

Cedar Rapids Public Works Department

Standard Operating Procedure



Procedure Name: Quantity Book	Approved By: Taylor Burgin	
Original Author(s): Jennifer Selby/Dillon Feldman	Original Date Issued: 01/25/2021	
Date Revised or Reviewed:	Revised or Reviewed by:	Approved By:
Published Locations (manuals/websites/etc.): Project Development and Management Manual – After any revisions to this document, replace the obsolete version stored on this webpage		

Purpose:

To summarize and document the process for setting up the quantity book.

Procedures:

Creating the Quantity Book:

1. After the project has been awarded, the Construction Project Manager (PM) shall create the quantity book for the project.
2. The PM will locate the Project Quantity Summary excel spreadsheet in the INSPECTION > 1 – QUANTITIES AND SUPPORT SHEETS folder. This spreadsheet was created so all fields and corresponding cells will be populated based upon information entered into the “Summary Page” tab. The PM will also need to locate Bid Tab and Acct Breakdown spreadsheets for the project in the CONTRACT folder.
3. Enter the project name and contract number into the corresponding cells.
4. Copy the “Item Reference”, “Description”, “Estimated Quantity”, “Unit”, and “Unit Price” columns from the corresponding columns in the Bid Tab.
5. Copy the funding division breakdowns from the Acct Breakdown spreadsheet and enter them into the corresponding cells.
6. Delete all excess unused rows and remove the associated sheets from the excel file.
7. Check the quantity book and make sure all information is accurate.
8. When a change order occurs, the quantity book shall be updated to reflect the change in the contract.

Using the Quantity Book:

1. The Construction Inspector shall make entries in the quantity book.
2. Each entry shall include the following information:
 - a. **Date:** The correct date shall correlate to when the item was installed, this date helps determine what is to be included in the correct pay app, and can help prevent future disputes. If an item was installed at an unknown date, enter the date of when it was found that the item was installed, and make a comment of approximate installation date.
 - b. **Description:** For items that have individual numbers (pipe runs, structures), document the number in the description column as it is called in the contract documents.
 - c. **Location:** The location of the item shall be properly documented by station location. The beginning and end station shall be indicated as well as side. Locations shall be precise so the item can be easily traced, examples such as “east end” or “in front of xx property” are not adequate.
 - d. **Dimensions:** If the item is a simple area or volume measurement, the dimensions must be noted as well. Length, width, and depth shall all be included in the item to show how the quantity was determined. If the area or volume is of more complex geometry, the measurement may be made by other methods (GPS).
 - e. **Pay Factor:** Include a pay factor if the measurement is based upon a certain width. For example, if pavement markings are paid in stations based upon a single 4” width, the measured length of lines wider than 4” must be multiplied by a width factor as follows: Width Factor = Actual Width / 4”.
 - f. **Division/Funding:** For projects with more than one funding source, the correct division/funding source must be noted. On each item sheet, the respective quantities for each funding source will be shown.
 - g. **Quantity:** The correct quantity for each item installed shall be placed. If this quantity is either area or volume, the dimensions shall be noted. If the area or volume is not of simple geometry and was calculated using other methods (GPS) it must be noted in the dimensions section that GPS was used, and the corresponding GPS file must be put in the Inspection folder for each respective project.
 - h. **Initials:** The inspector who made the entry into the field book shall initial each entry verifying that the information is accurate. Any entry not initialed cannot be considered for payment to the contractor.
 - i. **Comments:** Any additional comments regarding the item that might be useful.
3. When preparing field book entries, a separate row must be made for every item installed at every location. For example, if a contractor installs 200 LF of water main, and uses six different fittings, each fitting shall have its own entry detailing weight, location, and type of fitting. The inspector shall not have one entry for the day with the total weight used and range of locations.

4. Computations of areas, volumes, or lengths should be checked by a different inspector using the figures provided in the field book. All checks are to be initialed by the inspector making this verifications.
5. For any items that are measured with a GPS unit, the GPS file must be retained and placed in the INSPECTION > 1 – QUANTITIES AND SUPPORT SHEETS folder at project completion for record retention.
6. Specifications provide that some items are to be paid on the basis of design weights. Other items to be paid on a weight basis must be supported by scale tickets. Scale tickets are to be authenticated by an inspector or weighmaster at the point of weighing and again at the point of delivery at the job site by the project inspector.
7. Quantities for each contract item and all extra work must stand on their own merits in every case. Payment for legitimate work by means of increasing quantities on another item to equal the money is not permitted.
8. It is the responsibility of the Inspector to keep the quantity book up to date and accurate. Documentation shall be precise and professional so that it can be easily read by others, and in the event of an absence of the Inspector, can be updated by others.
9. The quantity book also contains support sheets for varying items. These support sheets document testing procedures outlined in SUDAS specifications and other item specific information and shall be updated at the same time as their respective items. These sheets play an important role in verifying contract requirements, and the associated items shall not be paid for if the support sheets have not been completed.