

CHAPTER 2

TDOT PROJECT DEVELOPMENT

2.0 Schedule – Keeping projects on schedule is a shared responsibility. It is imperative that projects involving traffic signal, signing and roadway lighting work are kept on schedule, as projects of this type are quite often developed to improve an identified safety deficiency. Keeping projects on schedule is a shared responsibility between the design engineer and the assigned TDOT Manager. The designer should not hesitate to contact the TDOT Manager regarding any questions, difficulties or delays in receiving materials or information.

2.1 Three Party Plans Development – Often, local governing agencies prefer to use local funds to contract with design firms or to use in-house forces for the preparation of contract plans which will be let to contract by TDOT with state and federal funding. Various responsibilities are as follows:

2.1.1 TDOT – The TDOT project manager will be available to provide traffic data, pavement design and other related data as needed, to schedule and conduct field reviews and to review and submit utility, right-of-way and final construction plans. TDOT will submit all plans for Utility/Right-of-way coordination and for letting.

2.1.2 Local Agency – The local agency will hire and approve the consultant or on-staff designer and assure that plans development proceeds in a timely manner. They will be responsible for contacting all parties to schedule and conduct a kick off meeting to determine the scope of the project and assign various responsibilities.

2.1.3 Design Engineer – The design engineer will develop a set of plans that adheres to the Department's plans format and is based on the established scope of work. The design engineer will contact the TDOT project manager as needed in a timely manner to settle design issues and answer questions.

2.2 Plan Development Stages – The various stages of development of signal, lighting and signing project plans include:

1. Selection of design engineer, proposal submittal and approval of proposal
2. Begin work
 - Issue work order
 - Kick off meeting; although a face to face meeting is not always required, some understanding, in writing, of the various parties duties and responsibilities should be established.

3. Survey
4. Preliminary Design; this would include the preparation of a nearly complete set of plans for utility or right-of-way submittal. This should include all sheets except for the roadway quantities and some detail sheets. Survey Control points should be coordinated with the Regional Survey Offices through the TDOT manager. Where feasible, avoid design features requiring the acquisition of right-of-way or conflicts with utilities to help expedite the project.
5. Preliminary field review
6. Right-of-Way/Utility plans; When ready, preliminary plans should be transmitted to the TDOT Manager on full sized (24"x36") reproducible (vellums are acceptable) for field review distribution. If needed, the TDOT Manager will schedule a field review at a time and place most convenient to all reviewing parties involved. The design engineer will take minutes of the meeting and prepare them in a report format for distribution by the TDOT Manager to all attendees. On some smaller projects, a field review is not necessary and the plans will be distributed for comments only. The TDOT manager will summarize all comments in a report for distribution to reviewers. Upon completion of the review, the design engineer will incorporate valid comments into the plans and send a 1/2 sized (12"x18") set of plans to the TDOT manager for review. Upon approval of the plans, the design engineer will transmit a set of mylar plans to the TDOT manager for Utilities/Right-of-Way incidentals distribution. (Please note that state laws allow utilities a 120-day review period before utility certification can be accomplished).
7. Right-of-Way plans submittal
8. Construction plans development; upon submittal of Utilities/Right-of-Way plans, final construction plans can proceed immediately. Construction plans should also include all roadway quantities sheets, index sheets, notes, tabulations and details as required. If the TDOT manager determines a construction plans review is appropriate, the design engineer will transmit full sized reproducible for distribution.
9. Construction review
10. Construction plans submittal; upon approval of final plans, the design engineer will submit signed and sealed (on every sheet) mylars for printing and advertising. A floppy disk or CD containing a listing of all the roadway quantities in the proper format should be submitted with the mylars. The design engineer should contact the TDOT manager regarding the proper database format. Often, the TDOT Construction Division requires changes during the advertisement period of the bid letting process. The design engineer should be prepared to make all necessary revisions and

submit on new mylar sheet(s) as soon as possible after receiving instructions to do so.

11. Post letting; Requests for construction revisions will occasionally come from the TDOT manager and should be processed as soon as possible.

A typical time line is shown in Table 2.1 below.

Table 2.1 Flow of Work and Typical Timeline (No ROW Acquisition)

Task	Months before Letting												
	12	11	10	9	8	7	6	5	4	3	2	1	
Kick-Off Meeting													
Preparation of Preliminary Plans													
Submittal for Incidentals													
Preparation of Final Plans													
Submission of Final Plans													
Advertise for Bids													

- 2.3 **Support Projects** – are often prepared as part of a larger grade and drain project by a sub- consultant or in-house staff and require just signal, lighting or signing layouts and detail sheets (or sign schedules).

Support projects are often prepared by design engineers not under the direct supervision of the primary P.E. responsible for signing and sealing the plans in general. In this case, quantities and notes should be included on a sheet separate from the project quantities under the seal of the supporting signal design engineer. Coordination between the primary P.E., the supporting design engineer and the TDOT manager should be maintained throughout the design process.

- 2.4 **Conformance to TDOT Plans Format** – The Department requires all roadway plans let to contract in the State's bid process to be developed in the particular TDOT format described in the Design Division's Design Guidelines and as adapted for traffic design in this manual. The Department contracts for the design and construction of hundreds of millions of dollars and many miles of road construction projects and has developed a plans format that the many designers, inspectors and road contractors have become familiar and comfortable with. Variations from this format could create some confusion and misunderstanding and should be avoided. Plans Layout Requirements:

- 2.4.1 **Sheet Numbering** (example shown in Table 2.2 is an intersection widening project with a traffic signal)

2.4.2 Plans Scale for signal layout sheets should be a minimum of 1" = 50' with a desirable scale of 1" = 20' for intersection signal layouts.

2.4.3 Aerial Photography may be used as a base for signal layout plans where no utility relocation is involved and right-of-way is easily established. However, a survey may be required for control purposes. Contact the TDOT Manager before using aerial photography.

2.4.4 Details –A signal detail sheet will be required for each signal installation and shall display tabulations of phasing, detection and timing requirements (see appendix).

2.4.5 Notes – Any notes not listed in the Roadway Design Guidelines as General Notes are to be labeled Special Notes and shown apart from the General Notes.

2.4.6 Quantities – Keep items as specific as possible. Avoid "costs to be included in other items" if possible.

Table 2.2 Typical Project Plan Sheets

Sheet	Plan Set Type		
	Utility Only	Utility/Right-of-Way	Construction
Title	1	1	1
Index	1 or 1A	1 or 1A	1 or 1A
General Notes	2	2	2
Roadway Quantities	N/A	N/A	2A
Property Map, Acquisition Table	N/A	3	3
Present Layout	3, 4, etc	4, 5, etc	4, 5, etc
Proposed Layouts	3A, 4A, etc.	4A, 5A, etc.	4A, 5A, etc.
ROW/Utility Details	3B, 4B, etc.	4B, 5B, etc.	4B, 5B, etc.
Signal Layout	5 (or next number), 6, etc.	6 (or next number), 7, etc.	6 (or next number), 7, etc.
Signal Details	5A, 6A, etc.	6A, 7A, etc.	6A, 7A, etc.
Erosion Control	7 (next number)	8 (next number)	8 (next number)
Traffic Control	8 (next number)	9 (next number)	9 (next number)
Cross-Sections	9 (next number), 10, etc.	10 (next number), 11, etc.	10 (next number), 11, etc.