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CERTIFICATION MODULE

The Certification Module is used to track and store documents that are required before work starts on a bid item including certificate of compliance, work drawings, and various submittals.

When a project is uploaded to CARS, the Certification Module Requirements are automatically imported and tied to the bid item for which they apply. This information is pulled from the Default Certification Table that is maintained by Construction Services. Changes to the Default Certification list should be submitted to Construction Services by the Materials Coordinator.

Prior to the Preconstruction Meeting for each project, the Materials Coordinator must review the Certification Module Requirements and customize them for the project by adding or deleting requirements. Once the requirements have been established, a Project Certifications Report should be generated in Certification Manager and delivered to the contractor.

Before any pay quantity entry for a bid item is paid, all certification requirements associated with that bid item must be satisfied. The requirements are satisfied by uploading a document and tying it to the pertinent bid item.

Bid Items that have a certification requirement are designated on Quantity Manager by displaying “Cert: Not Received.” To view the required certifications, click on Not Received. Once all requirements have been satisfied, the display will change to “Cert: Received.”

Creating Certification Requirements in Certification Manager

Only available to Materials Coordinator, Project Engineer, and Alternate Engineer.

1. Click the Certification Manager link on the main menu.
2. The Certification Manager page is displayed.
 - a. Click the + button to expand the bid item.
 - b. Click Add Requirement.
3. The Add Certification Requirement page is displayed.
 - a. Use the Requirement Category dropdown to select the Category.
 - b. Enter Spec and Code if different than the default values.
 - c. Use the Type dropdown to select type.
 - d. The Add More Rows button may be used to add multiple requirements at once. All requirements added at the same time must be of the same Category.
 - e. Use the radio button to bind the requirement(s) to the current PCN or to all tied PCNs.
 - f. Click Save.

Deleting Certification Requirements in Certification Manager

Only available to Materials Coordinator, Project Engineer, and Alternate Engineer. Requirements tied to uploaded documents cannot be deleted.

1. Click the Certification Manager link on the main menu.
2. The Certification Manager page is displayed.
 - a. Click the + button to expand the bid item.
 - b. Click the Requirement Category for the requirement to be deleted.
3. The Certification Requirement-Submittal page is displayed.
 - a. Click the Delete button.
 - b. Click the Confirm button.

Uploading Required Certification Documents

1. Click the Certification Manager link on the main menu.
2. The Certification Manager page is displayed.
 - a. Click the + button to expand the bid item.
 - b. Click the Requirement Category for the requirement to be modified.
3. The Certification Requirement-Submittal page is displayed. This page can also be accessed from Quantity Manager by clicking on the Cert: Not Received/Received link and clicking on the Category button.
 - a. Click the Add Certification button.
4. The Add Certification-Submittal page is displayed.
 - a. Use the browse button to upload the desired file.
 - b. Multiple files may be added using the Add More Files button.
 - c. Populate the Remarks field as needed. The Remarks field never locks.
 - d. Multiple items, even those with different Specs & Codes, can be tied to the same uploaded file using the “Bind Certification Requirements” feature:
 - i. Use the Category dropdown to select Category.
 - ii. Use the Type dropdown to select Type.
 1. When searching for an item, only the bid items which match the “Category” and “Type” selected in the drop down menus will show up in the Spec & Code box. For a certification, the “Type” field corresponds to the “Certification Type” from the main Certification Manager screen:

Add Certification - Contractor Cert

Project Certification Requirements Bindings (May Incl

Category	Type	Spec-Code
Contractor Cert	Backing	754-561 REFERENCE MARKER-T
Contractor Cert	Hardware	754-561 REFERENCE MARKER-T
Contractor Cert	Posts	754-561 REFERENCE MARKER-T

Category: Contractor Cert
 Type: Sheeting

Spec & Code: 754-110 FLAT SHEET FOR SIGNS-TYPE XI REFL S
 754-110 FLAT SHEET FOR SIGNS-TYPE XI REFL S
 754-112 FLAT SHEET FOR SIGNS-TYPE IV REFL S
 754-112 FLAT SHEET FOR SIGNS-TYPE IV REFL S
 754-534 PANEL FOR SIGNS-TYPE IV REFLECTIVE
 754-561 REFERENCE MARKER-TYPE A (PCN: 188)
 754-562 REFERENCE MARKER-TYPE B (PCN: 188)

Bind Certification Requirement(s) (Ties Th

754 - 561 REFEREN ARKER-TYPE A Unit: EA Total Requirements: 5 Requirements Received: 0

[Expand Rows](#)

Requirement Category	Certification Type	Status
Contractor Cert	Backing	Not Received
Contractor Cert	Hardware	Not Received
Contractor Cert	Posts	Not Received
Contractor Cert	Sheeting	Not Received
Submittal	Buy America	Not Received

Add Requirement

2. The “Category” and “Type” must match the “Requirement Category” & “Certification Type” from the Certification Manager home screen for the bid item to show up in the Spec & Code box.

- iii. The Spec and Code box will display every bid item on every tied project and sub project that corresponds to the Category and Type selections.
 - iv. Select all the bid items that correspond to the uploaded document. To highlight multiple bid items, hold down the control button.
 - v. Click the Bind Certification Requirements button.
 - vi. Repeat the process with additional Categories and Types as needed.
- e. Click the Save button.
5. Uploaded documents will be locked after 48 hours. At this time additional documents may be uploaded, but the originals will remain.

Override Required Certification Documents

Only available to Materials Coordinator, Project Engineer, and Alternate Engineer.

1. Click the Certification Manager link on the main menu.
2. The Certification Manager page is displayed.
 - a. Click the + button to expand the bid item.
 - b. Click the Requirement Category for the requirement to be modified.
3. The Certification Requirement-Submittal page is displayed. This page can also be accessed from Quantity Manager by clicking on the Cert: Not Received/Received link and clicking on the Category button.
 - a. Click the Override Requirement button.
 - b. Enter the engineer's justification for the override.
 - c. Click the OK button.

Custom Certification Requirement Types

Only available to Materials Coordinator, Project Engineer, and Alternate Engineer. Use this page when adding a certification requirement type that is not on the default list.

1. Click the Certification Manager link on the main menu.
2. The Certification Manager page is displayed.
 - a. Click View Custom Cert Types
3. View Project Specific Certification Types page is displayed.
 - a. Click the Add button
4. Maintain Project Specific Certification Type page is displayed.
 - a. Enter the name of the custom cert requirement type.
 - b. Click the Save button.
5. Once saved, the custom certification type cannot be deleted. To add the custom certification type to a bid item as a requirement by follow [these steps](#).

PAY QUANTITIES

Contract bid items are documented in CARS Quantity Manager as the work is completed and accepted. Quantity Manager uses [PQEs](#) (Pay Quantity Entry) to document the payments. Each PQE must be supported by measurements and descriptions of the installed bid item known as source documents. Source document information may either be entered directly in a PQE ([example](#)) or attached to a PQE ([example](#)). Use of SFN 10004, Pay Quantity Report is not necessary. If [SFN 10004](#) is used, it should be uploaded as an attachment to the PQE.

At a minimum, document the location and quantity of each pay item recorded on the PQE. When quantities are measured in the field, show measurements and all quantity calculations.

PQEs should be generated the same day by the inspector assigned to the respective pay item. Inspectors can enter PQEs in the field if they have internet access to CARS. If internet access is not available, enter PQEs as soon as practical. Summary sheets and diagrams prepared in the field can be scanned in and attached from the field. An iPad can be used to take a picture of a summary sheet or other document and attach it to a PQE ([example](#)).

Some projects contain multiple funding sources. The multiple funding sources are identified in the detailed estimate and CARS as subprojects. If a project contains subprojects, only one bid item per subproject is documented on the PQE. For example, the project you are working on has two subprojects with quantities for Traffic Control Signs on each. The contractor places the construction signing resulting in quantities for traffic control signs in each subproject. This would be documented on two PQEs, one for each subproject.

Required Pay Quantity Signatures

Documentation of certain pay quantities requires obtaining the contractor's signature. They are:

1. Flagging
2. Pilot Car
3. Water
4. Excavation quantities documented by field measurements such as subcuts. Signatures are not needed for computer generated quantities such as a GPS surveyed subcuts.
5. Rock excavation not measured by cross sections.
6. Items measured in place such as foundation fill or select backfill, if using measurements greater than plan dimensions.
7. Any material paid for by load count.
8. Haul Summaries (109.01 J).

The purpose of obtaining the signature is to give the contractor an opportunity to review the measurements and signify agreement with the pay quantity documented.

PQEs in CARS

Pay Quantity Entries (PQEs) are used to manage payment of bid items. PQEs are displayed and managed in the Quantity Manager module. All PQEs must be Submitted before they will be paid on an Estimate.

PQEs are added to the Quantity Manager in the following ways:

- Contract Adjustment
- Mix Bitumen Report
- Concrete Paving Report
- Piling Report
- Add PQE button on Quantity Manager
 - Appendage feature on existing PQE

Creating PQEs in Quantity Manager

To enter PQEs in Quantity Manager:

1. Click on the Quantity Manager link on the main menu. The Quantity Manager page is displayed.
 - a. Contract items are listed in ascending order by spec and code including change order items.

- b. Contract adjustments are displayed separately at the end of the list.
2. Click on the Add PQE link by the Spec and Code to be entered.
3. Enter the information for the pay quantity
 - a. Enter the date the item was documented or installed.
 - b. Use the dropdown box to enter the type of source document for the pay quantity.
 - i. No Additional – Use when PQE is source document.
 - ii. Attached – Use when source document is attached.
 - iii. Referenced – Use when source document is referenced.
 - c. If the quantity being entered is from a change order, use the Change Order dropdown to pick the change order information.
 - d. The Contractor Approved radio buttons may be used for items such as water or flagging hours that require the contractor’s signature. These buttons do not replace the signature requirement and should be used for tracking only.
 - e. The Remarks text box is used to enter any comments about the pay item.
 - f. Under locations, enter the quantity for the item documented and its location. One quantity and location text box is initially provided but more can be added by pressing the Add More Rows button.
4. Attach supporting documents
 - a. The source document and other supporting documents may be attached by clicking the Browse button and navigating to the location of the document.
 - b. Multiple files may be attached using the Add More Files button and repeating step 4a.
 - c. Use the file comments section to add information about the attachments.
5. Click the Save button. If additional PQEs will be entered for the item, click on the Save and Add New Button. This will save the information entered and bring up a blank page.

Editing PQEs

A PQE or appendage can be edited until it is paid on the progressive estimate or as long as the status is Not Checked, Checked, Rejected, Submitted, or Pending. To edit a pay quantity:

1. Click on the expand button next to the spec and code.
2. Click on the date of the entry to be edited.
3. Edit the information by changing the data or dropdown selections.
4. Files may be added or deleted.
5. Use the approval buttons to mark the entry as checked or submitted.
6. Click on the Save button to save the corrected entry.
7. The entire entry may be deleted using the delete button at the bottom of the page.

Checking PQEs

Each PQE should be checked before it is submitted to the estimate. The check should be performed by a user who is not the originator.

To check entries on Quantity Manger main page (available to users with the inspector role):

1. Set Spec and Code filter to With Entries and Status filter to Not Checked to display all PQEs that need checking.
2. Click on Expand All.
3. Review the displayed information for each PQE. Click on an attachment to display it.
4. Click the check box next to the PQE once it has been reviewed.
5. Click Check at the top of the page.

To check PQE from within the PQE (available to users assigned to project):

1. Set Spec and Code filter to With Entries and Status filter to Not Checked to display all PQEs that need checking.
2. Click on the date of the entry to be reviewed.
3. After reviewing the displayed information and attachments, click the Check radio button and hit save.

Submitting PQEs

Each pay quantity entry (PQE) must be submitted before it will be added to the estimate. Only the roles of Engineer and Alternate Engineer have the ability to submit.

To submit PQEs on Quantity Manager Page:

1. Set Spec and Code filter to With Entries and Status filter to Checked. This will display all checked pay entries.
2. Click on Expand All.
3. Review the displayed information for each PQE. Click on an attachment to display it.
4. Click the check box next to the PQE once it has been reviewed.
5. Click Submit at the top of the page.

To submit PQE from within the PQE:

1. Set Spec and Code filter to With Entries and Status filter to Checked. This will display all checked PQEs.
2. Click on the date of the entry to be submitted.
3. After reviewing the displayed information and attachments, click the Submit radio button and hit save.

Rejecting PQEs

At any time during the checking or submitting processes, the entry may be rejected. The Reject action changes the entry status to Rejected.

To reject a PQE on Quantity Manager Page:

1. Select the check box next to the PQE.
2. Click the Reject button at the top or bottom of the page.
3. Add comments to Rejection Reason.
4. Click Reject.
5. Reject Reason is automatically emailed to entry originator and status is changed to Not Checked.

To reject a PQE from within the PQE:

1. Click on the date to enter the PQE.
2. Click the Reject radio button next to Approval.
3. Click Save.
4. Add comments to Rejection Note.
5. Click OK.
6. Reject Reason is automatically emailed to entry originator and status is changed to Not Checked.

Appending PQEs

Occasionally, it may be necessary to correct or supplement a PQE that has been paid. This is done by adding an appendage to the original PQE in Quantity Manager.

To make an appendage:

1. Click on the date of the PQE.
2. Click Add Appendage at the bottom of the page.
3. Enter date the appendage is created.
4. Enter the difference in quantity if applicable. For example if the original quantity was 5 ft and the correct quantity is 4 FT, enter -1 FT in the appendage quantity.
5. Add location if it has changed.
6. Add remarks explaining why change was made.
 - a. Remarks are required for all appendages.
7. Use the browse button on the original entry to add additional files if necessary.
8. Click save. Status of the original entry will change to Not Checked.
9. Reject Reason is automatically emailed to entry originator and status is changed to rejected.

Attaching Documents to PQEs

Documents may be attached directly to the respective PQE as detailed [above](#). Multiple documents can be attached at once. Additional documents may be attached until the project finalized.

Attached documents are automatically stored in CARS/FileNet. CARS indexes the Subject/title field based on the pay item spec and code and the attached file name. Attached files may be viewed by clicking on the attachment link in the PQE. Once confirmed the source document is stored in CARS/FileNet, it is not necessary to retain a hard copy as part of the project records.

Only the source document should be attached to the PQE in CARS.

Attaching Source Documents

The source document should be legible and accurate when attached.

Do not attach pictures or documents related to the inspection or testing of the item.

When attaching a source document, do not reference the hard copy of the document.

There is no need to repeat information from the source document in the remarks section of the PQE.

The following chart displays file types that may be attached.

File Type	Description	Max Size (MB)
docx	Microsoft Word Document	5
jpg	JPEG Graphic	3
jpeg	JPG Graphic	3
pdf	Portable Document Format	20
png	Graphic	5
html	Wep Page Source Text	2
xls	Excel Document	5
mov	Movie File	10
mp4	Windows Movie	10
txt	Text File	1
rtf	Rich Text Format	1
bmp	Bit Map Image	10
tif	Image	5
pptx	Power Point	10

Deleting Attached Documents in CARS

Attachments can only be deleted until the PQE is paid for. To delete attachments, follow the [Editing PQE](#) instructions and click Delete next to the unwanted file.

District Finals PQE Check

Each PQE should be checked by the district before the final is submitted to Construction Services. This check is performed in Quantity Manager. This check is available for all users assigned to the project.

For District Finals check on Quantity Manager main page:

1. Set Spec and Code filter to With Entries and District Finals filter to Not Completed to display all PQEs that need District Finals checking.
2. Click on Expand All.
3. Review the displayed information for each PQE. Click on an attachment to display it.
4. Click the check box next to the PQE once it has been reviewed.
5. Click District Finals button at the top of the page.

To check PQEs individually (available to users assigned to project):

1. Set Spec and Code filter to With Entries and District Finals filter to Not Completed to display all PQEs that need District Finals checking.
2. Click on the date of the entry to be reviewed.
After reviewing the displayed information and attachments, click the Approve radio button next to District Finals and click save.

ELECTRONIC SIGNATURES

Electronic signatures are acceptable for the following documents:

- [Required pay quantity signatures](#)
 - An electronic signature may be added to the field documentation and then uploaded into CARS. Form [SFN 10004](#) may be used to collect the signatures.

- Materials Certifications.
- State forms that do not alter the contract such as Statement of Daily Force Account Work, Road and Pit Release Statement and others.

Electronic signatures can be obtained in one of two ways on any document that has a signature block.

1. Typed name
 - a. Signee types their own name into the signature box.
2. Signature Software
 - a. Signee uses a software program such as Adobe Pro to add typed name, image of signature, or computer generated signature into signature box.

DOCUMENTATION GUIDELINES FOR SELECTED ITEMS

Contract Bond

Contract bond will be paid based on the receipted invoice submitted by the contractor along with a letter requesting payment. Attach the receipted invoice to the PQE. If the premium paid by the contractor is less than the original lump sum bid price, only the percentage represented by the invoice amount will be paid on intermediate and semi-final estimates. For example:

- The invoice amount submitted by the contractor is \$4,500.
- The original bid amount is \$5000.
- Pay for 0.90 LS

The remainder of the original lump sum bid price remains unpaid until the final estimate. If the invoice amount submitted by the contractor is equal to or more than the original lump sum bid price, only the bid price will be paid.

Railroad Insurance

Railroad Insurance is paid lump sum when the Contractor provides the Engineer with certified copies of the insurance policies and with the railroad company’s approval of the policy in accordance with Section 107.13. Attach the railroad company’s approval and the insurance policies to the PQE.

State Furnished Concrete Barrier

Submit SFN 60565 to Design Division when contractor takes and returns barrier.

Mobilization

Mobilization will be paid on the percentage of the original contract earned. The dollar amount paid will be the percentage of the mobilization bid price or the percentage of the original contract amount, whichever is less. These payments are made according to the following chart.

Amount Earned of the Total Contract	Pay the lesser of:	
	Mobilization Bid Amount	Total Contract Amount
5%	25%	2 ½%
10%	50%	5%
50%	100%	7 ½%
75%	100%	10%

Aggregates

Aggregates are generally paid by the ton. Weigh tickets are produced and summarized on haul summaries produced by the contractor's scale. The signed haul summary should be attached to the corresponding PQE.

Aggregates are sometimes measured by the square yard or cubic yard and will be measured in place. All field measurements and calculations must be recorded on the PQE or kept in a field book.

Asphalt for Prime, Tack or Seal Coat

A field book or summary sheet will be kept to document distributor shots. Shot records are used to determine application rates and can be used as an estimated quantity. Actual final quantities paid will be based on manifest quantities. Final quantities are based on the undiluted gallons delivered minus any quantities used for other purposes such as waste or private use. The total quantity from manifests should be equal to or greater than the total quantity in the shot record. Attach the manifest for the asphalt material to the PQE.

On some projects like those in an urban setting, quantities may be determined by shot record only as the contractor's equipment is serving multiple projects. A manifest for the asphalt material applied to the project must still be collected for testing purposes. When paying off the shot record, attach the shot record and manifest to the PQE along with an explanation as to why the shot record was used for payment.

Asphalt for Bituminous Mixes

Asphalt used in hot bituminous mixes is paid for by the ton. Daily estimated amounts are calculated in the Mix Bitumen Report tab, using the Cut-Off Report function, which is also used to determine the percentage of asphalt in the mix. Cut-Off Reports are calculated using the manifest tons. Final quantities are based on the tons delivered minus any quantities used for other purposes such as waste or private use. If the Cut-Off Report application is used, a PQE is automatically created and will need to be checked and submitted on Quantity Manager. Attach all manifests to the daily report or PQE.

Sometimes hot mix is supplied from a commercial plant that is serving many other customers. In this case, the quantity determined from the mix bitumen report will be used. Manifests covering the material used on the project must still be collected for testing purposes.

Reinforcing Steel

A record of all reinforcement bars placed in a structure is kept by the inspector present at the time of placement. These records are generally kept in a field book or summary sheet listing the number, size and length of each type of bar installed and separated by portion of the structure. Attach the summary sheet or reference the field book in the corresponding PQE in CARS.

Subgrade Preparation

Subgrade preparation will be measured by the number of miles or square yards prepared and accepted. Document field measurements and calculations on the PQE. Referencing a field book or diary entry or attaching a summary sheet with the corresponding calculations is also acceptable.

Water

Water may be measured in calibrated tanks, by weighing and converting to gallons, or by an approved metering device.

Spot check the loaded water truck to ensure compliance with legal load limits.

When water is measured in calibrated tanks, attach the calibration information to the pay quantity report. It is up to the Project Manager to determine the accuracy and acceptance of the calibration. Quantities are determined by a count of the loads hauled and placed multiplied by the “M” gallon (1000 gallon) calibrated capacity of the water hauling unit. Record each load on [SFN 61032](#), Water Haul Sheet. The contractor will sign each Water Haul Sheet. Attach the signed Water Haul Sheet to the PQE.

Where water is measured and paid by weighing, The “M” gallons of the hauling units will be calculated by weighing the truck empty and full and converting to gallons at a rate of 8.33 pounds per gallon. The full weight must not exceed the licensed legal load for the hauling unit. Quantities are determined by a count of the loads hauled and placed multiplied by the “M” gallon capacity of the water hauling unit. The contractor will sign each days load counts along with the “M” gallon calculations for each hauling unit. The quantities must be signed by the contractor. Attach the signed summary sheet to the PQE.

Where water is measured by meter, attach a certified statement that the device conforms to AWWA requirements to the PQE. Calibration must have been performed within one year. The Engineer should observe and record the meter before and after each period of water use or weekly at a minimum, taking care to ensure that each period of water use was used solely for the project. A summary should be prepared by the Engineer and signed by the Contractor. Attach the signed summary to the PQE.

Excavation and Borrow

Excavation and borrow quantities may be recorded as estimated amounts until actual computations are made. Excavation and borrow quantities are determined by cross sections. If common excavation areas include topsoil, the topsoil quantity must be subtracted from the common excavation quantity and paid separately. The field notes can be plotted, and computed, or may be determined by using a computer earthwork program. Hand plotted cross sections and earthwork computations should be checked in depth at the District level. Earthwork computations will be submitted along with the field notes with the final records. Earthwork computations calculated using Geopak will also be submitted with final records. Attach earthwork calculations to the PQE. An example of source document for small quantity excavation can be found [here](#).

Roadway Obliteration

Locations and field measured quantities for obliteration will be recorded on the PQE. Show any calculations for the quantities.

Loose Rock Riprap

Riprap quantities are generally paid by the cubic yard and are determined by load counts or are measured in place. For load counts, determine the cubic yard capacity of the hauling unit. The cubic yard capacity of the truck should not exceed the licensed legal load. Document the calculations used to determine the hauling capacity and have the Contractor sign them. Attach the signed calculations to the first PQE. Record the load counts on a summary sheet or in a field book. The contractor should also sign each day’s load counts before they are attached the PQE.

If the riprap is paid by the cubic yard in place, measure the length and width of the area. Take random depth checks along the placement area to determine an average depth. Show all measurements and calculations on the PQE.

If the Riprap is paid by the ton, tickets and haul summaries should be provided by the contractor.

Flagging and Pilot Car

Documentation must include name of flagger/driver and hours worked. Do not use contractor payroll as source for hours. Record hours worked for each flagger and pilot car on [SFN 61031](#), Flagging and Pilot Car Summary. Attach the Contractor signed summary sheet to the PQE.

There also must be certification on file from the contractor verifying the flaggers are trained personnel.

Seeding and Sodding

These items will be paid by actual field measurements of the placement areas. Seeding may be measured using [SFN 16474](#), Seeding Quantity Sheet, or by surveying the area. Show all measurements and calculations on the PQE or attach a summary of the measurements ([example](#)). Allow the Contractor to review quantities before processing payment.

Measuring of areas not seeded/sodded and deducting this from plan quantity does not substantiate the plan quantity amount and is not sufficient.

Pipe

Payment of pipe will be the actual field measurements of pipe placed. Documentation of pipe shall be made by the inspector at the time of installation. Record all necessary information including date, length, diameter, class, station, and heat numbers in the PQE.

Permanent Pavement Marking

When plan quantity of either water based or epoxy paint is 30,000 linear feet or greater, collect a daily DLS report in accordance with 762.04 C.1.b and attach it to PQE.

Non-Structural Concrete

Concrete construction will generally be paid for by the linear foot or square yard. These items will be field measured and drawings will be attached to the PQE or referenced in a field book. Computations must be shown for all quantities.

Concrete paving quantities may also be determined by using the Concrete Paving Report.

Structural Concrete

All concrete pours will be recorded. The total yards used in each portion of the structure will be recorded in the inspector's diary or a separate field book. Tickets will be produced at the concrete plant and will be kept in the District until final payment it made. The pay quantity for each portion of the structure will be plan quantity unless it is determined that the plans are in error or a change in design has been made.

Manholes, Catch Basins, and Inlets

Documentation is required on the PQEs showing stations and date installed of each item.

Temporary Signing

Documentation should include the location of the device and date placed as well as the sign number and units. Show all calculations for total units to be paid. Project Managers should ensure that each sign is only paid for once, regardless of the number of moves. If a sign summary sheet is used, attach it to the PQE. This information should be made available to the Contractor.

Posts

Actual lengths and weights per foot of post, plus the extension should be documented.

Miscellaneous Items

Items should be documented showing the location and amount being paid. If an additional quantity of an item was added and was not shown on the plans, it should also be noted on the PQE.

Lump sum quantities will be paid as a percentage of the work complete and the PQE should include documentation supporting the amount of the lump sum work completed.

METHODS OF MEASUREMENTS

Weighed Materials

The contractor is required to submit tickets and haul summaries for all weighed materials in accordance with Section 109. CARS should no longer be used for generating haul summaries for payment.

The results of the scale tests should be documented in the project or inspection diary or attached to the PQE.

In the case of small tonnages as determined by the Engineer, payment may be recorded on a PQE with the weigh tickets attached.

Tickets

The contractor should produce tickets in accordance with 109.01 J.6.b.

Two copies of the tickets will be made. The contractor keeps the original copy. The duplicate copy of each ticket is given to the truck driver and collected by the inspector on the roadway. This ensures that the loads weighed are being used on the project. As the tickets are collected on the roadway, the inspector will initial each one and keep the tickets separated in groups by use such as mainline, shoulders, approaches, etc. The inspector also writes the location of each different placement area on each group of tickets. Sometimes, only a partial load will be used on the project and the rest of the load will be considered waste. The inspector will write the tons actually used on the ticket and initial it. At the end of the day, the inspector records the following information:

1. Beginning and ending ticket numbers
2. Locations material was placed and the total tons for each area
3. Any missing ticket numbers
4. Any partial or whole loads not used and considered waste

The inspection report and the tickets are used when checking and certifying the daily haul summary.

The requirement that an inspector personally receive all load tickets at the time of Delivery may be relaxed only in cases of very small quantities or intermittent deliveries under conditions where the project engineer or inspector can visually determine the approximate quantity delivered.

Truck Platform Scale Use

Each truck to be weighed shall be tared daily in accordance with 109.01 J.3.a. No truck may be used for hauling material paid for on a weight basis until tared.

Contractor Produced Daily Haul Summaries

Computerized weighing systems not only weigh the load and produce a weigh ticket but are also required to produce a daily haul summary. The contractor produced daily haul summary must include the information in Section 109.01 J.6.c of the Standard Specifications. The haul summary must be signed by the Contractor & Subcontractor or Supplier (if applicable) prior to submittal to the Engineer (109.01 J.6.c.(11)).

Check the tickets turned in by the inspector against the contractor produced haul summary. The beginning and ending ticket numbers should correspond with the tickets turned in by the inspector as should the total tons hauled. The total and running total on the contractor's haul summary may be adjusted for voided tickets or partial loads used.

If any corrections to the haul summary are necessary, inform the contractor and have them re-submit a corrected haul summary.

After the contractor's haul summary is verified, the individual who has verified the contractor's haul summary shall sign the haul summary in the blank for Engineer's signature to approve it.

Signed contractor haul summaries are the source document and should be attached to the PQE in CARS. Once the haul summary has been prepared in accordance with Section 109.01 J.6 and uploaded into CARS, the tickets may be disposed of at the discretion of the Engineer.

Load Counted Material (Volume Measurement)

Volume measurement is used to determine pay quantities because of the type of material or because only a small quantity is being used. Volume measurements are typically used for items such as foundation fill, riprap, and water. Volume measurement can be calculated by load counts or by in-place measurement.

Measured In Place

After the material is placed, measure the length, width and depth of the placement area. Take several depth measurements throughout the area to establish an average depth of the material. Calculate the cubic yards.

Load Counts

Determine which trucks the contractor will use to haul the material. Measure width, length and depth of the truck box and compute the cubic yards. The volume used for each truck's load should be agreed to

by the contractor and should not exceed the legal load limits for the hauling unit. Record the truck number and the calculations in the inspector’s diary, a load count field book or on a pay item report. This information is necessary to check the quantities when the project is finalized.

Record the number of loads each truck hauls and places on the project. Calculate the quantity by multiplying the number of loads by the cubic yard measurement for each truck. These load counts can be kept in a field book or be recorded directly on a pay item report. The contractor must sign the field book or PQE for each day’s load counts.

If a field book is used to document the load counts, note this when entering these types of pay items into CARS.

STOCKPILES AND INVOICED ITEMS

Section 109.05 of the Standard Specifications allows the Department to make payment for material on hand that meets certain conditions. Payment is based on written request from the contractor that must include, among other items, an invoice for purchased materials or statement of production costs for contractor produced materials. An example of the contractor’s breakdown of material costs is included at the end of this [section](#).

- The contractor’s written request and invoice/production costs should be entered into Filenet.
- For materials not produced by the contractor, include the paid invoice and signed statement acknowledging receipt of payment from the supplier/fabricator in the project file.

The general idea behind paying for material on hand is that a bid item’s unit price is made up of the material cost and the cost of incorporating the material into the work. For example, an aggregate CL5 bid item includes the price of the aggregate and the price of hauling, placing, and compacting the aggregate into the finished product. Payment for material on hand is a way to pay the contractor for the material portion of a bid item when the material is obtained for the project. The NDDOT recoups the payment as the material is incorporated into the project.

The Engineer uses the CARS Stockpiles module to set up payment for the material on hand.

Enter Stockpile/Invoiced Items in CARS

To enter stockpile or invoiced items into CARS:

1. Click on the Stockpiles link on the main menu. The Stockpile spec and code Selection page is displayed.
2. Click on the Add link for the material or items to be stockpiled. The Stockpile/Invoiced Item Maintenance page is displayed.
 - a. Enter the date
 - b. Click in the radio button to choose between stockpile or invoiced.
 - c. If the item to be stockpiled is material added by change order, be sure the change order material is chosen in the Change Order dropdown box.
 - d. Enter the quantity
 - i. This is the quantity over which the payment will be “spread”
 - e. Enter the price

- i. This will be a portion of the contract unit price. *Example calculation shown below.*
 - f. Remarks can be entered in the text box provided. These will be displayed in the quantity book.
3. Click on Save.

The material on hand portion of the unit price is spread over the quantity of the bid item for which the material will be used.

Example: 50,000 SY of 10" Non-Reinforced Concrete pavement is planned on a project. The contract unit price is \$75.00/SY, so the total dollar amount for this bid item is \$3,750,000. The contractor submits a written request for payment of material on hand for all dowel bars which will be used in the pavement. The itemized cost breakdown shows the value of the material (the dowel bars) is \$200,000. Specification 109.05 is followed, and the Engineer determines that the dowel bars are eligible for payment for material on hand.

The Engineer must now calculate the portion of the contract unit price which is comprised of the stockpiled material. In the example above, the value of the material is \$200,000 and the quantity for which the dowel bars will be used is 50,000 SY. Therefore: \$200,000/50,000 SY= \$4/SY. In other words, the stockpiled dowel bars make up \$4/SY of the \$75/SY contract unit price. The numbers are entered into the Stockpile module as shown below:

The screenshot shows a web form for the Stockpile module. The fields are: Date: 06/06/2019 (with a calendar icon and '(mm/dd/yyyy)' format), Type: Stockpile Invoiced, Change Order: NONE (with a dropdown arrow), Quantity: 50000 (in a text box), Price: 4 (in a text box), and Remarks: (in a large empty text area with a scroll bar).

As a result of this entry, the Contractor will be paid \$200,000 (50,000 SY x \$4/SY) on the next progressive estimate. It will show up at the bottom of the progressive estimate in a section called Stockpiled and Invoiced Items.

Stockpile payments are automatically depleted as PQE's for the corresponding spec and code are entered in Quantity Manager and submitted to progressive estimates.

To put this in terms of the example shown above, if the contractor begins paving and a PQE is entered for 1,000 SY of this concrete bid item, then -1,000 SY (-\$4,000) will automatically appear for the bid item in the Stockpiled and Invoiced Items section on the next Progressive Estimate. This is what is known as depleting the stockpile quantity. The NDDOT paid for the material portion of the bid item upfront and now it's being automatically recouped as the work is completed.

Important!

It is possible a portion of the pre-paid stockpile quantity will remain after the work is completed. This will happen if the Payment for Material on Hand (Stockpile) was spread over the entire planned quantity, but the actual quantity underruns. All remaining Stockpile payments must be depleted prior to the final estimate.

Deplete Stockpile/Invoiced Items in CARS

If there is any stockpile quantity remaining when the work for the contract item is completed, it can be depleted by:

1. From the Main Menu, click on the Stockpiles link. The Stockpiles page is displayed.
2. Find the spec and code for the item to delete and click on the Maint link. The Stockpile/Invoiced Item Selection page is displayed.
3. Click on the date link for the stockpile/invoiced item. The Stockpile/Invoiced Item Maintenance page is displayed.
4. Click in the check box by Deplete Quantity.
5. Click on Save. This will deplete any remaining stockpile or invoiced quantity.

Multiple Stockpiles

It is possible to create multiple stockpile entries for the same bid item. This can happen if the contractor requests payment for a portion of the plan quantity, then later requests another portion. Example: The contractor stockpiles half the plan quantity of aggregate, then later crushes another quarter. Later, they finish the final quarter.

These entries are created in CARS Stockpiles as described above. The difference, in this case, is the material on hand portion of the unit price is spread over the quantity of material contained in the stockpile. (In the previous example, the material price was spread over the entire plan quantity.)

Stockpile entries can be created multiple times for a bid item until the plan quantity of that material has been reached.

CARS will deplete the stockpiles in chronological order based on when the stockpile was created. In the example shown below, CARS will deplete the 6/7/2019 stockpile, then 6/10/2019, then 6/11/2019 as the material is incorporated into the project.

The screenshot shows the 'Stockpile/Invoiced Item Selection' screen in the CARS system. The project is 'IM-2-094(146)275' and the subproject is '1 - GRADING, SALVAGED BASE COURSE, DOWELED PCC PAVEMEN'. The item selected is '302 100 SALVAGED BASE COURSE' with a unit of 'TON', a total quantity of '128,092.000', and a price of '5.900'. A table below lists three stockpile entries:

Date	Type	Quantity	Remaining Quantity	Price	Release Flag
06/11/2019	S	32,000.000	32,000.000	1.00	E
06/10/2019	S	64,000.000	64,000.000	1.00	E
06/07/2019	S	32,000.000	32,000.000	1.00	R

A 'Return' button is visible at the bottom left of the screen.

Again, remember to deplete any remaining stockpile quantities prior to the final estimate.

ITEMS DOCUMENTED IN CARS REPORTS

Fuel Cost Adjustment

All Fuel Cost Adjustments should be performed using the CARS Fuel Cost Adjustment Module. If a project has one or more adjustments processed and posted to CARS manually, the Fuel Cost Adjustment Module will not be available for that project. The Fuel Cost Adjustment Module calculations are based on the PQE date entered. For this reason, it is critical that each PQE be dated in the month the work was performed. The Fuel Index values will be automatically displayed for each project and will be maintained by Construction Services.

To use the Fuel Cost Adjustment Module:

1. Click on Fuel Cost Adjustment on main page.
2. Click Maintain Contractor Affidavit Costs
 - a. Enter the fuel affidavit costs as found in the contract.
 - b. Click Save.
3. Click recalculate.
 - a. The adjustments will automatically be calculated based on PQEs in the submitted, pending, or paid status.
4. The Fuel Cost Adjustment Totals will be displayed. The Pending PQE row will only populate if there is an outstanding payment to be made.
5. After reviewing the calculated Fuel Cost Adjustments, click POST PQEs if a payment is desired.
 - a. The respective PQEs will be created in Quantity Manager in the submitted status.
6. Each time changes are made in Quantity Manager, they will not reflect in the Fuel Cost Adjustment Module until the Recalculate button has been clicked. Recalculate triggers a new calculation for every month and every PQE. For example, if a PQE is added in August, but dated in May, it will automatically be included in the calculations for May.

Exclusion List

The Exclusion List button displays all spec and codes that will be excluded from the Fuel Cost Adjustment calculations in accordance with the special provision. This list may be viewed and edited by clicking on the button and clicking Add or View. This list should be reviewed to ensure that all contract adjustments are listed as excluded.

HBP List

The HBP List button displays all spec and codes that will be included in the HBP calculations in accordance with the special provision. This list may be viewed and edited by clicking on the button and clicking Add or View.

Liquidated Damage Exclusions

Fuel Adjustments should not be made when the contractor is working under liquidated damages after the expiration of contract time. To ensure that the adjustment excludes such dates they need to be entered by clicking on the Liquidated Damage Exclusions button, clicking Add, and entering the dates for the window of the work.

Reports

The reports button displays several reports that are available to ensure that the calculations have been made correctly. These reports may be emailed to the contractor upon request.

- Fuel Cost Adjustment Report – Displays the monthly adjustments.
- Excluded Items Report – Displays each PQE that was excluded from the calculations because the respective spec and code was on the Exclusion List.
- Included Items Report – Displays each PQE that was included in the calculations for the Unleaded and Diesel Fuel Cost Adjustments.
- HBP Items – Displays all PQEs that were included in the calculations for the Burner Fuel Cost Adjustment.
- Liquidated Damage (LD) Exclusions – Displays each PQE that was excluded from the calculations because it fell in the LD Exclusion date range.

Piling/Test Piling

Piling reports are used to record pile driving data, calculate bearing values and document pay lengths for both test pile and foundation piling. Section 622 of the Standard Specifications contains complete information for the inspection of piling and test piling.

Before piling or test piling information is entered in CARS, you will enter the bridge number and station for each structure on the project. Next, you will enter the hammer information for each driving unit used on the project. This information is obtained from the manufacturer's specification sheet submitted by the contractor.

The following is a list of some common terminology used in piling/test piling documentation and calculation:

- Rated Energy – This is the manufacturer's rated energy in foot/lbs. Some reductions may apply and are listed in the Standard Specifications.
- Weight of Striking Parts – This refers to the ram weight in pounds. This weight is used in the bearing calculations.
- Rated Stroke – This is the manufacturer's rated stroke of the hammer in feet.
- Rated Speed – This is the manufacturer's rated speed in blows per minute.
- Average Observed Speed – The observed speed in blows per minute from the inspector's documentation.
- Type of Cap/Cushion – Refers to the type of material used for these parts of the hammer.
- Cap Weight – The weight of the cap in pounds from the hammer manufacturer's specifications. This weight is used in the bearing calculations.
- Anvil Weight – The weight of the anvil in pounds from the manufacturer's specifications. This weight is used in the bearing calculations.
- Adapter Weight – The weight of the adapter in pounds from the manufacturer's specifications. This weight is used in the bearing calculations.
- Hammer Stroke – This is the stroke in feet from the field documentation or the manufacturer's rating.
- Blows per Minute – Refers to the observed blows per minute recorded in the field documentation by the inspector
- Energy – This is the observed energy from field documentation and is recorded in foot/pounds.
- Number of Blows – The number of blows counted as final penetration is being taken for bearing.
- Inches Penetration – Full penetration of the pile during the final check. Recorded to the nearest hundredth of an inch.

The 'M' value in the pile formula is the combined weight of the pile, the driving head and the hammer anvil.

Information for design load, plan length of test pile and pile type is found in the project plans. The weight per foot of steel piling is found in the size designation for the piling. For example, the bid item Steel Piling HP 14 x 73 indicates that the piling weighs 73 pounds per linear foot. The weight of the piling is also used in the bearing calculations.

Test Piling

A Test Pile Log is completed for each test pile driven for the structure. The plans will show the test pile number, location and minimum required bearing. Information needed to compute the bearing for the test pile is recorded in a field book by the inspector or directly in the Piling module.

Bearing values are computed according to the applicable formula found in the Standard Specifications. 'Obs. Stroke' applies to single acting hammers and 'Feet of Drop' applies to gravity type hammers. The value for "M" in the piling formula is the combined weight of the pile, driving head and hammer anvil (lbs.) and represents the total weight of the 'driven' parts.

When computing the average penetration, before obtaining 50% of the design load, it is not necessary to count the total number of blows between each 5 feet of penetration, but rather count the number of blows required to penetrate the last foot of penetration.

When 50% of the design load is obtained, bearing must be computed for every foot of penetration even if the bearing drops below 50% of the design load. This is the distance below the bottom of the footing where 50% of the design load is first obtained and bearing readings begin. This distance is used to compute bearing for each foot for the test pile report. Use special attention to insure the accuracy of this entry.

The inspector records the following information in the field documentation for test piling:

1. The substructure unit and number i.e. pier or abutment number
2. Piling number
3. Date, start and stop time
4. The reading starting point
5. The number of piling and cutoff, if any, for each pile length
6. Penetration data including stroke, energy, blows, penetration in inches and the pile length number for that reading

Data recorded in the field inspector's log for test piling is entered into CARS. The bearing calculations are made and the test piling pay quantity is sent to the Quantity Manager when it must be checked and submitted. Only the plan length for test piling as entered on the Test Piling Maintenance page will be sent to the quantity book. Any test piling driven in excess of the plan length will be paid at the contract unit prices for piling. Document the excess quantity on a PQE.

Piling

A log of pile driving is completed for all abutment and pier piling. The project plans show details of piling locations, numbers for each substructure unit, pile type and design loads.

The inspector records the following information for each piling driven:

1. The substructure unit and piling number
2. Hammer stroke
3. Blows per minute
4. Energy in foot/lbs
5. Number of blows
6. Each pile length installed and any footage cut off of the pile length

7. Final Add On. When piling has been driven to the required penetration and bearing, there may not be sufficient length of piling to extend into the footing. A length of piling is welded on and shown as the final add on quantity. This length of piling is part of the pay length but is not used in the bearing calculations.

This data may be entered directly into CARS in the Piling Maintenance section. The average penetration and bearing will be calculated. The pay length of piling driven will also be calculated and sent to the quantity book.

Before entering any piling or test piling data, you will need to enter the structure and hammer data. From the Main Menu, click on the Piling/Test Piling link. A list of the types of piling and test piling for the project will be displayed. Below the list are buttons for Structure and Hammer.

Enter Pile/Test Pile Information in CARS

To enter structure information:

1. Click on the Structure button. The Structure Maintenance page is displayed.
2. Make sure the correct subproject is shown at the top of the page and click on the Add button. Enter the bridge number and station in the text boxes provided. If there is more than one structure, click on the Add button. Click on the Save button. This information will appear in the Structure dropdown list in the Piling and Test Piling pages.
3. To delete a structure in the list, click the check box in the Delete column by the structure information to be deleted and click on the Save button. The information is deleted and will no longer appear in the structure dropdown list in the Piling and Test Piling pages.

Make sure the correct subproject is shown when entering the structure information.

Enter Hammer Information in CARS

To enter hammer information:

1. Click on the Hammer button
2. Click on the Add button. The Hammer Maintenance page is displayed.
3. Enter information for the cap, cushion and hammer type using the choices provided in the dropdown boxes.
4. Enter the remaining hammer information in the text boxes shown and click on the Save button. This information will appear in the Hammer dropdown list in the Piling and Test Piling pages.

Enter Test Piling Information in CARS

For test piling:

1. Click on the Add link by the test piling spec and code.
2. Pick the structure location from the choices in the dropdown box.
3. Enter the pier or abutment number, the pile number, date and start and stop time in the text boxes.
4. Pick the hammer being used from the choices in the dropdown box.
5. Enter the pile weight, design load, plan length and the start point reading in the text boxes. A text box is also provided for remarks if there would be any special comments to make.
6. Enter the Pile Length information and Penetration Data. To add additional rows, type the number of readings in the text box and click on the Add Penetration Row button.

- When all the test pile information has been entered, click on the Save button or the Save and Run Report button.

Enter Piling Information in CARS

For piling reports:

- Click on the Add link by the piling spec and code.
- Pick the structure location from the choices in the dropdown box.
- Enter the pier or abutment number, the pile number and date in the text boxes.
- Pick the hammer being used from the choices in the dropdown box.
- Enter the piling weight, required penetration and required bearing.
- Enter the pile length added after bearing was reached, if any.
- Enter the hammer stroke, blows/minute, energy, number of blows and penetration in inches.
- Use Browse button to add attachments if applicable.
- Enter the pile lengths driven and any cutoff footage. If more than four length and cutoff entries are needed, click on the Add Pile Row button.
- Click on either the Save or Save and Add New button if there are more piling to enter for that part of the structure.

Clicking on the Save and Add New button will bring up the same information as the first piling entered except that the piling number and pile lengths text boxes will be blank. When the information for all piling for that report is entered, click on either the Save or Save and Run Report button. The Piling Record Selection Page will display each piling separately but will produce the report based on the date driven and the pier/abutment number. For example, if you have driven piles 1, 2 and 3 for abutment #1 and pile 1 for pier #2 on the same day, separate reports will be made for abutment #1 and pier #2.

Edit or Delete Pile Information:

- Click on the Maint link by the test piling or piling spec and code.
- Click on the bridge number by the date of test piling or piling report to edit.
- Enter corrected information in any of the text boxes.
- An entire row of penetration data can be deleted by clicking in the check box in the delete column for that row. In the piling report, only the last row of pile length can be deleted at one time.
- The entire test piling or piling report can be deleted by clicking on the Delete button on the Test Piling or Piling Maintenance page.

Payment for test piling and piling is usually made at the contract unit prices for lengths of piling installed. Sometimes, adjustments to the payments for piling are made for circumstances such as underruns/overruns or piling splices. Refer to Section 622.06 Basis of Payment of the Standard Specifications for details of these types of payments.

Contact Bridge Division to review pile reports in CARS as soon as possible.

Mix Bitumen Reports

The mix bitumen report is used to calculate the estimated pay quantity of oil for a day's hot bituminous paving and to establish the percentage of oil in the mix.

When paving begins, some bituminous material may already be stored in the tanks supplying oil to the hot mix plant. This quantity is measured and recorded for the first mix bitumen report on a project. On subsequent days of paving, the bitumen in storage at the beginning of the day's paving is usually the quantity recorded as left in storage from the previous day. Sometimes, there is a break in paving from a particular plant to work on other projects. In these cases, the oil tanks supplying the hot mix plant will have to be re-measured. When the hot mix is being supplied from a commercial operation, it may be necessary to measure the tanks at the beginning of each day of paving. Commercial operations supply mix to many customers so the oil tank quantities are measured for those hours when mix is supplied to your project.

Any oil delivered by transport and used in the day's paving is also recorded on the mix bitumen report. The manifests for each load of oil delivered are collected and become a part of the project records.

The oil tanks are measured again at the end of a day's paving to record and calculate the quantity of oil left in storage.

The bitumen in storage at the beginning and end of each report are calculated by correcting the volume for temperature, multiplying by the specific gravity and dividing by 2,000 to obtain the quantity in tons. The bitumen delivered is recorded in pounds and converted to tons. The amount of bitumen used for a day's paving is calculated by adding the bitumen in storage and bitumen delivered then subtracting the bitumen left in storage. If any bitumen was used for purposes other than paving such as tack or fog coat, the gallons used are converted to tons and are also subtracted. The result is then divided by the total tons produced from the plant for the day's paving to obtain the percent of oil in the mix. The oil quantity for mix produced but not used on the project (waste, private use, etc.) is multiplied by the oil percentage and those tons are subtracted from the quantity of bitumen for all mix produced. This result is the estimated pay quantity for the bitumen used on the project.

When this information is entered in the Mix Bitumen portion of CARS and saved, it will send the estimated pay quantity to the quantity book.

When paving is complete on the project, you will make an oil summary to check the quantity. An oil summary lists all bitumen delivered to the project from the manifests. Add the quantity for oil in storage at the beginning of the project. Oil quantities from non-project mix (waste, private use, etc.) along with any material left in storage when paving is complete is subtracted. The result of these computations is the total oil quantity for the project.

Enter Mix Bitumen Information in CARS To make a Mix Bitumen Report in CARS:

1. Make sure the Project and Subproject are correct.
2. Click on the Mix Bitumen link. The Mix Bitumen page is displayed.
3. Select the type of oil for the report by clicking on the Add link. Goes to the Mix Bitumen Maintenance page.
4. Enter the information for fields in the Mix Bitumen report:
 - a. Date, begin and end time.

- b. The change order dropdown box will have a default of 'None' if no change orders apply to the material hauled. If the material is affected by a change order, the change order number, date of the change order, quantity and unit price will be display in the change order dropdown box. This can be left in the dropdown or the 'None' option can be chosen.
 - c. Enter the haul sheet or pay quantity tonnage for that day's paving.
 - d. Add the specific gravity from the oil manifest.
 - e. Enter the waste amount in gallons for any oil used for purposes other than in the hot bituminous pavement.
 - f. Enter any waste tonnage. This includes plant waste, road waste, private use, tons of pavement going to another project or any other pavement quantities that were not placed on the project.
 - g. Enter any remarks. This can include information about plant shut downs during the day or the types and tonnages of waste.
 - h. Enter the bitumen in storage. The beginning and ending gallons and beginning and ending temperatures for each tank are entered on one line. If you would need to enter more tanks than the four lines provide for click on the Add Storage Row button. Also, the ending storage and temperature readings from the previous day's report will automatically be filled in. If there has been a break in the paving on the project, that quantity and temperature can be changed by clicking in the text box and typing the new numbers.
 - i. Enter the bitumen delivered. Enter the manifest number and the net weight in pounds for each load of oil delivered. A remarks line is also provided if needed. To add more lines for loads delivered, click on the Add Delivered Row.
 - j. Attach manifests from loads delivered using the browse button
5. Click on the Save or the Save and Run Report button.
 6. A PQE is created and must be checked and submitted on Quantity Manager.

Data entered in the mix bitumen report can be edited or the entire report can be deleted as long as the PQE has not been paid. After the oil quantity has been paid on a progressive estimate, the report can only be viewed and/or printed.

To edit or delete a mix bitumen report:

1. Click on the Mix Bitumen link. The page listing the types of material is displayed.
2. Click on the Maint link by the material used. The Mix Bitumen Record selection page is displayed where all reports for that item are listed in ascending date order.
3. Click on the date link for the mix bitumen report to edit or delete.
 - a. To edit the report, change any incorrect data and click on the Save or the Save and Run report button.
 - b. To delete the report, click on the delete button at the bottom of the page. A dialog box that confirms if the report should be deleted appears. If it should be deleted, click OK.

Concrete Paving

The concrete paving report is used to record and calculate concrete design and paving information. It also calculates the square yards paved and sends it to the quantity book.

Enter Concrete Paving Information in CARS

To make a concrete paving report in CARS:

1. Click on Concrete Paving link. The page listing the types of concrete pavement on the project is displayed.
2. Select the type of pavement by clicking on the Add link. The page to enter data for the paving report is displayed.
3. Enter the mix design data, any additional square yards paved and any remarks.
4. Enter the start and end time, start and end stations and any minutes of delay.
 - a. The linear distance will be computed automatically from the numbers entered in the start and end stations. Remember to enter the stations as a whole numbers without the plus, for example; 14+00 would be entered as 1400, 8+56.82 would be entered as 856.82. If there is an equation within the area paved, you will make two entries for the linear distance computations. Enter the start station for that day's paving and enter the back station for the end station. Make a second entry with the ahead station for the start stationing and then enter the end station for that day's paving.
 - b. If additional paving stations are required, click on the Add Blank Station Row button.
 - c. Use the Browse button to attach files as necessary.
5. Save the data by clicking on either the Save or Save and Run Report button.
 - a. Clicking on the Save button, saves your data. A report can be generated later.
 - b. Clicking on the Save and Run Report button, creates a PQE that must be checked and submitted in Quantity Manager.

The concrete paving report includes a text box where additional square yards paved can be added. This is for small areas placed without the paving machine but included in the plant quantities produced for that day's paving. These quantities are field measured and the square yards calculated. These measurements and calculations could be recorded in the remarks section if space allows. If not, record the measurements and calculations and attach them to the paving report.

A copy of the paving report should be given to the contractor.

View/Print Concrete Paving Report:

1. Click on the Concrete Paving link. The page listing the types of concrete pavement on the project is displayed.
2. Click on the Maint link by the type of concrete pavement. The Concrete Paving Record selection page is displayed where all reports for that item are listed in ascending date order.
3. Click on the Report link for the concrete paving report to be viewed and/or printed. The report is generated.

Data entered in the concrete paving report can be edited or the entire paving report can be deleted as long as it has not been paid. After the concrete quantity has been paid on a progressive estimate, the report can only be viewed and/or printed.

To edit or delete a concrete paving report:

1. Click on the Concrete Paving link. The page listing the types of concrete pavement is displayed.
2. Click on the Maint link by the type of concrete pavement. The Concrete Paving Record selection page is displayed where all reports for that item are listed in ascending date order.
3. Click on the date link for the concrete paving report to edit or delete.

- a. To edit the report, change any incorrect data and click on the Save button.
- b. To delete the report, click on the delete button at the bottom of the page. A dialog box appears to confirm if the report should be deleted. If it should be deleted, click OK.

Certification of Materials

For projects bid after May 2016, certifications of materials are received on [SFN 61040](#), Contractor Certificate of Compliance, and [SFN 61041](#), Manufacture Certificate of compliance. See attached examples below. These forms represent the complete material certification and no additional information is needed unless specified elsewhere in the contract documents (such as mill reports for Buy America materials). The forms are prepared by the contractor who must sign them, certifying that that materials he is providing meet the contract requirements.

Instructions for filling out the forms:

SFN 61040, Contractor Certificate of Compliance

- Spec/Code/Name/Description/Unit/Quantity
 - Corresponds to the bid item for the materials being certified.
- Material Certified
 - List the types of materials being certified.
- Factory Identification
 - List factory identification if applicable. If not applicable, place “N/A”.
- First Signature Block
 - This signature block is only required if the Prime Contractor desires its use.
- Second Signature Block
 - Must be filled out by the prime contractor.

SFN 61041, Manufacture Certificate of Compliance

- Spec/Code/Name/Description/Unit/Quantity
 - This information corresponds to the bid item for the materials being certified.
- Material Certified
 - List the types of materials being certified.
- Factory Identification
 - List factory identification if applicable. If not applicable, place “N/A”.
- Place of Manufacture
 - Place of manufacture of material.
- First Signature Block
 - Manufacture signature is required.
- Second Signature Block
 - Prime contractor signature is required.

CONTRACTOR CERTIFICATE OF COMPLIANCE EXAMPLE

CONTRACTOR CERTIFICATE OF COMPLIANCE

North Dakota Department of Transportation, Construction Services
SFN 61040 (3-2016)

PCN 11111	Project Number 111111111111	Prime Contractor DOT Construction
--------------	--------------------------------	--------------------------------------

Spec	Code	Name/Description	Material Certified	Factory Identification (lot, bin, heat number, etc.)	Unit	Quantity
762	115	Epoxy PVMT MK 4 IN Line	Paint	111111	LF	10000
			Beads	222222		
704	1067	Tubular Markers	Tubular Markers	N/A	EA	100
255	201	TRM Type 1	TRM	333333	SY	1000
			Staples	N/A		

* The signature section below is only applicable as determined by Contractor
I certify the above listed materials meet contract requirements, including "Buy America" if applicable.

*Manufacturer *Supplier *Subcontractor

*Representative Name		*Title		*Organization	
*Address			*City	*State	*ZIP Code
*Signature 			*Date		

I certify the above listed materials meet contract requirements, including "Buy America" if applicable.

Prime Contractor Representative Bryan Strasser	Title Contractor Superintendent
Signature Bryan Strasser 	Date 06/08/2016

Comments

MANUFACTURE CERTIFICATE OF COMPLIANCE EXAMPLE

MANUFACTURER CERTIFICATE OF COMPLIANCE

North Dakota Department of Transportation, Construction Services
SFN 61041 (3-2016)

PCN 11111	Project Number 234098
Prime Contractor DOT Construction	Manufacturer DOT Manufacturing

Spec	Code	Name/Description	Material Certified	Factory Identification (lot, bin, heat number, etc.)	Unit	Quantity	Place of Manufacture
604	9600	Prestressed Box Beam - 21 IN	Box Beam	11111	FT	100	Bismarck
			Wire	N/A			
			Strand	N/A			
			Reinf. Steel	22222			
714	615	Pipe Conc Reinf 24IN CL III	Pipe	33333	LF	200	Bismarck
			Geosynthetic Type R1	44444			

I certify the above listed materials meet contract requirements, including "Buy America" if applicable.

Manufacturer's Representative BOB	Title Plant Man		
Address 2020 street	City Bismarck	State ND	ZIP Code 58503
Signature Bryan Strasser			Date 06/06/2016

I certify the above listed materials meet contract requirements, including "Buy America" if applicable.

Prime Contractor Name Joe	Title Contractor
Signature Bryan Strasser	Date 05/30/2016

Comments

SAMPLE LETTER OF PRODUCTION COSTS

STATEMENT OF PRODUCTION COSTS

TO: North Dakota Department of Transportation
District Office
Grand Forks, ND

This is to certify that we have crushed and stockpiled, at the pit site located in the following location

NE 25-158-35

3,000 tons of Class 4 for use on Project No. F-6-111((801)182 in Walsh County. The material meets contract specifications and will meet contract specifications at the time of placement.

The following are our costs for producing this material:

Moving to Job Site	\$.22
Stripping.....	.25
Crushing.....	1.00
Stockpiling.....	.30
Supervision.....	<u>.13</u>
Total per Ton	\$1.90

Signed by

Title Estimator

DOCUMENTATION EXAMPLES

PQE as Source Document

708 - 1430 - FIBER ROLLS 12IN

Unit: LF QTY: 21,514.000 Price: 2.500

Pay Quantity Date: (mm/dd/yyyy)

Source Document:

Change Orders:

Contractor Approval: Yes No

Remarks:

File Comments:

Added By: DM Cars

New Attachments:

[Add More Files](#)

Approval Status: Not Checked
 District Finals: Not Completed
 Construction Finals: Not Completed

Locations:

Quantity	Location
<input type="text" value="27.000"/>	<input type="text" value="Approach Pipe 3010+23 Outlet"/>

[Add More Rows](#)

All required information including, location, date, and quantity are entered directly in CARS. SFN 10004, Pay Quantity Report, was not filled out and is not needed.

Source Document Attached



Attached Document is selected as the Source Document and the Contractor Haul Summary is attached. The quantity from the Summary is entered in the Quantity box. The Pay Quantity Date corresponds with the date on the Summary.

Excavation

Coal Encountered in the roadway at 3090+00 to 3094+00. 1666 CY excavated and wasted. 1666 CY of good material was excavated to replace the material. Total common excavation payment = 1666 (coal ex)+1666 (replacement) = 3332 CY (pay total)

Engineer Juan Jho Date 6/4/15

Contractor Michael Schwartz Date 6/4/15

```

*****
**
** TIN to TIN Volume Report -- Thu Jun 04 08:35:07 2015
**
** From TIN <CoalOR.tin> to TIN <CoalFN.tin>
**
** Prismatic Volume
**
**
*****
**
** Total Cut = 1675.991 Cubic Yards
** Total Fill = 9.957 Cubic Yards
** Area = 3854.894 Sq Yards
** Balance = 1666.034 Cubic Yards
**
*****

```

This summary sheet was prepared and attached to the PQE to document excavation. This style of summary sheet could be used to document any item paid by the ton and measured with a survey. The signatures are not required for this type of documentation.

Mulching

Mulching 708 5500

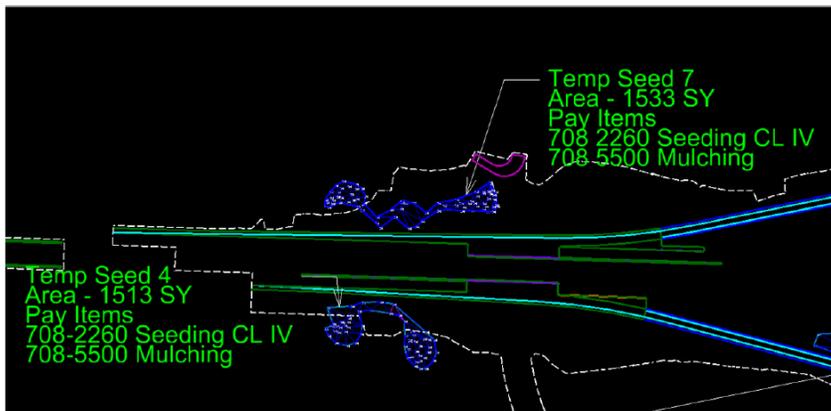
Temp seed 7 – 1533 SY

Temp seed 4 – 1513 SY

Total - 3046 SY = 0.63 acres

This area was mulched on 5/25/15 by Martin Construction. It had previously been mulched, but had then been disturbed so a new layer of mulch was requested by the Project Engineer.

Prepared by: Bryan Strasser 6/1/15



This documentation was prepared and attached to a PQE. This same format may be used for any item measured by area.

Flagging

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
FLAGGING AND PILOT CAR SUMMARY

PROJECT: SOJA 5094 (100) 056 CONTRACTOR: NIC / MARTIN CONST.
INSPECTOR: Jay Jutz WEEK ENDING: JULY 20 TO 25 - 2015

NAME: <u>MARSHA JONES</u>			
WORK ITEM: <u>FLAGGER</u>			
DATE	DAY	HRS WORKED	TOTAL
<u>7-20-2015</u>	<u>MONDAY</u>	<u>7:00AM-7:30PM</u>	<u>12.5</u>
---	TUESDAY	---	---
---	WEDNESDAY	---	---
---	THURSDAY	---	---
---	FRIDAY	---	---
---	SATURDAY	---	---
WEEKLY TOTAL			<u>12.5</u>

NAME: <u>TAMMY BARTLETT</u>			
WORK ITEM: <u>FLAGGER</u>			
DATE	DAY	HRS WORKED	TOTAL
<u>7-20-2015</u>	<u>MONDAY</u>	<u>7:00AM-7:30PM</u>	<u>12.5</u>
---	TUESDAY	---	---
---	WEDNESDAY	---	---
---	THURSDAY	---	---
---	FRIDAY	---	---
---	SATURDAY	---	---
WEEKLY TOTAL			<u>12.5</u>

NAME: <u>ANDREA PARKER</u>			
WORK ITEM			
DATE	DAY	HRS WORKED	TOTAL
<u>7-20-2015</u>	<u>MONDAY</u>	<u>7:00AM-7:30PM</u>	<u>12.5</u>
---	TUESDAY	---	---
---	WEDNESDAY	---	---
---	THURSDAY	---	---
---	FRIDAY	---	---
---	SATURDAY	---	---
WEEKLY TOTAL			<u>12.5</u>

NAME			
WORK ITEM			
DATE	DAY	HRS WORKED	TOTAL
---	SUNDAY	---	---
---	MONDAY	---	---
---	TUESDAY	---	---
---	WEDNESDAY	---	---
---	THURSDAY	---	---
---	FRIDAY	---	---
---	SATURDAY	---	---
WEEKLY TOTAL			---

NAME			
WORK ITEM			
DATE	DAY	HRS WORKED	TOTAL
---	SUNDAY	---	---
---	MONDAY	---	---
---	TUESDAY	---	---
---	WEDNESDAY	---	---
---	THURSDAY	---	---
---	FRIDAY	---	---
---	SATURDAY	---	---
WEEKLY TOTAL			---

FLAGGING PAY TOTAL FOR WEEK: 37.5 PILOT CAR PAY TOTAL FOR WEEK: _____
SPEC 704 CODE 0100 SPEC 704 CODE 1185

CONTRACTOR: Michael Sehnicht DATE: _____

An iPad was used to take this picture of a flagger summary sheet and attach it to the PQE in the field.