

Standards Committee

Meeting Agenda

Wednesday, November 3, 2021 at 9:00am

Google Meet video conference. E-mail distribution message includes instruction.

Call to Order

Roll Call of Attendees

Approval of Minutes of 8-25-2021 Meeting

Unfinished Business – Standards discussed at last Committee meeting

TITLE	Champion
2nd time to Committee. Discussed in August. DD-706 Guidelines for Preparing PS&E, PS&E Check List, Proposal Work Category Check List	S. Danberry

New Business

TITLE	Champion
1st time to Committee. DD-204 Guidance for Use of Project Schedules for Project Under Development	R.J. Scites

Next Meeting Date: Wednesday, January 12, 2022.

Deadline for submissions: December 2, 2021.

Adjournment

Technical Publications Committee
Meeting Minutes
August 25, 2021

The meeting was called to order by Chair Martin Dougherty at about two minutes after 1:00 PM

Attendees:

DOH

Bodnar, David - DD
Brayack, Daniel* - FM
Brown, Phillip - FM
Boggs, Steve - DS
Danberry, Sasha - FC

Dougherty, Martin - DS
Hall, Joe - DD
Jack, Shawn - FM
Long, Travis - DS
Mongi, Ahmed - DD

Neeley, Barrett - DD
Scites, RJ* - DD
Smith, Shawn* - FC
Thaxton, Andrew - FM
Thompson, Conner - FM
Whitmore, Ted* - DT

*Voting Delegate

Others:

Tony Anders – Triton
Don McNutt – ACPA
Pat Parsons – CAWV/WVAPA

Yuvonne Smith – FHWA

And one other that Google reports only as +1 304-***-**01

Minutes of the 6-17-2021 Meeting were approved without objection.

Unfinished Business

DD-666 – Impact Attenuators: Following minimal discussion the new directive was accepted 3-0.

DD-105 – Technical Committees: There was a brief explanation, no discussion. The revisions were accepted 4-0

New Business

DD-706 – Guidelines for Preparing PS&E, PS&E Check List, Proposal Work Category Check List: Sasha Danberry explained the need for the new 'Proposal Work Category Checklist' and how it will be used. There was minimal discussion.

Next Meeting – Wednesday November 3, 2021, via Google Meet. Deadline for submissions October 4, 2021.

Adjournment

DRAFT

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

PS&E DOCUMENTATION CHECKLIST

Revised April 15, 2021

State Project Number: _____

Federal Project Number: _____

Project Name: _____

County: _____

Project Manager: _____ PS&E Submitted By: _____

Telephone Number: _____ Telephone Number: _____

Email: _____ Email: _____

Signature Applicable Section Head (Central Office or District): _____

Type of Funding with Percentage: FHWA: _____ State: _____

Engineering Phase Authorization Number: _____

Is project on the latest approved STIP? _____ Yes _____ No

Geotechnical Report Required? _____ Yes _____ No

MATERIAL TO BE FURNISHED TO CONTRACT ADMINISTRATION DIVISION'S PS&E SECTION (Note: All material is to be submitted in PDF format)

All Projects	BY	DATE
1. One set of Plans in PDF format.		
2. One copy of the detailed estimate, in PDF format, to be signed by the Responsible Charge Engineer or Project Manager, and Estimate Preparer - for review by FHWA, Contract Administration Div., & Civil Rights Compliance Div.		
3. One copy of the Project Specific Special Provisions, in PDF format.		
4. One set of working day calculations		
5. One copy of the executed project agreement, if applicable, in PDF format.		
6. All applicable Permits, in PDF format.		
7. Completed Design Exception Report in PDF format (if applicable and not previously submitted)		
8. Completed Americans With Disabilities Act Exceptions Justification Report (if applicable, in PDF format).		
9. Federal Aid Resurfacing 'Operational and Safety Review' Checklist approved by FHWA PRIOR to PS&E for all Interstate and APD Highways		
10. Completed PS&E Checklist in PDF format.		

PLANS	BY	DATE
1. Title Sheet signed by all parties.		
2. Design Exceptions shown on Title Sheet.		
3. Revised Standard Drawings Used are listed on General Notes Sheet.		
4. Necessary Special Detail Sheets included in Plans or listed.		
5. Summary of Quantities in plans agrees with Proposal Quantities.		
6. Summary of Quantities has been carried from Plan Tables, including the Bridge Quantity table.		
7. Design Designation is current and agrees with Program Information.		
8. General Notes Sheet is in Plans; the notes have been reviewed and are applicable to the project.		
9. The proper Standard Detail Books are shown in the Standard Details General Note.		
10. Bench Marks and Survey Reference Points are shown on the Plans.		
11. The length of the project is shown on the Title Sheet, (separated into bridge and roadway, and total length).		
12. Typical Sections are shown for every roadway and situation encountered in the project.		
13. Typical Sections agree with pavement design.		
14. Current specifications called for.		
15. Grading Quantities as per DD-705.		
16. Line, grade, typical section, and waterway opening included for a temporary bridge.		
17. North Arrow shown on Plan Sheets.		
18. Bar Scale shown.		

MAINTENANCE OF TRAFFIC	BY	DATE
1. Temporary Traffic Control Plan included.		
2. Temporary Traffic Control Plan has been approved by Traffic Engineering.		

RIGHT OF WAY	BY	DATE
1. Right of way shown on the Construction Plans agrees with the Right-Of-Way Plans.		
2. Right of Way Plans submitted to the Right of Way Division (DR), requesting Right of Way Certificate, Staus of Utilities Certificate, and Hazardous Waste Certificate. If Right of Way is not required, a memo to DR stating no Right of Way is required along with a copy of the Title Sheet.		
3. Right of Way Certification received.		
4. Status of Utilities Certification received.		
5. Hazardous Waste Certification received.		

UTILITIES		BY	DATE
1. Encountered utilities are shown on the Title Sheet.			
2. All utility relocations and other dispositions are shown on the Plans.			
3. Bureau for Public Health and owner(s) have approved water and/or sewer lines to be relocated by the project.			
<u>LIST OF UTILITIES TO BE RELOCATED</u>		<u>RELOCATIONS SHOWN ON PLANS</u> (Yes or No, Date if Yes)	
1 _____	_____		
2 _____	_____		
3 _____	_____		
4 _____	_____		
5 _____	_____		
6 _____	_____		
7 _____	_____		
8 _____	_____		
9 _____	_____		
10 _____	_____		

ENVIRONMENTAL	REQUIRED?		BY	DATE
	Y	N		
1. Categorical Exclusion.				
2. Environmental Assessment (FONSI).				
3. Final EIS/Record of Decision.				
4. Reevaluation (for Final EIS only).				
5. Section 4(f).				
6. *Section 106 (Cultural Resources) clear.				
7. *Endangered Species (plant or animal) clear.				
8. Wetlands clear.				
9. Hazardous Waste clear.				
10. ** Construction noise restrictions (10:00pm to 6:00am).				
11. Farmland impacts.				
12. Floodplain impacts.				
13. Residential or business relocation impacts.				
* - These items must be clear in order to obtain the USACOE's 404 Permit.				
** - If yes, then indicate on the General Notes sheet.				

PERMITS APPROVED (If Required)	REQUIRED?		BY	DATE
	Y	N		
1. Corps of Engineers' 404 Permit				
2. Bureau for Public Health				
3. Coast Guard				
4. *NPDES permit				
5. Flood Plain Coordination Letter				
* Required if project will have more than 1 (one) acre (0.42 hectares) of land disturbing activities. The project's Clearing and Grubbing area may be used for this determination.				

REVIEW HISTORY

REVIEW	BY	DATE	COMMENTS RECEIVED (DATE)				COMMENTS ADDRESSED (DATE)			
			DC	DIST.	FHWA		DC	DIST.	FHWA	
Preliminary Field										
Final Field										
Final Office										

Copies of all written comments and written responses shall be included in the PS&E Package.

District-designed projects shall be submitted to the Engineering Division with a cover memorandum stating that the project plans have been reviewed by the District Construction and Maintenance Sections and all comments have been resolved. This memorandum shall be signed by the Assistant District Engineer - Construction, Assistant District Engineer - Maintenance, and the District Engineer.

AMOUNT TO BE USED FOR ENGINEERING AND CONTINGENCIES IN COST ESTIMATING

Federal-Aid Projects

Projects greater than \$5 million $9\% + 4\% = 13\%$

Projects less than \$5 million

Bridge Construction $15\% + 4\% = 19\%$

Roadway Construction $9\% + 4\% = 13\%$

Resurfacing (3R and 4R) $9\% + 4\% = 13\%$

Other types of projects $15\% + 4\% = 19\%$

ER Projects

FEMA Projects

Signing Projects

Lighting Projects

Guardrail Projects

Traffic Signal Projects

APL Projects

Piling Projects

State-Funded Projects

Bridge and Roadway Construction $9\% + 4\% = 13\%$

Resurfacing $6\% + 4\% = 10\%$

NOTE: The First % is for Construction Engineering.
The Second % is for Contingencies.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

DRAFT

DESIGN DIRECTIVE 204
GUIDANCE FOR USE OF PROJECT SCHEDULES
FOR PROJECTS UNDER DEVELOPMENT

Draft of October 18, 2021

Supersedes June 17, 2021

This Design Directive provides guidance and instruction, along with sample Project Schedule templates, on how to prepare and submit project schedules for projects under development. These project schedules will be used by project managers, as outlined herein.

10. GENERAL

10.1 Introduction: Project schedules are to be submitted by project managers for projects with multidisciplinary involvement, outside resource agency coordination, or have highly technical or complex issues; this includes preliminary study projects. The project schedule shall outline all the required project tasks and the submission dates at project milestones. Design completion dates for projects are established by the schedule and are utilized for tracking project authorization and determining program delivery.

Projects that have few tasks or do not have parallel dependencies that need a critical path identified may not need to use these scheduling procedures. Projects such as contract resurfacing, minor slide repair or emergency projects require few participants and need minor resource documentation. Program milestones will be tracked in the Hub, the replacement software for the legacy Project Tracking System.

Network diagrams have historically been used by the Division of Highways for tracking project milestones. Network diagrams identify multiple paths of parallel activities. Those paths are reviewed, and a critical path is identified. The critical path is a list of tasks or activities that drive the project's schedule. No tasks on the critical path can be late and allow the project to remain on schedule. This type of schedule management is referred to as Critical Path Method (CPM) and provides a point of emphasis for managing all tasks. The use of CPM is documented in many manuals and reports and should be referred to for detailed information on scheduling.

Example templates of previously used CPMs are included at the end of the DD and provide visual examples of node to node scheduling. These should be referenced and generally followed to ensure disciplines develop at a rate such that design alterations or new data can be managed and incorporated reasonably and without undue undermining of design efforts.

Bar charts, also called Gantt charts, will be used to graphically display a project's schedule. Microsoft Project is available and can be integrated with the Hub to update programmatic milestones. Schedules should document all necessary milestones including review time by Division of Highways staff.

20. PROJECT SCHEDULES

20.1 Initial Schedule: When it is determined a schedule will be required, an initial review should be developed either prior to programming or shortly after. The schedule should identify all mandatory tasks and define risk based working days. Tasks that involve high probability of risk include major NEPA actions, core drilling operations, right of way acquisition, utility relocations and individual permits.

20.2 Project Schedule: The Project Schedule should be updated within a relatively short time before actual project development starts or when previous studies or program rescheduling have identified refinements to project milestones. The integration with the Hub allows for the schedule adjustments to be uploaded and for automated requests for programmatic milestone revisions.

20.3 Project Schedule Revision: Revisions to schedules should reflect current expectations and provide realistic delivery schedules. Reasons for major milestone schedule delays shall be documented-submitted to and reported to development responsibility management and approved by the Deputy State Highway Engineer-Development. Approved schedule changes shall be forwarded to Programming Division and the Hub updated. The revision documentation will be used for evaluation of both DOH staff and Consultant staff.

30. PREPARATION OF PROJECT SCHEDULES

30.1 General: Project Schedules will be completed on WVDOT provided software. Schedules will be based on working days, not calendar days. Working time or duration shall be entered in days as the unit. The project manager will be responsible for managing leading activities or predecessors. Immediate supervisors will provide guidance and approve working times and schedules in the original Project Schedule. Templates have been created for standard projects and can be managed out of the Hub.

30.2 Scheduling Software: WVDOT will provide software to designated staff who will be responsible for managing schedules. The software will be installed on computers. The software is an industry standard platform and files may be provided to consultants or other firms doing work for the WVDOT. WVDOT will not be responsible for providing software to firms doing work or provide guarantees of compatibility of data files. Compatible templates have been created and can be managed from the Hub.

30.1.3 Schedule Creation: Schedule templates can be downloaded from the Hub. The templates provide many standardized tasks that have been identified historically as major milestones of project development.

There are specific project milestone tasks identified in the standard schedule which must not be modified. These tasks tie directly to Hub critical dates for maintaining programmatic schedules. The milestones are in blue with a “post-it note” icon in the indicator column in the software. These tasks for a 300 series project are:

- CP START – “LINE AND GRADE APPROVAL PROCESS”
- RW START – “AUTHORIZE ROW PHASE”
- CP COMPLETE – “UPDATE FINAL PLANS FOR PSE SUBMISSION”
- CP/RW – “PREPARE AND SUBMIT RW CERTIFICATE”
- PSE – “PSE DOCUMENTS ASSEMBLED AND SUBMIT TO CA”
- ADVERTISE – “PROJECT ADVERTISED FOR LETTING”
- LETTING – “LETTING DATE”
- AWARD – “AWARD OF PROJECT”

Design study or 200 series project templates also have key milestones identified in blue that cannot be changed.

30.4 Project Scheduling: Scheduling of working time should be based on the amount of time it should take to accomplish the tasks. Resources, or workforce, should be allocated appropriately to meet the scheduled time of the tasks.

Task scheduling is based on many factors. The Division has historically leaned on the institutional knowledge base of existing employees to develop schedules. Staff use the scope of the project, technical needs of the design and risks associated with dealing with outside influences to predict working times.

Some tasks may not be used based on the scope of the project and can be zeroed out. If tasks are deleted, it is the responsibility of the project manager to manage predecessors. If tasks not identified in the standard schedule templates are critical, they may be added but the project manager is responsible for updating any predecessors and assuring that links are correct.

When revising standard template schedules the project managers shall make it a practice to review the following:

- a) Make no changes to programmatic milestones identified in 30.1.3.
- b) Use “auto scheduled” as the task mode. This will update the schedule for future tasks.
- c) Use multiple predecessor tasks when critical activities need to occur prior to task completion. An example of multiple critical predecessors is prior to right of way authorization, environmental documents and acquisition and utility estimates need completed.
- d) Internal review times need scheduled prior to major submittals.

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- e) Schedules should be reviewed and concurred by all those responsible for various actions of a project. Different disciplines have more knowledge of resource allocations under their control.
 - f) Schedules should follow formal policies when identified. Do not “crash” schedules for working times outside of the project manager’s ability to allocate resources.
 - g) Present a realistic schedule based on internal and external resource allocation and risks.

It is important that project managers identify as many risks as possible, hidden time consumers and review times when developing schedules. The timelines should provide a realistic and anticipated flow of project development. Project managers should attempt to control schedules from the earliest stage as possible. Project managers should use design study information to develop the Initial Schedule and once design is initiated update the Project Schedule as resources for design are identified.

Training on project management is available online from AASHTO TC3 program. This service is available free of charge to employees of participating transportation agencies. Staff must set up an account using their state email address. Upon completion of the course, staff will earn continuing education units (CEUs). To access the courses, go to AASHTO’s Store, <https://store.transportation.org>, and search for the following training:

- Critical Path Method (CPM) Scheduling
- Critical Path (CPM) Schedule Management

Training for the use of the scheduling software, MS Project, is available from many online sources. MS Project can be used for many complex project management operations, but the intent of this direction is only to provide simplistic task identification, node to node actions and assign workdays. Project managers will also be able to add tasks, modify predecessors and alter view layouts. It is suggested that the task mode be set to “auto schedule” to enable automatic updates of start and finish dates, and predecessor changes.

30.5 Schedule Integration with Hub: Schedules will now be integrated, downloaded, and uploaded to the Hub. It is the responsibility of the project manager to assure that schedules are kept up to date on the Hub. MS Project files may be temporarily stored on user’s computer, but the official Schedule will be the file stored on the Hub.

30.6 Schedule Storage and Archiving: For recordkeeping, the project’s final schedule and any revisions shall be saved in the project’s ProjectWise folder. During final evaluation of on time delivery of the project documents, schedule revisions and justifications should be reviewed to determine any issues that need documented for ongoing or future projects.