



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

ROADWAY DESIGN DIVISION
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INSTRUCTIONAL BULLETIN NO. 20-14

Chapter 1 Update

Effective December 2020 Letting (September 30, 2020 turn-in), the Roadway Design Guidelines Chapter 1 has been revised to include updated email subject line requirements and Sections 1-204.12, 1-401.00, 1-402.04, and 1-502.01.

Throughout RDG Chapter 1, the email subject line requirements for submittals has been shortened to this format: **Region X, County Name, Route Name, PIN nnnnnn-nn, Submittal Type**. For example, Region 2, Jackson County, SR 56, PIN 123456.00, Construction Field Review Estimate Submittal. This should help eliminate some of the issues with the subject line being too long.

RDG Chapter 1-204.12 has been updated to remove the listing of phase stamps as this was duplicated from an earlier section.

RDG Chapter 1-401.00 has updated the new location of the estimated quantities file, revised Figure 1-57 that reflects the current version of the Estimated Quantities file. Under the Project Data heading, the File Diet and Submit Button informational bullets were modified. Under the Roadway Quantity Block heading, the information bullets for deleting sheets and adding footnotes was updated.

1-401.00 CREATING THE PRELIMINARY ROADWAY QUANTITIES ESTIMATE

The first estimate prepared by the Designer for a project is the preliminary estimate. This estimate is a living document and shall be updated as the project develops.

Each estimate file contains quantities associated with each item of work that is needed to build the project. Each item has an official item number, description, unit of cost, and associated quantity. These items are listed in the **items.dat** file and only these approved items shall be used in plans. The uses for many items in the **items.dat** file are described in detail in TDOT's [Standard Specifications For Road and Bridge Construction](#), January 1, 2015 edition (*See Part 1, Section 109, Measurement and Payment, and all Sections in Part 2*).

To download the complete list of approved roadway items in the items.dat file and/or to run a quick search for an item either by item number or description keyword, go to the [Roadway Item Lists](#) webpage.

If a new Roadway Design item number is needed, the Design Manager should contact the HQ Roadway Design Division at TDOT.Design@tn.gov. If a new ITS item number is needed, the Design Manager should contact the Traffic Operations Division at TDOT.TrafficOps.ITS-Reviews@tn.gov. If a new traffic signal of

lighting item number is needed, the Design Manager should contact the Traffic Operations Division at TDOT.TrafficOps.SNL-Reviews@tn.gov. These divisions will determine if an item number will be assigned or included in another item. If a new item number is needed specific to a project, they will contact the HQ Construction Office to get the new number.

The estimated roadway quantities sheet in project plans is created from an Excel file that works in conjunction with the items.dat file. The template for the [estimated roadway quantities](#) Excel file can be downloaded from the Roadway Design Documents webpage. See *Figure 1-57, Estimated Quantities Project Data* and *Figure 1-58, Estimated Roadway Quantities Block 1 Sheet* for examples of some of the tabs in the estimated roadway quantities Excel file.

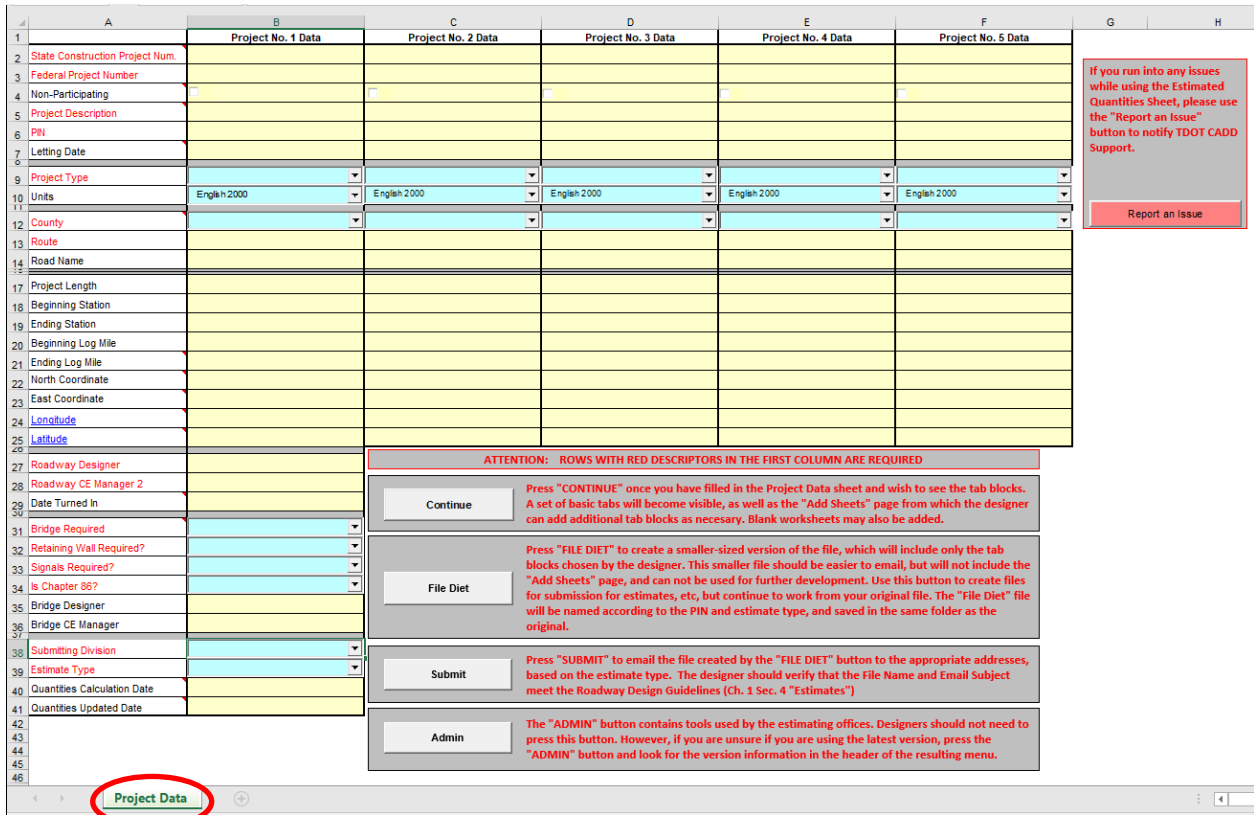


Figure 1-57
Estimated Roadway Quantities Project Data

Project Data Sheet Tab

- **ALL** Information shall be filled in. The Excel template requires Designers to complete the Project Data fields for at least one project before proceeding to the estimated quantities tab sheets. Once all data is entered, Designers should select the Continue button.
- The Excel template will accommodate projects with up to five State Project Numbers.
- Non-participating items are listed by column as designated on the Project Data tab.
- The North and East Coordinates shall coincide with the location of the Latitude and Longitude as defined in [Section 1-106.01, Latitude and Longitude](#).
- Dates should be updated as needed for the entries in Letting Date, Date Turned In, and Quantities Updated Date with each submittal.
- If bridges, retaining walls, or other structures designed by the Structures Division are proposed, the Designer shall include the Bridge Designer and CE Manager on the project data portion of the estimate file.

- Quantities cannot contain commas.
- Quantities shall be rounded up to the nearest whole number with the exceptions of those as shown in Chapter 5 Item Numbers of the guidelines.
- Contractors are paid by the quantities that are ordered and used on the project. If there is an item number in question that may not be used on the project, it shall be added to the estimate. It is better to have it shown on the estimate and not used by the contractor than needed after Letting as a change order. These items shall be discussed at the Construction Field Review and footnoted "Requested by _____ Division."
- Projected quantities for erosion control and traffic control shall be included in the preliminary estimate even though traffic control sheets are not included in the preliminary or R.O.W. plans. Quantities from similar projects can be used to help estimate these quantities.
- If open-ended and/or lump sum item numbers are used, the Designer shall fill in the descriptions in the estimate data file. Without completing these item descriptions, there is no way the estimator in the [Bid Analysis & Estimating Office](#) can complete the preliminary construction cost estimate.
- Box-Bridge items shall be listed on a sheet separate from the roadway items. Use the sheet labeled Box Bridge Quantities sheet.
- Alternate roadway items shall be listed after all of the other roadway items. The alternates will be designated in column C as Alternate AA1, Alternate AA2, Alternate AA3, Alternate AB1, Alternate AB2, and so on. AA1 would alternate with AA2 and AA3. AB1 would alternate with AB2, etc.
- No prices shall be entered in the estimate.

RDG Chapter 1-402.04 has updated the Utilities submittal portion.

1-402.04 SUBMITTAL OF CONSTRUCTION ESTIMATE FOR CONSTRUCTION FIELD REVIEW

When plans are developed and ready for Construction Field Review distribution, the estimate shall be complete with any previous missing items and descriptions filled in. If a Constructability Review was held, all changes to the quantities as a result of the review shall be reflected in the Roadway Construction Field Review quantity estimate. **The Design Manager shall request necessary information needed to complete the estimate sheet at least two weeks prior to the date set to print for outside distribution.** Requests for large projects should be made even earlier to ensure that the estimate is complete and that sheets from the estimates are correct in the Construction Field Review plan set. Plans sheets and items shall be requested from Geotechnical, Traffic Operations, Structures, and Utilities personnel as needed. All Divisions submitting estimates shall coordinate with other Divisions to verify no duplicate item numbers are submitted.

The Design Manager shall email the Construction Field Review quantity estimate ***nnnnnn-nn-RoadwayConstructionFieldReviewEstimate.xlsm*** to TDOT.Preliminary.Estimates@tn.gov with a carbon copy (Cc) to TDOT.PDSO@tn.gov on the same day the Construction Field Review Notice is sent out which occurs approximately 7 months prior to submittal of final construction plans for Letting. If the project has sheet submittals from other functional groups, the Excel file for those quantities shall be obtained and emailed simultaneously with the estimated roadway quantities Excel estimate as attachments. *(See below for further instruction)*

The email subject line shall read:

Region X, County Name, PIN nnnnnn-nn, Construction Field Review Estimate Submittal

The following must be completed **BEFORE** the estimate is emailed with the Construction Field Review Notice:

- The Designer shall ensure that the totals on the estimate reflect all tabulation blocks shown in the plans.
- If there are Traffic Operations quantities (ITS, Signals, and/or Lighting), the Design Manager over the project shall request the appropriate Excel files containing these quantities:
 - ***nnnnn-nn-TrafficOpsITSConstructionFieldReviewEstimate.xlsm***
 - ***nnnnnn-nnTrafficOpsSignalsConstructionFieldReviewEstimate.xlsm***
 - ***nnnnnn-nn-TrafficOpsLightingFieldReviewEstimate.xlsm***
 These items will NOT be added to the estimated roadway quantities Excel file but will be included as a separate file within the same email as an attachment.
- If there are structures (bridges) in the plans, the Design Manager over the project shall contact [TDOT Structures Division](#) personnel to request the Excel file ***nnnnnn-nn-StructuresConstructionFieldReviewEstimate.xlsm*** containing these quantities. These items will NOT be added to the estimated roadway quantities Excel file but will be included as a separate file within the same email as an attachment.
- If there are retaining walls in the plans, the Design Manager over the project shall contact Structures (TDOT.StructuresRW@tn.gov) to request the Excel file: ***nnnnnn-nn-StructuresConstructionFieldReviewEstimate.xlsm***. If there are both structures and retaining walls, coordination shall occur between Structures personnel to combine these quantities into one file and to submit the file to the Design Manager that requested the information. These items will NOT be added to the estimated roadway quantities Excel file, but will be included as a separate file within the same email as an attachment.
- If there are utilities in the plans, the Design Manager over the project shall contact TDOT Regional Project Development Utility Office to request the Excel file ***nnnnnn-nn-UtilityConstructionFieldReviewEstimate.xlsm*** containing these quantities. These items will NOT be added to the estimated roadway quantities Excel file but will be included as a separate file within the same email as an attachment.
- The Design Manager shall contact the R.O.W. office to check to see if there will be R.O.W. Removal Items for buildings and obstructions. The item numbers shall be furnished by the regional R.O.W. office and should be a lump sum item and footnoted. See *Section 5-202.02, Removal of Buildings and Obstructions* for additional information.

The estimate shall be thoroughly checked at the Construction Field Review to ensure that there are no missing quantities or adjustments that must be made to existing quantities. Close attention should be paid to the grade differences and the construction of structures to ensure if items are needed for temporary shoring. If there are significant changes and additions to quantity items due to comments at the Construction Field Review, a revised estimate for the applicable division shall be completed using the following naming conventions and emailed by the Design Manager to TDOT.Preliminary.Estimates@tn.gov with a carbon copy (Cc) to TDOT.PDSO@tn.gov.

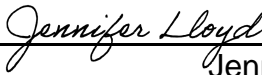
- ***nnnnnn-nn-RoadwayConstructionFieldReviewEstimate.xlsm***
- ***nnnnnn-nn-TrafficOpsITSConstructionFieldReviewEstimate.xlsm***
- ***nnnnnn-nn-TrafficOpsSignalsConstructionFieldReviewEstimate.xlsm***
- ***nnnnnn-nn-TrafficOpsLightingConstructionFieldReviewEstimate.xlsm***
- ***nnnnnn-nn-StructuresConstructionFieldReviewEstimate.xlsm***
- ***nnnnnn-nn-UtilityConstructionFieldReviewEstimate.xlsm***

The email shall state that **the estimate(s) is being re-submitted because of significant changes and/or additions resulting from the Construction Field Review**. All updated estimates shall be kept in the project folder. For the project folder, a date shall be part of the naming convention so that the development of the estimate can be easily compared. It is not necessary to place the estimate on FileNet.

RDG Section 1-502.01 Table 1-12 distribution list has been updated to include the Multimodal Division (TDOT.MultimodalPlanning@tn.gov) for all Preliminary and Site Field Review invitations.

[Chapter 1, FileNet Project Deliverables](#) document, and associated [forms](#) have been updated on the Roadway Design website.

This IB voids IB 19-20 due to inclusion in Chapter 1.



Jennifer Lloyd, PE
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Roadway Design Division

KJL:JDK:ADP:LHC
May 15, 2020