

**WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DESIGN DIRECTIVE**

**DD-204
(FORMERLY DESIGN DIRECTIVE 208)
GUIDANCE FOR USE OF CPM SCHEDULES FOR PROJECTS UNDER DESIGN
*July 1, 2006***

This Design Directive will give guidance and instruction, along with sample CPM schedule templates, on how to prepare and submit CPM schedules for projects under design. These CPM schedules will be used by all designers, whether they are Division of Highways designers or Consultant designers employed by the Division. The guidelines for Division-designed projects are different than those for Consultant-designed projects, and both procedures will be described herein.

Attachment

10. General

10.1 Introduction: CPM (Critical Path Method) schedules are to be submitted by the Designer for each project, including Design Study projects. The CPM outlines all the project milestones and the submission at these project milestones required during development of projects, and therefore is utilized by the Division to establish completion dates for all projects. In turn, the completion date for design of projects is established by the CPM, and is utilized for scheduling a project for advertisement for bids. There are other factors that are considered after a project's design is complete, such as the availability of funding, necessity of construction completion of the project because of construction phasing, interim completion dates, etc. that are factored in to determine a project's advertisement date.

The three approved CPM charts are included at the end of this Design Directive. There is a CPM for Design Reports, one for the "Typical Process" of project design, and one for the "Alternate Process" of project design. See Design Directive 301, Right of Way Plans, Sections 10.3.3.1 and 10.3.3.2 for explanations of these two "Processes".

A Bar Chart can be substituted for the CPM schedule on projects where CPM's are not appropriate. A Bar Chart is considered appropriate for projects such as traffic studies, bridge deck replacements, architectural design projects (such as rest area buildings, buildings for the Division itself), publications writing and/or revisions when performed by a consultant, etc.

The Program Administration Division will keep the original CPM schedule. When updates are required they are to be resubmitted to the Program Administration Division with the revision date(s) noted on the Cover Sheet.

20. Preparation of the CPM Schedule for Division of Highways-designed Projects

20.1.1 Cover Sheet: All items listed on the Cover Sheet for each CPM for each project are to be completed, except for the signature block for the Engineering Division at the bottom. Again, the three approved CPM charts are included at the end of this Design Directive.

20.1.2 CPM Schedule: The CPM schedule is to be completed after the completion of all surveys and mapping. All times shown on the CPM schedules will be in working days, not calendar days. For certain projects, if the surveying/mapping is part of the Scope of Work, then the CPM will be completed starting with the Notice to Proceed, with the working time to complete the required surveys/mapping indicated on the CPM.

The boxes shown with various labels, such as "Notice To Proceed", "Mapping Complete", "Prelim FR Plans Complete", etc., indicate a project milestone. The small strip at the top of these boxes will be filled in

with the date that the project milestone is expected to be completed. The lines between these boxes represent an activity, such as preparation or review of preliminary, final field (if required), final office, slope, span arrangement, etc. plans. Core boring contract

administration, if required, is also included. A circle above an activity indicates the time the activity is expected to take to complete. This will be filled in by the Division's Designer. A box above an activity represents the time the Designer expects the review of the submission to take. For projects involving the Federal Highway Administration, their review time must be added to the Division's review time. Again, it is stressed that these times are in working days only. The black ovals represent "dummy nodes", indicating project milestones which are submissions to be made concurrently.

After the working days are filled in all required fields by the Designer, the Designer then computes the actual dates, and then places them in the small strip at the top of the project milestone boxes. The CPM schedule is then approved by the Designer, and given to the Program Administration Division.

If a project is not going to meet the original CPM schedule or approved changes thereto, the Designer should discuss this with the responsible person from the Program Administration Division and justify the reasons for the delay. Any changes approved are to be indicated on a revised CPM schedule, and the Program Administration Division will request a PS&E schedule change from Management.

30. Preparation of the CPM Schedule for Consultant-designed Projects

30.1.1 General: As indicated in the Scope of Work notes for Consultant-designed projects, each project will have a CPM submitted to the Division's Project Manager. The first submission of the CPM by the Consultant will show the Consultant's working days only, and reflect the project duration specified in the Scope of Work meeting.

30.1.2 Cover Sheet: All items listed on the Cover Sheet for each CPM are to be completed, except for the signature block for the Engineering Division at the bottom. Again, the three approved CPM charts are included at the end of this Design Directive.

30.1.3 CPM Schedule: The CPM schedule is to be completed after Notice to Proceed has been given. All times shown on the CPM schedules will be in working days, not calendar days.

The boxes shown with various labels, such as "Notice To Proceed", "Mapping Complete", "Prelim FR Plans Complete", etc., indicate a project milestone, or a submission to the Division's Project Manager. The small strip at the top of these boxes will be filled in with the date that the project milestone is expected to be completed. The lines between these

boxes represent an activity, such as preparation and review of preliminary, final field (if required), final office, slope, span arrangement, etc. plans. Core boring contract administration, if required, is also included. A circle above an activity indicates the time the activity is expected to take to complete. The Consultant is responsible for placing his/her working days in the circle above an activity. The Division's Project Manager for roadway and structures are responsible for placing his/her working days in the boxes above an activity. This will also include the Federal Highway Administration's review times. Again, it is stressed that these times are in working days only. The black ovals represent "dummy nodes", indicating project milestones with which there are submissions to be made concurrently.

After the working days are filled in for all required fields by the Consultant and the Division's Project Manager, the Project Manager then computes the actual dates, and then places them in the small strip at the top of the project milestone boxes. The CPM schedule is then approved by the responsible Project Manager and given to the Program Administration Division.

Consultants are required to submit three copies of an updated CPM schedule at each of his/her monthly Progress Meetings for each individual project. Activities and project milestones completed should be entered with the date accomplished followed by an "A" for Actual. Project milestone dates that are not accomplished as shown on the CPM are to be noted with justification given for missing the date. The completed work should be marked in color to indicate the latest point of progress.

If a project is not going to meet the original CPM schedule or approved changes thereto, the Project Manager should discuss this with the Consultant, other reviewers, and the responsible person from the Program Administration Division and justify the reasons for the delay. Any changes approved are to be indicated on a revised CPM schedule, and the Program Administration Division will request a PS&E schedule change from Management.

CPM NETWORK

DESIGN REPORT

PROJECT NAME _____

STATE PROJECT NUMBER _____

FEDERAL PROJECT NUMBER _____

PROJECT TERMINI _____

PROJECT LENGTH (MILES) _____

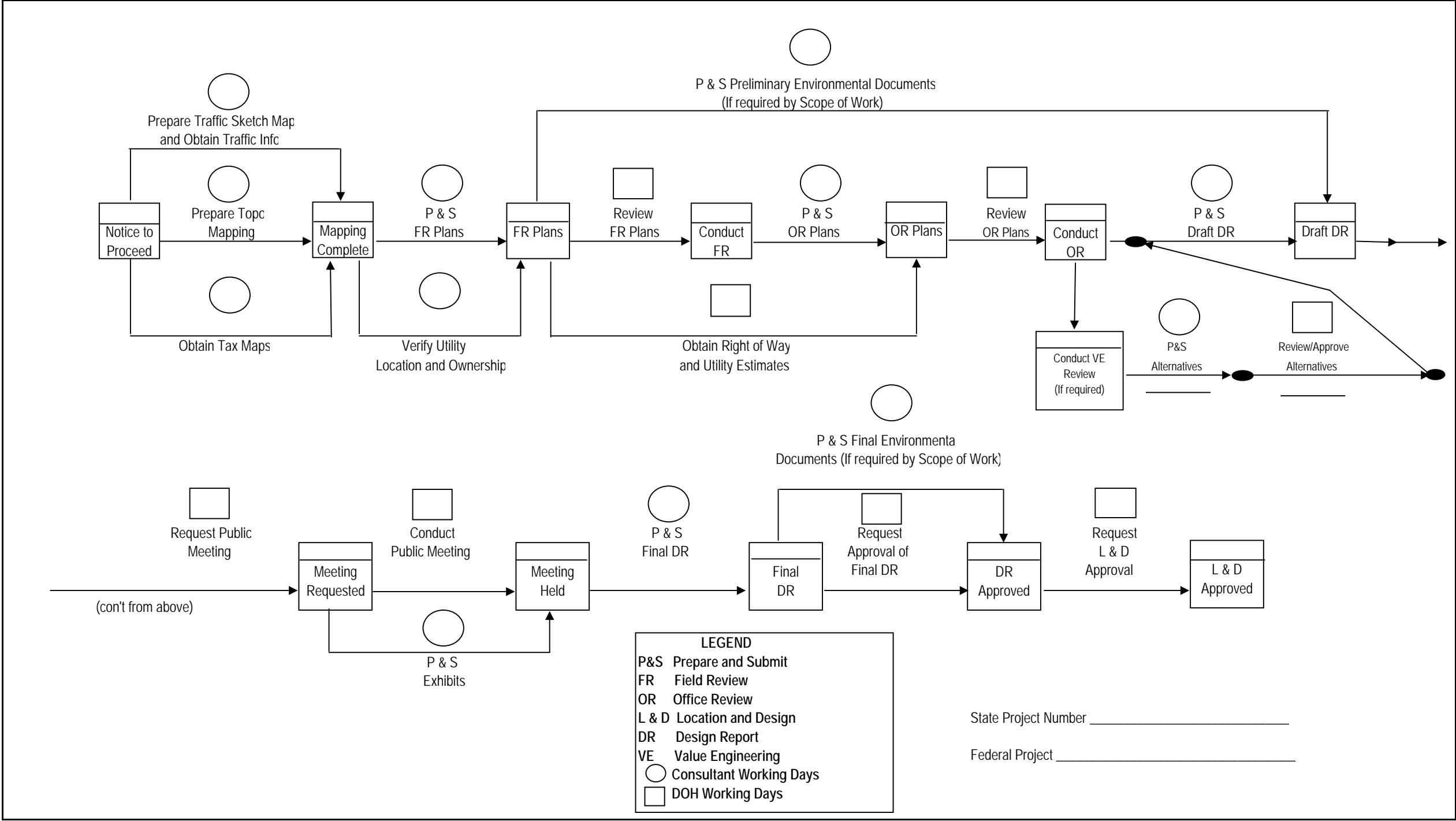
COUNTY _____

CONSULTANT _____

ENGINEERING DIVISION

APPROVAL BY: _____

APPROVAL DATE: _____



LEGEND
P&S Prepare and Submit
FR Field Review
OR Office Review
L & D Location and Design
DR Design Report
VE Value Engineering
○ Consultant Working Days
□ DOH Working Days

State Project Number _____
Federal Project _____

CPM NETWORK

ROADWAY AND/OR BRIDGE DESIGN

"TYPICAL PROCESS"

(TWO FIELD REVIEWS)

PROJECT NAME _____

STATE PROJECT NUMBER _____

FEDERAL PROJECT NUMBERS E _____

R _____

C _____

PROJECT TERMINI _____

PROJECT LENGTH (MILES) _____

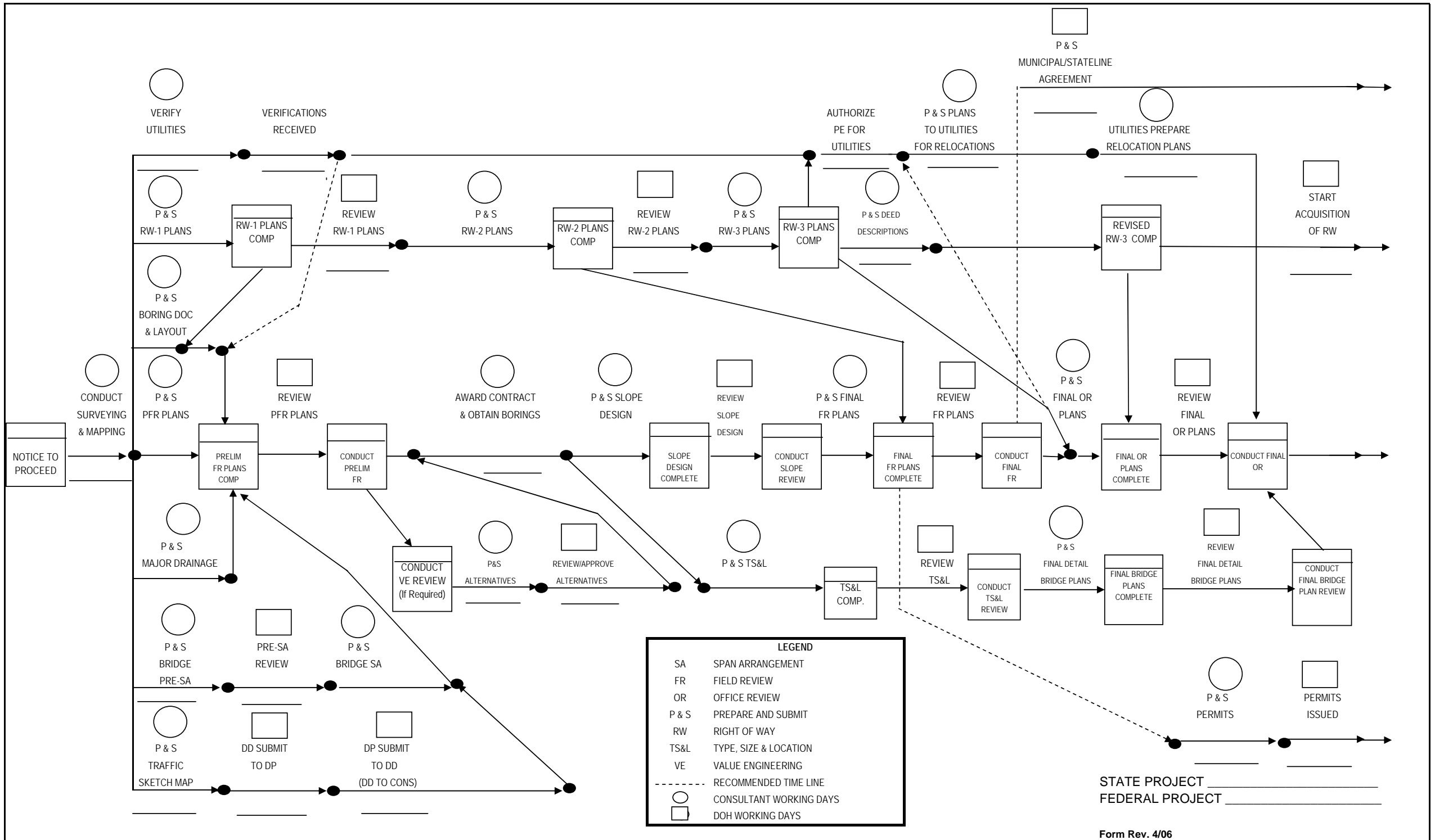
COUNTY _____

CONSULTANT _____

ENGINEERING DIVISION

APPROVAL BY: _____

APPROVAL DATE: _____



CPM NETWORK

ROADWAY AND/OR BRIDGE DESIGN

"ALTERNATE PROCESS"

(ONE FIELD REVIEW AND
FIVE OR LESS RW PARCELS)

PROJECT NAME _____

STATE PROJECT NUMBER _____

FEDERAL PROJECT NUMBERS E _____

R _____

C _____

PROJECT TERMINI _____

PROJECT LENGTH (MILES) _____

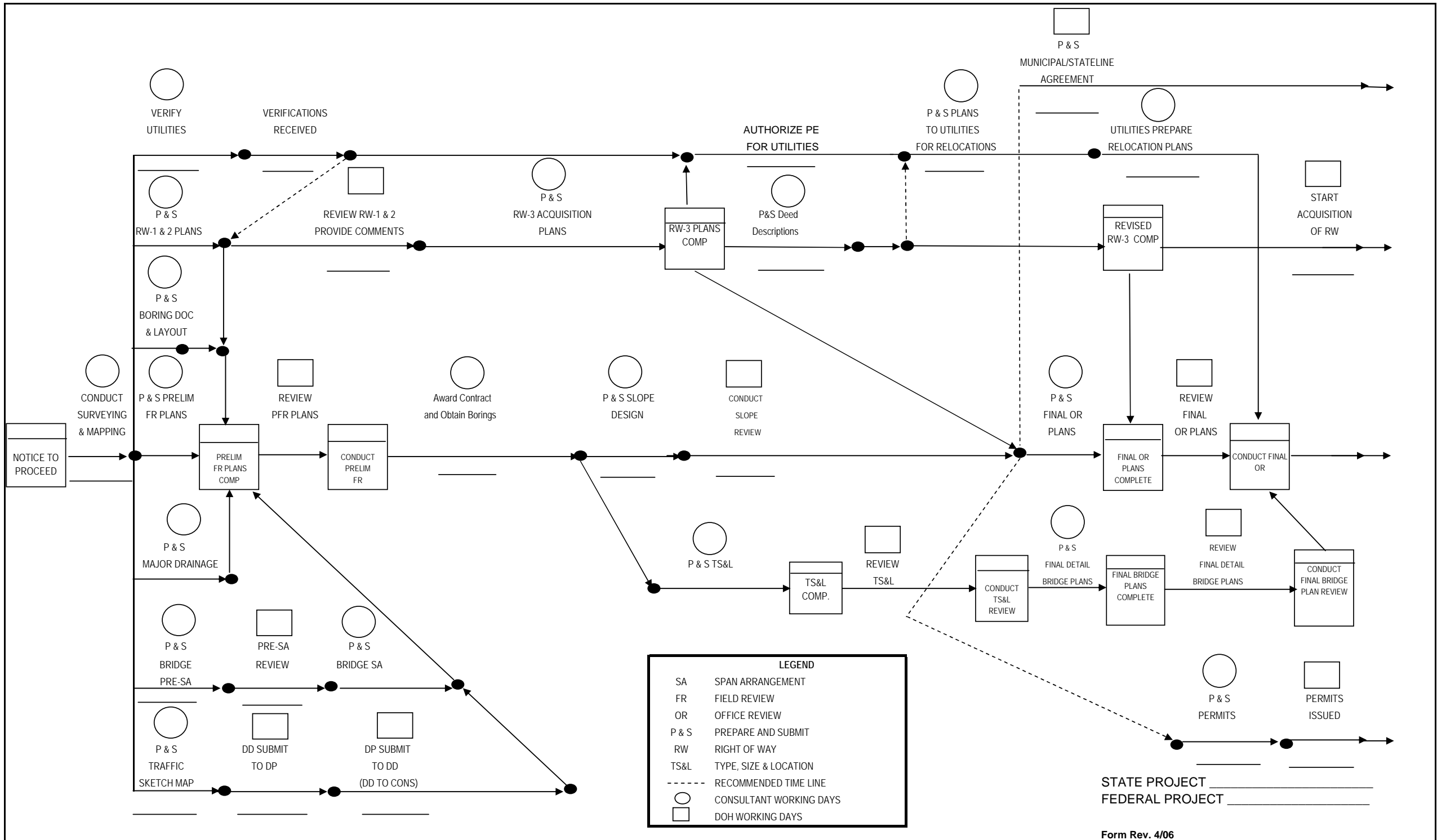
COUNTY _____

CONSULTANT _____

ENGINEERING DIVISION

APPROVAL BY: _____

APPROVAL DATE: _____



LEGEND

SA	SPAN ARRANGEMENT
FR	FIELD REVIEW
OR	OFFICE REVIEW
P & S	PREPARE AND SUBMIT
RW	RIGHT OF WAY
TS&L	TYPE, SIZE & LOCATION
---	RECOMMENDED TIME LINE
○	CONSULTANT WORKING DAYS
□	DOH WORKING DAYS

STATE PROJECT _____
 FEDERAL PROJECT _____

