

Quantity Manager

Effective: 9-23-2019 TJL

Revised: 1-25-2021 TJL

Quantities will be required on most projects. The designer should review the following relative to MDT Quantity Estimating Standards and Procedures.

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Design Standards: [\(Top\)](#)

Refer to the Road Design Manual for current standards for computing project specific quantities.

Rounding Quantities

Quantities should follow the rounding criteria shown in Appendix J of the Road Design Manual.

Design Procedures: [\(Top\)](#)

The following procedures are used in preparing Summary Files and Quantity Forms for construction plan sets and project cost estimates.

Quantity Manager Overview

- The New File Class is QMG -- Excel Quantity Manager File
- Frames are MicroStation Cells & Forms are Excel Worksheets.
- Forms will be linked to MicroStation DGN Summary Files
- The excel file does not act as reference files do when using DMS and must be checked out and in accordingly.
- Form Names have been altered and classified for clarity.
- Users are responsible for all formatting and calculations within the QMG file.
- Forms are added to the QMG file by the user from a default library so the user only sees the forms they add.
- Consultant users may change directory paths for ease of use when adding new forms into the project specific quantity manager.
- If Construction users make use of the files, it may save time on Asbuilt procedure.

MDT CADD Standards & Procedures

Creating QMG Files (Top)

Use The following procedure for creating QMG files.

- 1) Download or copy the Excel Quantities Manager File from the MDT CaddStandards folder from the location shown below to the c:\DGN folder.
 - Save the File As or Rename the file to match the project UPN.
 - This file will need to be kept on DMS.

Example:

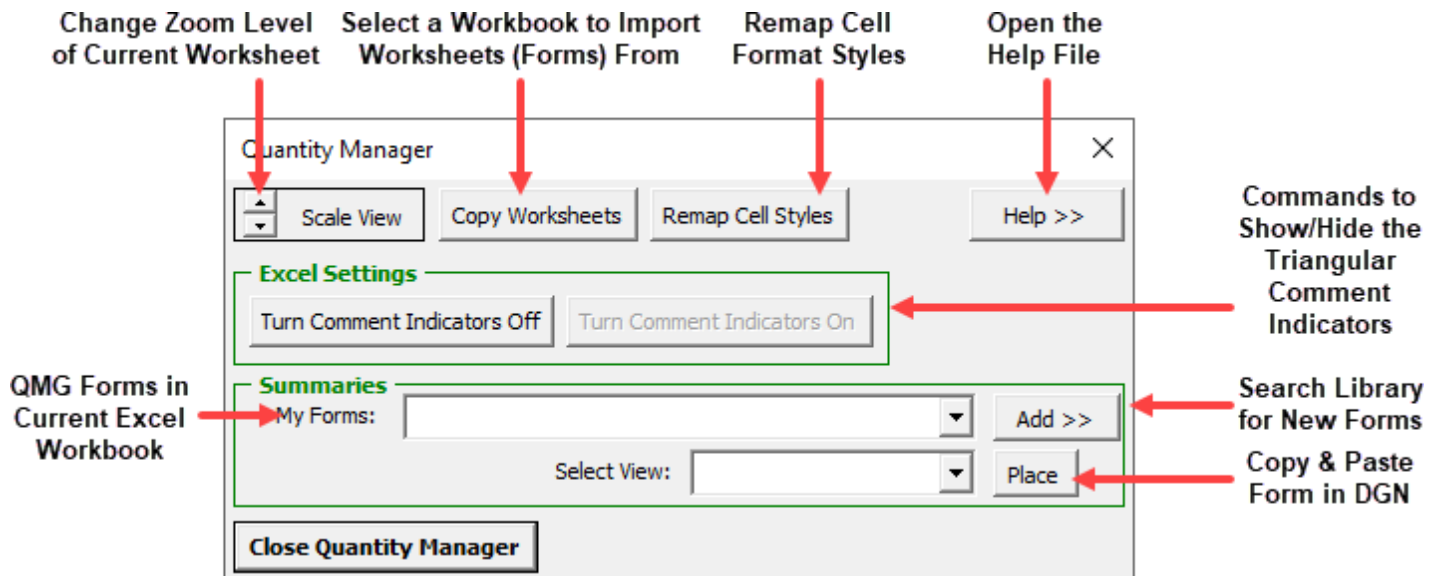
\\state\mdt\prd\Helena\CaddStandards\Common\ExcelManager\RoadDesign\Summary_Frames_Engr\XXXXXX\XRDQMG002.xlsm

Downloaded and renamed to:

c:\dgn\5829000RDQMG001.XLSM



- 2) Open the Excel Quantity Manager (QMG) file & Select Run Quantity Manager. This will load the QMG dialog box.



Using QMG Files Outside MDT Network (Top)

For use outside of the MDT network, it is suggested to revise the master copy of the QMG file with directory paths for your organization (Frames Path and Hyperlink Base Path, etc.). Users copying the file will not need to make the changes themselves and it will thus save time and reduce frustration with error messages. These settings have been set for MDT defaults.

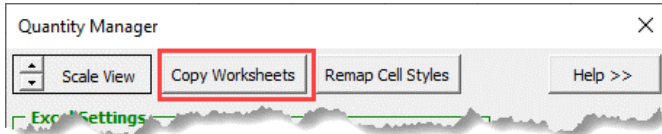
Copy Forms from Previous File (Top)

Use the following procedure to copy Summary Forms from previous QMG files.

Known issues this will fix: These updates will eliminate (most) broken links to example PDF files, fix PDF opening errors for Example Files and Help Files, and fix broken links to the source frame file due to undesired file paths (i.e. w:\ or \\MDTCADDSTDSRV\) and the change from the MDTHQ to STATE network path.

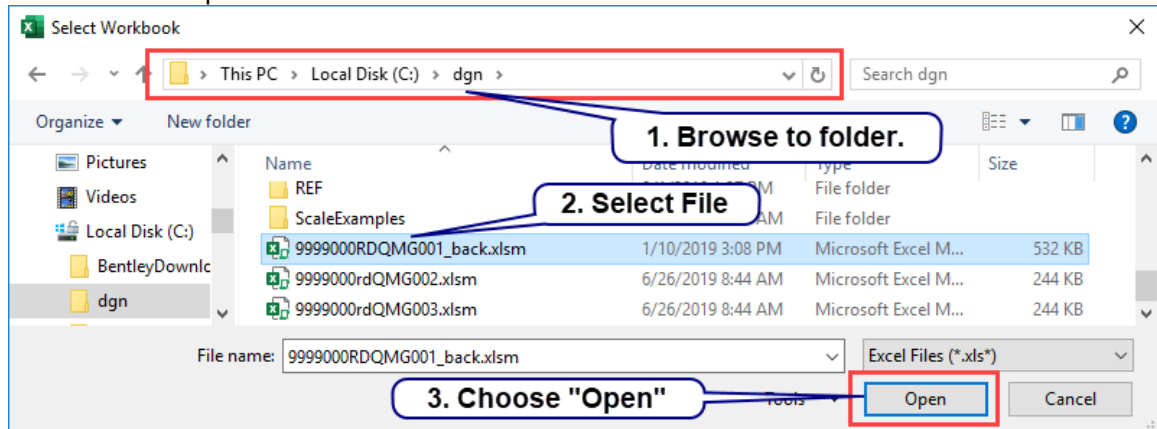
End Product: The process will copy all worksheets from the original workbook except “Start”, “Styles”, “Help”, “Instructions”, and “Readme Guide”.

- 1) Download your current Quantity Manager file and modify the name, i.e. XXXXXXXXRDQMG001.XLSM would be renamed as XXXXXXXXRDQMG001_back.XLSM

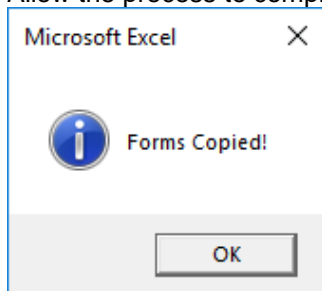


- 2) Select **Copy Worksheets** button.

- 3) Use the file dialog box to find the XXXXXXXXRDQMG001_back.XLSM renamed earlier then click “Open”.



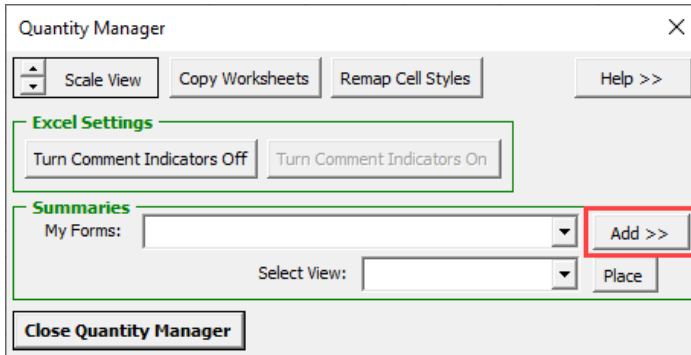
- 4) Allow the process to complete, then click the OK in the message box.



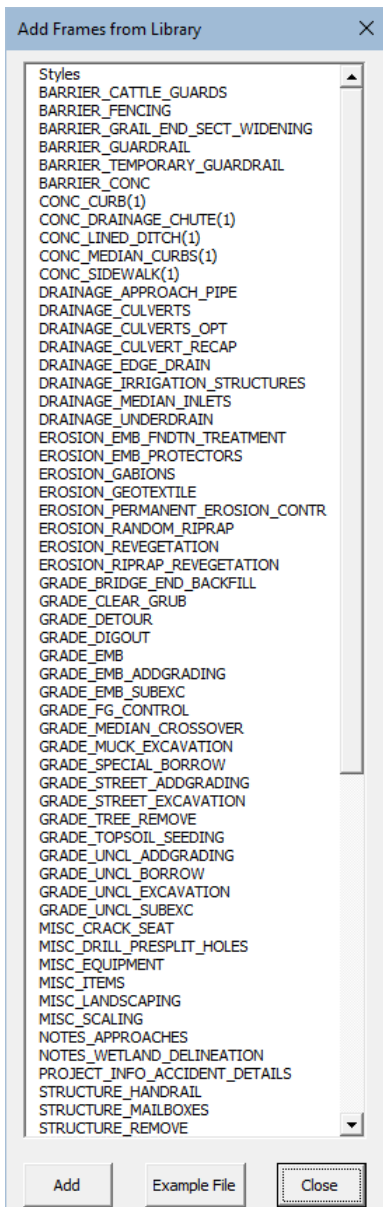
- 5) Save the spreadsheet.

Adding Forms (Top)

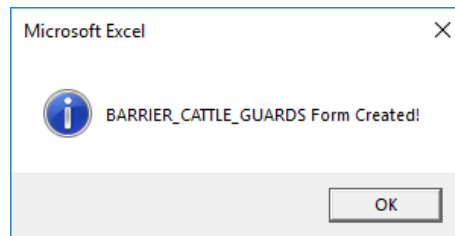
Use The following procedure for Adding Summary Forms to QMG files.



- 1) Select **Add >>** within Summaries to add a Form to the QMG file.



- 2) Select a Form from the list then select **Add** at the bottom of the dialog box, this will add the form to the QMG file.



Note:

Summary Forms have been renamed and classified for clarification purposes using the following Form naming standard : (Form Class)_(Form Name)

Form Classes

- GRADE_ (For grading items)
- SURF_ (For surfacing items)
- CONC_ (For Concrete items)
- DRAINAGE_ (For Drainage Items)
- STRUCTURE_ (For Structure Items)
- BARRIER_ (For Barrier Items)
- EROSION_ (For erosion Items)
- UTILITY_ (For Utility Items)
- MISC_ (For Misc. Forms)

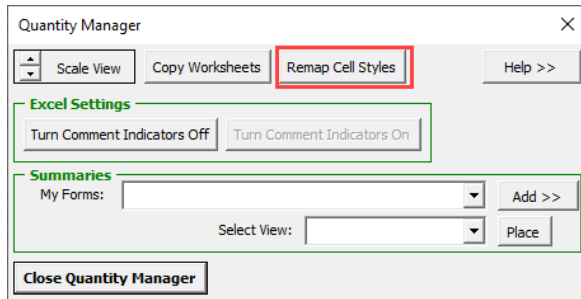
MDT CADD Standards & Procedures

3) Select Close when Finished

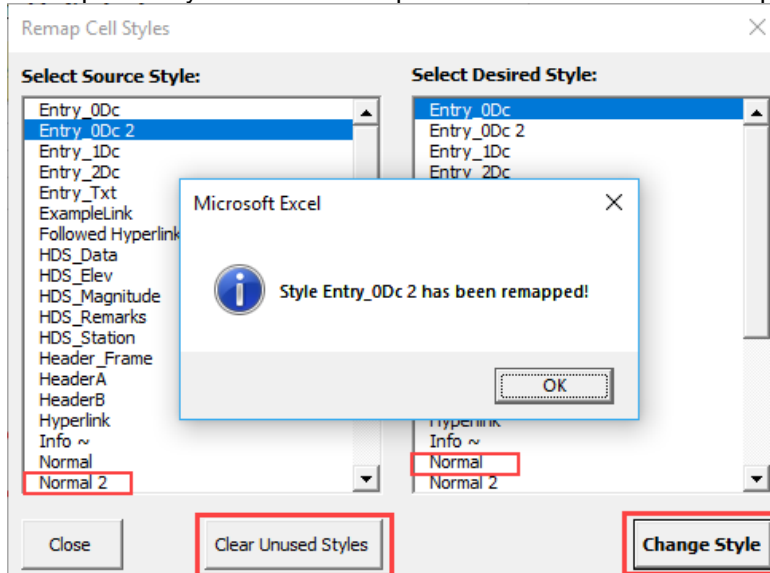
Cleaning up Cell Styles (Top)

Cell styles may sometimes enumerate (i.e. Normal 2, Normal 2 2, Hyperlink 2) and the end user may desire to clean these up. Use the following procedure to re-assign and clean up unused cell style formats. This is not recommended if you did not use Styles with care. If you have doubts, save a copy of your workbook before running this procedure.

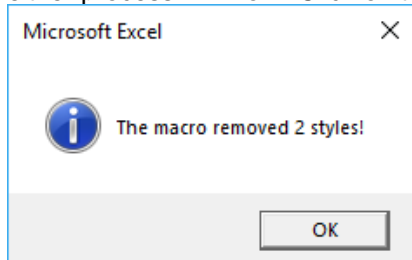
1) Select **Remap Cell Styles** button.



2) Select a **Source Style** and a **Desired Style** from the input boxes then choose the **Change Style** button and then the **OK** button to close the process. This may need to be repeated for other similar styles. Note in the example below Entry_0Dc 2 and Normal 2 appear to be copies of the parent style which were copied when worksheets were copied in.

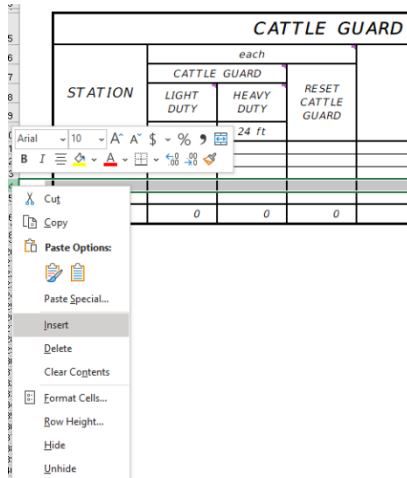


3) Select the **Clear Unused Styles** button after remapping a single style or after all styles, either process will work. Click on the **OK** button to close the process.



Adding Rows to Forms (Top)

Use the following procedure for adding rows to Summary Forms.

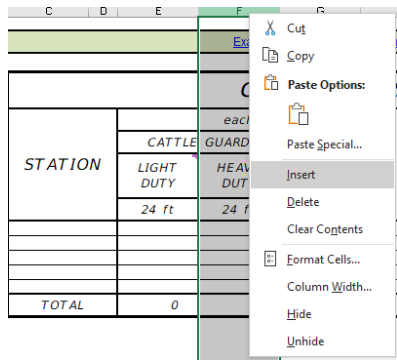


- 1) Select the Entire Row Below the Row you want to add a new Row to.
- 2) Right Click on the Row Heading and select Insert.

This inserts a new Row above the Row that was selected.

Adding Columns to Forms (Top)

Use The following procedure for adding columns to Summary Forms.

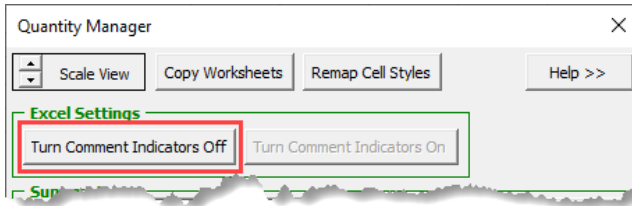


- 1) Select the Entire Column to the right of the column you want to add the new column to.
- 2) Right Click on the Column Heading and select Insert.

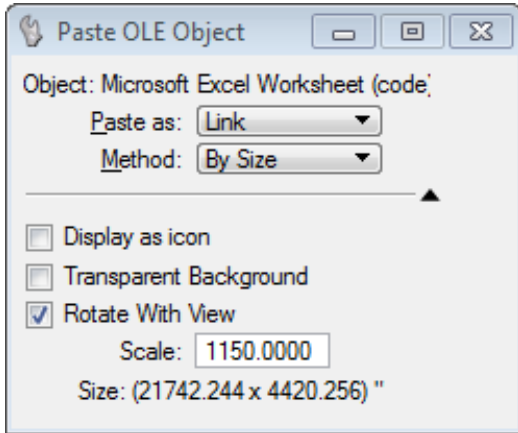
This inserts a new Column to the left of the Column that was selected.

Linking Forms to DGN Files (Top)

Use the following procedure for Linking Summary Forms to MicroStation DGN Files.



1) **Turn Comment Indicators Off** using the provided button. If indicators are not turned off, they will show in the MicroStation DGN view.



2) Select the form you want to place from the drop-down menu for **My Forms** then choose the MicroStation view using the drop-down in **Select Views**. Choose **PLACE** to place and link the Form into MicroStation.

Four options are available for view placement.

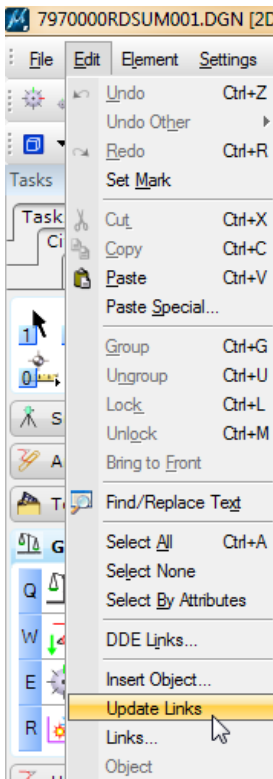
3) Set the MicroStation settings shown at left before placing the frame in the DGN file. This links and scales the form to fit in the desired sheet.

Use the following as default scale:

Scale Options:

11 x 17 Sheets = **1150**

This scale may be changed to fit the form(s) in the sheet, but all forms should be placed with the same scale.



4) To change a specific form – Double click on the form border. This opens that form in Excel. Once any changes are made in the Excel form then, in MicroStation, Edit > Update Links will cause the linked forms in MicroStation to be updated from Excel.

Drafting Standards: [\(Top\)](#)

The following attributes are to be used for formatting forms.

CATTLE GUARD			Range: Header Font: Engineering Heavy Font Ht: 20 Bold: N/A Row Ht: 37.5
<i>each</i>			
GUARD	RESET CATTLE GUARD	REMARKS	Range: Header2 Font: Engineering Bold Font Ht: 16 Bold: N/A Row Ht: 22.5
24 ft (HEAVY DUTY)			
			Range: Header1 Font: Engineering Bold Font Ht: 12 Bold: N/A Row Ht: 22.5
0	0		Range: Entries Font: Engineering Regular Font Ht: 12 Bold: Off Row Ht: 22.5

Additional information can be found in the Readme Guide worksheet of the QMG spreadsheet.

Summary Sheets [\(Top\)](#)

- Lv= user choice
- Co= n/a
- Lc= n/a
- Wt= n/a

Process Issues [\(Top\)](#)

Concrete Curbs

Even if one of the forms that works is copied and made into a “Concrete” summary, the issues of resizing are encountered. On the other hand, if any of these existing concrete forms are renamed with “(1)” behind the text, they seem to work properly. For example: rename one of the tab names from “CONC_CURB” to “CONC_CURB(1)”. The form will then resize in MicroStation correctly. I did try to rename the form from “CONC_CURB” to “CONCRETE_CURB”, but the issues were still faced.

The current default frames library file has a one (1) added behind each concrete tab.