clearance Transmittal (CT) Process



[1]SE = Specifications Engineer (Bureau of Project Delivery)
[2]CTC = Clearance Transmittal Coordinator (assigned at Bureau/Division level)

2.4 FHWA REVIEW AND APPROVAL OF REVISIONS

A. General. Upon the receipt of CT Review comments and the resolution of all related comments and concerns, the Specification Review Unit (for Publication 408 and SSPs changes) or Originator (for all other publications/manuals changes) will request FHWA review and approval of the revision (see Sections 2.1.B, 2.2.B, and 2.3.B). This procedure is the same for Changes to Publications and the SSPs. When issues evolve requiring a return of the initiative back to the Originator for resolution, a letter must be sent to the Bureau Director or designee requesting FHWA concurrence, once all matters have been resolved by the Originator. In accordance with the FHWA/PennDOT Stewardship & Oversight Agreement, Section V. *Standards, Specifications, and Policies*, PennDOT agrees that any revision or additions to PennDOT publications or SSPs affecting the development or administration of Federally-funded projects (including non-NHS) will be submitted, with a formal Transmittal Letter, to the FHWA Division Office for approval.

B. Procedure. The Specification Review Engineer/CT Coordinator, working with the Originator, will complete draft form (see Appendix C, Exhibit C-6) to be sent to FHWA. These letters, modified as appropriate, will be accompanied by a copy of the applicable publication/section to be revised, with changes indicated. Refer to Appendix C, *Sample Exhibits for Clearance Transmittals*, for sample letters.

Appendix C, *Sample Exhibits for Clearance Transmittals*, also contains Exhibits of FYI (For Your Information) letters that are sent to notify FHWA and APC that a minor change is being made to correct typographical or similar errors.

2.5 PennDOT ISSUANCE OF CHANGES TO PUBLICATIONS

A. General. Publications should be reviewed on a semiannual basis with regular Changes issued as needed. Changes to publications are made using a "New Page" format, with page numbers being renumbered as needed. Numbered Changes consist of a Transmittal Letter with instructions for posting of revisions, an updated version of an Index of Changes, and the "New Pages" containing or constituting the revisions. These "New Pages" will be available to hardcopy subscribers and will be linked electronically as a bookmark in the internet version. All transmittal letters associated with the Numbered Changes will also be filed electronically in sequential order on the PennDOT website. The transmittal letters detail the policy revisions made effective with the Numbered Change being issued. Electronically, the Numbered Changes are part of the publication and the publication is posted as a whole publication for the most current Numbered Change. This allows user to perform word searches in an entire publication.

B. Sequence of Activities. Following the receipt of FHWA approval of the proposed change to the publication(s), actions will then be taken to officially issue and implement it. These include:

1. Prepare the Change in a "New Page" Format.

2. Prepare a Numbered Change. This will include an Index of Changes and all new pages associated with the change**.**

3. Prepare a Transmittal Letter to Officially Establish the Change. Form OS-299 (Transmittal Letter) officially establishes the change to publication(s), effective dates, and its contents.

4. Maintain and Update Tracking Records and Charts. Log entries on the appropriate tracking chart used by the Publication Owner / PennDOT Specification Review Committee in coordinating its activities.

Refer to Appendix D, *Sample Exhibits for Publishing Specification Changes*, with sample exhibits for publishing changes for PennDOT Specifications.

2.6 PennDOT ISSUANCE OF SSPs

A. General. SSPs, through their FHWA acceptance, are coordinated and administered in the same manner as Changes to Publications. However, in their issuance and implementation, the process is different, as described in this section.

B. Sequence of Activities. The process of issuing and implementing Standard and Provisional Special Provisions is primarily database oriented and thus is more streamlined than the actions required issuing and implementing changes to publications. They, however, do have an internet component on the PennDOT ECMS website. In summary, this involves:

1. Updating SSP Indices and Provisions. As changes occur to SSPs, the associated indices and individual Special Provisions will be updated by the Specification Review Unit.

The Specification Review Unit will enter a new SSP or a change for an existing SSP into ECMS. Revisions will occur to the indices and their associated contents. Changes and updates to SSPs may be identified by new versions (example: A to B) or by their "From" dates. As SSP entries are revised, previous versions will be retained in their original format with an appropriate notation to indicate when they ended by their effective "To" dates. Thus, only new versions will be created while the old versions will only be ended. Therefore, it will always be possible to determine what SSPs were in effect at a certain point in time. The Specification Review Unit will work with the Originator on establishing the "To" dates and instructions for usage so that the SSP is used for the special conditions it was intended. See Figure 2.4 which shows all the SSP components.

Within ECMS, SSPs are identified by status in four different categories:

- Active Status. SSPs in active status are currently available for use on projects. They have an "Effective From" date in ECMS that occurs in the past and a "To" date (an end date) that occurs in the future. They can be incorporated onto projects that will be let between those dates.

- Approved Status. SSPs in approved status will be available for use on projects that will be let after their "Effective From" date is reached. Effective dates are typically six weeks after the approval date. (In ECMS, an SSP goes from Approved to Active automatically by a system update when the "Effective From" date is reached and exceeded.) They can be incorporated onto projects that will be let between their "Effective From" date and "To" date.

- Pending Status. SSPs in pending status are not available for use and cannot be placed on projects for use. This status allows for the incorporation of an SSP into ECMS until FHWA approves the SSP and the Specification Review Unit manually approves it. (In ECMS, for an SSP to go from Pending to Approved, an approval button must be manually clicked.)

- Inactive Status. SSPs in inactive status are no longer available for use. They have a "To" date that has been met and occurs in the past. (In ECMS, for an SSP to go from Active to Inactive occurs automatically by a system update when the "To" date is reached.)

These SSPs are materials/products that cannot be made Standard because: (1) the Department has limited experience with their use; (2) they require special conditions for use; or (3) they need to be edited to incorporate project specific information.

Following is an explanation of the seven indices relating to the series of SSPs to Publication 408, *Specifications*, found in ECMS:

- C Index (Changes to Specifications). The SSPs in the C Index are interim changes to the Publication 408, *Specifications*.

- D Index (Design Build Related). The SSPs in the D Index are the Department's Design Build Special Provisions.

- G Index (General Provisions Related). The SSPs in the G Index are related to the General Provisions found in Publication 408, *Specifications*, Section 100. Section 100 presents the Department's legal information (contract terms and conditions) and what is expected of the Contractor.

- I Index (Item Related). The SSPs in the I Index require an item number because they have a Measurement and Payment Section along with the other subsections (Description, Material, and Construction).

- N Index (Non-Pay Item Related). The SSPs in the N Index do not require a payment item. They also do not fall into any of the requirements for the other indices.

- P Index (Provisional Specification Related). The SSPs in the P Index are SSPs that the Department has limited experience with using. Typically, the Department would like to use these SSPs on a limited basis during a monitoring period of approximately 5 years, allowing for the option that they can be removed at any time. Also, these SSPs require "Design Use Guidelines" to provide additional information on when and how these SSPs should be used. After the monitoring period is over, these SSPs will be re-evaluated and either placed in Publication 408, *Specifications*, or in the appropriate index (usually, either the S Index or the I Index in which they are already written in that format).

- S Index (Section Related). The SSPs in the S Index directly revise a Section, part of a Section, or establish a new Section (without a Measurement and Payment section involved).

2. Preparation and Distribution of a SSP Change Memo. The Specification Review Engineer will prepare a SSP change memo in Microsoft Word format and distribute the memo, by email, to all District Contract Management Engineers. The memo is to note the SSP's effective date and end date. The District Contract Management Engineers, in turn, will officially notify key individuals and offices that SSP revisions have been made. (See Appendix D, *Sample Exhibits for Publishing Specification Changes*).

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FIGURE 2.4
SAMPLE OF STANDARD SPECIAL PROVISION (SSP) FROM ECMS

STANDARD SPECIAL PROVISION

Detail

Index or Category: General Provisions Related **Status:** Active
Sequence ID: 101 **District:** CO
Version: F
Provision Name: a00101 GOVERNING SPECIFICATIONS AND APPLICABLE DESIGNATED SPECIAL PROVISIONS

Usage Information

Measurement: Dual
Edit Body: Yes **Include on all projects:** Yes
Edit Header: No **Include on all federally funded projects:** No
Edit Project Specific Details: No **Include on all 100% State funded projects:** No
Instructions for Usage: Use on all projects. Requires data entries in the Provision Body to indicate the specifications/provisions and percentages that apply to the bid documents. Check the ones that are applicable.

For use on projects immediately (as of July 18, 2014) until October 2, 2014.
Effective From: 07/18/2014
To: 10/02/2014

Associated Items

Item Number	Description
No records found.	

Header

GOVERNING SPECIFICATIONS AND APPLICABLE DESIGNATED SPECIAL PROVISIONS

Provision Body

I. GOVERNING SPECIFICATIONS. This bid proposal is made under, subject to, and governed by:

Specifications 408/20__, (***fill in Publication Year, Edition or Change No., and effective date of specs***) of the Pennsylvania Department of Transportation. Within these Specifications where dual measurement and tabular options are presented (***fill in with "Metric" or "English"***) standards apply.

II. APPLICABLE DESIGNATED SPECIAL PROVISIONS. The following Designated Special Provisions are found in Appendix C to the above Governing Specifications. Those that apply to this bid proposal are preceded with a check (i.e., "***X***"). Goals, minimum levels of participation, or other project specific requirements associated with these documents are also established where applicable:

(_) **DSP1.** Offset Provision for State Contracts.

(_) **DSP2.** Contractor Responsibility Provisions.

(_) **DSP3.** Provisions for State Contracts Concerning the Americans with Disabilities Act.

FIGURE 2.4 (CONTINUED)
SAMPLE OF STANDARD SPECIAL PROVISION (SSP) FROM ECMS

(__) DSP4. Diverse Business (DB) Requirements for Non-Federally Funded Construction Projects.

(__) DSP7. Disadvantaged Business Enterprise (DBE) Requirements for Federally-Funded Construction Projects. In conjunction with this contract a goal of (***fill in***) % of the original contract amount has been established.

(__) DSP8. F.A.R. - Required Contract Provisions Federal-Aid Construction Contracts FHWA-1273 (Revised May 1, 2012). Also attached to the Proposal/Contract.

(__) DSP9. Special Supplement - Anti-Pollution Measures - August 26, 1999.

(__) DSP10. Nondiscrimination/Sexual Harassment Clause.

(__) DSP11. Contractor Integrity Provisions.

(__) DSP12. Executive Order 11246, with Appendix A and B.

Project Specific Details

Audit Information

Created By	Created On	Modified By	Modified On
Nikki L Krise/PennDOT	04/03/2014 10:21:59 AM	Corey A Notarangelo/PennDOT	07/23/2014 02:43:37 PM

CHAPTER 3

ADMINISTRATIVE PROCEDURES FOR REVISIONS TO THE CONSTRUCTION ITEMS CATALOG

3.0 GENERAL

A. Scope. The procedures in this chapter apply to all proposed Construction Items Catalog revisions, to the PennDOT's Engineering and Construction Management System (ECMS) and subsequently are reflected in Publication 7, *Construction Items Catalog*.

B. The Process. The Bureau of Project Delivery (BOPD), Specification Review Unit has overall responsibility for coordinating all additions, deletions and changes to Standard Construction Items and their characteristics within the ECMS – Master Items. The BOPD, Project Schedules, Specifications and Constructability Section and Contract Management Section, have coordinating responsibility to assign appropriate construction-related ECMS data fields, as outlined in this Chapter. Once changes are approved and made, the Specification Review Unit implements semiannual changes to Publication 7, *Construction Items Catalog* on the internet and in ECMS's Master Items Catalog. Changes to the Master Items Catalog are coordinated with PennDOT's District 3-0 CADD Support Unit for updating PennDOT's AutoTAB software.

3.1 PROCEDURAL FLOW

A. Changes to the ECMS - Master Items. The Specification Review Unit will accomplish the following in making changes to the Master Items Catalog:

1. Delete an Item. When construction items are no longer available for use, the Specification Review Unit enters the end date in ECMS – Master Items in the "To Date" field. On this date, the item will go from Active Status to Inactive Status. ECMS will no longer allow the item to be used on a project that the let date is past the item's "To Date" field.

2. Add a New Item. When a new item is required to be added in ECMS, the Specification Review Unit will enter the following data into ECMS:

a. General. (See Figure 3.1)

(1) Item Number. This is an eight (8) digit number sequence, whose first four (4) digits relate to its associated Section within Publication 408, *Specifications*. In using this numbering system, the user can interpret its relationship to Sections within Publication 408, *Specifications*. For example, Item Number 0204-0001 relates to Section 204 and Item Number 1005-0001 to Section 1005.

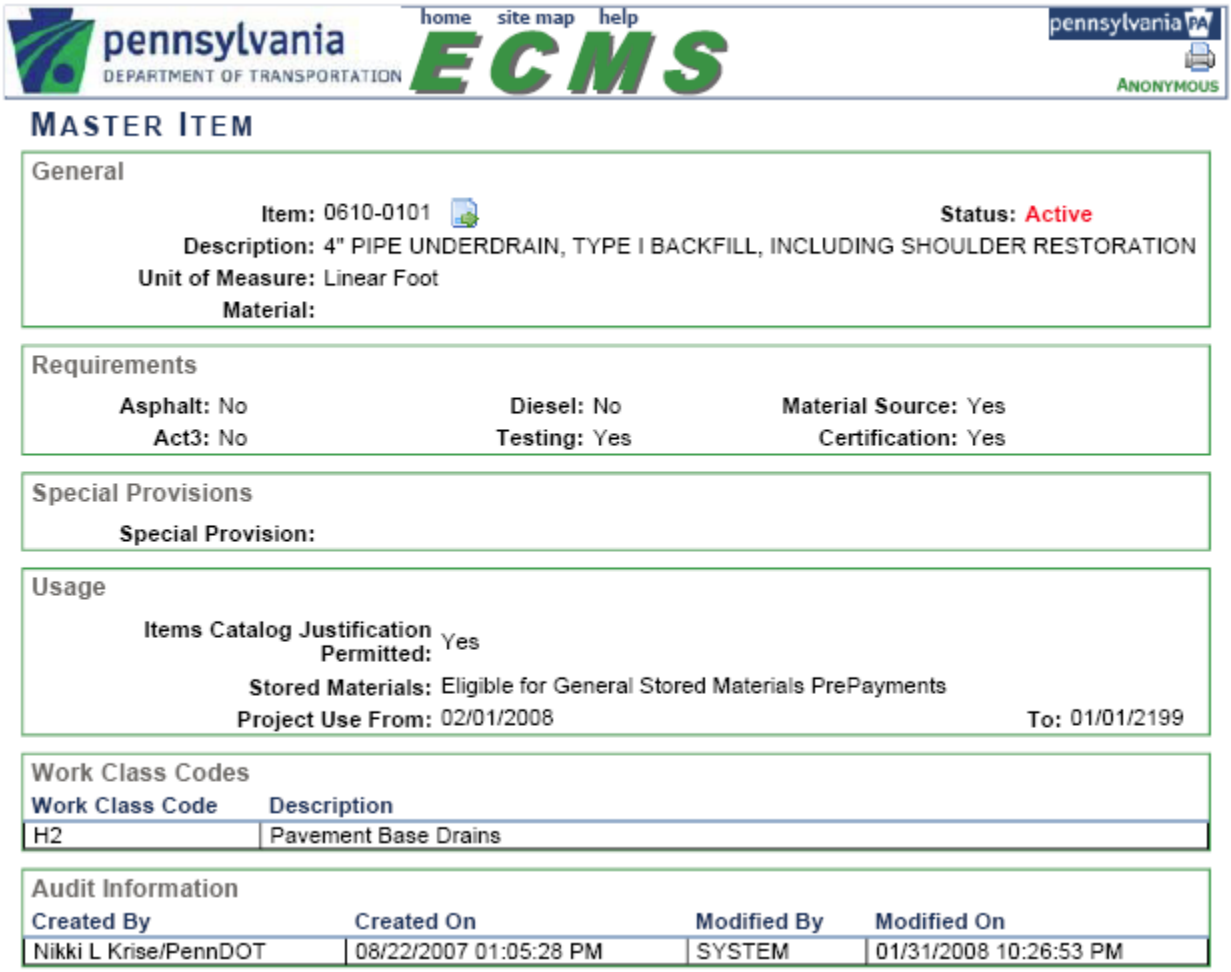
The last four digits (digit numbers 5 to 8) are usually random (i.e., have no particular meaning). They are based on what is available (since every standard item is unique and cannot be reused once it has been ended/deleted). Every effort is made to keep "like" items grouped together. Publication 408, Appendix D, *Guidelines for Item Number Identification and Data***,** contains tables that give specific descriptions that correspond to each of the last four digits for Sections 309, 316, 409, 419 and 450.

(2) Unit of Measure. The abbreviations used to indicate the unit of measure. This is how the item of work will be measured and paid. It corresponds with the unit given in the Measurement and Payment of the individual Sections.

(3) Description. The Construction Item Description is a short description for the item of work.

(4) Material Code. The default in ECMS is blank; this can be toggled to either aggregate or bituminous if applicable.

FIGURE 3.1
SCREEN SHOT OF ECMS MASTER ITEM



b. Requirements.

(1) Asphalt. Select "Y" for YES, "N" for NO (one or the other needs to be selected) for items of work eligible for asphalt price adjustments as specified in Publication 408, Section 110.04.

(2) Diesel. Select "Y" for YES, "N" for NO (one or the other needs to be selected) for items of work eligible for diesel price adjustments (Publication 408, Section 110.12).

(3) Material Source. Select "Y" for YES, "N" for NO (one or the other needs to be selected) if the material supplier must be identified to PennDOT.

(4) Act 3. Select "Y" for YES, "N" for NO (one or the other needs to be selected) if the item of work is required to follow the Buy America Act.

(5) Testing. Select "Y" for YES, "N" for NO (one or the other needs to be selected) if the item of work requires testing as per Publication 408, *Specifications*, or another Publication.

(6) Certification. Select "Y" for YES, "N" for NO (one or the other needs to be selected) if the item of work requires the material to be certified.

c. Special Provision. If applicable, the Specifications Engineer can associate the item of work to a SSP. ECMS will create an error message if the item is included in a project and the SSP is not or vice versa.

d. Usage.

(1) Items Catalog Justification Permitted. Select "Y" for YES, "N" for NO (one or the other needs to be selected) if the ECMS price history may be used to justify the agreed upon unit price for an Extra Work item.

(2) Stored Materials. Select if the item of work is eligible for stored material payments.

(3) Project From Date. The "From Date" corresponds to let dates for a project. The "From Date" is when the item became/becomes active. The dates, for the most part, should correspond with the effective date of the Publication 408 Numbered Change.

(4) Project To Date. The "To Date" corresponds to let dates for a project. The "To Date" is when the item became/becomes inactive. The dates, for the most part, should correspond with the effective date of the Publication 408 Numbered Change.

e. Work Class Codes. Assign a minimum one work class code to the item of work in accordance with PennDOT's prequalification code. Assigning the work class codes may require coordinated effort with the Prequalification Officer (BOPD).

3. ECMS Master Items Statuses. This field displays the status of the Master Items. Figure 3.2 provides a typical example (screen shot) of how the ECMS Master Items would appear.

Within ECMS, Master Items are identified by status in four different categories:

- Active Status. ECMS Master Items in active status are currently available for use on projects. They have a "Use From" date in ECMS that occurs in the past and a "Use To" date (an end date) that occurs in the future. They can be incorporated onto projects that will be let between those dates. Only items with a status of Active can be viewed by all users and added to a Design Items list.

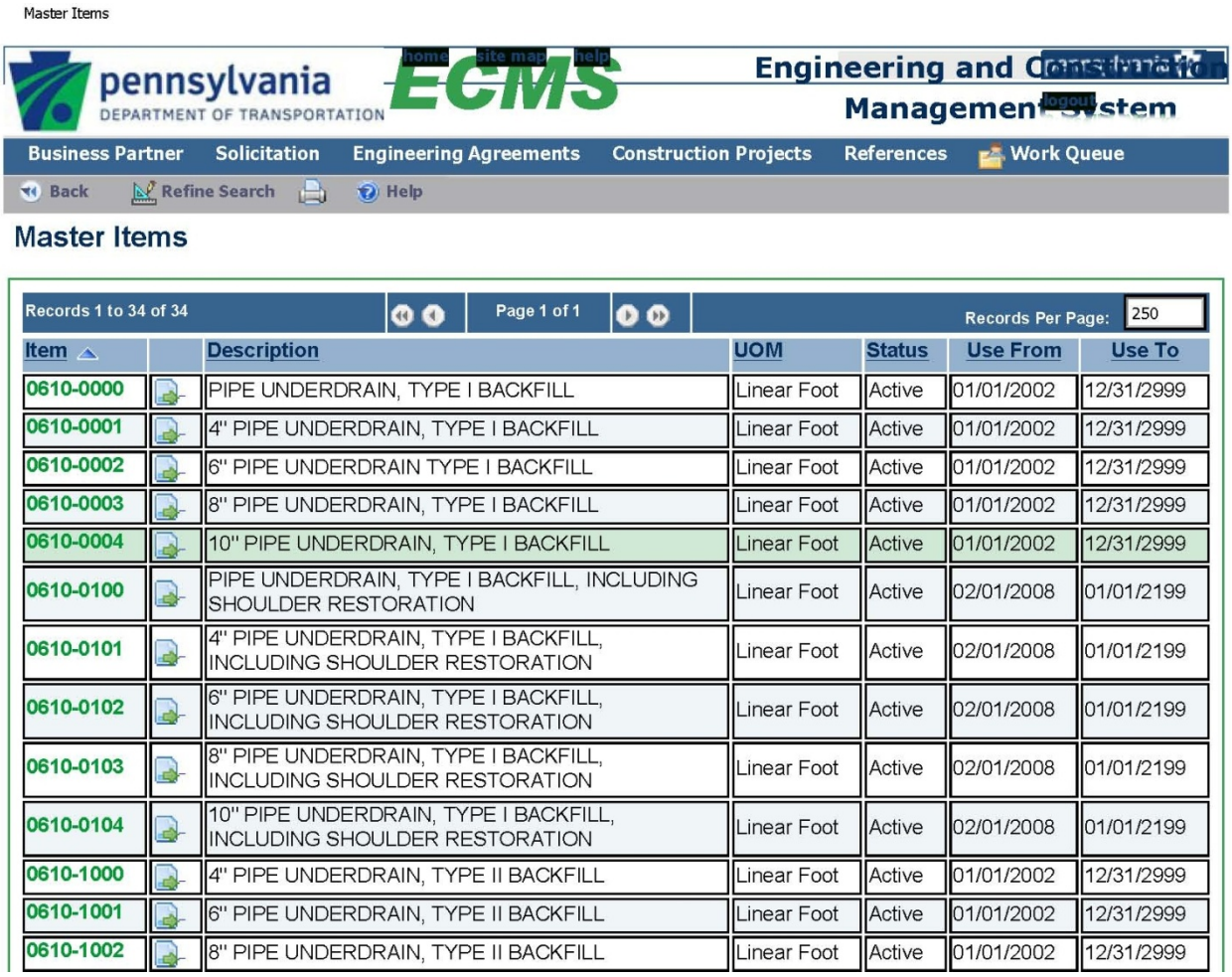
- Approved Status. ECMS Master Items in approved status will be available for use on projects that will be let after their "Use From" date is reached. (In ECMS, a Master Item goes from Approved to Active occurs automatically by a system update when the "Use From" date is reached and exceeded.)

- Pending Status. ECMS Master Items in pending status are not available for use and cannot be placed on projects for use. This status allows for the incorporation of a Master Item into ECMS until the Specification Review Unit manually approves it. (In ECMS, for a Master Item to go from Pending to Approved, an approval button must be manually clicked.)

- Inactive Status. ECMS Master Items in inactive status are no longer available for use. They have a "Use To" date that has been met and occurs in the past. (In ECMS, a Master Item to go from Active to Inactive occurs automatically by a system update when the "Use To" date is reached.)

If the status is Pending, Approved, or Inactive, the master item may be viewed but may not be selected for any Project. A batch program is run nightly to update (to Active status) all Approved items with the Use From date equal to the current date.

FIGURE 3.2
SCREEN SHOT OF ECMS MASTER ITEMS LISTING



Item		Description	UOM	Status	Use From	Use To
0610-0000		PIPE UNDERDRAIN, TYPE I BACKFILL	Linear Foot	Active	01/01/2002	12/31/2999
0610-0001		4" PIPE UNDERDRAIN, TYPE I BACKFILL	Linear Foot	Active	01/01/2002	12/31/2999
0610-0002		6" PIPE UNDERDRAIN TYPE I BACKFILL	Linear Foot	Active	01/01/2002	12/31/2999
0610-0003		8" PIPE UNDERDRAIN, TYPE I BACKFILL	Linear Foot	Active	01/01/2002	12/31/2999
0610-0004		10" PIPE UNDERDRAIN, TYPE I BACKFILL	Linear Foot	Active	01/01/2002	12/31/2999
0610-0100		PIPE UNDERDRAIN, TYPE I BACKFILL, INCLUDING SHOULDER RESTORATION	Linear Foot	Active	02/01/2008	01/01/2199
0610-0101		4" PIPE UNDERDRAIN, TYPE I BACKFILL, INCLUDING SHOULDER RESTORATION	Linear Foot	Active	02/01/2008	01/01/2199
0610-0102		6" PIPE UNDERDRAIN, TYPE I BACKFILL, INCLUDING SHOULDER RESTORATION	Linear Foot	Active	02/01/2008	01/01/2199
0610-0103		8" PIPE UNDERDRAIN, TYPE I BACKFILL, INCLUDING SHOULDER RESTORATION	Linear Foot	Active	02/01/2008	01/01/2199
0610-0104		10" PIPE UNDERDRAIN, TYPE I BACKFILL, INCLUDING SHOULDER RESTORATION	Linear Foot	Active	02/01/2008	01/01/2199
0610-1000		4" PIPE UNDERDRAIN, TYPE II BACKFILL	Linear Foot	Active	01/01/2002	12/31/2999
0610-1001		6" PIPE UNDERDRAIN, TYPE II BACKFILL	Linear Foot	Active	01/01/2002	12/31/2999
0610-1002		8" PIPE UNDERDRAIN, TYPE II BACKFILL	Linear Foot	Active	01/01/2002	12/31/2999

4. Identical Item Descriptions with Multiple Item Numbers. Publication 408, *Specifications* requires the contractor to bid the same unit price for an identical item number and description or have their bid rejected. Over 100 Standard Construction Items within the Catalog have multiple numbers. This was done to satisfy a need for creating an option to use certain items more than once on a project. This allows the designer to have flexibility to add another item of work. For example, a designer can use two Class 3 Excavation items on a project, in one location the production rate is low and in another it is higher.

5. Coordination with CADD Support Unit (AutoTab). AutoTab is PennDOT's approved method of developing tabulation and summary sheets for pay items, and for creating the data file that is required by ECMS. Updates to ECMS Master Items require coordination with the District 3-0 CADD Support Unit which supports AutoTAB.

B. Items Catalog Change Package Preparation. The Specification Review Unit prepares semiannual Changes to Publication 7, *Construction Items Catalog* and to the ECMS Master Item Catalog that is released with the change package for Publication 408, *Specifications*. Publication 7, *Construction Items Catalog* is available on PennDOT's website only. ECMS – Master Items can be updated more frequently than Publication 7, *Construction Items Catalog* and these changes will be released in the next change to Publication 7, *Construction Items Catalog*.

3.2 SELECTION OF NON-STANDARD ITEM NUMBERS

This section provides guidance in selecting meaningful Item Numbers for Non-Standard Construction Items. The theory behind the selection of a Non-Standard Construction Item Number is fairly straightforward.

When a number must be selected for a Non-Standard Construction Item, the user should first locate corresponding section of the Publication 408 in which the work is most closely aligned. The available universe of 4000 and 5000 item numbers (i.e.: 4000-0000 thru 5999-9999) can be broken down into various Item Series, such that the second, third, and fourth digit of all the numbers in a Series correspond to one of the sections in Publication 408, *Specifications* (i.e.: Items in the 4203-XXXX Series all relate to Section 203 - Class 1, Class 1A & Class 1B Excavation). Note that 5001 and Greater Series items (i.e.: 5001-XXXX thru 5086-XXXX Series) relate to Section 1000 of Publication 408, *Specifications* (i.e., Section 1001 thru Section 1086).

The use of the 9000-XXXX series of numbers is reserved for those items not related to a Publication 408 Section.

Although advisable, it is not necessary to select the exact number (that is, the four suffix numbers) for a specific item of work each time it is included in a proposal/contract. The goal is to select item numbers from within the assigned range so that, when querying the database to obtain needed cost data, the field of search can be limited to the applicable Item Range only. The resulting easily-managed output will have to be examined to determine whether any or all of the available data is actually applicable. To aid the user in making this determination, it is recommended that meaningful, standardized descriptions be used. This should be accomplished in conjunction with the selection of meaningful item numbers, when creating Non-Standard Construction Items.

3.3 SUMMARY

The following is the summary of activities associated with initiating changes to the Construction Items Catalog:

1. A determination is made that it is necessary to add, delete, or make changes to standard construction items in the Publication 7, *Construction Items Catalog*.

2. The Specification Review Unit is responsible for adding, deleting, and modifying the Construction Items Catalog in ECMS – Master Items.

3. The Specification Review Unit releases Publication 7, *Construction Items Catalog* semiannually. Publication 7, *Construction Items Catalog* is available only in internet format.

4. The Specification Review Unit works closely with the BOPD Prequalification Officer to assign work class codes. Also, it provides data to the District 3-0 CADD Support Unit to coordinate item changes with AutoTAB.

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CHAPTER 4

DEVELOPER GUIDELINES FOR WRITING SPECIFICATIONS

4.0 INTRODUCTION

A. Purpose. The purpose of these guidelines is to explain the principles and techniques that apply to the writing of PennDOT Specifications and to highlight the associated training that is made available by PennDOT. The goal is to make the specifications easier to understand and use by increasing the clarity and brevity.

In addition, these guidelines promote a standardized style of specification writing, consistent use of phrases and terms, and addresses capitalization and other style issues. Specific edits to improve the clarity and conciseness of the reviewed specifications are provided as examples.

Also, this Chapter discusses types of specifications that are not "method"-type, such as performance specifications and specifications for proprietary products.

Developers of Publication 408, *Specifications* are responsible for reviewing proposed changes to Publication 408 during PennDOT's Clearance Transmittal process. Proposed changes must be technically correct, which includes conformance to these guidelines.

B. Specifications - A Definition. Specifications are in the broad sense of the term the compilation of provisions and requirements for the performance of prescribed work and its basis of payment. Within this broad context, specifications can be defined further to include:

- Publication 408
- SSPs to Publication 408
- District and other Special Provisions
- Changes to Publication 408 issued every six months
- Agreements that pertain to the method and manner of work
- Referenced publications and standards

The principles and techniques in this guideline apply to everyone who writes specifications, as defined above. Districts and design consultants prepare the majority of PennDOT Specifications. Changes to Publication 408, *Specifications* and SSPs undergo intensive review for content and format. The majority of PennDOT Specifications prepared by the Districts and design consultants are written as special provisions to cover unique, one-time project requirements and are not critiqued as thoroughly at the PennDOT Central Office level.

C. Definitions.

1. Active Voice. A property of a verb showing that the action expressed by the verb is done *by* the subject. A sentence written in the active voice is constructed with a subject, a verb (the action), and a receiver. The subject is the actor of the action and the receiver receives the action. For example, "The Representative will inspect the forms," is active voice because the subject (Representative) performs the action of inspecting the forms.

2. Imperative Mood. The mood of a verb that states a command or instruction. A sentence written in the imperative mood is constructed with the verb (the action) and a receiver. The subject is understood, *you*, but never explicitly stated. For example, "Submit a QC Plan before starting work," is in the imperative mood because the subject performing the action (submit) is understood to be the contractor.

3. Indicative Mood. The mood of a verb that states a fact or opinion. This mood is often used in material specifications. For example, "The cement shall be Portland cement," is indicative because it states a fact.

4. Passive Voice. A property of a verb showing that the action expressed by the verb is done *to* the subject. A sentence written in the passive voice, like the active voice, begins with a subject. However, The subject is

the receiver of the action, not the actor of the action. The actor appears after the verb (the action) and in some passive voice sentences the actor is not in the sentence. The passive voice emphasizes the action, in contrast with the active voice, which emphasizes the doer of the action. For example, "The forms will be inspected by the Representative before starting work" is passive because the subject (forms) does not do the action. The subject is the receiver of the action of inspection.

5. Usage Alert. Many writers in scientific disciplines make a habit of writing in the passive voice. Yet style manuals for scientific writing agree, use the active voice except for purposes best fulfilled by the passive voice. Active voice writing is simple and direct, content is succinct, it allows for clear definitions of the subject and object and clearly distinguishes lines of responsibility.

D. Initiative. Because the vast majority of writing PennDOT Specifications is decentralized, it is incumbent upon those involved to take the initiative, conform to, and practice the techniques presented in these guidelines.

4.1 DEVELOPMENT AND REVIEW OF SPECIFICATIONS

FHWA addresses the topic of development and review of specifications in its Technical Advisory T5080.16, *Development and Review of Specifications*, dated March 24, 2010. With minor differences in terminology and formatting, PennDOT subscribes to this guidance.

4.2 THE FIVE "Cs" of WRITING SPECIFICATIONS

In FHWA's *Principles of Writing Highway Construction Specifications*, dated March 2003, FHWA states the five "Cs" of specification writing. In order to produce well-written specifications, it is essential to understand the basic requirements of specifications and the language necessary to convey these requirements in a concise, clear, complete, correct, and consistent manner.

A. The First "C" - Concise. Use simple words, short sentences, and the active voice.

1. Know your reading audience. Aim for the eighth grade level.

a. Use simple words and try to choose words with no more than three syllables.

b. Omit needless words that do not add substantive meaning.

For example:

Common Use	Suggested
absolutely essential	essential
enclosed herewith	enclosed
at a later date	later
prior to	before
in accordance with	according to
through the use of	by
until such time as	until
in lieu of	instead of
in order to	to

c. Avoid using non-essential adjectives, adverbs, prepositional phrases and modifiers.

d. Use short sentences (17-20 words maximum). Delete unnecessary words and sentences. Use one thought for one sentence.

e. Use short paragraphs (maximum three or four sentences with related thoughts). Use one topic for each paragraph.

f. Identify responsibility for the action.

2. Break a series of sentences or a sentence with a series of clauses into a shorter, itemized or tabled format for easier understanding.

For Example:

Replace:

> **(b) Final Dressing, Class A.** Perform Final Dressing, Class A, including the following: clearing the right-of-way of all weeds, briers, bushes, and trees, except those trees the Representative designates to remain standing, when such work is not covered by Clearing and Grubbing as a Contract item; removing all sediment, drift, and other debris from all entrance structures and cross-drainage structures and disposing of removed materials; shaping areas designated by the Representative as requiring Seeding and Protection when such work is a Contract item; shaping and dressing shoulders, ditches, and slopes to the lines, grades, and cross-sections specified or established by the Representative; shaping the slopes of ditches, channels, and borrow pits when the excavation of such ditches, channels, or borrow pits is a part of the Contract; and filling with suitable material, all holes and depressions resulting from the removal of structures, grubbing operations, or other construction operations, and shaping to conform to the surrounding ground.

New:

> **(b) Final Dressing, Class A.** Perform Final Dressing, Class A including the following:
>
> **1. Right of Way.** Clear the right-of-way of all weeds, briers, bushes, and trees, except those trees the Representative designates to remain standing, when such work is not covered by Clearing and Grubbing as a Contract item;
>
> **2. Drainage Structures.** Remove all sediment, drift, and other debris from all entrance structures and cross-drainage structures and dispose of removed materials;
>
> **3. Areas Designated by Representative.** Shape areas designated by the Representative as requiring Seeding and Protection when such work is a Contract item;
>
> **4. Shoulders, Ditches, and Slopes.** Shape and dress shoulders, ditches, and slopes to the lines, grades, and cross-sections specified or established by the Representative; Shape the slopes of ditches, channels, and borrow pits; when the excavation of such ditches, channels, or borrow pits is a part of the Contract;
>
> **5. Backfill.** Fill with suitable material, all holes and depressions resulting from the removal of structures, grubbing operations, or other construction operations, and shaping to conform to the surrounding ground.

3. Use the active voice instead of the passive voice. The active voice is more direct and more concise.

4. Use the imperative mood.

5. Choose the best verb (word or phrase) to express an action or a condition of a subject.

B. The Second "C" - Clear. Avoid ambiguities by using measurable standards where practical. Select words that convey the exact meaning.

1. Select words that say what you mean to avoid ambiguities. For example:

a. each vs. either – **Either** defines a choice. **Each** defines exactly what you mean.

b. any vs. all – **Any** is a limited number selected at the discretion of the reader. **All** is a definite amount.

c. Other commonly confused word pairs are listed as follows:

ACCEPT	-	to receive willingly
EXCEPT	-	to leave out
AFFECT	-	(v) cause, influence (rarely a noun)
EFFECT	-	(n) result, (v) to accomplish or execute
BOTH	-	two considered together
EACH	-	considered separately
CAN	-	ability and power
MAY	-	implies that permission is needed
ENSURE	-	ensure that
ASSURE	-	assure you
INSURE	-	only if you have paid premium (JARGON)
FEWER	-	number
LESS	-	volume
AMOUNT	-	refers to money
QUANTITY	-	refers to volume, yardage, etc.
IF	-	conditional
WHETHER	-	always means whether or not
WHEN	-	means at the time that
IT'S	-	it is
ITS	-	possessive
BETWEEN	-	two things
AMONG	-	more than two things
THEN	-	time
THAN	-	comparison
THAT	-	use for restrictive clauses (essential to meaning of noun)
WHICH	-	use for non-restrictive clauses (set off the clause with commas)
SINCE	-	from a definite time in the past until now
BECAUSE	-	for the reason

2. Avoid common construction words with multiple meanings. Avoid using adjectives and adverbs whose meaning can vary with the reader. Choose words that have restrictive interpretations.

For Example: "The concrete surface must be clean." [ambiguous]

"Broom clean the concrete surface before applying the coating." [less ambiguous - more restrictive]

"Provide concrete surface free of dirt, grease, oil, or other foreign material before applying the coating." [even more restrictive]

3. Use measurable or definable standards where possible.

For Example: "Before applying the coating, prepare the concrete surface … [according to the manufacturer's recommended standard, or a national/industry standard for surface preparation.]

4. Place statements in positive form.

Negative: Do not bunch up the strokes in the cross-section of each layer.
Positive: Uniformly distribute the strokes over the cross-section of each layer.

5. Use parallel sentence construction. It is required whenever:

- Elements are connected by coordinating or correlative conjunctions.
- Elements are compared or contrasted.
- Items are arranged in a list or outline.

Example: Incorrect: "Tests shall be performed to determine strength and for establishing quality."

Correct: "Perform tests to determine strength and to establish quality."

6. Avoid using the expression *and/or*. It is a grammatical short cut and may confuse the reader.

Example: When such permission is granted, uniformly heat the aggregates and/or water to a temperature not higher than 66 °C.

7. Avoid these in specification writing style:

a. Confusing terms

(1) Adverbs (unless they are essential to the meaning): hereinafter, hereinbefore, herewith, wherein, completely, entirely, etc.

(2) Ambiguous words and expressions: nor, etc., as per, in a workmanlike manner, shall function as intended, etc.

b. Conflicting requirements. Conflicts occur when specifications include both the details of the methods to be used and the desired results.

c. Repeating requirements. If stating information in the General Provisions, avoid repeating the information in parts of later specifications.

d. Providing reasons for a requirement or including suggestions for complying with a requirement.

8. Use discretionary phrases judiciously: in the opinion of the Representative, to the satisfaction of the Representative, at the discretion of the Representative, as approved by the Representative, as directed by the Representative, as desired by the Representative, etc.

C. The Third "C" - Complete. Use the PennDOT four-part lead paragraph format.

###.1 DESCRIPTION
###.2 MATERIAL
###.3 CONSTRUCTION
###.4 MEASUREMENT AND PAYMENT

These parts serve as a checklist, ensuring that all essential information is included in the specification. Even if the Materials and Construction parts of the format are not applicable, they should not be omitted.

Avoid developing new specifications by using cut and paste methods from previous specifications. Instead, break down the older specification into its essential elements, and then begin developing the new specification from these essential elements. Some helpful hints follow:

1. Description. The Description part should:

a. Provide a short, concise statement of work required.

b. Define the related plans or specifications that clarify the work.

c. State the relationships to other work items that are necessary to perform this work.

d. Avoid using phrases such as "…in accordance with these specifications and as shown on the plans, or directed by the Representative…." This point is covered in the General Provisions and does not need to be repeated.

2. Materials. The Materials part should:

a. Cross reference applicable Department standard material specifications.

b. Cross reference applicable nationally recognized material specifications if PennDOT Specifications do not apply or do not fully describe the required material.

c. Establish detailed specifications of the properties of each material and the methods of testing if:

(1) Reference specifications are unavailable.

(2) It is a material common to many work items identified by PennDOT.

3. Construction. The Construction part should:

a. Complement the plans. If information overlaps, there can be duplication which may lead to a difference in instructions and disagreements as to which is the proper document to follow.

b. Provide the detailed sequence of construction operations, or if using performance standards, describe the required end product.

c. Specify the type and frequency of tests required during construction, and the final testing results necessary for acceptance.

d. Identify the minimum quality control activities if quality control testing and measurement are the responsibility of the contractor.

e. Specify the quality assurance methods that PennDOT will use.

f. Avoid specifying methods of measurement to describe what will or will not be measured, or to specify what work will be at the contractor's expense.

Examples (Statements to Avoid):

Required surface corrections shall be at the expense of the contractor.

The cost of this additional work shall be at the expense of the contractor.

There will be no separate payment for the tack coat; the cost shall be incidental to this section.

4. Measurement and Payment. The Measurement and Payment part should:

a. Define all the pay items needed to complete the unit of work.

b. Identify all work incidental to the payment.

c. Ensure that the bid item reflects a specific unit of work that includes the labor, materials, and equipment related to the work.

D. The Fourth "C" - Correct. Present information that is technically and grammatically correct.

1. Research the topic to make sure that it is technically correct.

2. Use abbreviations correctly.

a. Only use abbreviations when they do not confuse the reader. Confusion may lead to misinterpretation.

b. Always check Publication 408, Section 101 for accepted abbreviations.

c. Write units of measure correctly.

E. The Fifth "C" - Consistent. Consistency is needed in specification writing. If the writer does not apply the preceding four "Cs" consistently, the resulting specifications may still be ambiguous.

Specifications must be consistently enforced. Without consistent enforcement, even a well-written specification becomes ineffective. Feedback from field personnel is necessary to identify reasons for non-enforcement and their correction.

4.3 ASPECTS OF SPECIFICATION WRITING UNIQUE TO PennDOT

A. Using the Active Voice and Imperative Mood. PennDOT writes its specifications in the active voice and imperative mood to make its specifications easier to understand and use. This method of writing can be explained by way of additional examples/comparisons, as follows:

1. Passive Voice. The way most specifications were written.

(a) Example:

"The concrete shall be placed by the Contractor."
Subject Verb Prepositional Phrase

(b) The subject is the recipient of the action.
(c) Verb form "to be" is an indicator.
(d) Without the prepositional phrase, the agent responsible for the action is unknown.

2. Active Voice. The progressive way to write specifications.

(a) Example:

"The Contractor shall place the concrete."
Subject Verb Object

(b) The subject performs the action.
(c) The verb is an action verb.

(d) The sentence includes a direct object to complete the meaning of the verb.
(e) Benefits of active voice over passive voice:

- A simple, direct writing style.
- Brevity – gets rid of prepositional phrase.
- Clearly defines the subject (the entity performing the action).
- Clearly defines the object (the entity receiving the action).
- Makes lines of responsibility clear.

3. Imperative Mood. In highway specification writing, used exclusively for Contractor actions.

a) Example:

"Place the concrete."
Verb Object

b) The subject of the sentence is *you* understood.
c) Highway specifications typically define *you* as *the Contractor*.
d) Benefits of imperative mood:

- More concise – fewer words.
- More forceful – a command.
- Highlights action and the work.

Sentences that direct the Contractor to perform work are written as commands—in the imperative mood. In the imperative mood, the subject (*Contractor*) is understood and not stated. An exception to using the imperative mood is if a sentence includes requirements for others in addition to the Contractor or options for the Contractor. For example, "The Contractor may use pozzolans in the mixture," is active voice but not imperative mood. The sentence, "After the Contractor provides initial notice, the Representative will proceed as specified in Section 104.02," is in the active voice but not imperative mood.

An exception to using the active voice or imperative mood occurs when sentences define terms, describe an item, or describe a condition. The subject does not perform an action and use of the indicative mood is appropriate.

B. Paragraph Formatting for Work-Related Specifications. This formatting applies to Sections 200, 300, 400, 500, 600, 800, 900, and 1000, and the Special Provisions that relate to these sections.

1. Paragraph Designations.

For Publication 408	For Special Provisions
518.1	**I**
(a)	**(a)**
(b)	**(b)**
518.2	**II**
(a)	**(a)**
(b)	**(b)**
1.	**1.**
1.a	**1.a**
1.b	**1.b**
1.b.1	**1.b.1**
1.b.2	**1.b.2**
2.	**2.**
518.3	**III**
●	o
●	o
518.4	**IV**

Notes:

- Paragraphing for Publication 408, *Specifications* and Special Provisions are similar. The lead paragraphs for Publication 408, *Specifications* revisions are identified by the section to which they apply—for example, **518.1** is the first paragraph under **SECTION 518**. Lead paragraphs in the Special Provision context stand alone and are in most cases: **I**, **II**, **III**, and **IV**.

- Subparagraphing does not have to conform to the rule of two or more. By example there can be an **(a)** without a **(b)**, a **(1)** without a **(2**), etc. This in part allows for future growth, without having to renumber existing information.

- Paragraphing for Special Provisions is similar in all respects whether used in Standard, Provisional, or District Special Provisions.

- Bullets are always indented to a default setting of 0.3 inches and may be used at any point in the paragraphing—for example they may appear immediately after a lead paragraph (i.e., **518.2** or **II**) but should always be indented to the right of where one would expect to find a numbered subparagraph (i.e., **1**., **2**.,….).

- All paragraph designations appear in **bold type**.

- Data may be placed in tables or column arrays. All titles and headings should be in **bold type**. Tables will be designated with capital letters; the first table of each Section entitled "**TABLE A**." Each table thereafter in a Section will be entitled, "**TABLE B**, **TABLE C**, etc." The remainder of the table's title will be in **bold type**, initial capital letters. If the table contains units of measurement, it may be split into two tables, the first entitled, "**TABLE A (Metric)**" and the second entitled, "**TABLE A (English)**."

2. Titles. Titles for all paragraph and table designations will appear in **bold type**. The only exception to this rule is that bullets will not be followed by a title or print in bold type. Bullets are typically reserved for lists of materials and other items that do not require a written statement or explanation.

The title of Publication 408 Sections and Standard Special Provision lead paragraphs will be in all capital letters. Paragraph titles, for other than lead paragraphs, will be in initial capital letters. The following is an example:

Example of lead paragraphs:

518.1 and **I** are entitled, **DESCRIPTION—**

518.2 and **II** are entitled, **MATERIAL—**

518.3 and **III** are entitled, **CONSTRUCTION—**

518.4 and **IV** are entitled, **MEASUREMENT AND PAYMENT—**

Example of non-lead paragraphs:

(a) Pipes.

1. Nonmetal Pipes.

1.a. General.

C. Paragraph Formatting for Administrative/Material-Related PennDOT Specifications. This formatting applies to Publication 408, *Specifications*, Sections 100, 700, 1100, and the Special Provisions that relate to these sections. All guidance above in Section 4.3.B that relates to work-related specifications applies, except that lead paragraphs are not predetermined (by number or title). The numerical designations for lead paragraphs in these Sections follow a different scheme. For example, in sections 100 and 1100 lead paragraphs are **107.01**, …, **107.30,** and **1104.01**, …, **1104.08**. Section 700 lead paragraphs are **706.1 …706.2**.

D. Standardized Format of PennDOT Specifications Written in Active Voice Style. The following standard text is suggested for the Description, Materials, Construction, and Measurement and Payment subsections as applicable:

1. Description. The purpose of this subsection is to expand on the section title enough to inform the reader of work to be performed under this section.

a. Method of Writing:

(1) Draft the subsection using indicative mood, thereby describing the work to be performed.

(2) Start with the following words: **This work is**…

(3) Do not use phrases, such as "in accordance with these specifications" or "in reasonably close conformity with the lines, grades, thicknesses, and typical cross-sections shown on the plans or established by the Representative."

(4) Additional details regarding conformance requirements for the work are specified in Section 105.03, "Conformity with Drawings and Specifications."

(5) Additional details regarding the Representative's authority to alter the contracted work are specified in Section 105.01, "Authority of the Representative." Do not use phrases, such as "As directed by the Representative" or "As accepted by the Representative."

(6) The subsection may use bullet lists when the scope includes several requirements.

(7) DO NOT include directions to designers or provide bid item selection guidance.

b. Examples:

(1) 320.1 DESCRIPTION—This work is construction of a bituminous-treated, aggregate base course. When placed on subgrade, it includes the preparation of subgrade as specified in Section 210.

(2) 201.1 DESCRIPTION—This work is:

- Removal of topsoil…
- Removal of objectionable material…
- Removal of buildings and structures…
- Disposal of removed material.
- Salvaging, temporarily storing and delivering of material.

2. Material. The purpose of this subsection is to inform the reader of the materials to be furnished and used under this section.

a. Method of Writing:

(1) Draft the subsection using active voice and imperative mood, with the first word of the sentence as the action verb describing the work to be performed.

(2) The subsection may refer to other PennDOT specification sections or state material requirements that do not require Contractor actions by using short phrases or bullet references, lists, tables, written in the indicative mood.

(3) Use the verb **conforming to** instead of other verbs, such as **obtain**, **meet**, **according to**, or **comply with**, when the material reference is not a PennDOT specification section. When a PennDOT specification section is referenced, use the phrase **as specified in**.

(4) Present requirements in the following sequence, as applicable: general, definitions, classifications, specific materials, production, gradation, sampling and testing, submittals, and certification.

(5) Incorporate references to testing standards where applicable:

(a) First Preference: Publication 19, *Field Test Manual*, Pennsylvania Test Methods (PTMs).

(b) Second Preference: American Association of State Highway and Transportation Officials (AASHTO).

(c) Third Preference: American Society for Testing and Materials (ASTM).

(d) Fourth Preference: Other testing standards (e.g., associations, state Departments of Transportations, etc.)

b. Examples:

(1) 212.2 MATERIAL—Use geotextiles as specified in Section 735 for the specified class and type. *[Active-imperative]*

For bedding use open-graded stone conforming to the requirements of Type C or better aggregate, as specified in Section 703.2, except do not use No. 2A or No. 10 coarse aggregate.*[Active-imperative][The stone **conforms to**.]*

(2) 320.2 MATERIAL—

(a) Aggregate. Type C or better, No. 2A, Section 703.2.

(b) Bituminous Material. One of the following, as specified in Section 702: *[List]*

- Class PG 64-22 or Class PG 58-28
- Emulsified Asphalt-Class MS-2(E-4) or CMS-2(E-5)

(c) Composition of Mixture. Combine the aggregates and bituminous material in proportions required to produce an accepted composition. Produce a mixture… *[Active-imperative]*

(3) 612.2 MATERIAL—

- Bituminous Paper—Section 727
- Coarse Aggregate, Type C or better (no steel slag), No. 57—Section 703.2, except that the soundness test is not required and the percentage of crushed fragments for gravel does not apply. *[Indicative]*
- Geotextiles, Class 1—Section 735

3. Construction. The purpose of this subsection is to inform the reader of the work to be performed under this section.

a. Method of Writing:

(1) Draft all contractor-performed work in active voice and imperative mood.

(2) Draft options to the Contractor in the active voice. Wherever possible, use the language: **The Contractor may...** to make it clear the requirement is a Contractor option.

(3) Draft all Department/Representative-performed work in the active voice. Use the verb **will** instead of **shall** for Department or Representative work.

(4) Draft sentences that convey equipment requirements or how to use a piece of equipment in the active voice and imperative mood. Use verbs such as **provide** and **use** to state the requirements. When it is clear that no Contractor action is necessary, draft sentences that describe or define an item or piece of equipment in the indicative mood. Use linking verbs, verbs that do not express action but express a state or condition.

(5) Organize requirements in the following sequence, as applicable: general, definitions, equipment, typical operation sequence, inspection, sampling and testing, maintenance, and repairs.

(6) Incorporate references to testing standards where applicable:

(a) First Preference: PTMs.

(b) Second Preference: AASHTO.

(c) Third Preference: ASTM.

(d) Fourth Preference: Other Testing Standards (e.g., associations, state Departments of Transportations, etc.)

b. Examples:

(1) 212.3 CONSTRUCTION— As shown on the Standard Drawings, and as follows:

(a) General. Remove and replace fabric areas damaged during construction. Lap or sew replaced fabric as specified for the class of fabric used. Do not allow traffic or construction equipment on the fabric. *[Active-imperative]*

(c) Class 1—Subsurface Drainage. Provide smooth side and bottom trench surfaces so the fabric does not bridge depressions in the soil and is not damaged by rock projections. Use fabric of a width to allow a minimum trench-width overlap… *[Active-imperative]*

(2) 422.3 CONSTRUCTION— Section 409.3, except as follows:

(b) Weather Limitations. Revise as follows:

Do not place wearing course from September 15 to May 15 in Districts 1-0, 2-0 (except Juniata and Mifflin counties), 3-0, 4-0, 5-0 (Monroe and Carbon counties only), and 10-0; and from October 1 to May 1 in Districts 2-0 (Juniata and Mifflin counties only), 5-0 (except Monroe and Carbon counties), 6-0, 8-0, 9-0, 11-0, and 12-0. *[Active-imperative]* Exceptions to paving weather limitations require the written approval of the District Executive.

(c) Bituminous Mixing Plant.

1. Plant Requirements. The Contractor may produce the mixture using one bin. *[Contractor option in active voice]* If the Contractor chooses to use more than one bin, combine the aggregate according to the JMF.

(3) Section 810.3(e)

(e) Do not burn within 12 m (40 feet) of vegetation designated to remain. *[In a previous version of Section 810.3(e), this sentence originally stated*, "No burning will be permitted within 12 m (40 feet) of vegetation designated to remain." *This sentence could be interpreted to mean that no permit to burn would be issued for burning that will be within 12 m (40 feet) of vegetation to remain. The active voice and imperative mood makes the requirement clear.]*

4. Measurement and Payment. The purpose of this subsection is to inform the reader of how PennDOT will measure completed quantities and how they will pay for those measured quantities.

Note: The use of the four-part paragraph specifications format by PennDOT is a departure from the standard, five-part format for specifications that has evolved over the years through FHWA and AASHTO efforts. PennDOT combines this latter format's fourth paragraph (Method of Measurement) and fifth paragraph (Basis of Payment) into one paragraph, PennDOT's fourth, "**MEASUREMENT AND PAYMENT**," as seen above.

a. Method of Writing:

(1) Present the items for payment in a list format with a measurement description following each item.

(2) List specific bid items or related bid item groups and state the units and alternate units of measurement. Where appropriate, reference other Sections for measurement and payment requirements.

(3) When required, draft all Department or Representative work in the active voice. Use the verb **will** instead of **shall** for Department or Representative performed work.

(4) When required, draft all Contractor performed work in the active voice, but not in the imperative mood.

(5) When necessary, describe details or exceptions to measurement procedures in the indicative mood.

(6) Give substitute bid items where appropriate.

(7) Use the phrase **XYZ is incidental to this work** instead of **XYZ will be considered incidental to this item of work.**

b. Examples:

(1) 1003.4 MEASUREMENT AND PAYMENT—Each

(2) 481.4 MEASUREMENT AND PAYMENT—Section 471.4 *[Reference to another Section which this item will be paid under]*

(3) Section 516.4(d)

(d) Subbase Material. Cubic Meter (Cubic Yard)
The unit price includes excavation.
*[Details are provided in the indicative mood and specify unit **price** instead of cost. A unit price is derived by dividing the total cost by the number of units of work.]*

(4) 809.4 MEASUREMENT AND PAYMENT—

(a) Sodding. Square Meter (Square Yard)

(b) Watering and Mowing. Initial watering and mowing at the time of sodding is incidental to sodding. *[Details provided in indicative mood]* The Department will measure and pay for subsequent watering, requested and required for grass survival, or as otherwise directed, by the 1000 liters (1,000 (M) gallons). The Department will measure and pay for subsequent directed mowing by the hectare (acre). *[Active voice for Department work]*

E. Style Guidelines.

1. Phrases. The following are guidelines for the use of words or phrases commonly used (or not used) in writing PennDOT Specifications:

a. If possible, reserve the following verbs for the contractor: **provide**, **furnish**, **install**, **conform to**, **perform**, **use**, **obtain**.

b. Follow Publication 408, Section 101.01 for the proper verbs when referring to the Department/Representative. Omit "**to the Representative**" or "**by the Representative**" for all verbs identified in Publication 408, Section 101.01.

c. Avoid using "**unless otherwise specified**" and similar non-specific phrases. If possible, provide a specific reference or requirement, or entity. Minimize the use of discretionary phrases and undefined or non-specific directions such as **in a workmanlike manner**, **in an acceptable manner**, **set forth in**, and **to the satisfaction of the Representative**. If possible, provide a specific cross-reference, standard, or work requirement.

d. Avoid including titles after section or subsection references. This also pertains to other national standards, such as AASHTO and ASTM standards.

e. Avoid using the word "**option**" when something is as an option to the Contractor. Instead, use "**the Contractor may**." For the most part, the word "**option**" is never used.

f. When the sentence is in active voice and imperative mood, use "**at no expense to the Department,**" instead of "**at the Contractor's expense**." Since the subject is understood, possessive forms of "the Contractor" cannot be used.

g. Avoid using "**be responsible**." Use consistent text as shown in the following examples.

"The Contractor **is** (is not) **responsible** for"
"The Department **is** (is not) **responsible** for"
"The Department will in no way relieve the
Contractor of **the responsibility** for"

Sometimes the Contractor responsibility clause will be replaced by the imperative mood.

h. Be careful when using the words "**insure**" or "**assure**." Where appropriate, use the word "**ensure**" (usually either followed by "that" or preceded by "to"). The word "**insure**" is now widely used in American English in the commercial sense of *to guarantee persons or property against risk.* Refer to the commonly confused word pairs in Section 4.2.B.1.c.

Example:
303.3 CONSTRUCTION—

(d) Conditioning of Rubblized Pavement/Subbase. Thoroughly sprinkle water on the rubblized pavement/subbase before placing CTPBC, if necessary to ensure a moist condition. Sprinkle with as much water as it readily absorbs, well in advance of CTPBC placement.

i. Do not use phrases pertaining to "**skilled or experienced workers**." This requirement is already stated in the General Provisions.

j. Use the verb form "**take ownership**" when something previously was specified to "**become the property of** ...."

k. Avoid writing titles that are included in the abbreviation list.

l. For references to standards (ASTM, AASHTO, AWS, etc.), check their format. Remove any duplicative requirements from the PennDOT Specifications that are already in the standard.

m. Use "**as defined in ____**" to reference specification terms.

n. Use the word "**price**" instead of "**cost**" for negotiated or contract agreed amounts.

o. Develop a standard format for all tables and charts to be used at all times.

p. Use "**may**" as appropriate to replace "**exercise its option to**," "**reserve the right to**," or similar phrases.

q. Use "**before**" rather than "**prior to**" or "**in advance of**."

r. Use "**if**," not "**when**" or "**where**," for conditional actions and specify timing or locations in terms of definite time periods or locations.

s. Use the pronoun "**its**" to refer to the **Contractor**, **Representative**, or **Department** to avoid repeating these nouns in the same sentence. Content language is to be gender neutral.

t. Optional vs. Permissive Use of "May Not" - Use language that unambiguously defines whether "**may not**" means "**might**" or "**might not**," or if it means "**is not permitted to**."

(1) Use "**may elect to not**" or suitable equivalent to describe a negative option.

For example: Replace: may not measure or pay for

New: may elect to not measure or pay for

may choose to not measure or pay for

(2) Use "**do not**" to describe a contractor prohibition.

For example: Replace: may not drive on

New: do not drive on

2. Series. Convert important or complicated series written with the conjunctions and, or, or and/or as bulleted or numbered lists. If possible, use introductory phrases that explicitly identify whether one, more than one, or all items apply. Do not use the conjunction to separate items.

3. Specific Language Substitutions. Use simple, non-technical language. Emulate spoken instructions. Avoid legal sounding language or terms with specific legal meanings.

a. Use "**the**," "**this**," "**that**," "**these**," or "**those**" as appropriate to replace "**such**" or "**said**."

For example: Replace: cost of any such specialty items

New: cost of those specialty items

For example: Replace: restore said portion of the work

New: restore that portion of the work

b. Use "**below**" or "**above**" as appropriate to replace "**herein**" or "**hereafter**." Use specific references like "**as specified above in 105.3.4(2)1**" or "**as specified below in 107.3(2)**."

c. Eliminate redundant modifiers or multiple modifiers that are not obviously different. Use all inclusive modifiers.

For example: Replace: extremely severe weather

New: severe weather

4. Conditional Phrases. Place conditional phrases to make it clear which item in a series the condition applies to.

a. Use "**If requested by the Representative; provide the date, time, and location**" to make it clear that the condition applies to all three items.

b. Use "**Provide the date; time; and, if requested by the Representative, the location**" to make it clear that the condition only applies to one item.

5. Standardized Changes. Use the following standard language to create consistent specifications.

a. Use bullet references or "**as specified in**" when a specific specification Section within the Publication 408, *Specifications* is referenced.

b. Use "**according to**" instead of "**in accordance with**" when describing a Contract action, when work must be performed as described in a document other than the PennDOT Specifications, or when referencing a requirement of the same PennDOT Specification, such as a table. Perform work "**according to**" certain Standards (AASHTO or internal Section) or directions (the manufacturer's recommendations).

c. Use "**conform to**" when describing the requirements of a material or piece of equipment instead of "**in conformance with**." Furnish/provide materials/equipment "**conforming to**" certain standards (AASHTO or internal Section) or directions (the manufacturer's recommendations).

d. The phrase "**as indicated**" is reserved to mean as shown on the Plans and for all references to the Plans. Eliminate other phrases for referring to Plans and these PennDOT Specifications such as "**meeting**," "**in accordance with**," and "**as shown in**."

e. Use "**allow**" if Representative discretion is required. Do not use the verb form of "**permit**" to avoid confusion with the noun form of "**permit.**"

f. Use "**as shown on the Standard Drawings**" instead of "**described in**," "**designated in**," "**indicated on**," "**called for on**," or "**pursuant to**," etc.

g. Defined terms, which are used often, are sometimes capitalized for easier recognition. Check with the list of abbreviations and definitions in the General Provisions. Suggest the following words and phrases begin with a capital letter:

Bidder
Contract (when referencing "this" Contract)
Contractor (when referencing "the" Contractor)
Department
District Executive
Extra Work (when referencing the defined term)
Holidays (when referencing the defined term)
Inspector (when referencing "the Department's" Inspector)
Plans (when referencing "the Contract" Plans)
Representative
Section
Special Provisions
Specifications (when referencing "these" Specifications)
Supplemental Agreement
Standard Drawings
proper names
acronyms

h. The following words should not begin with a capital letter:

consultant
geotechnical consultant/engineer
fabricator
portland cement
subcontractor
work (even when referring to the defined term)

i. To promote the use of consistent terms, use the following:

Replace	**With**
'	foot/feet (except use **ft.** in tables)
"	inch/inches (except use **in.** in tables)
° (symbol only)	degree (for an angle measurement)
Percent	% (except if numerical value needs to be written out)
subsidiary	incidental (where appropriate)
in lieu of	instead of
center line	centerline
cross section	cross-section
templet	template
work site	worksite
edge line	edgeline
Engineer	Representative
District Engineer	District Executive
Federal-aid	Federal-Aid
practicable	practical (where appropriate)
guard rail	guide rail
&	and (in most cases)
steel wheel	steel-wheel
weigh ticket/slip	load ticket
job mix	job-mix (as appropriate)
drum mix	drum-mix (as appropriate)
batch mixing	batch-mixing (as appropriate)
#	No. or number (in most cases)
sub-base	subbase

"truck measurement"	truck measurement
pipe line	pipeline
base plate	baseplate
backplate	back plate
straight edge	straightedge
paving Inspector	Inspector
manpower	workforce
phone	telephone
NDT	nondestructive test(ing)
rough-cut	rough cut
foot (feet)	linear foot (feet) (for the pay unit)
full sawn	full-sawn
rough sawn	rough-sawn
conform(s)(ing) with	conform(s)(ing) to
give due and sufficient	give written notice
	written notice
cost thereof	cost of ____
fails to	does not
Contractor and	Representative and Contractor
terminate	stop
pre-construction	preconstruction

j. Abbreviate all metric units of measurement. Write out conventional units of measurement, except use only abbreviations in tables and charts and for Fahrenheit. For example, 17 MPa (2,500 pounds per square inch).

k. For all metric figures with four or more digits, use a non-breaking space (Ctrl+Shift+Spacebar) instead of commas. For example, 1 000 meters.

l. For all conventional figures with four or more digits, use commas. For example, 1,000 gallons.

6. Use the following terms and symbols:

a. **the**, **a**, and **an.** Use when necessary to distinguish between words that can be verbs or nouns.

For Example: Replace: Apply topcoat with broom and brush to required finish.

New: Apply topcoat with a broom and a brush to required finish. (brush is a noun)

OR

New: Apply topcoat with a broom and brush to required finish. (brush is a verb)

b. **F** for Fahrenheit degrees, e.g., "**110F**"

c. **°C** for Celsius degrees, e.g., "**0 °C**"

d. "**amount**" and "**balance**" with money

e. "**quantity**" and "**remainder**" with item quantity

f. **right of way** – without hyphens as a noun

g. **right-of-way** – with hyphens as a modifier, e.g., "**right-of-way fence**"

h. Numbers and related symbols in text

- Less than 11, for numbers other than a measurement or dimension - use word format, **one, two,…, ten**
- 11 and over - use figures, **11, 12,…, 123,** etc.
- Do not use a hyphen between the whole number and fraction, use **3 1/2 inch** instead of **3-1/2 inch**.
- When expressing dimensions, use an "x" symbol with Metric units, **100mm x 200 mm**, and use the word "by" with English units, **4 inch by 8 inch**.

i. **Bulletin ##** - do not use "**Bulletin No. ##**"

7. Do not use the following terms or symbols:

a. **which** - *(without a comma)* - use "**which**" only for a non-essential clause, and set off the clause with commas. Use "**that**" for clauses that are essential to the meaning of the noun.

Example:

901.3(a)
Remove or cover existing traffic control devices that conflict with the TCP.

b. **that** - when used as a pronoun or conjunction, such as in: "**…so *that* end joints occur….**"

c. **all** - Do not use when not necessary, e.g., "**store all millwork**." Use "**store millwork**."

d. **Contractor** - avoid using **Contractor** as the subject of a sentence.

For example: Replace: Contractor shall pour concrete.

New: Pour concrete.

The subject is now understood "you."

e. **and/or –** Instead of "**a and/or b**," use "**a or b or both**."

f. **nor**

g. **as per** - Use "**as specified in**," "**as indicated**," "**according to**," or "**conforming to**," as appropriate.

4.4 PERFORMANCE SPECIFICATIONS

As described in FHWA Technical Advisory T5080.16, *Development and Review of Specifications*, performance specifications describe the required work in terms of operational characteristics or ultimate use. The performance characteristics are designed to predict or monitor performance over time. Unlike the "method"-type specifications described above, performance specifications tend not to include instructions that dictate or suggest methods, material definitions, material processing, time and temperature controls, constituent properties, construction equipment descriptions, and similar prescriptive elements.

The term performance specification can be used as an umbrella term to capture several types of specifications, including end-result specifications, Quality Assurance (QA) specifications, performance-related specifications, performance-based specifications, and performance warranty provisions. The AASHTO Highway Subcommittee on Construction, Quality Construction Task Force, has prepared a report entitled *Major Types of Transportation*

Construction Specifications, A Guideline to Understanding their Evolution and Application, which describes these various specification types and how they should be developed and implemented.

Several types of performance specifications are described below.

A. End-Result Specifications. End-result specifications assign to the contractor complete responsibility and flexibility in selecting the procedures and equipment for supplying a product or an item of construction. PennDOT's responsibility would be to either accept or reject the final in-place product or to apply a pay adjustment commensurate with the degree of compliance with the specifications.

1. End-result specifications look to measure or test the in-place end product and, at the same time, reduce the amount of prescriptive elements of the specification.

2. For example, one could specify a chip seal based on a measured chip density and retainage, and eliminate requirements related to the spreader equipment and flow details. Another common application of end-result requirements occurs in specifications that measure compaction but do not dictate roller types or roller passes.

3. End-result specifications promote innovation by allowing the contractor flexibility in exercising options for new or alternate materials, techniques, and procedures to improve the quality or economy, or both, of the end product. In practice, end-result specifications can reduce inspection efforts for the Department. They are often incorporated into design-build contracts as performance specifications.

B. Quality Assurance (QA) Specifications. QA specifications require contractor quality control and Department acceptance activities throughout the production and placement of a product. Final acceptance of the product is usually based on a statistical sampling of the measured quality level for key quality characteristics.

1. The critical aspect of developing QA specifications is identifying the material attributes that are essential to good performance and the associated limits within which the material or work can be produced to suggest good performance over the design life of the product. For example, for asphalt pavements, key quality characteristics might include asphalt content, density of the compacted pavement, and pavement smoothness. For concrete pavement, quality characteristics could include compressive strength, air content, and smoothness.

2. PennDOT has adopted QA specifications as part of their standard specifications for asphalt and concrete pavement. Refer to FHWA-RD-02-095, *Optimal Procedures for Quality Assurance Specifications*, for more detailed information regarding the development of acceptance plans and QA specifications.

C. Performance-Related Specifications (PRS). PRS are essentially improved QA specifications that describe the desired levels of key materials and construction quality characteristics that have been found to correlate with fundamental engineering properties that predict performance. Price adjustments are based on life-cycle cost relationships.

1. PRS identify and quantify those particular technical factors that influence product performance. They may use empirical data, engineering judgment, mechanistic modeling, and life-cycle costing as the basis for determining the potential for performance.

2. Like QA specifications, PRS only specify characteristics (for example, air voids in asphalt and compressive strength of concrete) that lend themselves to acceptance testing at the time of construction. They do not specify the desired long-term product performance.

3. "True" PRS use mathematical models to predict performance based on the measured quality characteristics (e.g., asphalt content, air voids) and design variables (e.g., traffic loading, climate). The models provide the rationale for acceptance and pay adjustments based on life-cycle costs.

4. Implementation of PRS is dependent on the development and validation of such models. To date, PRS have only been piloted on concrete pavements, though research is also being performed on asphalt.

D. Performance-Based Specifications (PBS). Performance-based specifications (PBS) are QA specifications that describe the desired levels of fundamental engineering properties (e.g., resilient modulus, creep properties, and fatigue properties) that are predictors of performance and appear in primary prediction relationships (i.e., models that can be used to predict pavement stress, distress, or performance from combinations of predictors that represent traffic, environmental, roadbed, and structural conditions).

1. Performance-based specifications differ from PRS in that they specify the desired levels of fundamental engineering properties, rather than key quality characteristics.

2. Complete PBS have not yet been applied in highway construction, primarily because most fundamental engineering properties are not yet user-friendly enough to permit timely acceptance testing.

E. Performance Warranty Provisions. Performance warranty provisions incorporate performance indicators and thresholds to measure performance over a prescribed warranty period.

1. Warranty performance indicators are measurable distresses, properties, or characteristics of the warranted component that can be linked to the end-product performance of the warranted component. For example, performance indicators for asphalt pavement may include rutting and cracking. Performance thresholds can be expressed in terms of physical dimensions per segment length or converted to a point system. Thresholds are the allowable limits not to be exceeded over the performance period.

2. Warranties typically do not include all the factors that contribute to performance. For example, warranty provisions for pavements typically exclude subbase, drainage, and embankment features or other factors related to pavement design or construction methods that may affect performance.

3. Although the scope of warranted work and performance indicators may not capture all of the factors contributing to performance, they provide a tool to assign more responsibility for performance to the private sector and ensure that the products of construction will meet targeted performance thresholds for part of the life-cycle of that product or component.

F. Innovative Bidding. PennDOT has developed policies, procedures, and presentation materials to implement innovative bidding techniques. Pennsylvania and many other states have laws that stipulate the selection of a contractor must be based on the lowest bid. A system based on the lowest bid primarily factors a contractor's expenses and profits into the bid, but leaves very little room for the Department or the contractor to consider social costs such as disturbance to the traveling public. By identifying particular performance measures as well as low cost in the contract bidding process, factors that affect both social and economic costs can be stipulated and accounted for within the contract agreement. This, then, becomes a way to incorporate those social costs into a contract that still stays within the low bid mandate. Innovative bidding provides opportunities for the contractor to realize greater financial benefit by satisfying those social stipulations.

For additional information about innovative building techniques, refer to Publication 448, *Innovative Bidding Toolkit*.

4.5 PROPRIETARY PRODUCTS AND SPECIFICATIONS

A. Description. As described in FHWA Technical Advisory T5080.16, *Development and Review of Specifications*, proprietary specifications identify the desired products or processes by manufacturer's name, brand name, model number, or other unique characteristic. Even if a manufacturer is not explicitly stated, a specification can still be considered proprietary if only one manufacturer can meet the specified requirements.

Designers often specify proprietary products to produce what they perceive to be a "tight" specification that allows for close control of product selection and a higher level of design based on more precise information obtained from manufacturer's data. However, this practice introduces the potential disadvantages of unnecessarily eliminating or narrowing competition or requiring products with which the contractor has perhaps had little or poor experience (e.g., slow delivery) - situations that may lead to higher bid prices or charges of favoritism.

B. Current Policy. The process to approve proprietary items and specifications is described in Publication 51, *Plans, Specifications and Estimate Package Delivery Process Policies and Preparation Manual*.

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CHAPTER 5

RISK FACTORS

5.0 INTRODUCTION

A specification should clearly state the contractor's obligations and known risk. In general, risk should be allocated to the party best able to avoid or manage the adverse impacts of the risk. Whether this party is the Department or the contractor is entirely dependent upon project-specific conditions and the willingness of the Department to potentially pay a premium for the contractor to assume responsibility for a high-risk item.

Found below are different aspects and types of specifications and the risk factors potentially associated with them. These topics include end-result specifications, warranty requirements, QA specifications, performance-related specifications, incidentals, and force account work. Keep these risk factors in mind when developing specifications.

5.1 END-RESULT SPECIFICATIONS

A. Key Aspects. Key aspects of end-result specifications are as follows:

1. The contractor is responsible for providing a product that complies with the stated objectives and standards.

2. The contractor controls means and methods.

3. PennDOT typically performs acceptance testing to determine whether the product complies with the stated objectives, desired results, or standards. Some specifications may allow the contractor to perform acceptance testing, in which case PennDOT must perform independent verification testing.

B. Advantages. Advantages of end-result specifications include the following:

1. Promotes innovation.

a. The contractor may use non-standard designs or new technology.

b. PennDOT may shift technical responsibility to industry specialists, especially if PennDOT has not obtained or maintained expertise in certain areas.

c. The contractor may choose alternate materials that perform better and use methods that cost less.

2. Places performance risk on the contractor.

a. The contractor determines the steps necessary to meet or exceed the stated objective or standard.

b. The contractor accepts responsibility for quality control inspection and testing before PennDOT verifies that the products meets or exceeds the objective or standard.

c. The contractor may be responsible for designing specified work items.

3. May reduce Department inspection and testing.

a. PennDOT may reduce inspection and testing to only that necessary to independently verify the results of contractor inspection and testing.

b. The contractor coordinates inspection and testing schedules with the progress of the work.

4. May lower the life-cycle cost of the product.

C. Disadvantages. The primary disadvantages of End-Result Specifications include the following:

1. The responsibility for quality control is often not clearly defined.

2. Acceptance decisions based on the results of limited testing of the in-place product do not provide for timely identification and correction of non-compliant material and may unfairly reject acceptable material.

3. The specification acceptance target values and limits are often based on subjective "experience" rather than an analysis of historical data.

D. General Applications.

1. End-result requirements within an overall method specification.

a. Performance statement.

(1) Include a statement of the desired objective or standard. The objective or standard may not be measurable or testable and usually involves the Representative's judgment.

(2) Consider establishing procedures for the Representative and contractor to develop the acceptance standard for the project. For example, establish a visual standard by inspecting a representative sample of the work early in the project.

b. Reference standards (i.e., ASTM, ANSI, ACI, NFPA, ASME, etc.).

(1) Reference standards include performance criteria or the test necessary to substantiate that the performance criteria are met.

(2) Reference standards provide the writer with nationally recognized "building blocks" to write a specification.

(3) Using reference standards promote consistency and allow the specification to remain current by taking advantage of the latest revisions.

(4) Reference standards make requirements more objective and enforceable.

(5) Before using a reference standard, PennDOT should consider costs that may be associated with obtaining and maintaining copies of reference standards for its Engineers and inspectors.

c. Measurable and testable criteria.

(1) The most desirable quality criteria are:

(a) Those that indicate likely product performance.
(b) Those that measure attributes of the completed product.

(2) The tests should be standardized and obtain repeatable results.

(3) The tests should be economical and provide results within a short period of time.

(4) Testing performed by:

(a) Manufacturers' tests and certifications
(b) Independent testing firms
(c) Contractor during construction
(d) Department during and after construction

5.2 WARRANTY REQUIREMENTS

A. Use. Warranty Provisions assign more responsibility to the contractor. Consider specifying warranty requirements when PennDOT can measure the performance of a product or system in-place and during the warranty period.

B. Measurable Criteria. Define failure using measurable criteria for attributes:

1. Pavements examples:

a. Rutting
b. Cracking
c. Roughness

2. Other examples:

a. Reflectivity loss
b. Peeling or cracking paint
c. Corrosion

3. Exclusions:

a. Subbase
b. Drainage
c. Embankment features

4. Define the minimum standards of performance during the warranty period.

5. Establish procedures to evaluate performance.

6. Establish start of warranty period.

7. Establish Department and contractor obligations.

8. Determine if a separate bond for the warranted items is necessary.

5.3 QA SPECIFICATIONS

A. Use. Most effective as an end-result specification rather than a method specification.

B. Measurable Criteria. PennDOT specifies quality characteristics of the completed product. The quality characteristics may or may not predict long-term performance.

C. Execution Plan. The contractor develops and implements a plan to control the quality of materials and construction. Contractor quality control may include sampling and testing during steps in the material production or construction process.

D. Verification. PennDOT performs quality assurance inspection and testing to confirm that the desired level of quality is obtained.

E. Sampling and Analysis. Statistical sampling and analysis is the primary method of quality checks.

1. Random sampling.
2. Lots are divided into sublots to increase the number of samples to validate statistical values.

F. Acceptance Plan. An acceptance plan is used to determine the degree of conformance with the contract. The desirable features of a QA specification acceptance plan include:

1. Quality characteristics that have a relationship to performance.

2. Test methods should be timely and reliable to allow reasonable production rates and construction costs.

3. Specification limits are affected by material and construction variability. Limits should relate to the desired product performance.

G. Price Adjustments. Pay adjustments can be used for a range of acceptable work quality within the specification limits. Positive and negative price adjustments should reflect the value received as well as provide a profit incentive for the contractor to exceed the quality requirements.

H. Developing QA Specifications.

1. Select acceptance criteria and associated statistical limits.

2. Develop pay factor charts.

I. Benefits and Limitations.

1. QA specifications prompted development of improved methods and equipment to test completed products.

2. The relationship between the quality characteristics used to accept work and the performance of the product was not always clear.

3. Agencies developed payment adjustment provisions largely from engineering judgment and the provisions were not consistent.

5.4 PERFORMANCE-RELATED SPECIFICATIONS

A. Description. A quality assurance specification that describes the desired levels of key materials and construction quality characteristics that have been found to correlate with fundamental engineering properties that predict performance.

1. PennDOT inspects and tests the completed product.

2. Contractor inspects and tests the work during construction.

3. Contractor responsible for a product conforming to specified acceptance quality characteristics (AQC), making the contractor indirectly responsible for how the product performs.

B. Links Design, Construction Quality and Maintenance.

1. Allows PennDOT and contractor to focus efforts on achieving quality in areas that affect performance.

2. Payment is based on estimated maintenance and repair costs over the life of the product using differences in as-designed and as-constructed Life-Cycle Cost Analysis (LCCA).

C. Developing a Performance-Related Specification.

1. Define performance in terms of distress indicators.

2. Select AQC. The major difference between QA specifications and Performance-Related Specifications is that the AQC for Performance-Related Specifications are used to predict the product's performance.

3. Determine target values and standard deviations for each AQC.

4. Develop pay factor charts for each AQC.

5. Plot the payment factors versus the AQC target value and determine the "best fit" curve or equation. Use the curve or equation to create the pay factors for the Performance-Related Specifications.

6. Performance-Related Specifications should be project-specific specifications based on site conditions.

5.5 INCIDENTALS

Publication 408, Section 110.01 states, "Work specified as 'incidental' in the Measurement and Payment section of the specification for a contract item is to be considered as an additional obligation to the other work required for the item(s). This incidental work is not payable directly, but is to be considered included in the contract price for the item(s) of work specified."

Publication 408, Section 101.03 defines work as "the furnishing of material, labor, equipment, and other incidentals necessary or convenient to successful project completion, plus the fulfillment of all duties and obligations imposed by the contract." As stated in Publication 408, Section 104.01, "The intent of the plans and specifications is to prescribe a complete project undertaken according to the contract. Therefore, according to the contract, furnish material, equipment, tools, labor, and incidental work complete in place, unless otherwise provided."

In some instances, the basis of payment includes incidentals which may affect the bid prices because of the risk associated with them. Incidentals are created for which no separate or direct payment is to be made. The basis of payment provides a definition of pay items that is needed to complete the work; incidentals should be included in the basis of payment.

Existing measurable work items should not be made incidental to other items. These measurable work items should be paid for under the individually established pay items.

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APPENDIX A

ABBREVIATIONS

The following is a list of abbreviations used in this Manual; Publication 408, *Specifications*; bid proposals; contract drawings; or other specification-related issues. The list includes the meanings along with the abbreviations.

AAN	American Association of Nurserymen
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGC	Associated General Contractors of America
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute
APC	Associated Pennsylvania Constructors
API	American Petroleum Institute
AQC	Acceptance Quality Characteristics
ARA	American Railway Association
AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASTM	American Society for Testing and Materials
AWG	American Wire Gage
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
BEO	Bureau of Equal Opportunity, Pennsylvania Department of Transportation
BOMO	Bureau of Maintenance and Operations Pennsylvania Department of Transportation
BOPD	Bureau of Project Delivery, Pennsylvania Department of Transportation
CADD	Computer-Aided Drafting and Design
CEE	Categorical Exclusion Evaluation
CFR	Code of Federal Regulations
CRSI	Concrete Reinforcing Steel Institute
CT	Clearance Transmittal
CTC	Concrete Technology Corporation
DCNR	Pennsylvania Department of Conservation and Natural Resources
DEP	Pennsylvania Department of Environmental Protection
EA	Environmental Assessment
EBS	Electronic Bidding System
ECMS	Engineering and Construction Management System
EDMS	Electronic Document Management System
EEI	Edison Electrical Institute
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration, U.S. Department of Transportation
FSS	Federal Specifications and Standards (General Service Administration)
HMA	Hot Mix Asphalt
ICEA	Insulated Cable Engineers Association

IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IMSA	International Municipal Signal Association
ISO	Insurance Services Organization
ISSD	Innovative Services and Support Division
ITE	Institute of Transportation Engineers
JMF	Job Mix Formula
LCCA	Life-Cycle Cost Analysis
MUTCD	Manual on Uniform Traffic Control Devices (FHWA)
NBFU	National Board of Fire Underwriters
NCSA	National Crushed Stone Association
NEC	National Electrical Code
NELA	National Electric Light Association
NEMA	National Electrical Manufacturing Association
NESC	National Electrical Safety Code
NFPA	National Fire Prevention Association
NHI	National Highway Institute
OCC	Office of Chief Counsel
OSHA	Operations Safety & Health Administration
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PennDOT	Pennsylvania Department of Transportation
PEI	Porcelain Enamel Institute, Incorporated
POM	Project Office Manual
PBS	Performance-Based Specifications
PRS	Performance-Related Specifications
PS&E	Plans, Specifications and Estimates
PSS&CS	Project Schedules, Specifications and Contructability Section
PTM	Pennsylvania Test Method
QA	Quality Assurance
QC	Quality Control
RAM	Reclaimed Aggregate Material
RAP	Reclaimed Asphalt Pavement
RPS	Restricted Performance Specification
SAE	Society of Automotive Engineers
SC	Specifications Coordinator (for Originating Bureau)
SDCC	Specification Database and Coordination Chart
SE	Specifications Engineer (for Bureau of Project Delivery)
SOL	Strike-off Letter
SRL	Skid Resistance Level
SSP	Standard Special Provision
SSPC	Society for Protective Coatings
UL	Underwriters Laboratories, Incorporated
UNC	Unified National Coarse
U.S.C.	United States Code

APPENDIX B

SAMPLE EXHIBITS FOR SPECIFICATION REVIEW COMMITTEE

This appendix provides samples of information pertaining to the ongoing activities of PennDOT's Specifications Review Committee.

EXHIBIT B-1
MEMORANDUM TO SPECIFICATION COMMITTEE MEMBERS

DATE: *[insert date]*

SUBJECT: Specification Committee Minutes

TO: Specification Committee Members

FROM: *[insert Chairperson's name]*
Chairman, Specifications Committee
Bureau of *[insert Chairperson's Bureau]*

Attached are the minutes from the *[insert meeting date]* Specification Committee Meeting, an agenda for the following months meeting, an Action Item List, and Master Changes/Special Provision Coordination Charts.

The next meeting is scheduled for *[insert meeting date]*, from *[insert meeting time]* in the *[insert meeting room]*.

If you have any questions, please contact *[insert contact's name]* at *[insert contact's phone number]*.

Attachments

CC: *[insert list of individuals]* vacant (*[insert individuals' Floor/Location]*)

EXHIBIT B-2
MEETING MINUTES

PENNDOT SPECIFICATION
COMMITTEE
[insert Date]

General:

Attendees

The *[insert Date] meeting* of the PENNDOT Specification Committee was held in *[insert location of meeting]* at *[insert meeting time]*. The following were in attendance:

[insert each attendee name] [insert attendee Bureau] [insert attendee Division]

Review* of [previous meeting date] *Minutes

- *[insert comments].*

Accomplishments

Pub 408:

- *[insert comments].*

Standard Special Provisions/Pub 7 (Items Catalog):

- *[insert comments].*

Review of Master Changes/Special Provision Coordination Charts
[insert comments].

- **Section Changes in Coordination:**
  1. *[insert comments].*

- **Special Provisions in Coordination:**
  1. *[insert comments].*

- **Other Related Topics:**
  - *[insert comments].*

- **Other Items:**
  - *[insert comments].*

- **Action Items List:**
  - *[insert comments].*

Agenda for Next Month's Meeting:

SEE ATTACHED "DRAFT AGENDA"

EXHIBIT B-3
MEETING AGENDA

Draft Agenda

[insert date]

Specification Committee Meeting

1. Review of *[insert meeting date]* minutes.
2. ACCOMPLISHMENTS: Specification changes issued last month.
3. GOALS: Next month's priority specification changes.
   a. Review Action Item List
4. Specification changes underway.
5. Other items.
6. Review of Provisional Special Provisions.
7. Agenda items for next meeting on *[insert date]* in *[insert location]*.

EXHIBIT B-4
ACTION ITEM LIST

Action Item List

Item	Responsible Party	Date Assigned/ Due Date (if applicable)	Date Completed	Remarks
173. Work on Definition for working days.	YYY & Spec Work Group	03/12/09		05/14/09 XXX stated that courts definition is physical work able to accomplish. 12/10/09 It was suggested to make all references to calendar days instead of working days. 01/21/10 YYY will check all the sections that have "working days" 05/13/10 Status is still the same. It will not make 2011 - IE Pub 408 Edition.
187. Develop a SSP for High Tension Cable to issue as a CT and either remove or update D-09-035.	ZZZ	08/13/09		09/10/09 ZZZ expects to have a CT out by next month. 10/08/09 ZZZ stated that he has this on hold until after his meeting on 10/09/09 with a manufacturer. 11/12/09 Ongoing. 01/21/10 No update. 03/11/10 A planned meeting with FHWA was canceled because of weather and working on rescheduling. 04/08/10 ZZZ indicated that he had a conference call with the Resource Center in 2-3 weeks. He will be working on this again. 05/13/10 Status is still the same.

EXHIBIT B-5
SPECIFICATION DATABASE AND COORDINATION CHART (SDCC)

Updated by: Jeff Bordner

CHANGES TO PUB 408/2011 in Coordination for 08/12/10 Meeting

Current as of 4/6/10 9:37 AM

Information on 408 Section proposed to be changed							Step 1	Step 2 Information			FHWA Coordination		Change Package	
408 Sect No.	Pr #	CT No.	Subpart Nos Drawing Nos	Section Title And/Or Description of Proposed Change(s)	Related CTs	Does a corres chg to 408 or Std Spec Prov exist?	Int & Ext Date sent Date due	Date request submitted to BOD	Date Sent/ Date Due	Date BOD returned to Originator/ Date Originator resubmitted to BOD	FYI: Date(s) sent (see Remarks)	Formal: Date Sent Date Signed	Change No. Date signed Effective date	Originator Phone #
	Date		Remark											
103		D-08-032		Award and Execution of Contract						To Send to FHWA 11/14/08				
	11/14/08		To indicate that the CIS is to be submitted 7 calendar days after the bid opening or notice and indicate that if the CIS is not submitted the bid will be rejected.											
	11/24/08		The specification unit reworked on this.											
105 107 108 110		D-10-010	105 107 108 110	Control of Work Legal Relations and Responsibility to the Public Performance and Progress Payment	D-09-019	Yes	02/05/10 03/02/10			03/09/10				
	02/03/10		Office of Chief Counsel requested the change to revise each of the Sections by removing the wording that gives indemnity to Contractors for third party claims because the Department cannot legally indemnify Contractors.											
106		D-10-006	106.11	Removal of Material Procedures			01/26/10 02/25/10			03/04/10				
	01/15/10		To require that the contractor verify that the producer of materials delivered to the project meets the requirements to be listed in Bulletin 15 and that the Contractor will not use material from a producer not meeting the requirements even if the material is already at the project site.											
107 POM		C-10-007	107.30 B.11.2	Specific EEO Responsibilities EEO Form Requirements			04/09/10 04/30/10 ~~05/04/10~~ ~~FHWA disapproved~~							
	04/09/10		To eliminate the requirement for monthly submission for Form EO-400 and establish new requirement for similar reporting to be done on a "when requested" basis and for additional requirements for Forms EO-363 and EO-364.											
	05/04/10		FHWA disapproved the CT.											
108		C-07-	108.05(c)5	Material Transfer Vehicle (MTV)		Yes				~~To send to FHWA 1/5/07~~				
	01/05/07		Originator sent email to specification review unit requesting change allow a paver hopper insert with remixing capabilities as an option.											
	01/12/07		Specification Review Unit discussed w/MTV originator (S. Ali) they don't want to have an option.											
	01/12/07		D. Jarvis sent email to S. Ali questioning why he doesn't want the option.											
	01/30/07		R. Notar stated that D. Jarvis plans on creating a CT for his issue and to proceed as is.											
108		C-09-023	108.03	Performance and Progress			08/28/09 09/21/09 Again 03/31/10 04/23/10		~~03/31/10~~ ~~04/23/10~~					
	08/28/09		To indicate that the NTP will have to be revised if the preconstruction conference is not held before the original NTP.											

1 of 8

APPENDIX C

SAMPLE EXHIBITS FOR CLEARANCE TRANSMITTALS

This appendix provides samples of various documents typically prepared as part of the Clearance Transmittal process for PennDOT Publications and Standard Special Provisions (SSP).

EXHIBIT C-1
E-MAIL NOTIFICATION TEMPLATE TO FHWA/APC STATING DOCUMENTS FOR PUBS AND/OR SSPs ARE ATTACHED

This message is being sent on behalf of *[insert name]*, Director, Bureau of Project Delivery

This *[insert appropriate description:* Step 1, Step 2, *or* Modified Step 1*]* Clearance Transmittal is being sent to address *[insert subject]*. This is being tracked with tracking number *[insert tracking number,* Z-YY-XXX*]*.

Department personnel can view and print the files to be reviewed at:
[Insert link for internal reviewers.]

Non-PennDOT personnel can view and print the files to be reviewed at:
[Insert link for external reviewers.]

Please return all comments by *[insert date]*.

Thank you,

[insert signature block for sender]

EXHIBIT C-2
CLEARANCE TRANSMITTAL FORM (FORM OS-329)

OS-329 Specs. (4-14)

pennsylvania
DEPARTMENT OF TRANSPORTATION

CLEARANCE TRANSMITTAL | **Date Sent:** | **Date Due:**

Send to Organization Checked Below

☐ Step 1 Internal ☐ Step 1 External ☐ Step 2

- ☐ Secretary of Transportation
- ☐ *Comptroller's Office*
- ☐ *Office of Chief Counsel*
- ☐ *Office of Legislative Affairs*
- ☐ *Press Office*
- ☐ Deputy Secretary for Administration
- ☐ *Bureau of Equal Opportunity*
- ☐ *Bureau of Fiscal Management*
- ☐ *Bureau of Human Resources*
- ☐ *Bureau of Information Systems*
- ☐ *Bureau of Office Services*
- ☐ *Center for Performance Excellence*
- ☐ Deputy Secretary for Multimodal Trans.
- ☐ *Bureau of Public Transportation*
- ☐ *Bureau of Aviation*
- ☐ *Bureau of Rail Freight, Ports, & Waterways*
- ☐ Deputy Secretary for Highway Administration
- ☐ *Bureau of Maintenance and Operations*
- ☐ Asset Management
- ☐ Fleet Management
- ☐ Highway Safety & Traffic Operations
- ☐ Maintenance Performance
- ☐ Maintenance Technical Leadership
- ☐ *Bureau of Project Delivery*
- ☐ Bridge Design and Technology
- ☐ Highway Delivery (ROW)
- ☐ Innovation and Support Services
- ☐ *All District Executives*
- ☐ *All ADE - Construction*
- ☐ *All ADE - Design (ROW)*
- ☐ *All ADE - Maintenance*
- ☐ *All ADE - Services*
- ☐ Deputy Secretary for Planning
- ☐ *Bureau of Municipal Services*
- ☐ *Bureau of Planning and Research*
- ☐ *Center for Program Development*
- ☐ Deputy Secretary for Safety Administration
- ☐ *Bureau of Driver & Vehicle Pro. Services*
- ☐ *Bureau of Driver Licensing*
- ☐ *Bureau of Motor Vehicles*
- ☐ *Office of Information & Fiscal Services*
- ☐ *Office of Risk Management*
- ☐ Federal Highway Administration
- ☐ PA Turnpike Commission
- ☐ ACEC - PA
- ☐ ACPA – PA
- ☐ APC
- ☐ PACA
- ☐ PAPA
- ☐ Federal Aviation Administration
- ☐ Federal Transit Administration
- ☐ Federal Railroad Administration
- ☐ Federal Maritime Administration

FROM:

ATTACHED MATERIAL IS SUBMITTED FOR YOUR REVIEW AND COMMENTS. UNLESS ADVISED OTHERWISE, WE WILL CONSIDER MATERIAL APPROVED IF NOT RETURNED BY DATE DUE.

TITLE:

REMARKS:

ORIGINATOR:

YOUR COMMENTS:

☐ APPROVED ☐ DISAPPROVED ☐ MODIFIED

If disapproved or modified give reason WHY (Use Reverse Side if Necessary).

Name (Print) | *Phone Number*

Organization | *Date*

☐ **CHECK THIS BOX FOR RETURN TO:**

NAME

BUREAU

DIVISION

BUILDING / ROOM NO.

PHONE | **EMAIL**

EXHIBIT C-2 (CONTINUED)
CLEARANCE TRANSMITTAL FORM (FORM OS-329)

INSTRUCTIONS

Originator:

1. Fill in **DATE SENT** and **DATE DUE**. Allow a reasonable length of time as indicated in Publication 693, Specification Review Manual, Table 2.1.
2. Enter Clearance Transmittal Number below form heading. (Example: B-12-099; where the B = originating Division, 12 = originating year, 099 = a consecutive number generated by the originating Bureau's or Division's Specifications Coordinator)
   Originating Bureau/Division Sample Key:
   A = Asset Management; B = Bridge Design and Technology; F = Fleet Management; H = Highway Delivery;
   L = Maintenance Technical Leadership; P = Maintenance Performance; S = Innovations and Support Services;
   T = Highway Safety and Traffic Operations
3. Place a check mark next to the proper Step for the clearance transmittal.
4. Place a check mark in the box to the left of the Bureau or Division to indicate to whom the material is being sent.
5. Select the proper Division in the **FROM** drop-down menu.
6. Enter the title of the material after the word **TITLE**.
7. List the action to be taken or any instructions under **REMARKS**.
8. Enter the originator of the clearance transmittal after the word **ORIGINATOR**.
9. Fill in / select the contact information under **CHECK THIS BOX FOR RETURN TO:**

Reviewer:

1. Place a check mark in 1 of the 3 boxes under **YOUR COMMENTS:**.
2. If disapproved or modification is indicated give reason **WHY** changes should be made.
3. Sign and date in space provided.
4. Place a check mark in the box to the left of **CHECK THIS BOX FOR RETURN TO:** to have the material returned to its originator.

EXHIBIT C-3
SUGGESTED DISTRIBUTION LIST

Not all CTs are circulated for external review and comment. See Chapter 2 for additional instruction regarding internal and external reviews.

PENNDOT CENTRAL OFFICE:

-Deputy Secretary for Planning
-Deputy Secretary for Multimodal Transportation
-Office of Chief Counsel
-Bureau of Project Delivery
    -Bridge Design and Technology Division
    -Highway Delivery Division
    -Innovative Support and Services Division
-Bureau of Maintenance and Operations
-Municipal Research and Outreach Services

PENNDOT DISTRICT OFFICES:

-All District Executives
-All District ADE - Design
-All District ADE - Construction
-All District ADE - Maintenance
-All District Highway Design/Plans Engineers
-All District Bridge Engineers
-ADE - Services, District 6-0

OTHER GOVERNMENT AGENCIES:

-FHWA (Federal Highway Administration - PA Division)
-PA DEP (Pennsylvania Department of Environmental Protection)
-PA Turnpike Commission
-PACD (Pennsylvania Association of Conservation Districts)

EXHIBIT C-3 (CONTINUED)
SUGGESTED DISTRIBUTION LIST

TRANSPORTATION-RELATED ORGANIZATIONS:

-ACEC/PA (American Council of Engineering Companies of Pennsylvania)
-APC (Associated Pennsylvania Constructors)
-PMTA (Pennsylvania Motor Truck Association)

Bituminous Pavements (Publication 408, Sections 300 and 400):
-PAPA (Pennsylvania Asphalt Pavement Association)
-PAAMA (Pennsylvania Association of Asphalt Material Applicators)

Concrete Pavements (Publication 408, Section 500):
-ACPA (American Concrete Pavement Association)
-PCPC (Pennsylvania Concrete Promotion Council)

Pipes (Publication 408, Section 600):
-ACPA (American Concrete Pipe Association)
-PCPA (Pennsylvania Concrete Pipe Association)
-NCSPA (National Corrugated Steel Pipe Association)
-PPI (Plastics Pipe Institute)

Precast Concrete Products (e.g., Endwalls, Inlets, Spring Boxes, Concrete Barrier, etc.) (Publication 408, Section 600):
-PPA (Pennsylvania Precast Association)

Material (Publication 408, Section 700):
-PACA (Pennsylvania Aggregates and Concrete Association)
-CRSI (Concrete Reinforcing Steel Institute)

Lighting
-(Pennsylvania Utility Contractors Association-Reigle)

Prestressed Concrete Beams or other precast products (Publication 408, Section 1000):
-CABA (Central Atlantic Bridge Associates)

Steel Beams (Publication 408, Section 1000):
-NSBA (National Steel Bridge Alliance

EXHIBIT C-4
PENNDOT CLEARANCE TRANSMITTAL COMMENT FORM/RESOLUTION MATRIX

[Insert title of CT, Publication xxx, Section xxx] **Clearance Transmittal X-XX-XXX, Step 1 External** **date sent**					
Comment No.	**Contact**	**Organization**	**Page**	**Comments**	**Follow up**
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
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24					
25					
26					

EXHIBIT C-5
MEMORANDUM (STEP-TWO CLEARANCE TRANSMITTAL) RESPONSE EMAIL

The content shown below is be sent in the body of an email.

SUBJECT:

TO:

FROM: *[insert name, title]*
[insert organization and address]

DATE SENT:

Reference is made to the Step 1 Clearance Transmittal for with a due date of *[insert due date]*. We are returning the following comments for your resolution: (Note: Please provide information on how comments were addressed when submitting for further processing.)

Office of Chief Counsel,

Bureau of Project Delivery,
Highway Delivery Division, Modified (PSS&C)
Bridge Design & Technology Division,
Innovation and Support Services Division,

Bureau of Maintenance and Operations,
Highway Safety and Traffic Operations Division,
Fleet Management Division,
Maintenance Performance Division,
Maintenance Technical Leadership Division,
Asset Management Division,

District 1-0,
District 2-0,
District 3-0,
District 4-0,
District 5-0,
District 6-0,
District 8-0,
District 8-0,
District 9-0,
District 10-0,
District 11-0,
District 12-0,

FHWA,

APC,

PA Turnpike Commission,

Attachments

EXHIBIT C-6
TEMPLATE DOCUMENTS FOR PUBLICATIONS AND/OR SSPs PREPARED FOR REVIEW, APPROVAL AND FYIs

Note, this template is used to seek FHWA approval.

OS-2 (1-13)

pennsylvania
DEPARTMENT OF TRANSPORTATION

[Date]

[insert name]
Division Administrator
Federal Highway Administration
228 Walnut Street – Room 508
Harrisburg, Pennsylvania 17101-1720

Dear *[*Ms./Mr. *insert name]*:

Enclosed for your review and approval is one (1) copy of the draft of changed pages for *[insert title of policy document]*.

This change is necessary to *[insert reason for changes made]*.

All proposed changes are indicated with tracked changes.

If there are any questions on the above request, please contact *[insert name]*, at *[insert phone number]*.

Sincerely,

[insert name]
Director
Bureau of Project Delivery

Approval: _____ Date: _____
FHWA Division Administrator

Enclosure

cc: *[insert name]*

X-XX-XXX

Bureau of Project Delivery | Project Schedules, Specifications, and Constructability Section
400 North Street – 7th Floor | Harrisburg, PA 17120 | (717) 787-5914 | www.dot.state.pa.us

EXHIBIT C-6 (CONTINUED)
TEMPLATE DOCUMENTS FOR PUBLICATIONS AND/OR SSPs PREPARED FOR REVIEW, APPROVAL AND FYIs

Note, this template can be used for FYI correspondance with APC.

OS-2 (1-13)

pennsylvania
DEPARTMENT OF TRANSPORTATION

[Date]

[insert name]
Associated Pennsylvania Constructors
800 North Third Street
Harrisburg, Pennsylvania 17102

Dear *[Ms./Mr. insert name]*:

Enclosed for your information is one (1) copy of the draft of changed pages for *[insert title of policy document]* which has been submitted to FHWA for approval.

This change is necessary to *[insert reason for changes made]*.

All proposed changes are indicated with tracked changes.

If there are any questions on the above request, please contact *[insert name]*, at *[insert phone number]*.

Sincerely,

[insert name]
Director
Bureau of Project Delivery

Enclosure

cc: *[insert name]*

X-XX-XXX

Bureau of Project Delivery | Project Schedules, Specifications, and Constructability Section
400 North Street – 7th Floor | Harrisburg, PA 17120 | (717) 787-5914 | www.dot.state.pa.us

APPENDIX D

SAMPLE EXHIBITS FOR PUBLISHING SPECIFICATION CHANGES

This appendix provides samples of various documents typically prepared to publish changes for PennDOT Specifications.

EXHIBIT D-1
SAMPLE TRANSMITTAL LETTER FOR PUBLICATION 408

OS-299 (7-08) pennsylvania DEPARTMENT OF TRANSPORTATION	TRANSMITTAL LETTER	**PUBLICATION:** PENNDOT PUB 408/*[YYYY]* **DATE:** *[Insert date]*

SUBJECT:

Initial Edition
PENNDOT Publication 408/*[insert year, YYYY]*
Specifications (Metric & English)
Year *[YYYY]* Edition

INFORMATION AND SPECIAL INSTRUCTIONS:

Applicability: This Transmittal Letter and its attachment constitute the Initial Edition to PENNDOT Specifications, Publication 408/*[YYYY]*. The Initial Edition to Pub 408/*[YYYY]* is hereby referred to as Pub 408/*[YYYY]*-IE. It is new and complete in its entirety, and is effective on projects let after *[insert date, Month D, YYYY]*.

Contents of PUB 408/*[YYYY]*-IE. Pub 408/*[YYYY]*-IE contains measurement standards in both Metric and English. Furthermore, it contains Designated Special Provisions and information on how users may gain access through the ECMS Website specifics of all Standard Special Provisions (SSPs) and Master Construction Items to Pub 408/*[YYYY]*.

Change Format: All subsequent changes to Pub 408/*[YYYY]* will be made using a "new page" format. To relate changes and conditions that are in effect each bid proposal will contain a SSP named: "GOVERNING SPECIFICATIONS AND APPLICABLE DESIGNATED SPECIAL PROVISIONS". This SSP exists in both CMS and ECMS formats. It will specify the Initial Edition or Numbered Change of the Pub 408, the Measurement Standard, levels/goals, and the Designated Special Provisions that apply to the particular project.

Availability: Pub 408/*[YYYY]* is available in three versions: Hardcopy, Hardcopy with a subscription to semiannual changes, and Internet. All users may access this Publication and its Changes free of charge on the PENNDOT Website at www.dot.state.pa.us, at either "Doing Business With PENNDOT/Construction Specifications" or at "General Information/Publications".

Web Content: The Internet versions of PUB 408 contain previous Editions, Changes, and their revisions in their entirety, beginning with Pub 408/94 (English).

CANCEL AND DESTROY THE FOLLOWING:	**ADDITIONAL COPIES ARE AVAILABLE FROM:**
Please see the Index of Changes	☒ PennDOT SALES STORE (717) 787-6746 phone (717) 787-8779 fax ra-penndotsalesstore.state.pa.us ☒ PennDOT website - www.dot.state.pa.us *Click on Forms, Publications & Maps* ☒ DGS warehouse (PennDOT employees ONLY)

EXHIBIT D-1 (CONTINUED)
SAMPLE TRANSMITTAL LETTER FOR PUBLICATION 408

	APPROVED FOR ISSUANCE BY: *[Insert name]* Secretary of Transportation by: *[Insert name]* Director Bureau of Project Delivery

EXHIBIT D-2
EXAMPLE INDEX OF CHANGES TO PUBLICATION 408

Index of Changes to Pub 408/YYYY **408/YYYY**

INDEX OF CHANGES

TO

PUBLICATION 408/*[Insert edition year, YYYY]*

General: The Index of Changes has been created to assist Pub 408/*YYYY* users in determining the specifics of semiannual changes that have been made since the release of the Initial Edition. Internet and CD-ROM users of this publication may electronically access the specifics of all Changes, which includes where revisions have been made and why. The Index below contains this information. As an attachment to this Index, for Hardcopy subscription holders only, will be copies of all "new pages" associated with a specific Numbered Change.

The Change Process: Changes to Pub 408/*YYYY* will be issued biannually. ***Numbered Changes*** will consist of a Transmittal Letter with instructions for posting of revisions, an updated version of this Index, and the "new pages" containing/constituting the revisions. These "new pages" will be available only to hardcopy subscribers. All ***Numbered Changes*** will also be filed electronically in sequential order on the PENNDOT Website and in the CD-ROM version of the publication. ***Numbered Changes*** will be incorporated into the Pub 408/*YYYY* and filed under the ***Change Letters and Indices*** portion of the Publication. A subscription is necessary to update the hardcopy versions of Pub 408/*YYYY*. Hardcopy users must physically post the new pages provided. However, this process of posting has been completed prior to release or distribution of the Internet and CD-ROM versions of Pub 408/*YYYY*.

The Researching of Revisions. It is critical to many users of Pub 408 to be able to determine the point in time revisions were made and what specifically the changes were. This is particularly important from a contractual perspective when researching specifications that were applicable to projects previously awarded. To assist in this process users should refer to the Change Index that follows. If revisions have been made, users can then refer to the specifics found in the Initial Edition or subsequent Numbered Change.

The Historical Index. Found in the Change Index below is a listing of all changes made to Pub 408/*YYYY* since the release of the Initial Edition.

CHANGE INDEX OF REVISIONS

THROUGH CHANGE NO. *[Insert change number, X]*

Section and Portion Changed		Revised w/	Effective Dates	Explanation
Section	**Part or Paragraph**	**Change No.**	**From**	**Nature and Rationale for Change**

1

Change No. X

EXHIBIT D-2 (CONTINUED)
EXAMPLE INDEX OF CHANGES TO PUBLICATION 408

Index of Changes to Pub 408/YYYY **408/YYYY**

Section and Portion Changed		Revised w/	Effective Dates	Explanation
Section	**Part or Paragraph**	**Change No.**	**From**	**Nature and Rationale for Change**
Cover				
Preface				
TOC				
	305, 401, 420, 421, and 424	7	October 1, 2010	These Sections are being removed from Pub 408.
	651, 656, 810, and 1089	6	April 2, 2010	To revise their titles
	419, 860, 866, 867, 868, 1087, 1088	5	October 1, 2009	To add new Section 419, 868; to revise title for Sections 860, 866, 867, 1087, & 1088
	806, 849, 851, 853, 854, 855, 862, 870, 871, 872, 873, 874, 875,	4	April 2, 2009	To add new Sections 849, 870, 871, 872, 873, 874, & 875; to revise title for Sections 806, 851, 854, & 855; and to delete Sections 853 & 862.
	316, 450, 643, 644, 811, 867, and 944	2	April 2, 2008	To add new Sections, to revise title for Section 811, and to correct typo in Section 867.
	591, 689, 940, 941, 942, 945, 970, 971, 972, 974, 975, Transmittal Letter, and Index of Revisions	1	October 1, 2007	These are all new Sections.
100				
101	101.3	5	October 1, 2009	To add 2 new definitions for ECMS website and PENNDOT homepage

EXHIBIT D-3
E-MAIL NOTIFICATION TEMPLATE TO DISTRICTS STATING DOCUMENT ATTACHED FOR SSP (REVISION)

Attached is ECMS SSP Memo No. *[insert memo number]* for the year *[insert year]*.

Thank you,

[insert signature block for sender]

EXHIBIT D-4
MEMORANDUM TEMPLATE FOR SSP (REVISION)

Date:

Subject: Revisions to ECMS Standard Special Provisions

To: District ECMS Coordinators
Attn. Contract Management Engineers

From: *[insert name]*
Specification Review Unit
Project Schedules, Specifications and Constructability Section
Highway Delivery Division
Bureau of Project Delivery

The following Standard Special Provision is for use on projects let after ***[insert date]***.

Note: The following Standard Special Provisions and Instructions for Usage have been revised to

SERIES/INDEX/ DISTRICT	**PROVISION NAME and INSTRUCTIONS FOR USAGE**	**VERSION (REVISION)**

EXHIBIT D-5
E-MAIL NOTIFICATION TEMPLATE TO DISTRICTS STATING DOCUMENT ATTACHED FOR SSP (CORRECTION)

Attached is Correction Memo No. *[insert memo number]* for the year *[insert year]*.

Thank you,

[insert signature block for sender]

EXHIBIT D-6
MEMORANDUM TEMPLATE FOR SSP (CORRECTION)

Date:

Subject: Revisions to ECMS Standard Special Provisions

To: District ECMS Coordinators
Attn. Contract Management Engineers

From: *[insert name]*
Specification Review Unit
Project Schedules, Specifications and Constructability Section
Highway Delivery Division
Bureau of Project Delivery

The following Standard Special Provisions have been corrected.

Note: The following Standard Special Provisions and Instructions for Usage have been revised to

SERIES/INDEX/ DISTRICT	**PROVISION NAME and INSTRUCTIONS FOR USAGE**	**VERSION (REVISION)**

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APPENDIX E

PACKAGING OF CLEARANCE TRANSMITTALS FOR CHANGES TO PENNDOT PUBLICATIONS AND SPECIFICATIONS

The information provided below describes how a Clearance Transmittal (CT) should be packaged for changes to PennDOT Publications and Specifications.

***Step 1: Form OS-329 (to be completed by Originator)**

-Obtain the current electronic version of Form OS-329 (Clearance Transmittal) from the originating Bureau's CT Coordinator or the Specifications Review Engineer in the Bureau of Project Delivery, Project Schedules, Specifications and Constructability Section. (The form is owned and maintained by the PennDOT Sales Store.)

-Follow the instructions in Form OS-329 for the Originator to complete DATE SENT, DATE DUE, CT NUMBER, who will receive the CT, who has been coordinated with, FROM, TITLE, REMARKS, AND RETURN. (See Exhibit C-2)

-Attach the document that is being changed with the tracked changes shown.

***Step 2: Circulate CT**

-Send CT, at a minimum, to all Highway Administration Bureaus, each District Office, and OCC. External reviews include all internal reviewers with the addition of the other Commonwealth agencies (i.e., the PA Turnpike Commission, PA Department of Environmental Protection), Federal agencies (i.e., FHWA, FTA, Army Corps. of Engineers), and business partner organizations (i.e., Associated Pennsylvania Constructors (APC), American Council of Engineering Companies of Pennsylvania (ACEC/PA)), as appropriate. (Refer to Appendix C, *Sample Exhibits For Clearance Transmittals*, Exhibit C-3 for a proposed distribution list for circulating CTs).

-Submit the CT to FHWA's e-mail address (Pennsylvania.FHWA@dot.gov).

-Indicate how Internal Reviewers within PennDOT may access the CT; coordinate with the originating Bureau's SC. Each CT should have a folder to place their review files. An example is shown below:

P:\penndot shared\ClearanceTransmittals\Sub-Folders

where: Sub-Folders = <CT Number>\<Round>\<Sent Date>\

-In the distribution email, indicate how External Reviewers outside PennDOT may access the CT; coordinate with the originating Bureau's CT Coordinator. Each CT should have a folder to place their review files. An example is shown below:

ftp.dot.state.pa.us/Bureau_of_Project_Delivery/Clearance_Transmittals/Sub-Folders

where: Sub-Folders = <CT Number>/<Round>/<Sent Date>/

-Copy all relevant electronic files for the CT to the suggested locations above for Internal and External Reviewers.

-Stipulate what method is acceptable to submit review comments. It is strongly recommended to only accept review comments that are tabulated in a Microsoft Excel file (spreadsheet). To obtain an electronic copy of this spreadsheet, contact the Bureau of Project Delivery, Project Schedules, Specifications and Constructability Section (also refer to Appendix C, *Sample Exhibits For Clearance Transmittals*, Exhibit C-4).

-Inform reviewers that if they wish to submit review comments, they are to download the spreadsheet, populate it with their review comments, save it with a new filename, and return it to the contract person listed in the RETURN section found at the bottom of Form OS-329.