# Table of Contents

Section 1: Purpose of this Guidebook ................................................................. 1  
  Relationship to Other Guidelines and Specifications ......................................... 2  
  Special Chapter 86 Requirements ..................................................................... 2

Section 2: Process for Identifying and Implementing Utility Relocation ............... 5

Section 3: TDOT Utility Relocation Item Number System ................................... 23  
  Description of the Item Number System ............................................................ 23  
  Using the Item Number Spreadsheet ................................................................. 23  
  When New or Specialty Item Numbers are Required .......................................... 26

Section 4: General Standards for Utility Construction ....................................... 27  
  Erosion Prevention and Sediment Control ......................................................... 27  
  Permits and Easements ....................................................................................... 28  
  Cut vs. Boring ..................................................................................................... 29  
  Betterment ........................................................................................................... 29  
  Salvage and Return of Materials to the Utility ................................................... 30  
  Retired-In-Place Facilities .................................................................................. 30  
  Driveway, Sidewalk and Roadway Restoration .................................................. 31  
  Buy America Requirements ................................................................................ 31

Section 5: Coordination with Utilities ................................................................. 33  
  During Early Project Review And During Design ............................................. 33  
  During Construction ............................................................................................ 33  
    Problem Resolution ......................................................................................... 33  
    Utility Field Change Form ............................................................................... 34  
    Revisions to Utility Plans .............................................................................. 34  

Section 6: Utility Responsibilities During Construction ...................................... 35  
  Utility’s Material Approval ................................................................................ 35  
  Inspection ............................................................................................................ 35
APPENDIX

Appendix A. Request for Utility Item Number Form
Appendix B. Utility Field Change Form
Appendix C. Example General Notes Sheet
Appendix D. 2011 Utility Workshop Documents
  D1. 2011 Utility Workshop Presentation
  D2. Utility Relocation Guidelines Handout from the Workshop
  D4. Estimated Utility Quantities Plan Sheet with Descriptions Included
  D5. Example Utility Plan Sheets
  D6. List of Common Errors
Appendix E. Frequently Asked Questions (FAQ’s)
Appendix F. Example Rainbow Plans
Appendix G. Line Styles and Designations for Utility Plans
SECTION 1: PURPOSE OF THIS GUIDEBOOK

The purpose of the TDOT Guidebook for Utility Relocation is to clearly illustrate the coordination process that Utility owners will follow when their utility facilities are located within the limits of a TDOT highway construction project. The extent of TDOT’s coordination with a Utility will depend on the impact of the proposed highway construction on the Utility’s facilities.

Utility coordination is an essential element of highway construction projects since utilities are most often found within or adjacent to the highway right-of-way (ROW). Coordination must begin early between TDOT and Utility owners and continue through the project development process and construction in order to help reduce costs, delays, interruption of utility services, and public inconvenience.

To avoid delays to State highway projects, a Utility must do the following prior to the start of construction:

- Plan for their relocation project;
- Budget necessary funds;
- Design their facilities; and
- Obtain necessary utility easements or property outside the proposed highway right-of-way.

For utility relocation work performed prior to the State construction project, the Utility must also:

- Obtain any necessary permits including but not limited to environmental and railroad;
- Order and receive materials;
- Schedule construction crews; and
- If necessary, schedule a service interruption period for the relocation.

If the Utility wants its relocation construction work to be included in the State’s construction project, the Utility must submit its final plans to TDOT in accordance with the Department’s schedule for the project letting, which is no less than sixteen (16) weeks prior to the scheduled letting date.

This Guidebook will help the Utility owner understand their obligations and the required submittals necessary to successfully plan, schedule, and implement utility relocation in order to meet statutory requirements, avoid delay, and minimize costs of project construction conflicts.

This Guidebook will help the Utility owner understand their obligations and the required submittals necessary to successfully plan, schedule, and implement utility relocation in order to meet statutory requirements, avoid delay, and minimize costs of project construction conflicts.
This Guidebook describes:

1. Coordination and scheduling procedures to identify utility conflicts on State highway construction projects and to develop timely and economical solutions being mutually acceptable as much as possible.
2. Utility owner obligations for developing plans and specifications, obtaining permits and easements, and meeting schedules.
3. The TDOT Utility Relocation Item Number System.
4. Responsibilities required of TDOT, the Utility owner, and the construction contractor personnel in order to successfully implement the proposed utility relocation work.

In the electronic version of this document, references and required forms described in the Guidebook are hyperlinks. Clicking on the highlighted text will take the reader directly to the website location for that item.

Relationship to Other Guidelines and Specifications

This Guidebook has been developed using available information from other TDOT resources including:

- TDOT Utilities Office website;
- TDOT Utility Manual;
- TDOT Local Government Guidelines for the Management of Federal and State Funded Transportation Projects; and

In case of conflict with this Guidebook, the information shown in the TDOT resources listed above shall prevail. This document is provided as guidance concerning the Department’s procedures for utility relocation on TDOT construction projects and does not compile all the information available from the other TDOT resources. Utility owners should contact the TDOT Regional Utility Coordinator (RUC) at their local TDOT Region Utility Office when they have specific questions about the procedures or about individual projects and circumstances.

This Guidebook is only for utility relocation work associated with highway construction projects. For other utility construction on State right-of-way, permits are required. The required permit forms can be found on the TDOT Utilities website. Contact the TDOT RUC at the local TDOT Region Utility Office for more information regarding permitting.

Special Chapter 86 Requirements

The Tennessee Code was changed with the 2003 Public Chapter 86 legislative action to give the Commissioner of the Department of Transportation the authority to reimburse utility relocation associated with TDOT roadway construction projects. The Commissioner is not required to reimburse the Utility for relocation costs of existing facilities that occupy public right-of-way (city, county, or state), nor are all Department projects eligible for reimbursement under the provisions of this statute. (Note that existing utility facilities outside public right-of-way for which the Utility has a property right are reimbursable under U.S. Constitution 5th and 14th Amendments regarding property.) Additionally, there are both percentage and cap limits to the reimbursable amount. The reimbursement rate applied to utility districts, utility cooperatives, or municipal utilities is currently 75% while the reimbursement rate for all other companies is 100%. All reimbursements have a $1.75 million cap limit. (Refer to the current Department Policy No. 340-07.)

The Department will make the determination of whether utility relocation will be reimbursable on a TDOT construction project. When the Department distributes the Right-of-Way plans to the Utility, it will inform the Utility in the accompanying Engineering Authorization letter (see Appendix D3 for example) if the project is Chapter 86 qualified. This notice officially begins the time period within which the Utility must respond to the Department per State Statute in order to meet the requirements.
of Chapter 86. On Chapter 86 qualified projects, the individual utility’s eligibility for reimbursement is determined in accordance with State law:

1. Submittal of engineering relocation plan, estimate of cost, and schedule of calendar days within the time provisions of TCA 54-5-854(b);

2. Enter into an agreement to include the relocation work in the Department’s highway construction contract or to remove all utility conflict prior to the letting of the department’s construction contract;

3. If required by law, have a valid permit to locate on the public highway right-of-way.

Upon receipt of the plans, if the Utility does not respond within the time limit specified in TCA 54-5-854(b), any Chapter 86 eligibility will be forfeited.

TCA 54-5-854(b) – Within one hundred twenty (120) calendar days following the receipt of the plans, the owner shall mark on the plans, or on a copy of the plans, the approximate vertical and horizontal locations of underground utility facilities, approximate horizontal location of above-ground utility facilities, a description of each of its existing utility facilities and any proposed new location of the facilities and additional facilities within all rights-of-way shown on the project plans, and prepare a plan and a schedule of calendar days to accomplish the proposed new location. The project plans, or a copy of the plans, and the plan and schedule of calendar days, shall be returned to the department in care of the person whose name and address are listed on the project plans. Should coordination with other owners be required in order for an owner to prepare a plan and schedule of calendar days, or should changes to the project plans cause the Utility to alter its relocation plan or schedule, then additional time shall be allowed by written approval by the Department, but in no case shall the additional time exceed the original one hundred twenty (120) calendar days by more than an additional forty-five (45) calendar days.

If the Utility does not respond within the time limit specified in TCA 54-5-854(b), any Chapter 86 eligibility will be forfeited. The Code does not give the Commissioner the authority to waive the time limit provisions of the Code, so it is mandatory for and solely the responsibility of the Utility to meet these time limit provisions to maintain its Chapter 86 eligibility for the project. Even if the project is initially deemed not to be Chapter 86 qualified, the Utility is still required (and it is in the Utility’s best interest) to respond within the 120-day timeframe in case such funding becomes available.

The utility coordination process shown in this Guidebook provides information about Chapter 86 reimbursement for both move-prior and move-in State contract utility relocation work. For more detailed information about Chapter 86 requirements, see the TDOT Utilities Office website.

For utility relocation required in non-Chapter 86 projects, reimbursement for relocation costs depends on the percentage of the Utility’s facilities that are on public or private property or easement. If the Utility has the property rights where their facilities are located, then the cost of obtaining new property rights is reimbursable. See Step 3J in Section 2 for various contract types that include reimbursement.

The TDOT Utilities Office website provides links to the following:

- Required Forms for Utility Relocation
- References regarding utilities on State ROW and Chapter 86
- TDOT Region Utility Coordinators (RUC) contact information
SECTION 2: PROCESS FOR IDENTIFYING AND IMPLEMENTING UTILITY RELOCATION

The utility coordination process outlined in this section corresponds to the project phases in the TDOT project delivery process (i.e., from project initiation through construction). These are the milestones in the TDOT project delivery process where the Utility has the opportunity to be involved in the project development. The flowchart on the next page shows each step in the project development and delivery process where the Utility is contacted, receives information, and/or is required to provide information, letters, forms, or plans.

Following the flowchart, a narrative of the contacts made, work items and submittals required, and other pertinent information is provided for each step in the flowchart, including the corresponding TDOT forms and/or submittals required of the Utility. In the electronic version of the Guidebook, clicking on one of the process steps in the flowchart will take the reader directly to the process description for that step. In addition, clicking on the Form name will take the reader to that Form on the TDOT Utilities Office website.

Handouts from the 2011 Utility Workshops held in each Region are included in the Appendix D. Additional information contained in those handouts are linked to the appropriate steps in the narrative. In addition, a list of common errors regarding utility plan sheets is included in the appendix as well.
UTILITY RELOCATION PROCESS FOR

Phase 1
- Project Initiation & Environmental Studies
  - 1A Early Project Utility Contact
  - 1B Utility Report for Location Study

Phase 2
- Preliminary Design Plans
  - 2A Preliminary Plans Field Review / PS&E Meeting

Phase 3
- Right-of-Way Plans
  - 3A ROW Plans Distributed
  - 3B Utility Request to Use Consultant
  - 3C Utility Requests CADD Plans
  - 3D Utility Reimbursement Request
  - 3E Utility Requests Additional 45 Days
  - 3F Utility Deconfliction Meeting
  - 3G Utility Submits 'A' Date Utility Package
  - 3H Utility Contract Executed

120-Day Maximum Time Limit per State Statute!
TDOT Construction Projects

Phase 4: Construction Plans (Move Prior)
4A Utility Deconfliction Meeting
4B TDOT issues Go-to-Work Authorization
4C Utility Obtains Permits and Easements
4D Utility Solicits Bids and Submits Request for Concurrence to Award
4E Utility Begins Relocation Work
4F Utility Submits Invoices
4G Utility Submits Certification Relocation Work Completed
4G Utility Submits Final Invoice

Phase 5: Construction Plans (Move in State Contract)
5A Utility Requests Sheet Numbers
5B Utility Selects Item Numbers
5C Utility Submits ‘B’ Date Utility Package
5D Utility Submits Permit Sketches
5E Utility Submits Environmental MOU
5F Utility Acquires and Submits Easements
5G Construction Plans Field Review – PS&E Meeting
5H Utility Submits Betterment Deposit

Phase 6: Construction
6A Construction Contract Letting
6B Preconstruction Meeting
6C Shop Drawing Specification and Materials Approval
6D Construction Utility Meeting
6E Utility Relocation Inspection
6F Utility Relocation Plans Revision
6G Coordination with the Public
### Phase 1 – Project Initiation & Environmental Studies

**Utility Coordination Process Step**

**Early Project Utility Contact**

The Utility is contacted by TDOT by registered mail to see if the Utility has any facilities in the proposed project area. If the Utility responds ‘yes,’ the Utility’s name will be placed on a list for further coordination and contact.

**STEP 1A**

**Utility Report for Location Study**

The Utility is contacted by TDOT (or their consultant) to gather information about the Utility’s facilities within the limits of the subject project and identify potential conflicts and the associated costs to relocate the infrastructure. A Utility Report is prepared by TDOT (or their consultant) that includes a preliminary cost estimate for the utility relocations.

**STEP 1B**

### Phase 2 – Preliminary Design Plans

**Utility Coordination Process Step**

**Preliminary Plans Field Review / PS&E Meeting**

The Utility receives a set of preliminary roadway design plans to review for the purpose of identifying any utility conflicts. This is the first chance for the Utility to see the design and provide input.

The Utility is invited to attend the field review meeting for the project, where any utility conflicts should be voiced to TDOT and the design team. This is an opportunity for the Utility to request consideration for the roadway design to be adjusted to avoid utility conflicts, if possible. The Utility is urged to attend this very important meeting, but if the Utility is unable to attend in person, comments may be submitted to TDOT prior to the meeting.

**STEP 2A**

**Required Forms and/or Submittals by the Utility**

- Utility responds to TDOT’s letter declaring whether or not any of their facilities are within the proposed project area.

- Utility provides comments about their facilities within the proposed project limits. Critical elements including high cost items are identified.

- Utility provides comments at the PS&E meeting or submits comments to TDOT prior to the meeting.
# Phase 3 – Right-of-Way Plans

## Utility Coordination Process Step

<table>
<thead>
<tr>
<th>Step</th>
<th>Utility provides comments at the PS&amp;E meeting or submits comments to TDOT prior to the meeting.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROW Plans Field Review / PS&amp;E Meeting</td>
<td>The Utility receives a set of preliminary ROW plans to review for the purpose of identifying any utility conflicts. The Utility is invited to attend the field review meeting, where any utility conflicts should be voiced to TDOT and the design team. If the Utility is unable to attend the meeting, comments may be submitted to TDOT prior to the meeting.</td>
</tr>
<tr>
<td>ROW Plans Distributed (Day 1 of 120-Day Max. Deadline)</td>
<td>The Utility receives an authorization letter (see Appendix D3 for example) accompanied by ROW plans and cross-section plans, which will indicate whether the relocation costs are Chapter 86 eligible. The plans are delivered by registered mail (e.g., FedEx, certified mail, signed receipt) in either hard copy or electronic CD per the Utility’s preference. The letter includes the ‘A’ date deadline for the Utility’s initial response per State Statute and the ‘B’ date deadline for submitting final utility plans for inclusion in the TDOT construction contract (i.e., move-in) which is a minimum of sixteen (16) weeks prior to the letting.</td>
</tr>
</tbody>
</table>

### NOTE: The period of 120 days within which the Utility must respond to TDOT per TCA 54-5-854(b) begins on the date that the Utility receives the plans. If the project is not Chapter 86 qualified, the Utility still must adhere to the 120 day deadline because the project may become Chapter 86 qualified at a later date. |

| Required Forms and/or Submittals by the Utility | The Utility must provide proof of a permit when their existing facilities are on State ROW and they are seeking reimbursement under the provisions of Chapter 86. If the proposed Utility relocation is not on State ROW, the Utility must have an easement or property rights. If the Utility has existing property rights, they must relate that to TDOT for consideration for reimbursement of replacement property rights. |
Phase 3 – Right-of-Way Plans

---

**Utility Coordination Process Step**

**Initial Utility Response**

After receiving the ROW plans, the Utility must respond to TDOT as soon as possible with one of the following responses:

1. No conflicts;
2. Utility will relocate facilities prior to the TDOT construction project; or
3. Utility wants relocation work included in TDOT’s construction project.

**STEP 3C**

**Utility Requests to Use Consultant**

After receiving the ROW plans, the Utility must also decide as soon as possible whether they will be utilizing consultant services for development of their relocation plans. If the Utility wishes to use a Consultant, then the Utility must send a letter requesting approval to use a consultant along with the required forms and the consultant’s scope of work to TDOT.

**NOTE:** Approval must be received from TDOT prior to incurring any costs from the consultant if the Utility is seeking reimbursement.

Reimbursement will be limited to the Estimate of Engineering Cost maximum ceiling amount. Any increases must receive written approval from TDOT prior to incurring additional costs.

**Required Forms and/or Submittals by the Utility**

- Letter with Initial Utility Response
- Letter requesting approval of use of consulting services
- Consultant Scope of Work
  - Certification of Consultant (Form 2011-13.1)
  - Memorandum of Understanding (Form 2011-13.2)
  - Estimate of Engineering Cost (Form 2011-16, p.1.1)

If consultant fees are based on a ‘continuing contract,’ then a copy of Continuing Contract between the Utility and the consultant must be included.

**STEP 3D**

**Utility Requests CADD Plans**

Utility (or their Design Consultant) requests CADD plans, Bridge plans, and/or Cross-Section Plans for use in development of their utility relocation plans.

**STEP 3E**

**CADD Disclaimer** (Form 2004-14)

**NOTE:** If the Utility has a CADD disclaimer Form on file at the Region Utilities Office, this Form is not required to be resubmitted.
Phase 3 – Right-of-Way Plans

Utility Reimbursement Request

Utility MUST submit a letter of declaration for reimbursement in order to stay eligible for Chapter 86. If the project status changes, the Utility remains eligible. It should be noted in the letter if the Utility requires an accelerated schedule.

The following items must be covered in the letter:
- Private Easement/Property
- Move Prior/Before Construction Letting
- Include Work in State Contract
- Utility facilities are not on project
- Utility not requesting reimbursement and will move at No Cost

Utility Requests Additional 45 Days

By State Statute, if there is a revision to the State’s plans or if the Utility must coordinate with other Utilities prior to 120 days after distribution of the ROW plans, and the Utility needs additional time to prepare their ‘A’ Date Package, the Utility must make a request prior to the 120-day time limit for the additional 45 day extension allowed per TCA 54-5-854(b).

Utility Deconfliction Meeting(s)

TDOT or their utility coordination consultant meets with all Utilities to address any conflicts and discuss sequence of relocation work. Discussions may include joint easements and trench lines, etc. Multiple meetings may occur. The Utility can obtain information from TDOT at these meetings regarding possible conflicts with their utility relocation including signal pole foundations, bridge foundations, storm sewer, and retaining walls.

NOTE: Utility deconfliction meetings can continue into the Construction Plans phase.

Required Forms and/or Submittals by the Utility

Utility Declaration for Reimbursement Letter

This letter can be included in the ‘A’ Date Package.

Utility Request for 45-Day Extension

Utility attends meetings and provides comments.
Phase 3 – Right-of-Way Plans

Utility Coordination Process Step

Utility Submits ‘A’ Date Utility Package Prior to Day 120

The Utility submits the complete utility package, including location approval plans (also called ‘rainbow plans’ – see Appendix F), preliminary cost estimate and schedule. If there are any proposed attachments of utilities to structures, check plans shall be included for TDOT’s approval.

It should be noted that additional costs for ‘bettered’ facilities are not compensable. The cost estimate includes the cost of any betterment to the facilities, but reimbursement is limited to functionally in-kind replacement only.

NOTE: The ‘A’ Date Package must be submitted Prior to Day 120 (or prior to Day 165 if an additional 45 days was approved).

If this deadline is not met by the Utility, any Chapter 86 eligibility is forfeited. Meeting this 120-day deadline is State Law, not TDOT policy. TDOT cannot relieve the Utility of meeting this requirement nor allow any additional days past the statutory time limit.

STEP 3J

Utility Contract Executed

If the Utility is due compensation, TDOT sends the Utility a contract that includes the reimbursement limits. The typical types of contracts for reimbursement include:

- Percentage Contract (Move Prior or Move In State Contract) %Public / % Private
- Chapter 86 Move Prior
- Chapter 86 Move In State Contract
- Easement Replacement
- Pipelines (special contracts for transmission pipelines)

Required Forms and/or Submittals by the Utility

Rainbow Plans (PDF and one set of half-size plans) with stations and offsets.

All pages of the Standard Estimate Spreadsheet (Form 2011-16), including:

- Sheet 1.1 - Consultant Engineering Cost
- Sheet 1.2 - In House Engineering Cost
- Sheet 2.1 - Site Cost
- Sheet 3.1 - Removal, Labor & Materials
- Sheet 4.1 - Installation, Labor & Materials
- Sheet 5.1 – Labor
- Sheet 6.1 - Relocation Estimate (indicate percent of public and private), including:
  - Engineering Cost
  - Construction Cost
  - Replacement Easement Cost
  - Betterment Cost
- Sheet 6.2 - Chapter 86 Certification
- Sheet 7.1 - Move Prior Obligation
- Sheet 8.1 - Calendar Days

Three (3) sets of check plans or PDF file for any proposed attachments to structures.

Utility executes contract and returns to TDOT.
Phase 4 – Construction Plans – Move Prior

Utility Coordination Process Step

**STEP 4A**
Utility Deconflliction Meeting (if needed)

TDOT or their utility coordination consultant meets with all Utilities to address any conflicts and discuss sequence of relocation work.

**STEP 4B**
TDOT Issues Go-to-Work Authorization for Move Prior Relocation Work

**STEP 4C**
Utility Obtains Permits and Easements

The Utility must obtain all permits and easements necessary for relocation work that occurs prior to TDOT construction. This will include obtaining all environmental construction permits or the submittal of the Environmental Agreement (Form 2011-20) if less than one (1) acre is being disturbed. The Utility is responsible for staking the ROW and should include an item for survey in their cost estimate, as well as for clearing and grubbing since these activities will occur prior to the State contractor occupying the project.

**STEP 4D**
Utility Solicits Bids and Submits Request for Concurrence to Award

If the Utility takes bids on its relocation work, it must submit a request to TDOT for concurrence in the award of the work. If approved, TDOT will send the Utility a notice to proceed with the work.

Required Forms and/or Submittals by the Utility

Utility attends meetings and provides comments.

Environmental Agreement (Form 2011-20) (if less than 1 acre disturbed)

Request for Concurrence to Award
Utility Begins Relocation Work

The Utility must notify TDOT Construction of the intended date to begin utility relocation construction no less than 3 days prior to beginning of work. For work performed prior to TDOT construction, the Utility has the following responsibilities:

- Coordinate the relocation;
- Construct the relocation;
- Provide all environmental construction permits (Notice of Coverage);
- Schedule inspectors as required by the environmental construction permits;
- Provide erosion prevention and sediment control;
- Clearing and grubbing (must get TDOT authorization);
- Disposal of waste;
- Traffic control;
- Surveying; and
- Utility easements

NOTE: If TDOT has not acquired the proposed ROW prior to the utility’s need to access the property, the utility will be required to obtain easements at not cost to the State. The RUC in the Region Utility Office can assist in determining ROW availability.

Utility Submits Invoices

The Utility submits invoices to the Regional Utility Office who in turn will get approval from the Construction Office prior to making payment. All material with iron content must meet the Buy American Federal Regulations (23CFR635,410) requirement, and proper documentation of compliance must be maintained by the Utility Inspector.

See Section 4 of the Guidelines for more information on Buy America requirements.

The Invoice must be in same format as the estimate.

Progressive payments are capped at 80%.

Billing number must be sequential (#1, #2, etc.).

Accumulated cost to date and accumulated payments received must be shown.
Phase 4 – Construction Plans – Move Prior

Utility Coordination Process Step

**Utility Submits Certification Relocation Work Completed**

Once the Utility completes the relocation, prior to the contract obligation date, they must secure the approved Contract Obligation Certification Form from the TDOT Construction Office Project Supervisor to ensure eligibility for reimbursement. Utility submits the Form to the Regional Utility Office and Construction Office certifying that all utility relocation work has been completed.

**STEP 4G**

**Final Invoice** must be submitted within one (1) year of project completion.

Required Forms and/or Submittals by the Utility

- **2011-16, p. 7.1 - Contract Obligation Certification Form** (need signature of TDOT Construction Supervisor)

  **NOTE:** Utility must keep the Original signed Certification (TDOT Construction Office returns the original to the Utility and copies the Region Utility Office)

Phase 5 – Construction Plans – Move in State Contract

Utility Coordination Process Step

**Utility Requests Sheet Numbers**

After the rainbow plans are approved by the TDOT Utility Office, the Utility can proceed with the development of detailed relocation plans. The utility requests sheet numbers for their plans from the Region Utility Office.

**STEP 5A**

Required Forms and/or Submittals by the Utility

- **Request for sheet numbers**

Utility Submits Final Invoice

Utility submits final invoice to the Regional Utility Office who in turn will get approval from the Construction Office prior to making final payment. **Note:** A final Bill over the contract amount requires an estimate line item justification.
Utility Selects Item Numbers

Using the standard item number list for utilities, the Utility selects the appropriate item numbers for the relocation work to be performed.

Go to the TDOT Construction Division website to view the list of Standard Utility Item Numbers.

If a Utility cannot find a standard item number that covers a particular item of relocation work, the Utility will contact TDOT for direction. Utilities cannot assign item numbers themselves. The Utility must complete and submit the Request for Utility Item Number Form found in the Appendix A. The TDOT Utility Office in coordination with the TDOT Construction Contract Office will provide the necessary unique item numbers if it is determined that standard item numbers do not meet the needs of the Utility.

See Section 4 of the Guidelines for additional information when new or specialty item numbers are required.
### Phase 5 – Construction Plans – Move in State Contract

#### Utility Coordination Process Step

#### Utility Submits ‘B’ Date Utility Package

Utility submits relocation plans in TDOT format, Utility Item Spreadsheet, and utility construction specifications by the date specified by TDOT to be included in the Department’s project for contract letting.

Depending on the volume, specifications can be shown on the utility relocation plans or be provided as a separate document to be included the bid book along with the Department's other construction specifications for the project. Utility construction specifications should include:

- Time period of acceptable service outage
- Required License, Certification, Drug testing of workers submitted to Utility
- Liability insurance submitted to Utility
- Industry standards, safety standards, and material standards
- Approval of shop drawings, field changes, and substitution of materials or methods by the Utility
- Name, address, phone, email, fax, cell phone of utility approval contact.

Material specification cannot be sole source. Specification can be given for at least three (3) material suppliers or as approved by the utility contract provided.

All materials with iron content must meet the Buy America Federal Regulations (23CFR635,410) requirement. See Section 4 of the Guidebook for more information.

See common errors in Appendix D6 for additional guidance regarding utility plans. Also, see Appendix G for instruction regarding line styles and designations for utility plans.

### Required Forms and/or Submittals by the Utility

**Utility submits ‘B’ Date Package:**

- Printed copy of completed Utility Item Spreadsheet
- PDF of relocation plans (black and white, 22”x34”)
- PDF of color-coded relocation plans (22”x34”)
- CAD files of relocation plans (dgn format)
- **Modified Utility Spreadsheet (MUES)** (Both a printed copy and a pdf copy)
- Electronic copy of Specifications (PDF format)

All electronic files are to be burned to a CD and submitted along with the printed copies of required materials

**SENT TO CONTRACTOR:**

Construction specifications including the items listed under 'Utility Action'
## Phase 5 – Construction Plans – Move in State Contract

<table>
<thead>
<tr>
<th>Utility Coordination Process Step</th>
<th>Required Forms and/or Submittals by the Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utility Submits Permit Sketches</strong>&lt;br&gt;Utility prepares and submits permit sketches to TDOT for relocation work to be included in the roadway construction contract. See Section 4 of the Guidebook for more detailed information.</td>
<td>Permit sketches</td>
</tr>
<tr>
<td><strong>Utility Submits Environmental MOU</strong>&lt;br&gt;Operational Environmental Permits obtained by TDOT for the construction of the Utility’s facilities via this memorandum of understanding will be assumed by the Utility once the facility is placed into operation in order that the Utility possesses the permit to operate and maintain.</td>
<td>Environmental MOU (Form 2011-19)</td>
</tr>
<tr>
<td><strong>Utility Acquires and Submits Easements</strong>&lt;br&gt;Any easements for utility facility installation or construction outside the proposed State ROW must be obtained by the Utility. Prior to the TDOT contract letting, even if the Utility’s facilities will be entirely located within the State ROW, the Utility must obtain any easements for their facilities off the State ROW required for tree trimming, overhead lines, bore pits outside the ROW, etc. See Section 4 of the Guidebook for more detailed information.</td>
<td>Easements for Relocation Work</td>
</tr>
<tr>
<td><strong>Construction Plans Field Review – PS&amp;E Meeting</strong>&lt;br&gt;Utility receives a set of preliminary construction plans to review for utility conflicts and is invited to attend the field review of the project.</td>
<td>Provide comments at PS&amp;E Meeting or submit comments prior to the meeting.</td>
</tr>
</tbody>
</table>
## Phase 5 – Construction Plans – Move in State Contract

<table>
<thead>
<tr>
<th>Utility Coodination Process Step</th>
<th>Required Forms and/or Submittals by the Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP 5H</strong></td>
<td></td>
</tr>
<tr>
<td>Utility Submits Betterment Deposit</td>
<td>Utility Deposit (Form 2011-17)</td>
</tr>
</tbody>
</table>

Utility submits deposit for betterment work or any other (above CH86 cap) amount for which the Utility is responsible for the cost, if any. The TDOT Finance Office can provide specifics on the forms of deposits that are available.

## Phase 6 – Construction Phase

<table>
<thead>
<tr>
<th>Utility Coodination Process Step</th>
<th>Required Forms and/or Submittals by the Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP 6A</strong></td>
<td></td>
</tr>
<tr>
<td>Construction Contract Letting</td>
<td></td>
</tr>
<tr>
<td>TDOT takes bids and compares to Estimates. If deemed acceptable, the Department will award the project to the lowest responsible bidder. This step is shown only as a milestone event with no actions required of the Utility, except that the Utility may be asked to evaluate the utility item bids to provide subject matter expert opinions to variances from the estimated cost.</td>
<td></td>
</tr>
</tbody>
</table>

| **STEP 6B**                      |                                               |
| Preconstruction Meeting          |                                               |
| Utility attends and provides contractor with issues concerning the Utility’s relocation related to the schedule and coordination of the contractor’s work. This is an opportunity for the Utility to meet the State highway contractor awarded the project (and representatives of the railroad, if involved) to address special issues or concerns of the Utility during construction. | Utility attends meeting and provides comments. |
# Phase 6 – Construction Phase

## Utility Coordination Process Step

### Shop Drawing, Specifications and Materials Approval

Utility certifies all shop drawings, specifications and materials submitted by the contractor prior to work beginning. The Utility’s contact for submittals from the contractor should be identified at the preconstruction meeting.

### Construction Utility Meeting

The TDOT construction inspection supervisor may hold project progress meetings with the Utilities involved in order to coordinate the utility relocation work with the roadway construction and address issues as they may arise.

### Utility Relocation Inspection

The Utility Inspector is responsible for overseeing and certifying that the installation is constructed to safety and industry standards. Subsequent to TDOT approval, the utility inspector approves field engineered changes, approves substitution of materials or methods of installation, accepts progressive installation of utility facility, maintains all certified documentation of materials, and certifies the percentage of installation that has been completed in the daily diary. The Utility Diary is to be completed daily while work is being performed. See Section 6 of the Guidebook for more detailed information regarding inspection.

The Utility is responsible for associated work with the public including work inside customer residences such as re-lighting pilot lights, re-establishing services, etc.

## Required Forms and/or Submittals by the Utility

- Certified shop drawings, specifications and materials to the contractor.
- Utility attends meetings and provides comments.
- Project Utility Diary (Form DT-0667)
- Utility Item Certification/ Final Acceptance (Form DT-1716)
- Summary of Installed Utility Items (Form DT-1716A)

**Note:** These 3 forms are found in Circular Letter 105-07.04
Phase 6 – Construction Phase

Utility Coordination Process Step

 Utility Relocation Plans Revision
A revised pay item or work item must first be approved using the Utility Field Change Form by TDOT Construction staff and the Region Utility Office. The Utility then must submit a Revision Request Letter with a revised Modified Utility Estimate Spreadsheet (MUES) Excel Spreadsheet and revised utility plans. All changes to the utility construction plans in the State contract must be revised by the Utility, signed and sealed, and submitted to the TDOT Utility Office for processing a construction revision.

See Section 5 of the Guidebook for more detailed information.

Required Forms and/or Submittals by the Utility

- Utility Field Change Form (See Appendix B)
- Revision Request Letter (2011-21)
- Revised Excel Spreadsheet (MUES)

Coordination with the Public
Utility is responsible for utility customer interaction for the relocation work (e.g., notification of outages).
Description of the Item Number System

The utility relocation item numbering system is grouped by utility type. Each utility category has a unique set of numbers that correspond with individual types of equipment and construction items. Wherever possible, the items represent assemblies that include all installation items associated with a complete in-place installation cost. For example, trenching of pipe would include the cost of opening and closing the trench, bedding material, marking tape, tracer wire, removal of spoils, surface restoration such as seeding or temporary restoration of driveways, sidewalks, roadways, etc. in accordance with the Utility’s specifications and to minimum TDOT standards. The prime contractor is responsible for final restoration of roadway items such as asphalt, concrete and gravel.

The item numbers are assigned by utility type as follows:

- Electric ................. 790-xx.xx
- Gas ..................... 791-xx.xx
- Communications ....... 793-xx.xx
- Water .................... 795-xx.xx
- Sewer .................... 797-xx.xx
- CATV ..................... 798-xx.xx

Using the Item Number Spreadsheet

The Utility Relocation Item Number spreadsheet is located on the TDOT Utilities Office website and is presented in a Microsoft Excel format. The first column (A) contains the item number in TDOT format, for example 790-27.01. The second column (B) is the Item Short Description which meets TDOT’s maximum 40 character limit and would be the description shown on the utility quantity sheet for move-in projects. For the item number used as the example, the short description is DBL CKT CROSSARM 15KV. The third column (C) is the UNIT of measure for payment of the item, which in this case is EACH. That is followed in the fourth column (D) by the Item Long Description which expands any acronyms or contractions used in the short description. For this example, the long description is DOUBLE CIRCUIT CROSSARM 15KV.
The fifth Column E includes any footnotes to the item number which would be shown on the Utility’s relocation plans on the utility quantities Sheet UX-1. Each footnote on the utility quantities plan sheet must be uniquely numbered, and that number placed adjacent to the item number to which the footnote applies.

There is a sixth column available to the Utility which is an optional description used within the industry or by the Utility to identify an item of plant or assembly using their own standard designations. For example, these optional units are normally used within the electrical industry and were derived from the Tennessee Valley Public Power Association (TVPPA), Rural Electric Administration (REA), or Rural Utilities Service (RUS). This information could be helpful to utility contractors familiar to working for the Utility.

An example of a utility quantities sheet is shown in the Appendix C.

The Utility will select items from the spreadsheet that are needed for the utility relocation work to be performed. The spreadsheet can be searched by key words to find an appropriate item number. See the example search shown on the next page.

It is very important that the Utility use the utility relocation item numbers and descriptions provided so that historical data can be maintained by the Department. The standard item descriptions and units are not to be changed or modified by the Utility.

Utility Relocation Item Number Spreadsheet

Show this description on the Estimated Quantity Plan Sheet UX-1

Use the scroll bar to view the list from side-to-side or top-to-bottom.

Click on a tab to view the item number list for each utility type.

Scroll down to end of the item list to see the footnotes.
Searching the Item Number Excel Spreadsheet

The Item Number Excel spreadsheet can be searched to quickly find a specific word or phrase, numbers, or combination of letters and numbers.

1. In order to start the search, click on the Home tab in the upper left.

2. Next, click on the Find & Select button in the top right hand corner, and then on the Find option from the drop-down menu. The Find and Replace box will appear. (TIP: use keyboard shortcut by pressing the Ctrl and the ‘F’ key at the same time [Ctrl+F], and the Find and Replace box will appear.)

3. In the Find What box, type the text or numbers that you want to search for.

4. In the example below, a search in the 790 Electrical Series has been performed looking for the word ‘regulator.’

5. The Find All button was then clicked, and a list of ALL the occurrences of the word regulator in the 790 series are listed in the window.

6. To find the name of a specific regulator, scroll down.

7. Finally, by clicking on a specific regulator in the window, and the row in the spreadsheet that contains that regulator will be highlighted including its assigned item number.

TIP: Re-size the Find & Replace box for easier viewing by placing the mouse pointer over the bottom right corner of the box, then clicking and dragging to make the box larger or smaller.
When New or Specialty Item Numbers are Required

There may be occasions when a Utility wishes to use an item of different size than those provided in the list or wants to use a new item not found in the list. There have been provisions made in anticipation of this situation.

Within the Standard Item List, there are items with descriptions left blank for the Utility’s Engineer to fill in for a size or type that is not included in the standard items. The Utility’s engineer would fill in the desired size or type information within the (DESCRIPTION) area of the short description. The description should follow the size or type descriptions of the standard items and not exceed the total 40-character limit. For example, if a particular communications precast manhole size cannot be found in the list, then the Utility’s Engineer can use the Item 793-14.07, MH PRECAST (DESCRIPTION). If the Utility wanted to use a 18-foot long by 12-foot wide by 7-foot high precast manhole, then the item short description would be: MH PRECAST (18-FT L x 12-FT W x 7-FT H).

In the unusual instance when an item cannot be found in the Standard Item List, the Utility’s Engineer must fill out the Request For Utility Item Number Form (see Appendix A) and forward the completed Form to appropriate TDOT Region Utility Office. If in the Utility’s Engineer’s opinion the item would be a recurring item, then he should make that known to TDOT on the Form so TDOT will make considerations to add the item to the Standard Item List on a permanent basis. If the item requested would likely be used only once or very rarely, then TDOT would assign an item number for one-time use only. There are item numbers in the Standard Item List reserved for TDOT use only just for these instances.

The standard item descriptions and units are not to be changed or modified by the Utility.
SECTION 4: GENERAL STANDARDS FOR UTILITY CONSTRUCTION

Erosion Prevention and Sediment Control

Prior-To Moves

For utility relocation that is done prior to the beginning of the TDOT construction project, the Utility is responsible for providing appropriate erosion prevention and sediment control (EPSC) for their relocation work.

The Utility will be responsible for performing EPSC inspections and other permit compliance items relative to its environmental construction permits. If the utility relocation work is ongoing when the TDOT construction project begins construction, the TDOT ESSC Inspector will inspect all areas within TDOT’s ROW (including utility work areas), but excluding any utility work areas that are off the TDOT ROW. If directed by the TDOT Project Supervisor and if the Utility is in agreement, the TDOT EPSC Inspector will attempt to conduct joint EPSC inspections with the Utility’s EPSC Inspector.

The project’s QA/QC Project Assessment Team will begin QA/QC Project Assessments after the Prime Contractor starts TDOT project construction work using the QA/QC Project Assessment procedures. The QA/QC Project Assessment Team will assess all areas within TDOT’s ROW, but will not assess off-ROW utility work areas.

In-Contract Moves

During the construction project, TDOT will provide on the plans the necessary erosion prevention and sediment control measures for the roadway construction within the proposed right-of-way. The roadway contractor will be responsible for installing these measures as specified in the Storm Water Pollution Prevention Plan (SWPPP) for the duration of the construction project. If the utility construction is outside the proposed ROW, the contractor shall be responsible for installing appropriate EPSC measures.

The SWPPP requirements for roadway construction may or may not be suitable or sufficient for the utility relocation work, particularly when the utility relocation work is the first item of work for the contractor. TDOT places additional EPSC notes on the roadway plans specific to the utility relocation work when such

For in-contract moves, the roadway contractor is responsible for ensuring that erosion control measures are in place prior to the start of any construction, including the utility relocation work.
work is included in the contract (see the “TDOT Design Guidelines”, Section 6-290.04). The roadway contractor is responsible for ensuring that erosion control measures are in place prior to the start of any construction, including the utility relocation work. If suitable for the utility relocation work, the contractor may place the erosion and sediment control measures in accordance with the SWPPP. If installing the roadway construction erosion control at the time of the utility relocation work is not practical or suitable, the roadway contractor must submit to TDOT for approval a proposed erosion and sediment control plan that applies specifically to the utility relocation work. This erosion control plan is required regardless of the location of the utility relocation work (i.e., either within or outside the State ROW). TDOT approval must be received before the erosion and sediment control pay items for the roadway construction can be used to pay for any additional erosion control measures required for the utility relocation work.

The TDOT EPSC Inspector will be responsible for inspecting all areas included in the TDOT Construction contract. This includes both construction within the TDOT ROW and any utility work off-ROW. The QA/QC Project Assessment Team should include all areas included in the environmental construction permits in the QA/QC Project Assessment, including off-ROW utility work areas.

Permits and Easements

Prior-To Moves

For utility relocation work performed prior to the TDOT construction project, the Utility is responsible for obtaining all permits and easements/property rights. A NPDES (National Pollution Discharge Elimination System) Stormwater Construction Permit is required from TDEC if the utility work involves disturbing more than one (1) acre. If the utility work involves disturbing less than an acre, the utility shall complete and submit to TDOT the Environmental Agreement Form 2011-20 attesting that their work will not disturb more than one (1) acre. If streams, wetlands, or sinkholes are present on the project site, the Utility is responsible for obtaining Water Quality Permits from TDEC. The Utility shall obtain any other permits as required from other agencies such as the Corps of Engineers, TVA, TWRA, railroads, other state agencies, and local cities and counties.

Outside the project ROW, the Utility will be responsible for acquiring all necessary easements/property rights.

In-Contract Moves

TDOT will acquire all permits for construction work in the roadway project including utility relocation work, except that Utilities are required to get their own railroad permits, TDEC water or sewer approval permits, or other operational permits required for the utility facilities. The TDOT Permitting Section will prepare the permit applications necessary for construction of the project based on the information supplied by the Utility, including any utility relocation work performed by the State contractor required outside the State ROW.

Outside the project ROW, the Utility will be responsible for acquiring all necessary easements/property rights. Failure to obtain these easements will result in the inability of the State contractor to relocate the facilities as designed and could severely impact the progress of the job. Therefore, it is necessary for the Utility to obtain these critical easements or property rights prior to the TDOT contract letting, preferably by the B date. Failure by the Utility to obtain critical easements in a timely manner could result in loss of relocation funding or penalties. The Utility shall also obtain any additional easements required for their facilities including, but not limited to, tree-trimming easements, pole and anchor easements, overhang easements, and special equipment easements. A list of all easements and availability dates should be shown on the Utility’s plans along with a statement on the plans that conveys right-of-entry to the State contractor for the purpose of constructing the utility facilities.
Cut vs. Boring

During the utility design phase of a TDOT project, the Utility’s designer may identify locations where the proposed facilities need to cross the existing roadway. It is critical that the installation of this utility crossing does not severely interfere with traffic flow in the area during construction. For this reason and for the safety of workers and drivers, **TDOT requires that any proposed utility road crossing five (5) feet or deeper (measured to the bottom of the trench) must be installed as a bore.** The Utility must make a request to the TDOT Utility Office for an exception to this policy on a case-by-case basis.

Any utility crossing that is less than five (5) feet deep, measured to the bottom of the trench, may be installed with an open cut as long as at least one (1) lane of traffic is maintained on a two (2) lane road or two (2) lanes of traffic (one [1] in each direction) is maintained on a four (4) lane road, and the OSHA requirements for worker safety in open trenches are followed. A traffic control plan to accomplish this work must be submitted to TDOT for approval by the State contractor if the work is move-in or by the Utility if the work is move-prior. The backfill for open cut crossings must be compacted to TDOT specifications to minimize settlement. The backfill shall consist of compacted 57 stone to the top of the pipe/structure and then flowable fill to the sub-grade. Steel plating may also be required if the crossing cannot be completed within one construction day. Steel plating must be in accordance with TDOT Utility Office practices for placement and restrictions during inclement weather. There may be exceptions to these general requirements but any deviation must be discussed with the TDOT Region Utility Office to obtain prior approval before any work is performed.

Betterment

If a Utility is due compensation for relocation, TDOT will reimburse the Utility only for a like-for-like functionally equivalent equipment replacement. Any proposed upgrade by the Utility of an existing facility would be considered ‘Betterment,’ and the additional cost above a like-for-like functionally equivalent replacement would not be compensable. For example, if a water company proposed replacing an existing four-inch cast iron pipe with a new ten-inch PVC pipe, this upgrade in size would be considered a betterment, and the additional cost would not be reimbursable. However, the change from cast iron to PVC would not be considered a betterment and would be reimbursable. In this case, TDOT would only reimburse the Utility for the cost for a four-inch PVC pipe replacement. In another situation, if the existing four-inch cast iron pipe is replaced with a new six-inch PVC pipe, and the waterline has fire service for which TDEC requires a minimum six-inch pipe, then the increase in size would be reimbursed due to the mandated minimum.

However, an exception can occur when the Utility has a local standard that dictates the replacement of a certain type of facility deemed as antiquated with a newer upgraded facility. An example would be where an electric company no longer places wood poles but instead has documented standards or policy that require steel poles for all new installations. In this case, the full cost of the replacement of the existing wood pole with the new standard
but must be an ongoing and documented policy applied throughout the Utility’s entire system.

If a change of material is needed by the Utility after the job goes to construction, then a Utility Field Change Form (see Appendix) must be filled out and signed by all parties involved in the project for processing. The Field Change Form must be reviewed and approved by the TDOT Region Utility Office who will note whether the change in material is compensable or considered a betterment or non-compensable.

Salvage and Return of Materials to the Utility
(Including Hazardous Materials)

Salvage must be considered and accounted for when designing the utility relocation. The estimated value of the salvage material is captured on Form 2011-16 and is credited to TDOT, since the item removed retains a value and can be re-used by the Utility. Salvage is reflected in the final reimbursement contract with the Utility. Salvageable items include, but are not limited to, equipment such as transformers, street lights, and traffic control cabinets. These salvageable items must be specified on the Utility’s plans and accounted for in the Form 2011-16 figures. The Utility should specify to the contractor exactly what is to be retained, any protection of equipment upon removal, and where and how it will be stored and/or delivered. Unless a drop-off location is specified on the Utility’s plans, the Utility will be responsible for picking up the salvageable items from the project site. All other items not specified as salvage on the plans and on Form 2011-16 become the property of the contractor for disposal.

All known or suspected hazardous materials must be identified on the Utility’s plans, and the proper method of disposal specified for the contractor, unless the Utility specifies on the plans that the hazardous material is to be returned to them. The procedures for salvageable items above would then be used. This would include, but not be limited to, electrical transformers, creosote material, asbestos conduits/wraps/pipes, or other similar materials.

Retired-In-Place Facilities
(Including filling with grout, gravel or sand)

In those situations where parts of existing facilities will remain in-place on State ROW but not in active use, the Utility shall specify the location of these facilities and note that they shall be retired-in-place. A record of the location of retired-in-place facilities shall be maintained by the Utility. The State does not allow the abandonment of facilities within State right-of-way, nor will the Utility be reimbursed to remove utility facilities that do not conflict with construction. The Utility may opt to remove the facility at the cost of the Utility during the highway construction in order to remove potential liability. Facilities to be retired-in-place that are located under the roadway, such as pipe, shall be filled with flowable fill/grout and capped and sealed in accordance with TDOT Specifications. Manholes shall not be allowed to remain within the roadway. Manholes that are retired within the ROW shall be filled with sand or gravel.
Driveway, Sidewalk and Roadway Restoration

Driveway, sidewalk and roadway restoration shall be part of the in-place cost of placing the utility item within the ROW. The intent is that a temporary restoration will be done by the State contractor or subcontractor when constructing the relocated utilities, and the State contractor shall be responsible for replacing the temporary restoration with the permanent surface (which is included in the roadway items). The exception to this rule would be where the Utility work goes off the ROW onto private easement or a side road not within the project construction limits. When this situation is encountered, the utility standard item numbers for the restoration of the driveway, sidewalk or roadway would be utilized. The restoration shall be performed in accordance with TDOT standards or with local standards, whichever is most appropriate. If this cannot be determined then the TDOT Standards and Specifications shall take precedence. A note and/or detail showing the proper means of restoration shall be included in the Utility plans.

Projects with Federal funding require a 100% Buy America provision which applies to any utility relocation work whether performed prior-to or move-in the TDOT construction contract.

Buy America Requirements

Projects with Federal funding require a 100% Buy America provision which applies to any utility relocation work whether performed prior-to or move-in the TDOT construction contract. These requirements can be found at the following web address: http://www.fhwa.dot.gov/construction/cqit/buyam.cfm.

Standard Notes to be Shown on the Utility Plans

As was discussed in Section 3, the intent of Standard Utility Items is to provide a standard item number to be used for the placement of utility facilities where all incidentals such as backfill material, rock removal, trenching, etc. are included in the unit price. The standard item number is for an in-place cost for complete installation of the item including all materials and labor. Notes related to utility relocation installation are required on the Utility’s plans to inform the contractor for bidding purposes. See Appendix C for example Utility Estimated Quantity and General Notes Plan Sheets.

In addition to the Standard Notes, the Utility can show construction specifications and special requirements on the General Notes Plans Sheet. Specifications can also be included as a separate document to be included in TDOT’s bid book. See the description for Step 5C in Section 2 for additional guidance.
Listed below are required Standard General Notes to be shown on ALL Utility’s Plans (see Appendix C).

1. Except for erosion sediment control items, no Roadway or Bridge Items shall be utilized to compensate for work methods or materials associated with and/or specified for the utility installation, even though the same or similar roadway or bridge materials may have been called for in the Utility Specifications or drawings.

2. All materials, methods, and/or integral materials outlined in the utility specifications or drawings necessary to provide a complete and functional installation must be included in the Unit Price for the associated Utility Work Item.

3. The contractor must maintain all services during the construction of the relocated facility. Any costs associated with installation of required temporary service lines due to the roadway construction sequence of work (i.e., cuts, fills, phasing, etc.) shall be included in the cost of the permanent utility items. (Note to Utility: The utility relocation plans shall provide to the contractor the Utility’s requirements for temporary tie-ins (including necessary testing and sterilization to accomplish the tie-in) and also any restrictions for taking lines out of service. If a temporary line will be a major item of work, a specific temporization plan and item must be included in the Utility’s plans.)

4. It shall be the responsibility of the Prime Contractor’s surveyor to lay out all the facilities being relocated within the contract.

5. For buried utilities, the Prime contractor or subcontractor shall be required to provide to the Utility upon completion of the Utility’s relocation work a set of as-built drawings for their records. These as-built drawings should be prepared as the job progresses to ensure their accuracy.

6. Where erosion control measures are needed for the utility relocation work occurring inside or outside State right-of-way, the contractor shall submit to the TDOT Project Supervisor for approval a proposed erosion and sediment control plan prior to beginning the work. TDOT approval must be received before the erosion control pay items for roadway construction can be used for any additional erosion control measures required for the utility relocation work.

7. Driveway, sidewalk and roadway temporary restoration shall be part of the in-place cost of placing the utility item within the ROW.

*When applicable, the utility relocation plans will show any stream crossings and cross-sections of the streams crossings with the following note:

8. Any excavation of the stream channel area shall be separated from flowing water and accomplished during low flow conditions. This shall be accomplished by the use of flumes, lined diversion channel with sandbag berm, diversion pipe with sandbag dam at pipe inlet, or in some cases cofferdams. Alternatively, based on field conditions and contractor selection, the utility relocation may be accomplished using bore technology with no stream channel impacts.*
SECTION 5: COORDINATION WITH UTILITIES

During Early Project Review And During Design

During the design phase of the TDOT project development process, early project review meetings will be held by TDOT. The Utility Owners will be invited to participate in these meetings and will have the ability to voice their concerns and bring any information to TDOT’s attention that could alter the design. Utility involvement during this preliminary phase has the ability to prevent unnecessary relocation of expensive utility items through early coordination with the project designers (e.g., the roadway design may be altered in a way that utility relocation costs are minimized and with minimal impact to the roadway design).

Once the Right-of-Way plans have been sent to the TDOT Region Utilities Office (or a TDOT Consultant firm) and disbursed to the Utility Companies involved in the project, regular deconfliction meetings (at least one, and more if necessary) with the utilities will occur in order to assist the Utility through the design phase. The objective of deconfliction meetings is to coordinate the involved Utilities and to answer any questions that may arise to address utility relocation for the proposed roadway design. The deconfliction meetings should prevent the Utilities from designing relocation that conflicts with other Utilities due to a lack of communication with the Department and other Utilities. Phasing of the utility relocation work, rock blasting effects on utility placements, and joint-use arrangements between Utilities are examples of issues to be discussed with the purpose of minimizing the impact on the roadway construction and adjacent utilities.

During Construction

Problem Resolution

After the preconstruction meeting, regular meetings will occur with the prime roadway contractor, the prime’s subcontractors, the Utility Companies and TDOT personnel. These meetings are held for the purpose of resolving scheduling conflicts and physical conflicts that may arise during a construction project. Unforeseen conflicts or issues are identified, progress is updated, compliance with schedules is reviewed, and any road blocks removed so construction can proceed in an orderly fashion. Meeting minutes will be distributed to the participants documenting the problems and resolutions. Sometimes things are overlooked or unanticipated, and these regular...
meetings help resolve the problems in a timely manner by involving all the participants in one collective meeting to resolve issues.

Utility Field Change Form

When a change is encountered during construction that affects the estimated quantities, it is imperative that the change be documented. The Utility Field Change Form (see Appendix) was created to capture these unexpected changes. The change could be initiated by the Utility Company, the prime contractor, the prime's sub contractor or TDOT. All pertinent information is included in the form, which is then forwarded to all involved parties for their concurrence. This allows for an audit trail by documenting the need for the change. It also allows TDOT to review the change to be sure it is warranted and that any betterment is captured. This Form should be filled out regardless of whether the change is a minor change or a major revision. Any significant change to the signed/sealed utility plans will require the utility plans to be revised in accordance with professional engineering board requirements for signed/sealed plans.

Revisions to Utility Plans

Revisions to the utility plans require review by a TDOT Construction Representative with input from TDOT Region Utilities. If the change is a minor change utilizing existing items without a significant alignment change, the change can be documented on the Utility Change Request Form and approved by TDOT Construction in the field. If the change is a major change involving additional items and redesign of the plans provided by the Utility, then TDOT Construction will request TDOT Utilities Office involvement to review and approve the change. The Utility will revise the Utility's plans in accordance with professional engineering board requirements for signed/sealed plans to show the change and will attach the Utility Field Change Form. The completed revised drawings will be sent to TDOT Region Utilities for review with a copy to TDOT Construction. Once the drawings have been approved by TDOT Region Utilities, they will be sent to TDOT Construction and the Prime Contractor. All parties will sign off on the completed Form acknowledging and approving the change.
SECTION 6:
UTILITY RESPONSIBILITIES DURING CONSTRUCTION

When the Utility includes its relocation plans in the state contract, the Utility must perform the following activities during construction:

- Approval of shop drawings submitted to the Utility;
- Approval of materials submitted to the Utility and maintaining documentation for certification and acceptance of materials including Buy America requirements;
- Inspection of all phases of the utility relocation work;
- Approval of any field changes or substitution of materials or methods submitted to the Utility;
- Documentation of daily progress reports (Project Utility Diary) for payment of utility construction;
- Revisions to Utility plans, specifications, items; and
- Coordination of utility operations (e.g., cut overs, interruptions, notification of customers, relight pilot lights, etc.)

Utility’s Material Approval

The Utility will be responsible for reviewing and approving the material submittals from the Prime Contractor or his sub to be certain that the materials meet their job specifications as specified on the Utility’s plans. The Utility Company must adhere to the Buy America provision when Federal Funds are involved. Failure to buy American will result in the loss of reimbursement under Chapter 86. TDOT Materials and Tests will not be involved in inspecting the materials or testing, certifying, or documenting the materials used to build a Utility’s facilities to confirm these materials meet the Utility’s specifications. All certification and acceptance documentation will be maintained by the utility inspector and be subject to audits by State and/or federal investigators.

No substitution of materials will be permitted or approved without the proper Utility Additional Item Request Form (see Section VI) filled out and approved by all parties.

TDOT Materials and Tests will not be involved in inspecting the materials or testing, certifying, or documenting the materials used to build a Utility’s facilities . . .

Inspection

The Utility is responsible for the daily approval of the relocation work as it is installed. The Utility can be held responsible for the cost of the correction
of any relocation work determined to be installed improperly or of additional work performed at the direction of the utility inspector/representative that is not in accordance with the current utility construction plans because either the utility inspector/representative was not present as required at the time of the installation, or the utility inspector approved the relocation work at the time it was installed and was later determined to be incorrect or was aware the work was not performed in accordance with the current utility construction plans. Any work performed by the State’s contractor at the direction of the Utility’s inspector or personnel, that was not in the plans or a revision to the plans, will be the financial responsibility of the Utility. The State’s contractor will be responsible for collecting the cost of work not included in the State contract plans.

The Utility is responsible for inspecting the relocation work of its facilities as the work progresses, regardless of whether the work is reimbursable or not. The Utility will assign an inspector to the job to ensure that the materials ordered and placed meet the Utility’s specifications. Failure of the Utility Inspector to monitor the utility relocation construction could be very costly to the Utility. Therefore, it is important that the Utility and its Inspector realize the importance of their role in the construction process.

**TDOT Circular Letter 105-07.04** provides guidance for the required inspection procedures including documentation requirements. There are several forms that the utility inspector is required to complete:

- Form DT-0667 is the Project Utility Diary with a daily log of the relocation work being performed.
- Form DT-1716 is the Utility Item/Certification Acceptance which certifies that the items installed meet all applicable specifications.
- Form DT-1716A is the Summary of Installed Utility Items.

These three forms are completed by the utility inspector and submitted to the TDOT Project Supervisor (or if applicable, TDOT’s CEI consultant) each estimate period.

Any issues arising out of the construction process need to be brought to the TDOT Construction Supervisor’s and the Prime Contractor’s attention so that they can be immediately corrected. **Only TDOT or their representative can actually stop the State contractor’s utility relocation work.**

As the relocation work nears completion, the Utility will provide the Prime Contractor with an itemized punch list of items that need attention to finalize the utility construction. A copy of the punch list should be provided to the TDOT Construction representative managing the job. At the completion of the utility relocation work, the Utility will be required to promptly complete the Final Acceptance of Work section on Form DT-1716 and submit it to the TDOT Construction Supervisor. The warranty period as specified in the Utility’s specifications begins at the acceptance by the Utility of the relocation work.
APPENDIX A.
REQUEST FOR UTILITY ITEM NUMBER FORM

The document included in this appendix is a non-working copy of the form. For the fillable Request for Utility Item Number Form, go to the TDOT Utilities Office Website.
Request for Utility Item Number

If an appropriate item number is not found in the Standard Utility Item Number Spreadsheet, the utility must submit this form to TDOT to create an item number for your project.

Provide answers to the questions below and email the completed form to the appropriate TDOT Region Utilities Office for the project: http://www.tdot.state.tn.us/Chief_Engineer/assistant_engineer_design/row/regional.htm

Utility Name:

Company Contact:

Phone Number: Email:

Explain the Reason for this Item Number Request:

Is this an item used repeatedly within your industry?  ☐ Yes  ☐ No

Is this item expected for this one time use only?  ☐ Yes  ☐ No

Item Long Description (no abbreviations)*:

Item Short Description (40 Character Limit including Spaces)*:

Unit of Measure (Click on entry field and select from drop down list): __________

*Note: If a Utility has several items to request at one time, the next page can be submitted along with this first page.

For TDOT Use Only:

Item Number Assigned:

One Time Use Only ☐ Reoccurring Use/Added to Standard Item Spreadsheet ☐

Date:

Comment:
Request for Utility Item Number

Use this sheet if multiple item numbers are being requested at one time.

Item Long Description:

Item Short Description (40 Character Limit including Spaces):

Unit of Measure: ________

Item Long Description:

Item Short Description (40 Character Limit including Spaces):

Unit of Measure: ________

Item Long Description:

Item Short Description (40 Character Limit including Spaces):

Unit of Measure: ________

Item Long Description:

Item Short Description (40 Character Limit including Spaces):

Unit of Measure: ________
APPENDIX B.
UTILITY FIELD CHANGE FORM

For the electronic version of the Utility Field Change Form, go to the TDOT Utilities Office website.

Appendix B contains a blank Field Change Form along with an example of a completed form.
Proposed change is extend 8" water line across Frontage Road as depicted. This change will eliminate the chance of cutting roadway to extend across the Frontage Rd at some later date. Also, the new water service for Super 8 motel will be moved to the NW corner of the property (match existing location of water meter).

Eliminate approximately 200' of 6" dip water line of water line D and relocate the new fire hydrant assembly to suitable location accessed from Frontage Rd.

<table>
<thead>
<tr>
<th>CONTRACT ITEMS IMPACTED:</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Est. Quantity</th>
<th>Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td>775-62-72 8IN DIP WATER LINE</td>
<td>LF</td>
<td>$44.10</td>
<td>90</td>
<td>$3,969.00</td>
</tr>
<tr>
<td>775-62.71 6IN DIP WATER LINE</td>
<td>LF</td>
<td>$42.00</td>
<td>-200</td>
<td>($8,400.00)</td>
</tr>
</tbody>
</table>

| CONTRACT ITEMS ADDED: | Unit | Unit Cost | Est. Quantity | Subtotal   |

REQUEST DATE: 11/7/2011

TOTAL ($4,431.00)
UTILITY FIELD CHANGE REQUEST

CHANGE NO. _____
REQUESTED BY:  CONTRACTOR [ ]
                 SUBCONTRACTOR [ ]
                 UTILITY [ ]

SIGNATURE

REASON FOR REQUEST:


CONTRACT ITEMS IMPACTED:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Unit Cost</th>
<th>Est. Quantity</th>
<th>Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CONTRACT ITEMS ADDED:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Unit Cost</th>
<th>Est. Quantity</th>
<th>Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

REQUEST DATE: __________

TOTAL $ __________

APPROVAL

<table>
<thead>
<tr>
<th>APPROVAL</th>
<th>DATE</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIME CONTRACTOR</td>
<td>__________</td>
<td>___________________</td>
</tr>
<tr>
<td>UTILITY APPROVAL</td>
<td>__________</td>
<td>___________________</td>
</tr>
<tr>
<td>CEI APPROVAL</td>
<td>__________</td>
<td>___________________</td>
</tr>
<tr>
<td>TDOT APPROVAL</td>
<td>__________</td>
<td>___________________</td>
</tr>
</tbody>
</table>

Revised 6/22/11
APPENDIX C.
EXAMPLE GENERAL NOTES SHEET

Included are the following:

- Example Quantities Sheet
- Example General Note Sheet
- Example Plans Sheet

In this example, the TDOT Region Utility Coordinator assigned ‘U3’ for this Utility’s plans sheet numbers
State Project No.: 1959-2761-54
Route: SR-29 (Lebanon Rd) to West End Of Stoners Creek Bridge
County: Davidson
Submitted By: Carl Cornfield
Utility Office Contact: Carl Cornfield

Index Of Sheets
Sheet No. Description
U3-1 .......... COVER SHEET
U3-2 .......... UTILITY NOTES
U3-3 .......... PRESENT LAYOUT
U3-4 .......... DETAIL SHEET

Estimated Utility Quantities

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>793-01.26</td>
<td>INSTALL 5 POLES IN SETU</td>
<td>EACH</td>
<td>12</td>
</tr>
</tbody>
</table>

Notes:
- Includes all materials, labor, equipment for complete installation including setup, splices, and traffic control.
- Includes all materials, labor, equipment for complete installation including setup, splices, and traffic control.
- Includes all materials, labor, equipment for complete installation including setup, splices, and traffic control.
- Includes all materials, labor, equipment for complete installation including setup, splices, and traffic control.

Additional Footnotes:
- Item (1) includes all materials, labor, equipment for complete installation including setup, splices, and traffic control.
- Item (2) includes all materials, labor, equipment for complete installation including setup, splices, and traffic control.
- Item (3) includes all materials, labor, equipment for complete installation including setup, splices, and traffic control.
- Item (4) includes all materials, labor, equipment for complete installation including setup, splices, and traffic control.
GENERAL NOTES TO CONTRACTOR

STANDARD UTILITY NOTES

1. Except for Erosion and Sediment Control items, no roadway or bridge items shall be utilized to compensate for work methods or materials associated with those specified for the utility installation, even though the same or similar roadway or bridge materials may have been called for in the utility specifications.

2. All materials, methods, and/or integral materials outlined in the utility specifications or drawings necessary to provide a complete and functional installation must be included in the unit price for the associated utility work item.

3. The contractor must furnish all services during the construction of the relocated facility. Any costs associated with installation of required temporary service lines due to the roadway construction sequence of work (i.e., cuts, fills, phasing, etc.) shall be included in the cost of the permanent utility item. Note: To utility, a specific temporaryization item can be included in the plans if it is a major item of work.

4. It shall be the responsibility of the prime contractor's surveyor to lay out all the facilities being relocated within the contract.

5. For buried utilities, the prime contractor or his subcontractor shall be required to provide to the utility upon completion of the utility's relocation work a set of as-built drawings for their records. These as-built drawings should be prepared as the job progresses to ensure their accuracy.

6. Where erosion control measures are needed for the utility relocation work occurring inside or outside state right-of-way, the contractor shall submit to the TDOT project supervisor for approval a proposed erosion and sediment control plan prior to beginning the work. TDOT approval must be received before the erosion control pay items for roadway construction can be used for any additional erosion control measures required for the utility relocation work.

7. Driveway, sidewalk, and roadway temporary restoration shall be part of the in-place cost of placing the utility item within the ROW.

8. Any excavation of the stream channel area shall be separated from flowing water and accomplished during low flow conditions. This shall be accomplished by the use of sumps, flumes, lined diversion channel with sandbag berm, diversion pipe with sandbag dam at pipe inlet, or in some cases cofferdams. Alternatively, based on field conditions and contractor selection, the utility relocation may be accomplished using bore technology with no stream channel impacts.

DAMAGES TO EXISTING UTILITIES

9. Repairs and/or replacements to any utilities damaged by construction shall be the responsibility of the contractor. No additional payment will be allowed.

STAKING PROPOSED FACILITIES

10. Notify Carl Cornfield @ (615) XXX-XXXX two weeks in advance for arrangements to have the proposed manhole locations staked.

TRENCHING AND BURIED FACILITY PLACEMENT GUIDELINES

11. The bottom of the trench should be relatively smooth, undisturbed earth. It should be well tamped or it can be sand. The conduit should be laid on a protective layer of 6 inch well tamped sand. Backfill 24 inches of sand around the conduit. Backfill above the sand backfill should be adequately compacted. Machine compactions should not be used within 52 inches of the conduit. The fill should be free of rocks, pavement and frozen material that might damage conduit. The conduit shall be laid always observing the tension and bending limitations of the cable prescribed by the manufacturer. As a general rule, copper conductor cables should not be bent to a radius less than 10 times its own cross-sectional diameter. Fiber optic cable should not be bent less than 20 times the cable diameter. See "Conduit Trench Detail Drawing U-3."
Appendix D.

2011 Utility Workshop Documents

The documents in Appendix D are handouts from the TDOT 2011 Utility Workshop held at each region. These documents contain more in-depth information regarding the utility relocation process.
APPENDIX D1.
2011 UTILITY WORKSHOP PRESENTATION
Utility Workshop 2011

Agenda

1. Welcome - Housekeeping – Joe Shaw
2. Introduction – Joe Shaw
   - Chapter 86
   - Chapter 86 Certification affects percentage of reimbursement and cap
   - Standardization of Utility Items
   - “Deconfliction” and TDOT Development Meetings
   - Filenet PDF Files
   - Street lighting
   - Permits
3. Utility Contracts – Joe Shaw
   - Contracts = Percentage / Easement / CH86 Move Prior / CH86 Move in State
   - Consultant Approvals
   - State & Federal Disbarment Lists
   - Overhead Rates
   - Certification Contract Obligation – Insurance for Utility
4. - Rick Yeager with Allen & Hoshall Engineering Knoxville
   - PE Authorization / Cover Letter
   - Location / Rainbow Plans
   - Utility Relocation Estimate Spreadsheet
   - Chapter 86 Certification
   - Certification Contract Obligation
   - Declaration of Calendar Days
   - Utility Plan Sheets
   - Move In State Contract
   - Utility Diary and Inspections
   - “Go To Work” Letter
   - Invoicing
5. CMS EXCEL Spreadsheet – Gus Awali
6. Environmental Notice of Coverage – Michael Horlacher
   - Permits
   - Relocation Construction Utility Move
7. Questions
Introduction

- TDOT Staff: Joe Shaw, Asst Director ROW Division
  Gus Awali, HQ Utility Coordinator Regions 1 & 2
  Michael Horlacher, HQ Utility Coordinator Regions 3 & 4

- Region Staff: Tom Foley, Rg Utility Coordinator Region 1
  Steve Langford, Rg Utility Coordinator Region 2
  Jim Nikahd, Rg Utility Coordinator Region 3
  Charles Green, Rg Utility Coordinator Region 4

- Consultant: Rick Yeager, Allen & Hoshall Engineering, Knoxville

Workshop Schedule

- July 12: Knoxville, TDOT Regional Auditorium
- July 13: Johnson City, Johnson City Power Board
- July 19: Cookeville, Gas Department
- July 26: Cleveland Chamber of Commerce
- July 28: Jackson, TDOT Regional Auditorium
- August 10: Nashville TDOT Regional Auditorium
- August 11: Nashville TDOT Regional Auditorium
### Highlights

- **Existing Utilities outside Public ROW Relocation is Compensable**
  - Outside Public ROW (City, County, State)
  - Prior Property Rights
  - US Constitution 5th & 14th Amendments compensation for property

- **Chapter 86 amendment to State Statute in 2003 TCA 54-5-854**
  - Is at the Department’s discretion to reimburse utilities on Public ROW
  - Is not an entitlement
    - TDOT Qualifies projects for CH86 Policy 340-07
      - Grade & Drain with right-of-way acquisition
      - Bridge REPLACEMENT on State Route
  - Utility Eligibility
    - Have a permit for existing utility facilities
    - Respond with plans/estimate/schedule within 120-165 days per statute
    - Relocate “conflicts” prior to the letting date or include work in state contract

- **Street Lighting**
  - Under CH86, street lights are eligible for reimbursement in like kind cost
  - Generally the electric utility will submit relocation plans

### Reimbursements

- **100% public reimbursement up to cap of $1.75 million**
  - Utility District
  - Municipal Utility
  - Utility Cooperative

- **75% public reimbursement up to cap of $1.75 million**
  - All other utilities

- **CH86 Certification**
  - Must be submitted on Estimate of Cost Spreadsheet
Utility Reimbursement

Response

- Three (3) sets of check plans for any attachments to structures. Must be approved by TDOT prior to inclusion in the plans.
- One (1) PDF and
  One (1) set “Location Approval” plans or RAINBOW PLANS color coded as directed in authorization letter indicating existing facilities, to be removed, added, temporary, or to remain.
- Cost Estimate TDOT Form 2000-16 if reimbursement is requested. (Sheet 6.1 Required) Clearly indicate percent public and private on estimate. Include:
  - Engineering Cost (Consultant and In-House/staff. If consultant used a reasonable staff cost will be considered)
  - Construction Cost (Includes Staking & Clearing/Grubbing if request Move Prior)
  - Replacement Easement Cost
- Declaration of Scheduled Calendar Man days (TDOT Form 2000-12.1 or similar)
- Letter Request for Reimbursement
  - @ Private Easement/Property
  - @ Move Prior/Before Letting
  - @ Include Work in State contract
  - @ Utility facilities are Not On Project
  - @ Utility not requesting reimbursement, will move at No Cost
  The Utility MUST have an executed contract with TDOT before any relocation cost can be incurred.

Meetings

Utilities invited, it is up to you to participate

- Preliminary PS&E
  First meeting chance to see design and influence design
- ROW PS&E
  Last chance before ROW plans are issued to utility for relocations
- Construction PS&E
  Last chance before project is Let for contract
- Utility “Deconfliction” Meeting
  TDOT Utility Consultants hold after ROW plans issued
- Preconstruction Meeting
  First meeting with the Contractor, Utilities, Railroads, and TDOT present
- Construction Utility Meeting
  Meetings held during construction to resolve issues and schedules
- Utility Workshops
  Intent is to have these workshops annually
Submittals

TDOT moving toward all electronic submittals:
- saves time, storage, cost, and easier
- Form 2004-16 Electronic Spreadsheet
  (Consultant Estimate, Construction Estimate, Schedule of Days, Certifications)
- CADD Disclaimer
- PDF of Location / Rainbow Plans
- PDF Detailed Relocation Plans for MOVE IN utility relocation
  (Required PE sign/seal)
- PDF Utility Specifications for MOVE IN utility relocation
- State Statute deliver plans by certified mail or hand delivery
  CD's delivered FEDX
- TDOT Use of FILENET
  All plans, revisions, CADD files, documents electronically stored
- Use Adobe Electronic Signature

Utility Permits

Required

- Utilities must have a permit for installations on State ROW
  (Your CH86 eligibility depends on it)
- Currently there are no fees for a utility permit
- General Agreement
  (Allows utility to have a Running Bond
   or one Surety Bond for all permits)
- WHEN Permit is NEEDED:
  - New installation
  - Relocation of existing facilities
  - Anytime traffic flow is affected
  - Any excavation
Utility Permits

Application

- Request/Application from the utility signed by individual authorized to obligate the utility in a contract
- Include plan or sketch
  - 5 copies if involves roadway lighting, culvert or bridge encroachment
  - 4 copies for all other permits
- TDEC Notice of Coverage (NOC) or attestation less than one (1) acre
- Color coding:
  - Green - to be removed or retired
  - Orange or Yellow - existing and to remain
  - Red - new installation
  - Blue - For temporary location

Submit

- Location in relationship to outside edge of pavement (EOP) / whiteline
- Location in relationship to Right-of-Way (ROW) line
- Depth of proposed cover
- State Route Log Mile (LM) of beginning & end of utility project
- State Route Number
- County
- Elevation of poles in relation to EOP and distance from EOP
- Posted speed limit
- GPS Longitude / Latitude
- TDEC Notice of Coverage (NOC)
**Contracts**

- Percentage Contract (Prior or In State Contract)
  - % Public / % Private
- CH86 Move Prior
  - State statute move prior to the letting date
- CH86 Move In
  - Utility construction included in the state contract
- Easement Replacement
  - Replace existing utility easement property rights
- Pipelines
  - Special contracts for transmission pipelines
- Move Again
  - If TDOT necessitates the utility relocate facilities already relocated

**Chapter 86 Move Prior**

- Utility completes the work under supervision by TDOT Construction Project Manager
- Utility Submits certification to the TDOT Construction Project Manager
- TDOT Construction Reviews:
  - Approves
  - Approves pending verification by project staking
  - Disapproves
- TDOT Construction returns Certification to Utility and copies Regional Utility Office
- Utility submits invoice and approved certification letter to Regional Utility Office for payment
Utility Certification

**Certification Exceptions:**
The following permits, if not obtained, result in the utility performing the relocation and not being reimbursed:

- Asbestos
- Traffic control
- Surveying
- Easements

**Responsibilities:**
If the utility performs the relocation prior to the letting:

- Coordinate the Relocation
- Construct the Relocation
- Provide all environmental permits (NOC required)
- Provide Erosion control
- Clearing and grubbing
- Disposal of waste
- Traffic control
- Surveying
- Easements
Who

- If the utility work is done by the utility
  - Utility responsible for all erosion control measures
  - Utility responsible for all permits (NOC, Corp., TVA, etc)
- If the utility work is done by the state contractor
  - Review roadway erosion control for conflicts, areas of coverage, etc.
  - Permit Sketches
  - Assume permits by MOU (Corp Engineers, TVA)

Move In State Contract

**Erosion Control**

- Memorandum of Understanding
  - For Environmental Permitting required for Utility Construction
  - Utility agrees to provide information requested by the Department and permit renewals, as necessary, to the Department, for environmental permits issued by any state or local agency, to any of the Department to include the utility contractor in the State roadway construction contract.
  - The utility agrees to provide environmental permits, as necessary, to the Department, for any state or local agency, to include the utility contractor in the State roadway construction contract.
  - The utility agrees to review the utility plans provided by the Department in order to determine whether the utility will comply with any and all permits required for the Department to include the utility contractor in the State roadway construction contract.

**Erosion Control**

- Memorandum of Understanding
  - Utility agrees to provide written authorization to the Department to include the utility contractor in the State roadway construction contract.

**Erosion Control**

- Memorandum of Understanding
  - Utility agrees to provide written authorization to the Department to include the utility contractor in the State roadway construction contract.

**Erosion Control**

- Memorandum of Understanding
  - Utility agrees to provide written authorization to the Department to include the utility contractor in the State roadway construction contract.

**Erosion Control**

- Memorandum of Understanding
  - Utility agrees to provide written authorization to the Department to include the utility contractor in the State roadway construction contract.

**Erosion Control**

- Memorandum of Understanding
  - Utility agrees to provide written authorization to the Department to include the utility contractor in the State roadway construction contract.

**Erosion Control**

- Memorandum of Understanding
  - Utility agrees to provide written authorization to the Department to include the utility contractor in the State roadway construction contract.

**Erosion Control**

- Memorandum of Understanding
  - Utility agrees to provide written authorization to the Department to include the utility contractor in the State roadway construction contract.

**Erosion Control**

- Memorandum of Understanding
  - Utility agrees to provide written authorization to the Department to include the utility contractor in the State roadway construction contract.
Rain water which collects in the utility trench shall be pumped into a temporary dewatering structure or filter bag.

Silt fence to be installed on the downstream side of all stockpiled soil. Trenching across wet weather conveyances to be done during no flow conditions and stabilized by the end of the work day.

Utility crossings for perennial streams shall be constructed in accordance with TDOT Standards, and no work shall be conducted in flowing waters. Tennessee Department of Environment and Conservation (TDEC) Regulations apply to the Utilities in this project in regards to Erosion Control. Contractor shall comply with all requirements of the Storm Water Pollution Prevention Plan.

It is the responsibility of the utilities installer to protect from erosion exposed earth resulting from his operations and to provide for containment of sediment that may result from his work. Prior to beginning work, adequate measures must be in place to trap any sediment that may travel off-site in the event of rain. During the progression of his work, exposed earth areas shall be stabilized as soon as possible to prevent erosion. At no time shall exposed earth resulting from his operations have unprotected access to flowing off-site and becoming waters of the State.

FOR THE INSTALLATION OF BURIED UTILITIES (PIPES AND CABLES), TRENCHES SHALL BE BACKFILLED DAILY AS CONSTRUCTION PROCEEDS. BACKFILLED TRENCHES SHALL BE SEEDED AND MULCHED OR SODDED DAILY IF POSSIBLE BUT NO LATER THAN 7 DAYS AFTER TRENCHING. ANY TEMPORARY SPOIL PILE OF EXCAVATED EARTH SHALL BE LOCATED WITHIN THE TDOT ROW EROSION CONTROL MEASURES or RECEIVE SEPARATE EROSION CONTROL MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EROSION CONTROL MEASURES WILL BE INSTALLED UNTIL SUCH TIME THE TRENCH IS BACKFILLED.

---

**Utility Environment Notes**

Rain water which collects in the utility trench shall be pumped into a temporary dewatering structure or filter bag.

Silt fence to be installed on the downstream side of all stockpiled soil. Trenching across wet weather conveyances to be done during no flow conditions and stabilized by the end of the work day.

Utility crossings for perennial streams shall be constructed in accordance with TDOT Standards, and no work shall be conducted in flowing waters. Tennessee Department of Environment and Conservation (TDEC) Regulations apply to the Utilities in this project in regards to Erosion Control. Contractor shall comply with all requirements of the Storm Water Pollution Prevention Plan.

It is the responsibility of the utilities installer to protect from erosion exposed earth resulting from his operations and to provide for containment of sediment that may result from his work. Prior to beginning work, adequate measures must be in place to trap any sediment that may travel off-site in the event of rain. During the progression of his work, exposed earth areas shall be stabilized as soon as possible to prevent erosion. At no time shall exposed earth resulting from his operations have unprotected access to flowing off-site and becoming waters of the State.

FOR THE INSTALLATION OF BURIED UTILITIES (PIPES AND CABLES), TRENCHES SHALL BE BACKFILLED DAILY AS CONSTRUCTION PROCEEDS. BACKFILLED TRENCHES SHALL BE SEEDED AND MULCHED OR SODDED DAILY IF POSSIBLE BUT NO LATER THAN 7 DAYS AFTER TRENCHING. ANY TEMPORARY SPOIL PILE OF EXCAVATED EARTH SHALL BE LOCATED WITHIN THE TDOT ROW EROSION CONTROL MEASURES or RECEIVE SEPARATE EROSION CONTROL MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EROSION CONTROL MEASURES WILL BE INSTALLED UNTIL SUCH TIME THE TRENCH IS BACKFILLED.

---

**Standard Utility Items**

- **Reduce the number of utility relocation items**
  - Group "assemblies"; use industry standards TVPA / RUS / REA; fittings by pound

- **Inspection by Utilities (Construction Diary):**
  - items installed
  - certification of material and testing
  - acceptance of material and installation

- **Produce a Guide Book for utility relocation**
  - Revisions to utility plans (supplements / change orders)
    - Sign off by State contractor, TDOT Construction, TDOT Utility Office, Utility
  - Betterment / Salvage
  - Erosion & Sediment Control
  - Clearing and Grubbing
  - Boring vs Trenching (When to use which)
  - Utility Easements
  - Specifications
  - Utility Detail Plans

- **Training Workshops**

---

*Move In State Contract*

*Feb. 10, 2012*
Item Rules

**Item Descriptions/numbers when possible should combine items as lump descriptions.**

A single item description/number should be specified for hardware, not individual items for bolts, another for the nut, another for the washer, and another for installing. The listing of the item and the plans generally indicate that it is to be installed. It should be clear what the contractor is to do, any clarification can be done by footnoting the item with details and instructions.

1. **Item Quantities:**
   - Cannot have a “0” quantity
   - Cannot be a decimal quantity, must be whole number (except Linear Mile Unit of Measure)

2. **MS Excel file in the following format:**
   - The Regional Utilities Office can provide a sample MS Excel file for this use.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Quantity</th>
<th>% Utility</th>
<th>% Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>123</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$10.00</td>
<td>1000</td>
<td>35</td>
<td>65</td>
</tr>
<tr>
<td>456</td>
<td>PVC Pipe</td>
<td>LF</td>
<td>$8.00</td>
<td>500</td>
<td>25</td>
<td>75</td>
</tr>
<tr>
<td>789</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$8.00</td>
<td>1000</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>012</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$20.00</td>
<td>1000</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>345</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$15.00</td>
<td>1000</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

**Composite Percentage Calculations**

TDOT system allows a maximum of three (3) percentage combinations per utility per project. An exception on a case by case basis may be made when a composite percentage high cost and percentage low costs are extreme. Generally allowed: 100% Utility Cost

**Example:**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Total Quantity</th>
<th>% Utility</th>
<th>% Project</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>123</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$10.00</td>
<td>1000</td>
<td>35</td>
<td>65</td>
<td>3,500</td>
</tr>
<tr>
<td>456</td>
<td>PVC Pipe</td>
<td>LF</td>
<td>$8.00</td>
<td>500</td>
<td>25</td>
<td>75</td>
<td>1,250</td>
</tr>
<tr>
<td>789</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$8.00</td>
<td>1000</td>
<td>30</td>
<td>70</td>
<td>2,800</td>
</tr>
<tr>
<td>012</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$20.00</td>
<td>1000</td>
<td>0</td>
<td>100</td>
<td>20,000</td>
</tr>
<tr>
<td>345</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$15.00</td>
<td>1000</td>
<td>100</td>
<td>0</td>
<td>15,000</td>
</tr>
</tbody>
</table>

**Total**

$57,000

**Composite Percentage**

\[ \text{Composite Percentage} = \frac{\text{Total Utility Cost}}{\text{Total Project Cost}} \times 100 \]

\[ \text{Composite Percentage} = \frac{3,500 + 1,250 + 2,800 + 20,000 + 15,000}{3,500 + 1,250 + 2,800 + 20,000 + 15,000} \times 100 = 31.36\% \]

**Revised Spreadsheet and Plan Tabulation Block Percentages would be as follows:**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Quantity</th>
<th>% Utility</th>
<th>% Project</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>123</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$10.00</td>
<td>1000</td>
<td>35</td>
<td>65</td>
<td>3,500</td>
</tr>
<tr>
<td>456</td>
<td>PVC Pipe</td>
<td>LF</td>
<td>$8.00</td>
<td>500</td>
<td>25</td>
<td>75</td>
<td>1,250</td>
</tr>
<tr>
<td>789</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$8.00</td>
<td>1000</td>
<td>30</td>
<td>70</td>
<td>2,800</td>
</tr>
<tr>
<td>012</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$20.00</td>
<td>1000</td>
<td>0</td>
<td>100</td>
<td>20,000</td>
</tr>
<tr>
<td>345</td>
<td>Ductile Pipe</td>
<td>LF</td>
<td>$15.00</td>
<td>1000</td>
<td>100</td>
<td>0</td>
<td>15,000</td>
</tr>
</tbody>
</table>

**Total**

$57,000

**Composite Percentage**

\[ \text{Composite Percentage} = \frac{3,500 + 1,250 + 2,800 + 20,000 + 15,000}{3,500 + 1,250 + 2,800 + 20,000 + 15,000} \times 100 = 31.36\% \]

**Move In State Contract**
Revisions

1. Revision Letter
2. Revised EXCEL Spreadsheet
3. Revision notes on utility drawings
4. Revised Utility Drawings (PDF)

Move In State Contract

Inspection

- Utility Inspector oversees installation
  - Approval / Certification / Testing of materials
  - Approval of shop drawings
  - Approval of Engineering field changes
  - Approval of substitution material or installation
  - Approval of quantity items installed
  - Inspect installation according to safety and industry standards
  - Acceptance of progressive utility facility installed

- Utility Plans & Utility Specifications govern the state contractor.

- TDOT Construction Manager oversees Contract Obligations:
  - Plans (location)
  - Specifications with respect to State Contractor
  - Pay Item expenditures

If the Utility Inspector has concerns, they are to be put in writing to the TDOT Construction Manager and a copy sent to the Regional Utility Office.
Utility will make payment to the State in the amount of the estimated cost of these "non-participating" items prior to advertisement for bids. The Utility may provide these funds by one of the following means:

A. A check made payable to the order of and sent to the Department.
B. Documentation of a deposit made only by wire or by immediate credit transfer with the Treasurer of the State.

In the event said deposit exceeds the aggregate amount of charges, the difference will be refunded to the Utility. In the event said charges exceed the deposit, the Utility agrees to reimburse the State for such additional amount within 30 days.

If the Utility failed to send the payment with the signed contract, the Central Utility Office will notify the Utility that this contract cannot be executed by the department until the office receives the payment in full.

Tennessee Department of Transportation
Finance Office Contact person:

If you have any questions concerning check or LGIP account in connection with your TDOT Non-Participating/Participating Contract, please contact the following person:

- Cathay Marek, Region-1: (615) 741-7787
- Eric Goda, Region-2: (615) 741-8990
- Jeff Albright, Region-3: (615) 532-5298
- Thomas Whitfield, Region-4: (615) 741-8991

Or contact the Regional Utility Office for further assistance.
Specifications

- Time period of acceptable Service Outage
- Required License, Certification, Drug testing of workers submitted to the utility.
- Liability Insurance submitted to the utility
- Approval of Material, material certifications by the utility
- Approval of shop drawings by the utility
- Approval of field changes by the utility
- Approval of substitution materials or methods by the utility
- Work inside customers residences such as re-lighting pilot lights, re-establishing services, etc. will be the responsibility of the utility
- Industry standards, safety standards, and material standards.
- Name, address, phone, E-mail, fax, cell phone of utility approval contact

More About Specs

1. Utility CANNOT include “boiler plate” language that contradicts the state contract. (Such as Performance Bonds). The State bond provides the performance guarantee.
2. The Utility CAN include qualifications, but CANNOT pre-qualify a sub-contractor:
   - Drug Testing certifications to be provided to the utility for approval
   - Certifications to be provided to the utility for approval
   - Licenses to be provided to the utility for approval
   - Proficiency (Need to be careful it does not specifically exclude, or will result in a delay to the project
3. The Utility can require INSURANCE. The contractor may in some cases be working on utility property (easement or poles).
4. Electronic CD copy (PDF)
http://www.tn.gov/finance/act/travel.html
Excluded
Debarred

http://www.tdot.state.tn.us/construction/default.htm

Excluded
Debarred

http://www.epls.gov
Invoices

Process:
1. Submitted for review by Regional Utility Office.
2. Submitted for review and approval by Construction office.
3. Reviewed by Regional Utility Office, coded, & submitted to accounts for payment.

To Expedite Payment:
- Must be in same format as estimate.
- Progressive payments capped at 80%.
- Invoice MUST cite:
  - which sequential bill it is (Progressive #1, #2, #3, etc.)
  - total accumulated cost to date of last bill.
- Final bill over contract amount requires estimate line item justification.
- Final Bill must be submitted within one (1) year of project completion.

URLP

- The Utility Relocation Loan Program (URLP) criteria has been modified.
- Administered by Tennessee Department of Environment and Conservation (TDEC)
- The intent is to make loans more accessible to utilities for relocation costs.
APPENDIX D2.
UTILITY RELOCATION GUIDELINES
HANDOUT FROM THE WORKSHOP
Utility Relocation Guidelines
TDOT Cover Letter for Utility Relocation

Engineering Approval Requirements

If a Utility wished to use a Consultant for Engineering services, the Utility must submit the following information to TDOT for approval before work can begin to prepare any submittals for relocation on the project. The information that needs to be submitted to TDOT for approval of a Consultant is as follows:

- Certification of Consultant and Memorandum of Understanding (TDOT Form 2004-13)

- Letter from Utility requesting approval of Consulting services

- Estimate of Engineering Cost (TDOT Form 2004-16, page 1.1, shown on later slides)

- Consultant Scope of Work

- If a consultant is requesting Engineering fees based on a "continuing contract", then a copy of the Continuing Contract between Utility and Consultant must be used.

** Engineering fees: any work done by a Consultant prior to written approval from TDOT will not be eligible for reimbursement

** Reimbursement will be limited to the Engineering Estimate of Cost maximum ceiling amount. If the Engineer finds it is necessary to increase their fees, the Utility shall make a written request to the State for the fee increase, along with reasoning for the overrun, which will have to be approved by TDOT prior to incurring any additional costs. No increase shall be binding upon the State unless written prior approval is given by the State.

CAD File Access Requirements

In order to gain access to the electronic files that TDOT uses for the project in which a utility is relocating, the Utility or Consultant must fill out a CADD Files Disclaimer (TDOT Form 2004-14). Once the form has been submitted and received by TDOT, they will release access to the electronic files for use by the Utility or Consultant.
"A" Date Submittal Requirements

When a Utility or Consultant is submitting an "A" date package for relocation, the submittal needs to consist of the following:

• (1) Printed, color-coded half-size copy of Utility Marked Relocation Plans (red-new, green-remove, yellow-existing to remain, blue-temporary)

• Utility Estimate of Cost (TDOT Form 2004-16, shown on later slides)

• Schedule of Estimated Calendar Days (TDOT Form 2004-16, page 8.1, shown on later slides)

• Utility "Declaration for Reimbursement" letter

"B" Date Submittal Requirements

When a Utility or Consultant is submitting a "B" date package for relocation, the submittal needs to consist of the following:

• (1) Printed copy of completed Utility Item Spreadsheet (including Item Numbers, Descriptions, Units, Percentages and Per Unit Labor and Material Costs)

• (1) Electronic copy of detailed Relocation Plans (Black and White) (pdf format)

• (1) Electronic copy of color-coded relocation plans (pdf format)

• (1) Electronic copy of Construction Specifications (pdf format)

• (1) Electronic copy of Utility Item Spreadsheet (excel format)

• (1) Electronic copy of CAD tiles of utility relocation (dgn format)

All electronic files are to be burned to a CD and submitted along with the printed copies of the required materials.
TDOT Form 2004-16 (Utility Relocation Estimate)

The TDOT Form 2004-16 for Utility Relocation can be very overwhelming at first glance.

The 2004-16 Form is made up of (10) Different pages, and is filled out in Excel Format. These pages are filled out and submitted to TDOT as part of the “A” date package for Utility Relocation. The sheets are labeled as follows:

- Sheet 1.1 – Consultant Engineering Cost
- Sheet 1.2 – In House Engineering Cost
- Sheet 2.1 – Site Cost
- Sheet 3.1 – Removal, Labor & Materials
- Sheet 4.1 – Installation, Labor & Materials
- Sheet 5.1 – Labor
- Sheet 6.1 – Relocation Estimate
- Sheet 6.2 – Chapter 86 Certification
- Sheet 7.1 – Move Prior Obligation
- Sheet 8.1 – Calendar Days

This form must be completed in its entirety and submitted along with (5) half-size sets of Color-coded plans to satisfy the “A” date submittal for TDOT to be considered for Chapter 86 Reimbursement (if applicable).

The form is “protected”, so please do not attempt to “unprotect” the spreadsheet when filling out the required information. If there are any questions concerning the information required in the spreadsheet, please contact the TDOT Utility Representative for the region in which the project is located. This information can be found on the Notification letter for that project that was sent to the Utility.
Sheet 1.1, Consultant Estimate of Engineering Cost

Estimate of Engineering Cost can be filled out one of two ways, using either Standard Consulting or Continuing Contract. If there is no continuing contract between the Utility and the Consultant for Engineering services, check the “standard contract” box. If using a consultant that has an existing continuing contract, then check the “continuing contract” box.

**Engineering**: When filling in the engineering, input the rate and hours for the positions that will be utilized for the project for areas I, II and III (if applicable). Pre-Construction Engineering will be any engineering needed PRIOR to the Letting. Construction Engineering will be any engineering potentially needed during the construction of the project.

**Surveying**: Most survey work is done by TDOT, if there will be additional surveying needed for relocation, input that information.

**Other Expenses**: List all other expenses in this area. TDOT has standard “reimbursable rates” for mileage and lodging, so check with them before assigning an amount in these areas. If listing an expense next to “Other”, please include a description of this expense or if it may not be approved for reimbursement.

**Indirect/Overhead Expenses**: Only fill out if using a “standard” contract. The appropriate rate should be calculated internally.

**Profit**: Only fill out if using a “standard” contract. The allowable rate should be calculated internally.

**Total Engineering Cost**: The total engineering will fill itself out based on the information provided in areas I through VI of the sheet, no input is necessary in this section.

**Total Inspection Cost**: Inspection costs are reimbursed on a “private/public” percentage. Utilities will only be reimbursed for inspection services for areas of their facilities that are currently on Private ROW. The Total Inspection Cost cells will not be filled in until the percentage of Private and Public are calculated on Sheet 6.1.
Sheet 1.2, In House Estimate of Engineering Cost

In House Engineering Costs are calculated differently than Consulting costs, so a new sheet 1.2 has been designed to assist in those costs, keeping the utility from having to supply their own internal spreadsheets as was done in the past.

The same information applies that is in the Consultant Estimate of Engineering Cost, for the exception of a line item for Profit. Therefore, the completion of both forms are very similar.

**Engineering:** When filling in the engineering, input the rate and hours for the positions that will be utilized for the project for areas I, II and III (if applicable). Pre-Construction Engineering will be any engineering needed PRIOR to the Letting. Construction Engineering will be any engineering potentially needed during the construction of the project.

**Surveying:** Most survey work is done by TDOT. If there will be additional surveying needed for relocation, input that information.

**Other Expenses:** List all other expenses in this area. TDOT has standard “reimbursable rates” for mileage and lodging, so check with them before assigning an amount in these areas. If listing an expense next to “Other”, please include a description of this expense or it may not be approved for reimbursement.

**Indirect/Overhead Expenses:** The appropriate rate should be calculated internally.

**Total Engineering Cost:** The total engineering will fill itself out based on the information provided in areas I through V of the sheet, no input is necessary in this section.

**Total Inspection Cost:** Inspection costs are reimbursed on a “private/public” percentage. Utilities will only be reimbursed for inspection services for areas of their facilities that are currently on Private ROW. The Total Inspection Cost cells will not be filled in until the percentage of Private and Public are calculated on Sheet 6.1.
Sheet 2.1, Site Cost (Move Prior Only)

The Site Cost sheet is fairly self-explanatory. It is only to be used when a Utility is moving their facilities “Prior To” the letting of the project.

When providing this information, attach any internal supporting documentation for the rates and fees that are being applied to the estimate so that TDOT can verify that the amounts being requested are reasonable.

<table>
<thead>
<tr>
<th>Description</th>
<th>Causing</th>
<th>Glubbling</th>
<th>Traffic Control</th>
<th>Erosion Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Chapter 85 Precisions</td>
<td>$</td>
<td></td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

Rev: 5/16/2016  TDOT Form: 8500 - 85
Page 2.1
Removal of Labor and Materials should reflect an "estimated" value for the removal of the existing facilities on the project.

Items should be listed in groups, not broken down in detail, that will be addressed during the final design of the utility relocation process.

**Labor**: Labor Unit Prices should include all equipment needed to remove the facilities for the project. If the relocation is being done "prior to" the letting, the units can be listed under either "In House" or "Continuing". If the relocation is being done as part of the roadway contract, then the unit will be listed under "Bid Contract".

**Material**: Material Unit prices should include all existing material on the unit that is being listed.

**Salvage Material**: Any materials that are going to be salvaged from the Utility need to be assigned a value. TDOT will not reimburse a utility for materials that can be re-used by the utility for their facilities.
Sheet 4.1, Installation - Labor and Materials

Installation Labor and Materials should reflect an “estimated” value for the installation of the new facilities that will be required on the project.

**Labor:** Labor Unit Prices should include all labor costs necessary to install the facilities for the project. If the relocation is being done “prior to” the letting, the units can be listed under either “In House” or “Continuing”. If the relocation is being done as part of the roadway contract, then the unit will be listed under “Bid Contract”.

Whether equipment is being listed separately and not being included in the installation labor unit pricing, or if it is to be included in the unit price for installation, make sure to note that by checking the appropriate box in the top left corner of the sheet.

**Material:** Material Unit prices should include all materials necessary to install the unit that is being listed in its entirety. If a utility is providing some or all of the materials, list those costs under “provided to state”.

**Betterment:** If a utility is considering “upgrading” their existing facilities, the difference in what is existing on their facilities versus what they want to install is considered “betterment”. The values for this difference (in both labor and material costs) need to be noted in the Betterment column of the sheet. TDOT will reimburse utilities for “in kind” replacement of their facilities. Anything that the utility wished to install that will improve their system will need to be listed as betterment.
Sheet 5.1, Combined Labor Costs, Easement and Inspection

The majority of the Combined Labor Cost sheet will be filled in as the first (5) sheets of the spreadsheet are completed. However, there are areas of the sheet that are not formulated and will need to be addressed and completed.

**Replacement Easement Acquisition:** For areas of relocation that fall outside public ROW, the utility is required to acquire the ROW necessary to relocate their facilities. In order for the utility to get reimbursed for these purchases, the information in this section needs to be filled out.

**Inspection Cost:** The costs associated with inspection services will be calculated from Sheet 1.1 (or 1.2 if Utility is going to be doing Inspections in-House). However, the utility will need to check the appropriate box on whether or not they are seeking reimbursement for any eligible inspection expenses.

Inspection Costs on PRIVATE ROW are reimbursable under Chapter 86, so Utilities need to ensure that they pay close attention to whether or not their existing facilities fall on existing PRIVATE ROW.

**Other Expenses:** When listing “other” expenses (from Sheet 1.1 or 1.2), please make sure to provide a definition as to what those costs are or they may not be designated as reimbursable.
Sheet 6.1, Utility Relocation Estimate Summary

The Utility Relocation Estimate Summary, similar to the Combined Labor Cost sheet will be filled in as the first (5) sheets of the spreadsheet are completed. However, there are additional areas of this sheet that will need to be completed.

**Contact Information:** Contact information listed here is to be for the Utility, not the Consultant.

**Percentage Information:** The cells that list the percentages of the facility on Private and Public are automatically calculated by the number of poles/length of facility information. Only the cells showing the Private ROW & Public ROW - # Main Poles/Length facility need to be filled out. **DO NOT** input the percentages directly on the sheet.

**No Cost/No Reimbursement:** If a Utility is relocating their facilities at no cost to the state, then check this box.

**Utility Requests Reimbursement:** Check the appropriate box for the reimbursement that is being requested on the project.

All other fields of this sheet will be filled in automatically when the appropriate box is checked for which type of reimbursement is being requested by the utility.

**Amount Utility Ows:** In 2007, restrictions were put in place concerning the reimbursement limitations for Chapter 86 relocation projects. These limitations were made effective for all projects that were issued after September 17, 2007, and they are as follows:

- **Municipally Owned utilities, Utility Districts and Utility Cooperatives will be eligible for 100% reimbursement up to $1.75 million of the relocation cost. Anything over $1.75 million will be paid entirely by the utility.**
- **All other utilities will be eligible for 75% reimbursement up to $1.75 million of the relocation cost. Anything over $1.75 million will be paid entirely by the utility.**

### Utility Relocation Estimate

<table>
<thead>
<tr>
<th>TDOT UTILITY</th>
<th>Summary of Project Cost (Attach Utility Detailed Worksheet)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utility Name:</strong></td>
<td>Project No.:</td>
</tr>
<tr>
<td><strong>Utility Name:</strong></td>
<td>County:</td>
</tr>
<tr>
<td><strong>Utility Name:</strong></td>
<td>Date:</td>
</tr>
</tbody>
</table>

#### NO COST / NO REIMBURSEMENT

- Chapter 86 Move Prior
- % Public/Private Utility Relocation

#### Labor

- Construction Labor (Including Cost Contact) (Overhead) (Price/Unit) (Reimbursement)
- Preconstruction Engineering (Consultants) (Overhead) (Price/Unit) (Reimbursement)
- Construction Engineering (Consultants) (Overhead) (Price/Unit) (Reimbursement)
- Other Expenses (Transportation, Lodging, Meals, Printing, etc.) (Price/Unit) (Reimbursement)
- Equipment Depreciation (Price/Unit) (Reimbursement)
- Other (Price/Unit) (Reimbursement)

#### Materials & Supplies

- Labor Material (Include Equipment) (Price/Unit) (Reimbursement)
- Material (Include Equipment) (Price/Unit) (Reimbursement)

#### Other Costs

- Cost (Price/Unit) (Reimbursement)
- Cost (Price/Unit) (Reimbursement)

#### Total Cost

- Total Cost (Price/Unit) (Reimbursement)

#### Total Amount Owed

- Total Amount Owed (Price/Unit) (Reimbursement)

#### Utility Reimbursement

- Amount Owed (Price/Unit) (Reimbursement)
- Utility Deposit (Price/Unit) (Reimbursement)

*Note: Inspection cost for Private is added after the percentage is applied.*
The Chapter 86 Certification page must be filled out and signed by the Utility requesting relocation reimbursement.

Check the appropriate boxes that apply to the utility that is requesting reimbursement. What the Utility is listed as in #4 (Municipally Owned, Utility District, Utility Cooperative) will determine if they fall within the 100% or 75% reimbursement category for their relocation, which will determine how much (if any) additional funds need to be paid by the Utility to TDOT as a "deposit".

Once the sheet is filled out, it must be signed and dated by the appropriate individual at the Utility requesting reimbursement.

Note: If the Utility is using a consultant for Engineering services, the consultant must have this form signed by the utility. They cannot sign this form as a representative of the utility.
Sheet 7.1, Move Prior Certification Obligation

The Certification Contract Obligation does not need to be submitted to TDOT with the “A” date package. This sheet is to be used for utilities that are relocating their facilities “prior to” the letting date of the project.

If a utility decides to relocate their facilities prior to the letting, they will be responsible for the following:

- Easements needed if proposed ROW has not been acquired
- Providing environmental permits
- Coordination of the relocation of their facilities
- Construction of the relocation
- Providing Erosion Control
- Providing all necessary clearing and grubbing
- Disposal of waste
- Providing Traffic Control
- Provide any surveying necessary to complete the relocation

Once the relocation of their facilities is complete, the Utility must complete this sheet and return to TDOT Construction Supervisor for approval and confirmation that the relocation of their facilities is complete.

Make sure to reference the TDOT Contract No. which you will find in the Upper Right Corner of the Utility Relocation Contract between TDOT and the utility relocating on the project.

Once the Certification is approved, TDOT Construction will return the certification to the Utility with copies to the TDOT Headquarters in Nashville and also to the Regional Utility Office. Only then will the Utility be able to submit their invoice for reimbursement along with the approved certification to TDOT for payment.
Sheet 8.1, Declaration of Calendar Days

The Declaration of Scheduled Calendar Days must be filled out and signed by the Utility for both "move prior" and "move in" relocation projects.

Note that all estimated days are to be expressed in "calendar" days, not "business or work" days. The "Total Days To Complete" will automatically be filled in as the other three tasks are assigned days for completion.

If there are any special conditions to the relocation of the facilities, number the conditions in the lines provided, and note the number in the appropriate block of the table above.

When putting together an estimate for calendar days, take into consideration days in which TDOT will not allow traffic restrictions or lane closures. These days are as follows:

- **Good Friday**
- **Easter** - After 6:00 pm on the Thursday preceding Good Friday through and including Easter Sunday
- **Memorial Day** - After 12:00 noon on the preceding Friday through Memorial Day
- **July 4** - The observed holiday and preceding day plus weekend days either preceding or following these two days
- **Labor Day** - After 12:00 noon on the preceding Friday through Labor Day
- **Thanksgiving** - After 12:00 noon on Wednesday before Thanksgiving through Sunday following Thanksgiving
- **Christmas/New Year's Day** - December 24 through January 1 and any preceding and/or following days that fall on a weekend

Off-road work will be allowed but only to the extent that NO impact will be caused to the highway users.

<table>
<thead>
<tr>
<th>Task</th>
<th>Days to Complete</th>
<th>Special Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick-Off Meeting (including ordering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-Person Work Party (including Roofing meat) (Required)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete Relocation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Days To Complete</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Special Conditions:

- 
- 
- 
- 
- 
- 
- 

Signature of submitting Utility Representative Date Signature of submitting State Representative Date

Subject to provisions of the TDOT Utility Office Maintenance of Traffic Procedures.
"B" Date Requirements, Utility Items and Mylar Drawings (In State Contract)

Once the requirements have been met to satisfy the "A" date for a project, the next submission for relocation will be at the "B" date submittal.

The "B" date submittal consists of completed utility relocation design, construction specifications and an updated construction estimate using the Utility Item Spreadsheet provided to the utility by TDOT to be filled out and included with the "B" date submittal.

Utility relocation design must be completed in Microstation (.dgn format) or other CAD program as approved by TDOT. When the final submittal is sent in for the relocation, the Utility (or Consultant working for the utility) will be required to submit, along with all of the other required information, electronic CAD files of the final relocation design.

The Utility Item spreadsheet cannot be modified by the Utility or the Consultant. It must be filled out "as-is" in order to be processed properly when submitted to TDOT. Once a utility or consultant has prepared an accurate listing of Unit Items required for the successful relocation of the facilities owned by the utility, that information will be listed on the Utility Item spreadsheet and submitted to TDOT for the assignment of Item Numbers. Item numbers can take up to a week to get assigned, so utilities and consultants need to prepare accordingly to allow enough time to receive their numbers and still meet their deadline for turning in their materials.

Completed pdf format of drawings are to be 22"x34" in size and must follow the guidelines set forth by TDOT for approved layout and information. Each utility will be assigned a "Useries" number by TDOT to use for their specific utility (ex. U2-X, U3-X, etc.). This number is to be used when numbering the sheets for the relocation design.

The Cover sheet (sheet UX-1) must contain the following information:
  * Index of drawings in the upper left corner
  * Estimated Quantities table for the project
  * Utility Information (Utility Name, Address, Contact Name, Phone, Fax and Email) in the lower left corner
  * A legend may also be included, and if so, must be placed in the lower right corner of the sheet

The Plan sheets are to be laid out as close to the TDOT Present Layout sheets as possible, including match lines. Plan View sheets do not need to include the following information:
  * Curve Data
  * Property Owner Information
  * Bearing and Distances
  * Track Numbers

Misc. Sheets should follow directly behind the Plan sheets, and may include the following information:
  * General Notes
  * Location Information (station & offsets, northing & easting, etc.)
  * Misc. Details
### Utility Item Spreadsheet

| Item No. | Description | Unit | Unit Price | Project No. 1: Quantity | % Utility | % Project | Project No. 2: Quantity | % Utility | % Project | Project No. 3: Quantity | % Utility | % Project | Project No. 4: Quantity | % Utility | % Project | Project No. 5: Quantity | % Utility | % Project | Project No. 6: Quantity | % Utility | % Project | Project No. 7: Quantity | % Utility | % Project | Project No. 8: Quantity | % Utility | % Project | Project No. 9: Quantity | % Utility | % Project | Project No. 10: Quantity | % Utility | % Project | Project No. 11: Quantity | % Utility | % Project | Project No. 12: Quantity | % Utility | % Project | Project No. 13: Quantity | % Utility | % Project | Project No. 14: Quantity | % Utility | % Project | Project No. 15: Quantity | % Utility | % Project | Project No. 16: Quantity | % Utility | % Project | Project No. 17: Quantity | % Utility | % Project | Project No. 18: Quantity | % Utility | % Project | Project No. 19: Quantity | % Utility | % Project | Project No. 20: Quantity | % Utility | % Project | Project No. 21: Quantity | % Utility | % Project | Project No. 22: Quantity | % Utility | % Project | Project No. 23: Quantity | % Utility | % Project | Project No. 24: Quantity | % Utility | % Project |
|----------|-------------|------|------------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|-----------|-------------------------|-----------|----------- |

**Item No.:** The Utility Item Number that has been assigned by TDOT for the specific Unit listed.

**Description:** Simple Description of the Unit that is being installed or Removed (should include "Install" or "Remove" in the description).

**Unit:** The type of Unit for which the Item shall be priced and paid (ex. EA, LF, LS, CY, etc.)

**Unit Price:** Combined Labor and Material Price for the Unit described.

**Quantity:** Total quantity of Units required for the entire project

**% Utility:** Percentage of the cost of relocation that is the responsibility of the Utility.

**% Project:** Percentage of the cost of relocation that is the responsibility of the State.

**Extension:** Total Cost of the Units listed for the relocation of the facilities for the project.
Utility Requirements – Move In State Contract

When a Utility decides to MOVE IN the state contract, there is certain information that the utility needs to provide to TDOT and the General Contractor to assist in the relocation of their facilities. The information needed is as follows:

**TDOT**
- Detailed Relocation Plans
- Detailed Construction Specifications

**Contractor – Specify to the contractor exactly what the utility wants concerning...**
- Time periods of acceptable service outages
- Requirements for License, Certification, Drug testing of workers doing the relocation
- Liability Insurance requirements
- Approval of material submitted to the utility
- Approval of shop drawings submitted to the utility
- Approval of field changes submitted to the utility
- Approval of substitution materials or methods submitted to the utility
- Clearing and trimming of overhead lines inside/outside public ROW
- Locating utility lines during construction that are not identified by utility locate services
- Industry standards, safety standards and materials standards that are required by the utility
- Name, address, phone number, email, fax and cell phone of approved utility contact personnel
Utility Requirements – Utility Diaries and Inspections

When the Utility Relocation is included in the State Contract, the Utility is responsible for providing inspection services on all phases of the relocation, per TCA 54-5-804, 2003 Public Chapter 86. A portion of inspection services may be reimbursable under Chapter 86 if a portion of the relocation is on existing Private ROW.

The inspector for the Utility will be provided a Project Utility Diary (TDOT Form DT-0667), along with Form DT-1716 (Utility Item Certification/Final Acceptance) and Form DT-1716A (Summary of Installed Utility Items). The responsibilities of the inspector provided by the utility company are as follows:

- Complete TDOT Form DT-0667 and submit it each estimate period, as directed by the TDOT Project Supervisor. Along with the item descriptions, the inspector will include the quantities and stations of installed items.

- Complete “Installed Item Certification” portion of TDOT Form DT-1716 (UTILITY ITEM CERTIFICATION/FINAL ACCEPTANCE) and submit it each estimate period, as directed by the TDOT Project Supervisor. This form will be signed to certify that the items installed during that estimate period met all applicable specifications.

- Complete and attach TDOT Form DT-1716A (SUMMARY OF INSTALLED UTILITY ITEMS) to DT-1716 and submit it each estimate period, as directed by the TDOT Project Supervisor. This form will be used to summarize, by project number, the utility items installed during that estimate period.

- Complete “Final Acceptance of Work” portion of TDOT Form DT-1716 and submit it to the TDOT Project Supervisor’s office when the utility relocation work is complete.

When a Utility is relocating at its own expense or under a lump sum reimbursement contract, the “Description of Work Performed” section of TDOT Form DT-0667 will be the only notation required. The notation shall indicate if the relocation is a non-reimbursable or lump sum reimbursement contract.
<table>
<thead>
<tr>
<th>DESCRIPTION OF WORK PERFORMED</th>
<th>LABOR</th>
<th>MATERIALS REMOVED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NAME</td>
<td>CLASIFICATION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Labor used to restore recovered material to suitable condition for reuse should be included on this report.

Material used:

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If both parties agree that material is not salvageable, a check is to be entered in the U.S. column.

Transportation and equipment:

<table>
<thead>
<tr>
<th>TYPE</th>
<th>HOURS</th>
<th>MILES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Distribution of copies:

White: Reg. Envelope
Yellow: Utility Co.
Pink: Field

TDOT Form DT-0667 (Project Utility Diary)
TDOT Forms DT-1716 and DT-1716A

UTILITY ITEM CERTIFICATION/FINAL ACCEPTANCE

Contract Number: __________________ Utility Company: __________________

Project Number(s): __________________ Utility Inspector: __________________ Print

County(ies): __________________

Instructions: Please check appropriate box (or boxes) and fill out required information. For Installed Item Certification, attach Summary of Installed Utility Items sheet(s) for each project number and submit each estimate period as directed by the TDOT Project Supervisor.

☑ Installed Item Certification

On behalf of the above utility company, I certify that the materials used for the item(s) listed on the following page(s) were used and were installed in accordance with all applicable specifications. Any pertinent shop drawings or engineering changes have been approved.

Estimate Period: _______ to _______

Utility Inspector Signature __________________ Date __________________

☑ Final Acceptance of Work:

I certify that the utility relocation work is complete and is accepted by the above utility company.

Utility Inspector Signature __________________ Date __________________

SUMMARY OF INSTALLED UTILITY ITEMS

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Unit</th>
<th>Installed Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page ____ of ____
TDOT "Go To Work" Letters

When the final contracts are signed by both the Utility and TDOT, TDOT will prepare a "Go To Work" letter that will be sent to the Utility along with a copy of the Final Contract for the project. This letter, although it is worded fairly generally, means different things to the Utility depending on the type of Contract the Utility has with TDOT for the relocation of their facilities. The differences are as follows:

Chapter 86 or Private/Public "Move In" Contracts
- If the Utility is moving their facilities in the state contract, and the State Contractor is supplying ALL of the Labor and Materials for the relocation of their facilities, then the Utility does not need to do anything.
- If the Utility is moving their facilities in the state contract, and they are supplying the materials, but the Contractor is supplying the Labor, then the Utility has authorization with the letter to start ordering and stockpiling the materials needed for the relocation once they receive the Go To Work letter.

Chapter 86 or Private/Public "Move Prior" Contracts or NO-COST Relocation
- If the Utility is moving their facilities prior to construction of the state contract, or if a Utility is relocating their facilities at NO-COST to the State, then the Utility has authorization with this letter to start the relocation of their facilities so that they are out of the way prior to the Letting Date for the project.
Invoicing

When invoicing TDOT for reimbursement of expense (whether for Engineering or for Relocation), the following information will assist you in correctly submitting your invoices.

Process:
• Submit all invoices to the Regional Utility Office for review
• Invoices are then submitted to the Construction office for review and approval
• Once approved by the Construction office and the Regional Utility Office, invoices are then coded and submitted to accounts for payment.

In order to expedite payment, follow the following guidelines...
• Submit invoices in the same format as the estimate
• Invoices MUST cite which sequential bill is being submitted (Progressive #1, #2, #3, etc.), and should list the total accumulated cost to date of the last bill
• Remember that progressive payments are capped at 80%
• Remember that if the final bill exceeds the contract amount, justification must be submitted for the excess amount
• Be sure to submit the final bill within one (1) year of the completion of the project
Region Map and Contact Information

Below is a map showing the (4) regions of TDOT and how they are divided across the state.

Contact Information for the Regional Utility Offices

<table>
<thead>
<tr>
<th>REGION I</th>
<th>REGION II</th>
<th>REGION III</th>
<th>REGION IV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tom Foley</td>
<td>Steve Langford</td>
<td>Jim Nikahd</td>
<td>Charles Green</td>
</tr>
<tr>
<td>7345 Region Lane</td>
<td>4005 Cromwell Road</td>
<td>6601 Centennial Blvd.</td>
<td>300 Benchmark Place</td>
</tr>
<tr>
<td>Knoxville, TN 37914</td>
<td>Chattanooga, TN 37421</td>
<td>Nashville, TN 37243</td>
<td>Jackson, TN 38301</td>
</tr>
<tr>
<td>Phone: 865-594-2680</td>
<td>Phone: 423-510-1243</td>
<td>Phone: 615-350-4233</td>
<td>Phone: 901-935-0101</td>
</tr>
<tr>
<td><a href="mailto:tom.foley@tn.gov">tom.foley@tn.gov</a></td>
<td><a href="mailto:steve.langford@tn.gov">steve.langford@tn.gov</a></td>
<td><a href="mailto:jim.nikahd@tn.gov">jim.nikahd@tn.gov</a></td>
<td><a href="mailto:Charles.green@tn.gov">Charles.green@tn.gov</a></td>
</tr>
</tbody>
</table>
Appendix D3.
Example Engineering Authorization Letter with ‘A’ and ‘B’ Dates
JOHN C. SCHROER  
COMMISSIONER  

BILL HASLAM  
GOVERNOR  

Engineering Authorization Date: 5/24/2011  
Federal Funds: 3/15/2011  

JOE SHAW  
TENNESSEE DEPARTMENT OF TRANSPORTATION  
SUITE 600, JAMES K. POLK BUILDING  
NASHVILLE, TN 37243  

PROJECT#/S: XXXXX-XXXX-XX  
COUNTY/S: WILSON  
FEDERAL: XX-XXX-XXX(XX)  
PIN #: 123456.00  
DESCRIPTION: SAMPLE ROADWAY PROJECT  

Please refer to the above captioned project number on all correspondence concerning utility relocation.  

Dear Mr. Joe Shaw,  

This letter will serve as authority for the Utility to proceed with ALL engineering that is necessary to prepare plans, schedule of working days, and estimates of cost for the adjustment of your facilities which may be in conflict with this project. This is done in accordance with the provisions of TCA 54-5-854.  

If a consultant is needed, see paragraph "A" on page 2. Consultant package must be submitted and approved by this office before consultant engineering will be eligible for reimbursement.  

Estimates of cost prepared in response to this authorization are confidential and shall not be released or made available to anyone other than the Utility, the approved consultant, and TDOT.  

Reimbursement will be in accordance with TCA 54-5-804 and as amended by Public Chapter No. 86 of the Public Acts of 2003. The cost of any work done prior to the authorization date of this letter will not be eligible for reimbursement.  

This notice is not to be construed as authority to actually relocate any of your facilities. Any relocation work done prior to written approval from the State Utility Coordinator will not be eligible for reimbursement.  

This project is currently scheduled for letting: 06/12/2012  

To be eligible for reimbursement, if the project is qualified for Chapter 86 reimbursement as noted above, the Utility MUST submit to this office for Location Approval by the revised due date (A): 10/14/2011  

1) (5) half-sized, color coded relocation plans.  
2) Completed TDOT Form 2004-16, including signed Schedule of Working Days and Chapter 86 Eligibility.  
3) Utility declaration for reimbursement.  

In addition, to be eligible for inclusion of the utility relocation work in the State Construction contract, the following must be submitted by due date (B): 04/01/2012  

1) PDF files of detailed Utility relocation plans.  
2) PDF file of detailed Utility Specifications.  
3) Completed Utility Item Spreadsheet in Excel format, including estimated construction costs.  
4) Completed Utility individual permit sketches, if required.  

The following will be provided to assist you in responding to the Department request:
A) If a consultant is needed to perform the necessary engineering, please request approval **immediately** by submitting:
TDOT Form 2003-13:
1) Certification of Consultant.
2) Memorandum of Understanding.
TDOT Form 2004-16:
1) Sheet 1.1, Estimate of Engineering.

Any work done by a consultant prior to written approval from this office will NOT be eligible for reimbursement.

B) The following must be submitted for Location Approval by the date (A) specified above:

1) Enclosed are two (2) sets of project plans for the above-mentioned project for your use in designating the location of facilities affected by the construction of this project. Submit (5) copies of color-coded relocation plans to show the correct location of existing, proposed and/or relocated utility facilities color-coded as follows:

- Green: replacement or retrofit
- Orange/Yellow: existing to remain
- Red: new installation
- Blue: temporary relocation

Please submit your relocation on half-size TDOT present layout sheets, unless directed otherwise by this office.

2) The Utility cost estimate must contain:
   a) A statement of how relocation costs will be accumulated in accordance with Federal Aid Policy Guide 23 CFR 645A.
   b) An estimate of costs for the replacement of any private easements needed for utility relocation along with the estimated time required to acquire easements. The utility is responsible for the acquisition of all utility easements required.
   c) An estimate of cost for any engineering needed for utility relocation.
   d) An estimate of cost for any betterment of utility facilities included as part of this project.

This information is to be provided on TDOT Form 2004-16 or comparable format containing the same information as approved by TDOT.

3) The Utility Estimate of Working Days stating the amount of time (number of Calendar Days) required for completion of the relocation as documented in a Declaration of Scheduled Calendar Days (TDOT Form 2004-16, Sheet 8.1).

4) A Declaration by the Utility for reimbursement is requested based on:
   a) Statement indicating percentage of existing facilities on private utility right-of-way.
   b) A request that all existing facilities that are in conflict with proposed construction will be relocated by the utility prior to the project letting date.
   c) A request that all existing facilities that are in conflict with construction will be included in the State highway construction contract for relocation.

5) **If No Conflict** is anticipated, the Utility must furnish a letter stating that no conflict is anticipated.

C) This office will review and, if appropriate, provide Location Approval of the utility plans submitted.

D) The Utility will prepare detailed utility relocation plans:

1) If the Utility declaration for reimbursement, under provisions of Chapter 66, is to relocate utilities prior to the letting date **06/12/2012** a contract will be submitted to the Utility for signature. The contract must be returned to the Department office specified for execution. The Begin Work authorization letter must be issued before the utility can begin relocation of facilities and to be eligible for reimbursement.

2) If the Utility declaration is to relocate utilities in the **State Construction Contract** the following must be submitted by the due date (B) specified above:
   a) Complete, detailed Utility relocation plans to be included in the State highway construction plans. Plans must be sufficient for the State contractor to construct. Plans are to be 22"x34" in size, and submitted in PDF format with the specified TDOT sheet block on each sheet.
   b) Complete, detailed Utility specifications to be included in the State highway construction contract. Specifications must be sufficient to meet utility specifications as performed by the State contractor. Specifications are to be in PDF format.
   c) Complete Utility Item Spreadsheet file. Item numbers (assigned by the Department), item descriptions, unit of measure, quantity and estimated construction costs, submitted in Excel format provided by the Department.
   d) Complete Utility individual permit sketches, including wetlands and stream crossings, as requested by the Department.

If we can be of assistance or you have any questions concerning this project, please let us know. We will be glad to assist you in any way we can.

Sincerely,
APPENDIX D4.
ESTIMATED UTILITY QUANTITIES PLAN SHEET WITH DESCRIPTIONS INCLUDED
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>UNIT PRICE</th>
<th>Project No. 1: QUANTITY</th>
<th>% Utility</th>
<th>% Project</th>
<th>Extension $0.00</th>
<th>Project No. 2: QUANTITY</th>
<th>% Utility</th>
<th>% Project</th>
<th>Extension $0.00</th>
<th>Project No. 3: QUANTITY</th>
<th>% Utility</th>
<th>% Project</th>
<th>Extension $0.00</th>
<th>Project No. 4: QUANTITY</th>
<th>% Utility</th>
<th>% Project</th>
<th>Extension $0.00</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Item Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description: Item Number Assigned by TDOT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description: Item Descriptions cannot be longer than 40 Characters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description: Unit Price for the Items / Labor &amp; Material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description: Total Quantity of the Item Listed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description: State Assigned Construction Number for the project</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description: Percentage of Relocation Cost to be Paid by the Utility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description: Total Estimated Cost of Utility Relocation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description: Used for State Assigned Construction Number when project includes more than one county</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The table contains placeholders for data that needs to be filled in with specific values.
APPENDIX D5.
EXAMPLE UTILITY PLAN SHEETS
<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>TOTAL QUANTITY</th>
<th>PERCENT COMPLETE</th>
<th>TOTAL PRICE</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>TOTAL QUANTITY</th>
<th>PERCENT COMPLETE</th>
<th>TOTAL PRICE</th>
</tr>
</thead>
</table>

- Any necessary footnotes to clarify the description or the unit for each item.

Sheet size is to be 22"x34"
SYMBOLS AND LINES

PROPOSED UTILITIES

- WATER
- GAS
- SANITARY
- FORCE MAIN
- TELEPHONE (DSL)
- TELEPHONE/CABLE
- TELEPHONE
- TELEPHONE/CABLE
- POWER/CABLE
- POWER/TELEPHONE/CABLE
- POWER/Trial
- POWER/TELEPHONE/CABLE
- WATER
- GAS
- SANITARY
- FORCE MAIN
- TELEPHONE (DSL)
- TELEPHONE/CABLE
- TELEPHONE
- TELEPHONE/CABLE
- POWER/CABLE
- POWER/TELEPHONE/CABLE
- POWER/Trial

EXISTING UTILITIES

- WATER
- GAS
- SANITARY
- FORCE MAIN
- TELEPHONE (DSL)
- TELEPHONE/CABLE
- TELEPHONE
- TELEPHONE/CABLE
- POWER/CABLE
- POWER/TELEPHONE/CABLE
- POWER/Trial

ANYTHING TEMPORARY SHOULD BE Labeled AS "TEMP."

SHEET SIZE IS TO BE 22" x 34"
**TEMPORARY CONSTRUCTION NOTES:**

1. INSTALL TEMPORARY 3-PHASE OVERHEAD CIRCUIT FROM P271 TO P271.
2. WHEN EARTHWORK IS COMPLETE ON EAST SIDE, REMOVE ALL TEMPORARY POLES AND CONDUCTORS, AND PERMANENT 3-PHASE CIRCUIT STARTING AT POLE P21.

**CONSTRUCTION NOTE:**

1. NEUTRAL FOR 3-PHASE娛樂 TO BE LOCATED 7'-0" FROM TOP OF WALL ON STRUCTURES P21, P265, P2651, P2652, P2653, AND P271.

**PROJECT NO.**

CONTRACT: 95156

**DATE**

15/05/2020
Common Errors

• Utility Sheets
  Ux-1 Index of Utility Sheets and UTILITY CONTACT information, name, address, phone, cell, fax, who will be responsible for responses from the utility.
  Ux-2 Utility Notes
  Ux-3 Utility Easements if applicable and statement conveying rights to the State Contractor to access those easements for the purpose of constructing the utility facilities shown on the plans.
  Ux-4 Utility Layout Sheets MUST MATCH the TDOT ROW Plan sheets / match lines.

• Follow TDOT requirements for sheet layout. Sheets must have room to add notes for revisions and have the Sheet Block and Title Blocks.

• There are a few metric jobs left which MUST have quantities in metric, and plans prepared in metric.

• Utility Item Numbers and Description once assigned CAN NOT BE CHANGED. If you need to change ANYTHING, change description, units, or additional items, then a revision request must be submitted to the TDOT Regional Utility Office. DO NOT include items with a quantity of "0". If it is not used / needed, exclude it from the list. If it is a contingency, it should be addressed as a footnote, and you MUST contact the Regional Utility Office to decide how to address your issue properly.

• Use TDOT web FTP site http://webftp.tdot.state.tn.us/ for submitting LARGE PDF files instead of dividing them into smaller files to email, or mail / FEDX a CD or DVD to the Regional Utility Office.

• Submit a “CHECK” PDF file to the Regional Utility Office BEFORE you submit final. They can make corrections before you spend time and effort signing, sealing, and scanning FINAL plans to submit. Saves everyone cost and aggravation.

• Use the State Project Number on sheet block. When in doubt what to put on the Sheet Blocks, contact the Regional Utility Office.

• DO NOT put ANY cost information on the Utility Plan Sheets. These sheets are included in the plans provided to potential bidders.

• CADD drawings must be produced as if you were to print them for bidding. The utility drawings MUST be on a separate level than the base / reference drawings provided by TDOT. This enables TDOT to assemble the utility drawings using only the utility drawn levels.

• If you have Betterment / Utility Costs included in the state contract, the Regional Utility Office will provide you an approved composite percentage to use for the items listed on the Utility Sheets. If you do not have an approved composite percentage for each item, contact the Regional Utility Office.

• Reimbursement Contracts are written for the current “estimate”. Estimates change over the course of time and if the estimate has changed significantly, you should submit a revised estimate.

• Deposits for Betterment / Utility cost MUST BE received prior to the project being bid for letting. If TDOT does not have your deposit, the utility work WILL BE REMOVED from the state contract. This WILL make your utility ineligible for CH86 reimbursement.

• ALL Utility Sheets must be signed and sealed by a “living” professional engineer licensed in Tennessee.
This page has intentionally been left blank.
APPENDIX E.
FREQUENTLY ASKED QUESTIONS (FAQ’s)

Frequently Asked Questions (FAQ’s)

1. If a Utility requests a Microstation file and signs the CADD disclaimer are they obligated to return their rainbows, mylars, etc. back in the same digital format?

Answer: YES. It is permissible for the Utilities to convert the files to Autocad or some other digital format but they must convert them back to Microstation for submittal to TDOT and provide PDF format files of the utility plans sheets produced.

2. If a Utility plans to do its work prior to the letting is it required to justify station and offsets in its submittals back to TDOT?

Answer: YES. If the Utility is seeking Chapter 86 reimbursement on a qualified project. The Station and Offset provides a means by which TDOT field staff can verify the Utility has moved in accordance with approved TDOT utility relocation plans. The TDOT Construction Office can define the relative station, and measure the offset to establish that the Utility relocated facilities in relative accordance with the approved plans. If Station and Offsets are not provided, the Utility’s reimbursement will be delayed until TDOT lets the contract, and the state stakes the ROW/slopes lines and TDOT Construction Office can then verify the utility relocation is in accordance with approved plans.

3. When a bridge is being built near a Utility line how far is the Utility justified to relocate from the bridge?

Answer: Generally, a safe distance for normal facilities would be 75-feet, however TDOT relies upon the judgment of the Utility as to what is an acceptable relocation according to applicable industry standards. The relocated facility must move far enough away from the construction area for the construction to take place, particularly regarding a crane’s ability to maneuver. TDOT as well as the Utility wants to avoid any unnecessary relocation, but both as well want to be sure there is no damage to the facilities or outages as a result of construction activities. If special provisions, such as de-energizing facilities or temporization of facilities, would address the construction issues avoiding a permanent relocation, the Utility will document and seek TDOT approval of the proposed solution.

4. Can a pole be set on the State right-of-way inside the fence on controlled access roadways?

Answer: Generally no. Controlled access facilities usually have higher speeds, and the motoring public does not expect construction traffic entering and exiting the roadway to maintain utility facilities.
However, there could be a rare circumstance where there is no other way to cross the controlled access roadway than to place a facility in the controlled area. In that rare case, the situation must be reviewed and approved by the TDOT Region Utility Office before the relocation proceeds. The TDOT Region Utility Office would review how the facility would be accessed by the Utility and determine if there are any alternatives. If the facility presents a hazard for the motoring public or violates the clear zone for the highway, the request would be denied.

Cost is generally not a consideration when making these decisions. For example, a pole placement in a wide median section of Interstate might be requested by the Utility because the span exceeds the design capacity if the poles were placed at the access control fence only. If there is ample room in the median such that maintenance of the facility is well outside the traveled way not presenting a roadside hazard nor distracting the motorists causing congestion, then the pole location might be acceptable. If not acceptable, then self-supporting, engineered poles would have to be placed on both sides of the interstate at the ROW line to span the entire interstate right-of-way, or else an alternate route would need to be designed.

6. If an error is found, what authority does the utility inspector have? Can they stop work? Can they authorize a change?

Answer: Only the TDOT construction supervisor (or their CEI consultant) can actually stop the State contractor’s work on a project, including utility relocation work. When an error is discovered, the utility inspector should notify the TDOT construction supervisor immediately, and inform the State contractor in writing of the error and copy the TDOT Representative and the Utility. The error should be noted in the Project Utility Diary. Once properly informed, if the errant construction continues, the responsibility rests with the State contractor. Neither the utility inspector nor the contractor can authorize a change from the contract plans; they can request a change utilizing the Utility Additional Item/Work Request Form but have to obtain the concurrence of TDOT before implementing a change.
APPENDIX F.
EXAMPLE RAINBOW PLANS

Appendix F contains examples of Rainbow Plans (Location Approval Plans) to be included in the Utility’s ‘A’ Date Submittal Package (see Step 3i in Section 2 of the Guidebook). These ‘Rainbow’ Plans are color-coded as specified in the engineering authorization letter from TDOT (see example in Appendix D3).

The information provided by the Utility on the drawings can be drawn either by hand or electronically on the plans received from TDOT.
This page intentionally left blank – backside/reverse of 11x17 fold-out.
Appendix G.

Line Styles and Designations for Utility Plans

Currently, as shown in Step 5C on Page 16 of the Guidebook, the utility is required to submit both color-coded and black & white PDF’s of the relocation plans. Because the construction plans for bid lettings are printed in black and white (B&W), the color-coded designations do not show up on the printed bid plans. However, color-coded plans are helpful for the contractor and their utility subcontractor to clarify the utility’s intentions.

In order to provide on B&W prints what is depicted by the color-coded designations, additional line designations are required to be shown on the Utility’s relocation plans.

There are three cases of existing utilities with the two current color distinctions:

1. Existing to remain (orange)
2. Existing to be removed (green)
3. Existing to be retired-in-place (green)

For proposed utilities, there are two cases depicted in different colors:

1. New installation (red)
2. Temporary relocation (blue)

The following two pages show line styles that address all the cases above so that the lines shown on the plans can be understood when printed in either color or B&W. The examples shown are for gas and manholes, and these line styles can be applied similarly to all utility types and features. PDF’s can be produced in both color and B&W from the color microstation files and shall be provided to TDOT by the Utility. Note that the line weight for proposed utilities (new and temporary) is shown heavier than existing. This makes it easier for the contractor to see the actual proposed utility work.
EXISTING GAS LINE TO REMAIN ——— 8” G ——— ——— ——— ——— ——— 8” G ———

EXISTING GAS LINE RETIRED IN PLACE ——— 8” G RIP ——— ——— ——— 8” G RIP ———

EXISTING GAS LINE TO BE REMOVED — X ——— 8” G — X ——— ——— ——— X ——— 8” G — X

PROPOSED GAS LINE ——— 8” G ——— ——— ——— ——— ——— — 8” G ———

PROPOSED TEMPORARY GAS LINE ——— 8” G-TEMP ——— ——— ——— ——— ——— 8” G-TEMP ———

EXISTING MANHOLE TO BE REMOVED

PROPOSED MANHOLE

PROPOSED TEMPORARY MANHOLE

EXISTING MANHOLE TO REMAIN

EXISTING MANHOLE RETIRED IN PLACE
EXISTING GAS LINE TO REMAIN — 8" G — — 8" G —

EXISTING GAS LINE RETIRED IN PLACE — 8" G RIP — — 8" G RIP —

EXISTING GAS LINE TO BE REMOVED — X 8" G X X X X — 8" G X

PROPOSED GAS LINE — 8" G — — — — 8" G —

PROPOSED TEMPORARY GAS LINE — 8" G-TEMP — — — — 8" G-TEMP —

EXISTING MANHOLE TO BE REMOVED

PROP PROPOSED MANHOLE

TEMP PROPOSED TEMPORARY MANHOLE

EXISTING MANHOLE TO REMAIN

RIP EXISTING MANHOLE RETIRED IN PLACE