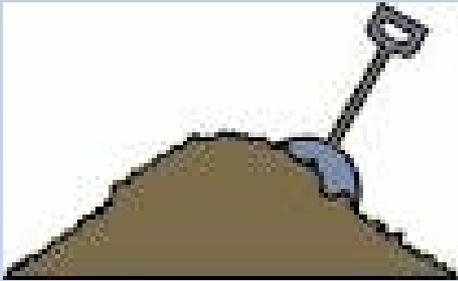


# Materials & Tests Unit

## Project Certification Webinar 2019



# Quality Systems

The **Quality Systems Unit** within the Materials and Tests Unit is responsible for three main areas; (1) development and monitoring of the Quality Control/Quality Assurance programs, (2) providing Technical Support to NCDOT and Industry personnel, and (3) the Project Material Certification of all FHWA and NCDOT projects.

# Quality Systems Sub-Group responsible for Project Certification

- Quality Systems Engineer
  - Sam Frederick – [sjfrederick@ncdot.gov](mailto:sjfrederick@ncdot.gov) (919) 814-2220
- Compliance & Assurance Engineer
  - Pam Carriker – [pcarriker@ncdot.gov](mailto:pcarriker@ncdot.gov) (704) 798-4332
- Records Specialist
  - Margaret Lloyd – [mlloyd@ncdot.gov](mailto:mlloyd@ncdot.gov) (919) 814-2220
- Records Specialist
  - Daniel Walker – [dswalker2@ncdot.gov](mailto:dswalker2@ncdot.gov) (704) 734-7263
- Records Specialist (CEI)
  - Phil Stanberry – [plstanberry@ncdot.gov](mailto:plstanberry@ncdot.gov) (919) 814-2220

# Why your project needs to be certified?



- Federal Fund Reimbursements
- State Fund Management
- Quality Construction/Quality Product
- Efficiency

# Which Projects Are Certified?

- Federal Funded Projects
- State Funded Projects
- Design Build Projects
- Local Government Agencies Projects
- Purchase Order Projects
- Rail/Bike & Ped/Division

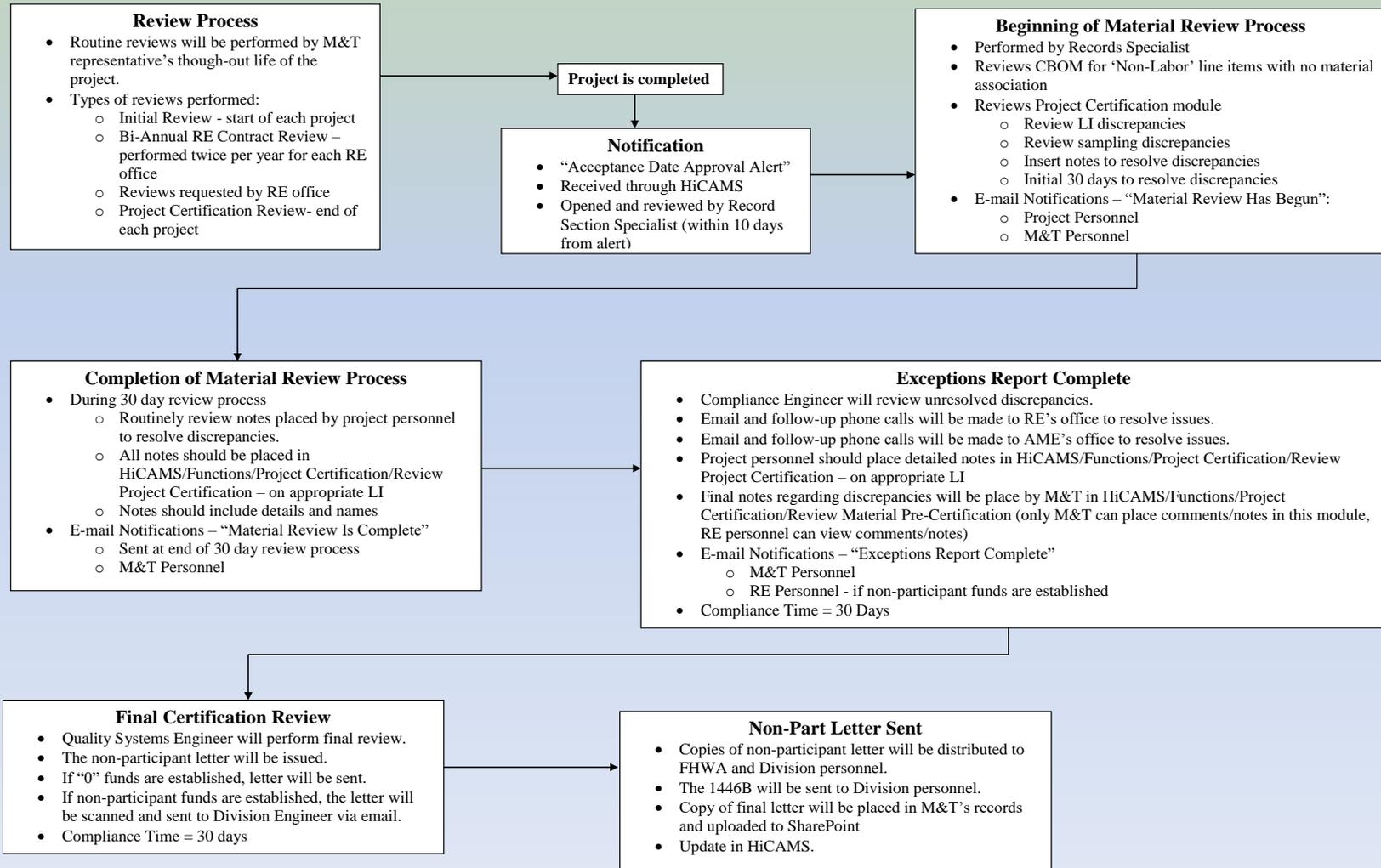
# Methods By Which Projects Are Certified?

- Principle Method
  - HiCAMS & SharePoint
    - Materials Pre-Certification
    - Asphalt Pre-Certification
    - Soils Pre-Certification

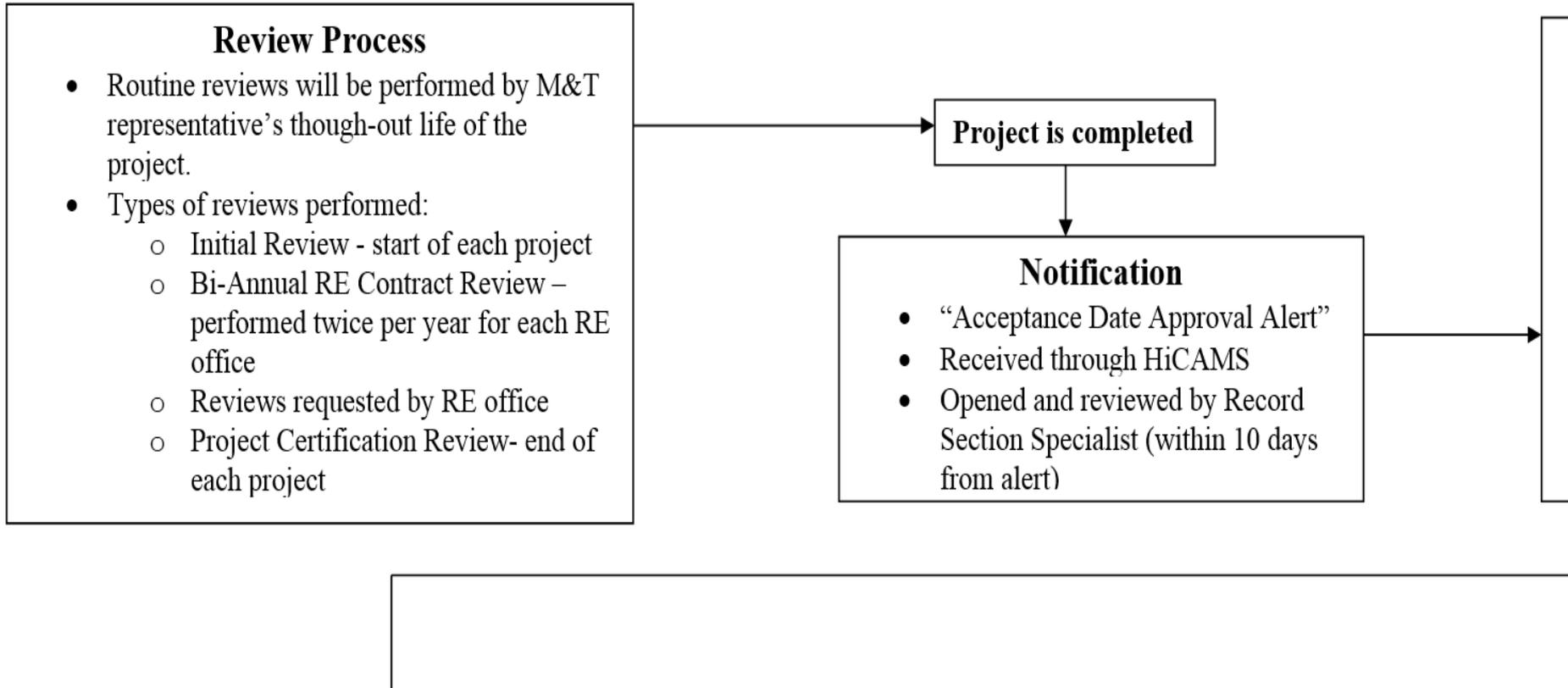
# Methods By Which Projects Are Certified?

- Alternate Methods
  - Review Of Hard Copy Records
  - Alternate Tracking Systems (Design Build)
  - Site Visits
  - Destructive Testing/Sampling
  - Non-Destructive Testing/Sampling

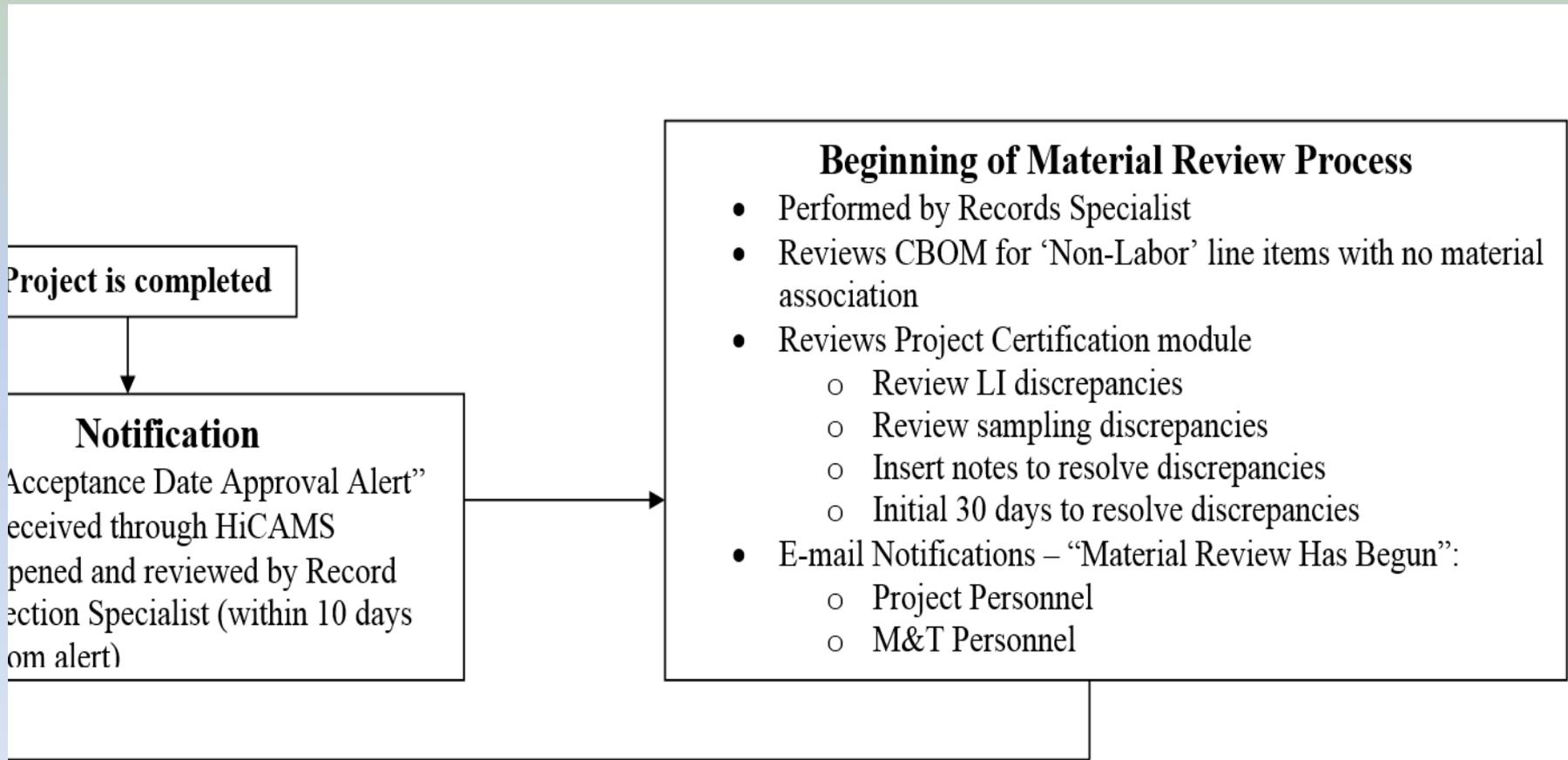
# Material Certification Process Flow Chart



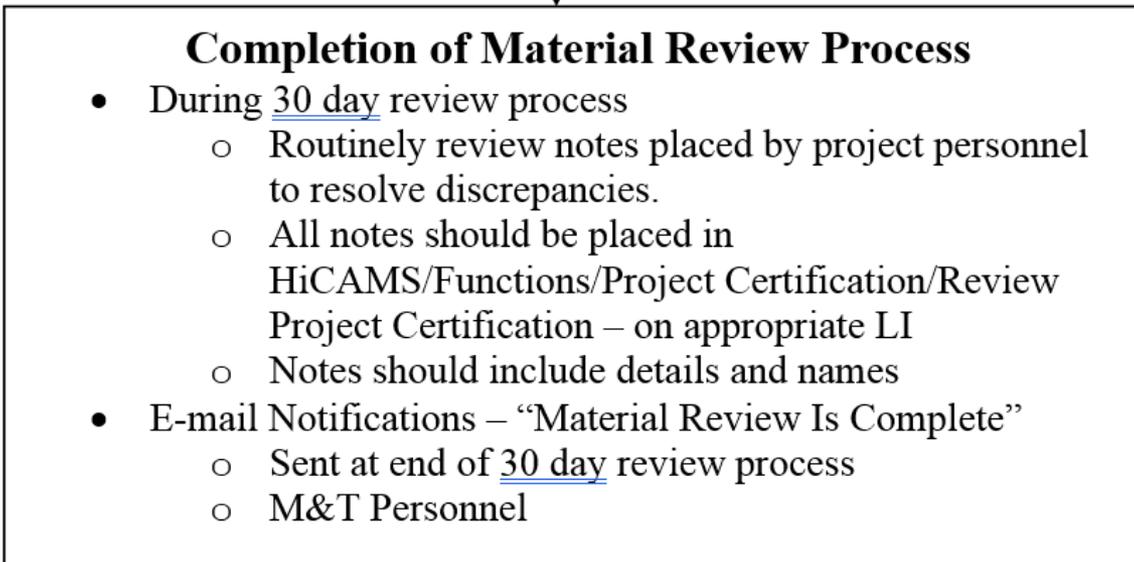
# Material Certification Process Flow Chart



# Material Certification Process Flow Chart



# Material Review Process Flow Chart



# Material Review Process Flow Chart

## Exceptions Report Complete

- Compliance Engineer will review unresolved discrepancies.
- Email and follow-up phone calls will be made to RE's office to resolve issues.
- Email and follow-up phone calls will be made to AME's office to resolve issues.
- Project personnel should place detailed notes in HiCAMS/Functions/Project Certification/Review Project Certification – on appropriate LI
- Final notes regarding discrepancies will be placed by M&T in HiCAMS/Functions/Project Certification/Review Material Pre-Certification (only M&T can place comments/notes in this module, RE personnel can view comments/notes)
- E-mail Notifications – “Exceptions Report Complete”
  - M&T Personnel
  - RE Personnel - if non-participant funds are established
- Compliance Time = 30 Days

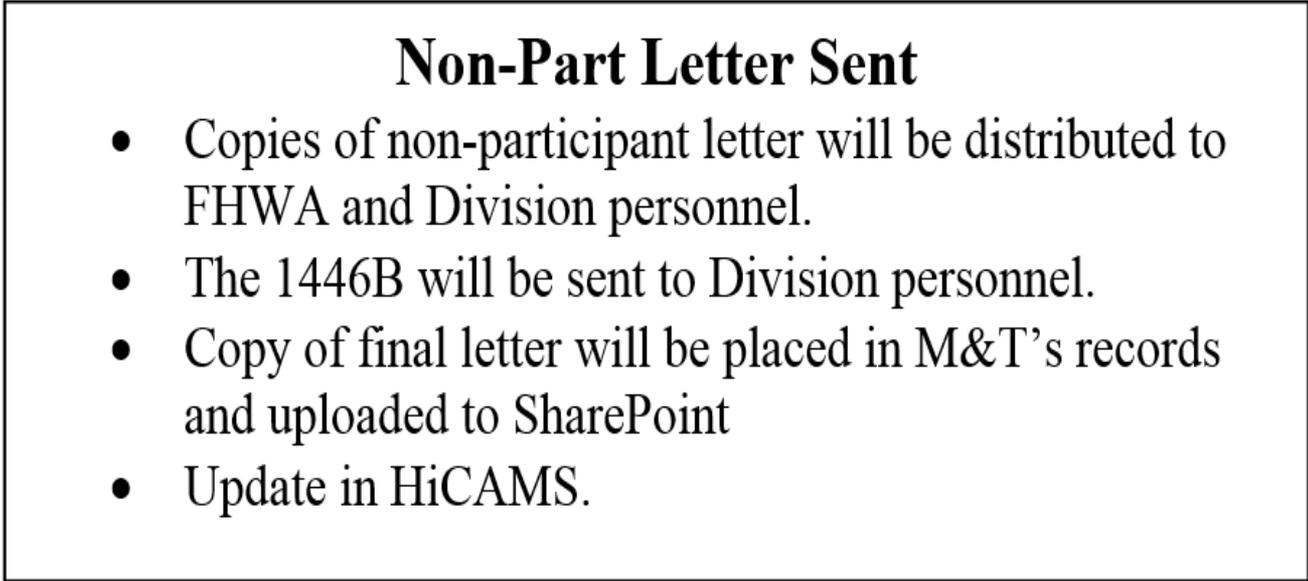
# Material Certification Process Flow Chart



## **Final Certification Review**

- Quality Systems Engineer will perform final review.
- The non-participant letter will be issued.
- If “0” funds are established, letter will be sent.
- If non-participant funds are established, the letter will be scanned and sent to Division Engineer via email.
- Compliance Time = 30 days

# Material Certification Process Flow Chart



## **Non-Part Letter Sent**

- Copies of non-participant letter will be distributed to FHWA and Division personnel.
- The 1446B will be sent to Division personnel.
- Copy of final letter will be placed in M&T's records and uploaded to SharePoint
- Update in HiCAMS.

# Material Certification Process

- The certification process will review contract documents, estimates and payments to contractors, materials inspections and test reports to ensure that accurate and sufficient documentation is available to verify the acceptable testing and inspection of materials and products used to build the highway system.
- Determines if there are shortages of acceptable test reports or Material Received documentation and, if so, contacts the appropriate Resident Engineer so that the shortage may be addressed.
- Reviews pay reductions assessed against the contractor for accuracy.

# Material Certification Process

- If unresolved discrepancies are discovered, determines a pay reduction (non-participating monies) based on established criteria against the contractor and determines the amount of the pay reduction.
- Non-Participating funds are monies FHWA will not participate in reimbursing to NCDOT. As good stewards to the citizens of North Carolina, non-participating funds may be determined for State and Locally administered projects, as well.

# Material Certification Process

- Material Certification should be monitored throughout the life of the project.
- Certification process officially starts on the date the “Acceptance Date” is approved.
- Records Specialist receives notification of approval of “Acceptance Date” and has 30 days to try to resolve discrepancies.

# Material Certification Process

- Records Specialist will generate Contract Bill of Materials (CBOM) discrepancy report and Materials discrepancy report. Reports will be attached to notification email sent to Resident Engineer, Asst. Resident Engineer, Section Materials Specialist and Area Materials Engineer indicating the material process has begun.
- Records Specialist will enter: “Material Review in Process” under M&T Status in Contract Details

# Material Certification Process

- In order to capture all Material Discrepancies the Contract Bill of Materials will need to be reviewed and updated for any missing materials.
- These are typically line items that have a check mark in the 'Check for Materials' box and the contractor is allowed to choose the material used, as in '15" Side Drain'.

# To Generate a CBOM Report

- HiCAMs
  - Inquires
  - Standard Reports
  - Scroll to 'Contract BOM Report'
  - Enter or Select Contract Number
  - Report can be customized depending on the information needed

# To Generate a CBOM Report - All Line Items

- If no boxes are checked, all line items will be displayed. This report can be helpful at the beginning of a project for the field inspectors.
- Information included:
  - LI & Material unit of measure
  - Labor Only indicator
  - Types of certs required
  - Conversion Factors
  - How material is received

# CBOM Report – All line items

Inquires – Standard Report

Select A Report

Report Name	
Assessment Review Report	
Concrete Cylinder Test Results	
Concrete Pavement Report	
Contract BOM Report	← Scroll
Contract Claims	
Contract Level of Service Report	
Contract Line Item Quantity Report	
Contract Overrun/Underrun Computation Report	
Contract Progress Report	
Contract Time Extensions Report	
Contract Tracking Approval Report	
DBE Payment Report	
Density Asphalt % QA/QC	
Density Asphalt QA Summary	
Density Asphalt QC Lots	
Density Asphalt QC Lots Cumulative Averages	
Density Asphalt QC Summary	
Density Other Summary	
Documentation for Negotiated Prices	

**Contract:**  

**Line Item:**  **Thru:**

**Contract Location:** BRIDGE NO. 510 OVER CEDAR FORK CREEK ON SR 3120 (CEDAR CREEK)

**How Received:**

**Criticality:**

**Certification Type:**

Show Only Non-Labor Line Items with no materials

Show Only Incidental Materials Line Items

Enter Contract or Select

No boxes checked

Click Generate

# Contract Bill of Materials Report



## North Carolina Department of Transportation NCDOT Contract Bill of Materials Report

**Contract Number:** DH00222

**Contract Location:** BRIDGE NO. 510 OVER CEDAR FORK CREEK ON SR 3120 (CEDAR CREEK)

**Line Item:** (All)      **Criticality:** (All)      **Labor Only:** (All)      **Incidental Materials:** (All)      **How Rec'd:** (All)      **Cert Type:** (All)

Line Item No.	Cont Adj	Work Item	Line Item Description	Line Item UOM	Line Item Quantity	Criticality	Labor Only	Material Description	Req'd Cert Types	Mstr Conv Factor Unknown	Conv Factor	Sub. Group	Mtl Qty	Mtl UOM	How Received	Inc Matl
1			MOBILIZATION	LS	1.000		Y				0.000		0.000			
2			SUPP CLEARING & GRUBBING	ACR	1.000		Y				0.000		0.000			
3			GRADING	LS	1.000	Critical	Y	Field Density - Subgrade - Unstabilized		N	1.000		1.000	SY	Not Received	N
4			TEMPORARY SHORING	SF	4,800.000	Critical	N	Shotcrete		Y	0.002		9.600	CY	Material Receipt	N
						Non-Critical	N	Grout Cylinders		Y	0.001		4.800	EA	Material Receipt	N
						Non-Critical	N	Grout	3	Y	0.005		24.000	CY	Material Receipt	N
						Non-Critical	N	Select Material, Class VI		Y	0.010		48.000	TON	Ticket	N
						Critical	N	Engineering Fabric, Type V (Geotextile Reinforcement)	1, 2, 4	Y	0.100		480.000	SY	Material Receipt	N
						Non-Critical	N	Soil Nails	1, BA	Y	0.100		480.000	LF	Material Receipt	N
						Critical	N	Borrow Excavation		Y	0.025		120.000	CY	Not Received	N
5			FND CONDIR MATL MINOR STRS	TON	10.000	Critical	N	Borrow Excavation		Y	0.000	1	0.000	CY	Not Received	N
						Non-Critical	N	Select Material, Class II, Type 1		N	1.000	1	10.000	TON	Ticket	N
						Non-Critical	N	Select Material, Class III, Type 1		N	1.000	1	10.000	TON	Ticket	N
						Non-Critical	N	Select Material, Class IV		N	1.000	1	10.000	TON	Ticket	N

# CBOM Report – Non Labor Line items

- Inquiries – Standard Report – Contract BOM Report

- Enter Contract Number and check box labeled:

- “Show only Non-Labor Items with no materials”

- Generate

- Compare line items to estimate and/or pay record

- Add material if payment has been made

**NOTE: Labor Only indicators are transferred from Master Bill of Materials and are being updated on 2018 MBOM. Options for adding notes in HiCAMs are being pursued.**

# Inquiries – Standard Report

Select A Report

## Report Name

- Assessment Review Report
- Concrete Cylinder Test Results
- Concrete Pavement Report
- Contract BOM Report
- Contract Claims
- Contract Level of Service Report
- Contract Line Item Quantity Report
- Contract Overrun/Underrun Computation Report
- Contract Progress Report
- Contract Time Extensions Report
- Contract Tracking Approval Report
- DBE Payment Report
- Density Asphalt % QA/QC
- Density Asphalt QA Summary
- Density Asphalt QC Lots
- Density Asphalt QC Lots Cumulative Averages
- Density Asphalt QC Summary
- Density Other Summary
- Documentation for Negotiated Prices
- Field Inspection Reports
- FIR Notice of Rejection

Scroll

Contract: DH00222

Enter Contract or select

Line Item: (All)

Thru: (All)

Contract Location: BRIDGE NO. 510 OVER CEDAR FORK CREEK ON SR 3120 (CEDAR CREEK)

How Received: (All)

Criticality: (All)

Certification Type: (All)

- Show Only Non-Labor Line Items with no materials
- Show Only Incidental Materials Line Items

Check Box for list of possible CBOM Discrepancies

Click Generate

Generate

Reset

# CBOM Report – ‘Show only Non-Labor Line items with no material’



## North Carolina Department of Transportation NCDOT Contract Bill of Materials Report

**Contract Number:** DH00222

**Contract Location:** BRIDGE NO. 510 OVER CEDAR FORK CREEK ON SR 3120 (CEDAR CREEK)

**Line Item:** (All)      **Criticality:** (All)      **Labor Only:** No      **Incidental Materials:** (All)      **How Rec'd:** (All)      **Cert Type:** (All)

Line Item No.	Cont Adj	Work Item	Line Item Description	Line Item UOM	Line Item Quantity	Criticality	Labor Only	Material Description	Req'd Cert Types	Mstr Conv Factor Unknown	Conv Factor	Sub. Group	Mtl Qty	Mtl UOM	How Received	Inc Matl
7			*** SIDE DRAIN PIPE [(15")]	LF	60.000		N				0.000		0.000			
36			SKINNY DRUM	EA	30.000		N				0.000		0.000			
47			TEMPORARY SLOPE DRAINS	LF	200.000		N				0.000		0.000			
48			SAFETY FENCE	LF	200.000		N				0.000		0.000			
53			*** TEMPORARY PIPE [(30")]	LF	25.000		N				0.000		0.000			
68			CONCRETE WASHOUT STRUCTURE	EA	2.000		N				0.000		0.000			
74	SA1		GR END TYPE TL-2	EA	4.000		N				0.000		0.000			

**Required Cert Type(s) Legend:**

- 1 = Certified Mill Test Report
- 2 = Typical Certified Mill Test Report
- 3 = Manufacturer's Certification
- 4 = Certified Test Reports
- 5 = Typical Certified Test Reports
- 6 = Supplier's Certification
- 7 = Contractor's Certification
- 8 = Other

# CBOM Report – Non Labor

- Report can be printed or saved as a pdf for including notes or comments
- Review line items with Estimates and pay record. (Request has been made to HiCAM's team to include this information)
- Considered a CBOM discrepancy if payment has been made to the line item.
- Associate applicable material if payment has been made to line item.

# Review of Pay Records indicates payment has been made to LI 48, LI 68 & LI 74 SA1



## North Carolina Department of Transportation NCDOT Contract Bill of Materials Report

**Contract Number:** DH00222

**Contract Location:** BRIDGE NO. 510 OVER CEDAR FORK CREEK ON SR 3120 (CEDAR CREEK)

**Line Item:** (All)      **Criticality:** (All)      **Labor Only:** No      **Incidental Materials:** (All)      **How Rec'd:** (All)      **Cert Type:** (All)

Line Item No.	Cont Adj	Work Item	Line Item Description	Line Item UOM	Line Item Quantity	Criticality	Labor Only	Material Description	Req'd Cert Types	Mstr Conv Factor Unknown	Conv Factor	Sub. Group	Mtl Qty	Mtl UOM	How Received	Inc Matl
7			*** SIDE DRAIN PIPE [(15")]	LF	60.000		N				0.000		0.000			
36			SKINNY DRUM	EA	30.000		N				0.000		0.000			
47			TEMPORARY SLOPE DRAINS	LF	200.000		N				0.000		0.000			
48			SAFETY FENCE	LF	200.000		N	* add material			0.000		0.000			
53			*** TEMPORARY PIPE [(30")]	LF	25.000		N				0.000		0.000			
68			CONCRETE WASHOUT STRUCTURE	EA	2.000		N	* add material or indicate Labor only			0.000		0.000			
74	SA1		GR END TYPE TL-2	EA	4.000		N	* add material			0.000		0.000			

**Required Cert Type(s) Legend:**

- 1 = Certified Mill Test Report
- 2 = Typical Certified Mill Test Report
- 3 = Manufacturer's Certification
- 4 = Certified Test Reports
- 5 = Typical Certified Test Reports
- 6 = Supplier's Certification
- 7 = Contractor's Certification
- 8 = Other

Notes added to pdf

Notify Records Specialist if Labor Only

# Adding Material to CBOM

- A review of the pay records indicates materials need to be added to LI-48 and LI 74 SA1
- Functions – Contract Maintenance – Review Contract BOM – Enter contract number
  - Scroll down to line item and highlight
  - Click ‘Insert’ button
  - Enter Material
  - Enter conversion factor

# Adding Material to CBOM

- If you are uncertain of the 'Material Type Group' or the 'Material Type', use wild cards in the 'Material' block to narrow the list of materials.
- Example:
  - Enter '\*safety' for LI – 48 SAFETY FENCE
  - Enter '\* TL-2' for LI 74 S1 – GR END TYPE TL-2

# Adding material to LI 48

Functions – Contract Maintenance – Review Contract BOM – Enter or Select Contract Number

Step 2 – Click Insert button

Review Contract BOM (DH00222)

Contract: DH00222 Contractor: DANE CONSTRUCTION INC Status: Accepted  
Description (nickname): CEDAR CREEK CULVERT REPLACEMENT Letting Date: 01/24/2017

Line Item	Contract Adj	Work Item	Description	Quantity	Unit of Measure	Check for Materials	Labor Only
40			TEMPORARY SILT FENCE	1,010.000	LF	<input type="checkbox"/>	<input type="checkbox"/>
41			EROS CONTRL STONE CLA	100.000	TON	<input type="checkbox"/>	<input type="checkbox"/>
42			EROS CONTRL STONE CL B	310.000	TON	<input type="checkbox"/>	<input type="checkbox"/>
43			SEDIMENT CONTROL STONE	165.000	TON	<input type="checkbox"/>	<input type="checkbox"/>
44			TEMPORARY MULCHING	.500	ACR	<input type="checkbox"/>	<input checked="" type="checkbox"/>
45			SEED FOR TEMP SEEDING	100.000	LB	<input type="checkbox"/>	<input type="checkbox"/>
46			FERT FOR TEMP SEEDING	.500	TON	<input type="checkbox"/>	<input type="checkbox"/>
47			TEMPORARY SLOPE DRAINS	200.000	LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>
48			SAFETY FENCE	200.000	LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>
49			SILT EXCAVATION	290.000	CY	<input type="checkbox"/>	<input checked="" type="checkbox"/>
50			MATTING FOR EROS CONTROL	7,415.000	SY	<input type="checkbox"/>	<input type="checkbox"/>

General MSG History

Row	Material	Master Conv Unknown	Incidental Material	Conversion Factor	Substitution Group	Quantity	Unit of Measure
-----	----------	---------------------	---------------------	-------------------	--------------------	----------	-----------------

Step 1 – Scroll to Line Item and highlight

# Adding Material to LI 48

Material Selection

Filter:  Material Type  Contract

Material Type Group: (All)

Material Type: (All)

Material: \*safety  

Unit of Measure: (All)

Metric/English: English

From Date: 01/24/2017 To: 01/24/2017

Retrieve

Reset

Search:  From [Material] (sorted column)

Material	UOM	Group	Material Type	Version	Metric/English	MSG Status	From Date	To Date	Default Alt ID
Safety Fencing	Linear Feet	Fencing Mater	Fencing Fabric/Wire	7.03	English	Current	01/01/1999	12/31/2075	
Temporary Safety Fence	Linear Feet	Miscellaneous	Temporary Materials	2.01	English	Expired	01/01/1999	12/31/2075	

1 of 2 Material Types

OK Cancel

Enter \*safety

Highlight material and click OK

# Enter Conversion Factor for LI 48

Review Contract BOM (DH00222)

Contract:



Contractor: DANE CONSTRUCTION INC

Status: Accepted

Description (nickname): CEDAR CREEK CULVERT REPLACEMENT

Letting Date: 01/24/2017

Line Item	Contract Adj	Work Item	Description	Quantity	Unit of Measure	Check for Materials	Labor Only
40			TEMPORARY SILT FENCE	1,010.000	LF	<input type="checkbox"/>	<input type="checkbox"/>
41			EROS CONTRL STONE CLA	100.000	TON	<input type="checkbox"/>	<input type="checkbox"/>
42			EROS CONTRL STONE CL B	310.000	TON	<input type="checkbox"/>	<input type="checkbox"/>
43			SEDIMENT CONTROL STONE	165.000	TON	<input type="checkbox"/>	<input type="checkbox"/>
44			TEMPORARY MULCHING	.500	ACR	<input type="checkbox"/>	<input checked="" type="checkbox"/>
45			SEED FOR TEMP SEEDING	100.000	LB	<input type="checkbox"/>	<input type="checkbox"/>
46			FERT FOR TEMP SEEDING	.500	TON	<input type="checkbox"/>	<input type="checkbox"/>
47			TEMPORARY SLOPE DRAINS	200.000	LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>
48			SAFETY FENCE	200.000	LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>
49			SILT EXCAVATION	290.000	CY	<input type="checkbox"/>	<input checked="" type="checkbox"/>
50			MATTING FOR EROS CONTROL	7,415.000	SY	<input type="checkbox"/>	<input type="checkbox"/>

General MSG History

Row	Material	Master Conv Unknown	Incidental Material	Conversion Factor	Substitution Group	Quantity	Unit of Measure
1	Safety Fencing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.000			LF

Enter '1' if UoM is same for LI and Material



# Adding Material to LI 74 SA1

Step 2 - Click Insert button

HiCAMS - [hicamsprod]

File Edit Functions Inquiries References Admin Tools Window Help

Review Contract BOM (DH00222)

Contract: DH00222 Contractor: DANE CONSTRUCTION INC Status: Accepted  
Description (nickname): CEDAR CREEK CULVERT REPLACEMENT Letting Date: 01/24/2017 Verify

Line Item	Contract Adj	Work Item	Description	Quantity	Unit of Measure	Check for Materials	Labor Only
66			SPECIALIZED HAND MOWING	10.000	MHR	<input type="checkbox"/>	<input checked="" type="checkbox"/>
67			RESPONSE FOR EROS CONTROL	13.000	EA	<input type="checkbox"/>	<input checked="" type="checkbox"/>
68			CONCRETE WASHOUT STRUCTURE	2.000	EA	<input checked="" type="checkbox"/>	<input type="checkbox"/>
69			REMV EXIST STR ***** [(15+11.00-L-)]	1.000	LS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
70			CULV EXCAV @ ***** [(15+11.00-L-)]	1.000	LS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
71			FND CONDIT MAT, BOX CULV	198.000	TON	<input type="checkbox"/>	<input type="checkbox"/>
72			CLASS A CONCRETE (CULV)	428.800	CY	<input type="checkbox"/>	<input type="checkbox"/>
73			REINF STEEL (CULVERT)	46,600.000	LB	<input type="checkbox"/>	<input type="checkbox"/>
74 SA1			GR END TYPE TL-2	4.000	EA	<input checked="" type="checkbox"/>	<input type="checkbox"/>
75 SA1			STL BM GUARDRAIL	350.000	LF	<input type="checkbox"/>	<input type="checkbox"/>
76 SA1			ADDIT GUARDRAIL POSTS	5.000	EA	<input type="checkbox"/>	<input type="checkbox"/>

General MSG History

Row	Material	Master Conv Unknown	Incidental Material	Conversion Factor	Substitution Group	Quantity	Unit of Measure
-----	----------	---------------------	---------------------	-------------------	--------------------	----------	-----------------

Ready

Step 1 - Scroll to line item and highlight

# Adding Material to LI 74 SA1

Material Selection

Filter:  Material Type  Contract

Material Type Group: (All)

Material Type: (All)

Material: \*TL-2 

Unit of Measure: (All)

Metric/English: English

From Date: 01/24/2017 To: 01/24/2017

Retrieve

Reset

Search:  From [Material] (sorted column)

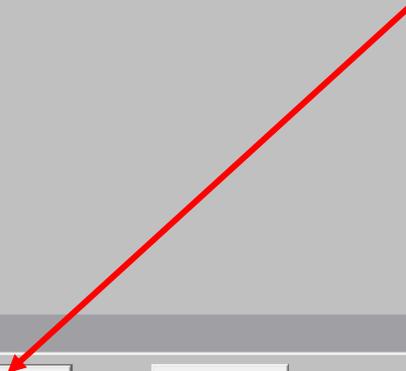
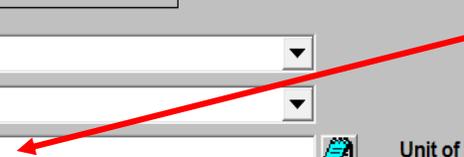
Material	UOM	Group	Material Type	Version	Metric/English	MSG Status	From Date	To Date	Default Alt ID
Guardrail Anchor Units, Type MASH TL-2	Each	Guardrail	Guardrail Anchor Unit	3.02	Both	Current	01/01/1999	12/31/2075	

1 of 1 Material Types

OK Cancel

Enter \*TL-2

Highlight material and click OK



# Enter Conversion Factor for LI 74 SA1

Review Contract BOM (DH00222)

Contract: DH00222



Contractor: DANE CONSTRUCTION INC

Status: Accepted

Description (nickname): CEDAR CREEK CULVERT REPLACEMENT

Letting Date: 01/24/2017

Line Item	Contract Adj	Work Item	Description	Quantity	Unit of Measure	Check for Materials	Labor Only
66			SPECIALIZED HAND MOWING	10.000	MHR	<input type="checkbox"/>	<input checked="" type="checkbox"/>
67			RESPONSE FOR EROS CONTROL	13.000	EA	<input type="checkbox"/>	<input checked="" type="checkbox"/>
68			CONCRETE WASHOUT STRUCTURE	2.000	EA	<input checked="" type="checkbox"/>	<input type="checkbox"/>
69			REMV EXIST STR ***** [(15+11.00-L-)]	1.000	LS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
70			CULV EXCAV @ ***** [(15+11.00-L-)]	1.000	LS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
71			FND CONDIT MAT, BOX CULV	198.000	TON	<input type="checkbox"/>	<input type="checkbox"/>
72			CLASS A CONCRETE (CULV)	428.800	CY	<input type="checkbox"/>	<input type="checkbox"/>
73			REINF STEEL (CULVERT)	46,600.000	LB	<input type="checkbox"/>	<input type="checkbox"/>
74 SA1			GR END TYPE TL-2	4.000	EA	<input checked="" type="checkbox"/>	<input type="checkbox"/>
75 SA1			STL BM GUARDRAIL	350.000	LF	<input type="checkbox"/>	<input type="checkbox"/>
76 SA1			ADDIT GUARDRAIL POSTS	5.000	EA	<input type="checkbox"/>	<input type="checkbox"/>

General MSG History

Row	Material	Master Conv Unknown	Incidental Material	Conversion Factor	Substitution Group	Quantity	Unit of Measure
1	Guardrail Anchor Units, Type MASH TL-2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.000			EA

Enter '1' if UoM is same for LI and Material



# Adding material to CBOM

- Enter conversion factor for each material
- In both examples the conversion factor will be '1' because the material unit of measure and the line item unit of measure are the same.
- Repeat the process if multiple materials need to be added to the same line item.
- Don't forget to Save

# Conversion Factors

- A public query is available to assist with conversion factors
- Inquires – Query Tools – Master Bill of Materials
- File – Open – Master Bill of Materials Conversion

# Conversion Factor Query

Inquires - Query Tools - Master Bill of Materials- File - Open

The screenshot shows the HICAMS software interface. The main window is titled "Query Selection - Master Bill of Materials [ <New> ]". The interface is divided into several sections:

- Columns:** A list of columns available for selection, including "BOM Conversion Factor", "Conversion Factor Unknown", "Criticality", "Expiration Date", "Incidental Material", "Material Description", "Material Type", "Material Unit of Measure", "Metric/English", "Pay Item", "Pay Item Effective Date", "Pay Item Expiration Date", "Pay Item Labor Only", "Pay Item Long Description", "Pay Item Section Number", "Pay Item Spec Year", and "Pay Item Unit of Measure". The "Total of 18 Column(s)" is displayed at the bottom of this list.
- Display Columns:** A section where selected columns are displayed. Currently, "Metric/English", "Pay Item", and "Pay Item Spec Year" are listed. The "Total of 3 Column" is displayed below this section.
- Criteria:** A section for defining query criteria. The "Total of 0 Column" is displayed below this section.
- Dialog Box:** A "Select Query To Retrieve" dialog box is open, showing a table of queries. The "Master Bill of Materials Conversion" query is selected. The table has columns for "Query Name", "Owner", and "Public/Private".

Query Name	Owner	Public/Private
Master Bill of Materials Conversion	Public	Public

At the bottom of the dialog box, there are buttons for "OK", "Delete", and "Cancel". A red arrow points to the "OK" button with the text "Click OK".

At the bottom of the main window, there are buttons for "Generate", "Preview", "Reset", "Alter", and "Labels".

At the bottom left, there is a checkbox labeled "Unique Rows" which is checked.

At the bottom center, there is a note: "Wild cards must be used in the 'Criteria' section whereas the '?' will not be used in the 'Columns' section."

# Conversion Factor Query

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File Edit Functions Inquiries References Admin Tools Window Help

Query Selection - Master Bill of Materials [Master Bill of Materials Conversion]

**Drag and Drop Columns for your Display and Criteria:**

Columns	Display Columns
BOM Conversion Factor	Metric/English
Conversion Factor Unknown	Pay Item
Criticality	Pay Item Spec Year
Expiration Date	BOM Conversion Factor
Incidental Material	Material Type
Material Description	Material Description
Material Type	Pay Item Long Description
Material Unit of Measure	Material Unit of Measure
Metric/English	Total of 9 Column(s)
Pay Item	
Pay Item Effective Date	
Pay Item Expiration Date	
Pay Item Labor Only	
Pay Item Long Description	
Pay Item Section Number	
Pay Item Spec Year	
Pay Item Unit of Measure	
Total of 18 Column(s)	

Criteria Columns	Value
BOM Conversion Factor	> 0
Pay Item Spec Year	= 2006
Total of 2 Column(s)	mm/dd/yyyy (Date Format)

Click to change Spec year

Unique Rows

Total tables in query is: 8

Maximum tables allowed is: 16

\* Data fields no longer displayed in the window

Generate Preview Reset Alter Labels

Ready

# Conversion Factor Query

Select Data Value for Pay Item Spec Year

1972
1978
1984
1990
1995
2002
2006
2012
2018

Scroll to select appropriate Spec Year for Contract

Click OK

OK Cancel

# Conversion Factor Query

Conversion will be 1.00 if Material Unit of Measure and Pay Item Unit of Measure are the same

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File Edit Functions Inquiries References Admin Tools Window Help

Query Selection - Master Bill of Materials [Master Bill of Materials Conversion]

**Snapshot Report (985 Rows)**  
(Size columns and press Preview)

Metric/English	Pay Item	Pay Item Spec Year	BOM Conversion Factor	Material Type	Material Description	Pay Item Long Description	Material Unit of Measure	Pay Item Unit of Measure
English	88467	2018	1.000	Concrete, Class A - E	Concrete, Class A	CLASS A CONCRETE (CULVERT)	Cubic Yards	Cubic Yards
English	86906	2018	1.000	Concrete, Class A - E	Concrete, Class A	ENDWALLS	Cubic Yards	Cubic Yards
English	88531	2018	1.000	Concrete, Class AA - E	Concrete, Class AA	CLASS II, SURFACE PREPARATION	Cubic Yards	Square Yards
English	88532	2018	1.000	Concrete, Class AA - E	Concrete, Class AA	CLASS III, SURFACE PREPARATION	Cubic Yards	Square Yards
English	86908	2018	1.000	Concrete, Class AA - E	Concrete, Class AA	PIPE COLLARS	Cubic Yards	Cubic Yards
English	86909	2018	1.000	Concrete, Class AA - E	Concrete, Class AA	PIPE PLUGS	Cubic Yards	Cubic Yards
English	88464	2018	1.000	Concrete, Class AA - E	Concrete, Class AA	CLASS AA CONCRETE (BRIDGE)	Cubic Yards	Cubic Yards
English	88463	2018	1.000	Concrete, Class AAA - E	Concrete, Class AAA	CLASS AAA CONCRETE (BRIDGE)	Cubic Yards	Cubic Yards
English	87069	2018	0.059	Concrete, Class B - E	Concrete, Class B	2'-6" CONCRETE CURB & GUTTER	Cubic Yards	Linear Feet
English	86844	2018	0.167	Concrete, Class B - E	Concrete, Class B	6" SLOPE PROTECTION	Cubic Yards	Square Yards
English	87085	2018	0.140	Concrete, Class B - E	Concrete, Class B	5" MONOLITHIC CONCRETE ISLANDS(SURFACE MOUNTED)	Cubic Yards	Square Yards
English	87082	2018	0.111	Concrete, Class B - E	Concrete, Class B	4" CONCRETE PAVED DITCH	Cubic Yards	Square Yards
English	87068	2018	0.038	Concrete, Class B - E	Concrete, Class B, Curb and Gutter Machine	1'-6" CONCRETE CURB & GUTTER	Cubic Yards	Linear Feet
English	87069	2018	0.059	Concrete, Class B - E	Concrete, Class B, Curb and Gutter Machine	2'-6" CONCRETE CURB & GUTTER	Cubic Yards	Linear Feet
English	88527	2018	0.111	Concrete, Class B - E	Concrete, Class B	4" SLOPE PROTECTION	Cubic Yards	Square Yards
English	88294	2018	1.000	Concrete, Class B - E	Concrete, Class B	CONCRETE STEPS	Cubic Yards	Cubic Yards
English	87070	2018	0.045	Concrete, Class B - E	Concrete, Class B	SHOULDER BERM GUTTER	Cubic Yards	Linear Feet
English	86909	2018	1.000	Concrete, Class B - E	Concrete, Class B	PIPE PLUGS	Cubic Yards	Cubic Yards
English	87084	2018	0.333	Concrete, Class B - E	Concrete, Class B	12" CONCRETE ISLAND COVER	Cubic Yards	Square Yards

Search:  [Metric/English]

Total tables in query is: 8

Maximum tables allowed is: 16

\* Data fields no longer displayed in the window

Generate Preview Reset Alter Labels

Snapshot of the query (resizable).

# Conversion Factor Query

Can add to Criteria Column and / or use wild cards to customize query

**Columns**

- BOM Conversion Factor
- Conversion Factor Unknown
- Criticality
- Expiration Date
- Incidental Material
- Material Description
- Material Type
- Material Unit of Measure
- Metric/English
- Pay Item
- Pay Item Effective Date
- Pay Item Expiration Date
- Pay Item Labor Only
- Pay Item Long Description
- Pay Item Section Number
- Pay Item Spec Year
- Pay Item Unit of Measure

**Display Columns**

- Metric/English
- Pay Item
- Pay Item Spec Year
- BOM Conversion Factor
- Material Type
- Material Description
- Pay Item Long Description
- Material Unit of Measure

Total of 9 Column(s)

**Criteria Columns**

Criteria Columns	Value
BOM Conversion Factor	> 0
Pay Item Spec Year	= 2018
BOM Conversion Factor	< 1.00

Total of 3 Column(s) mm/dd/yyyy (Date Format)

**Snapshot Report (985 Rows)**  
(Size columns and press Preview)

Metric/English	Pay Item	Pay Item Spec Year	BOM Conversion Factor	
nglish	86861	2018	1.000	Aggre
nglish	87334	2018	1.000	Aggre
nglish	86793	2018	1.000	Aggre
nglish	86856	2018	1.000	Aggre
nglish	86855	2018	1.000	Aggre
nglish	87347	2018	1.000	Aggre
nglish	86852	2018	1.000	Aggre
nglish	86884	2018	0.529	Aggre

**Unique Rows**

Total tables in query is: 8

Maximum tables allowed is: 16

\* Data fields no longer displayed in the window

**Generate** **Preview** **Reset** **Alter** **Labels**

Ready

# Conversion Factor Query

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File Edit Functions Inquiries References Admin Tools Window Help

Query Selection - Master Bill of Materials [Master Bill of Materials Conversion]

**Snapshot Report (98 Rows)**  
(Size columns and press Preview)

Metric/English	Pay Item	Pay Item Spec Year	BOM Conversion Factor	Material Type	Material Description	Pay Item Long Description	Material Unit of Measure
English	86884	2018	0.529	Aggregate, Coarse - E	Coarse Aggregate, #78M	SUBDRAIN COARSE AGGREGATE	Tons
English	87080	2018	0.160	Block, Concrete - B	Block, Concrete, Truncated Dome for Wheelchair Ramp	CONCRETE CURB RAMPS	Each
English	86844	2018	0.098	Block, Concrete - B	Block, Concrete	6" SLOPE PROTECTION	Each
English	88527	2018	0.098	Block, Concrete - B	Block, Concrete	4" SLOPE PROTECTION	Each
English	86817	2018	0.001	Borrow Material For Quality - E	Borrow Material For Evaluation	BORROW EXCAVATION	Cubic Yards
English	87082	2018	0.111	Concrete, Class B - E	Concrete, Class B	4" CONCRETE PAVED DITCH	Cubic Yards
English	87081	2018	0.167	Concrete, Class B - E	Concrete, Class B	6" CONCRETE DRIVEWAY	Cubic Yards
English	87076	2018	0.111	Concrete, Class B - E	Concrete, Class B	4" CONCRETE SIDEWALK	Cubic Yards
English	87068	2018	0.038	Concrete, Class B - E	Concrete, Class B	1'-6" CONCRETE CURB & GUTTER	Cubic Yards
English	87085	2018	0.140	Concrete, Class B - E	Concrete, Class B	5" MONOLITHIC CONCRETE ISLANDS(SURFACE MOUNTED)	Cubic Yards
English	88293	2018	0.167	Concrete, Class B - E	Concrete, Class B	6" CONCRETE REINFORCED PAD	Cubic Yards
English	87074	2018	0.089	Concrete, Class B - E	Concrete, Class B	CONCRETE EXPRESSWAY GUTTER	Cubic Yards
English	87068	2018	0.038	Concrete, Class B - E	Concrete, Class B, Curb and Gutter Machine	1'-6" CONCRETE CURB & GUTTER	Cubic Yards
English	86844	2018	0.167	Concrete, Class B - E	Concrete, Class B	6" SLOPE PROTECTION	Cubic Yards
English	87084	2018	0.333	Concrete, Class B - E	Concrete, Class B	12" CONCRETE ISLAND COVER	Cubic Yards
English	88527	2018	0.111	Concrete, Class B - E	Concrete, Class B	4" SLOPE PROTECTION	Cubic Yards
English	87086	2018	0.140	Concrete, Class B - E	Concrete, Class B	5" MONOLITHIC CONCRETE ISLANDS(KEYED IN)	Cubic Yards
English	87069	2018	0.059	Concrete, Class B - E	Concrete, Class B	2'-6" CONCRETE CURB & GUTTER	Cubic Yards

Search:  [Metric/English]

Total tables in query is: 8  
Maximum tables allowed is: 16  
\* Data fields no longer displayed in the window

Generate Preview Reset Alter Labels

Snapshot of the query (resizable).

Click Preview to Save as pdf or Print

# Conversion Factor Query

HiCAMS - [hicansprod] \_ □ ×

File Edit Functions Inquiries References Admin Tools Window Help

Print Preview (Query) \_ □ ×



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01/15/2019

## North Carolina Department of Transportation

### Master Bill of Materials Conversion Factors - 2018

<u>Metric/English</u>	<u>Pay Item</u>	<u>Pay Item Spec Year</u>	<u>BOM Conversion Factor</u>	<u>Material Type</u>	<u>Material Description</u>	<u>Pay Item Long Description</u>	<u>Material Unit of Measure</u>	<u>Pay Item Unit of Measure</u>
English	86884	2018	0.529	Aggregate, Coarse - E	Coarse Aggregate, #78M	SUBDRAIN COARSE AGGREGATE	Tons	Cubic Yards
English	87080	2018	0.160	Block, Concrete - B	Block, Concrete, Truncated Dome for Wheelchair Ramp	CONCRETE CURB RAMPS	Each	Each
English	88527	2018	0.098	Block, Concrete - B	Block, Concrete	4" SLOPE PROTECTION	Each	Square Yards
English	86844	2018	0.098	Block, Concrete - B	Block, Concrete	6" SLOPE PROTECTION	Each	Square Yards
English	86817	2018	0.001	Borrow Material For Quality Evaluation	Borrow Material For Quality Evaluation	BORROW EXCAVATION	Cubic Yards	Cubic Yards
English	87076	2018	0.111	Concrete, Class B - E	Concrete, Class B	4" CONCRETE SIDEWALK	Cubic Yards	Square Yards
English	87074	2018	0.089	Concrete, Class B - E	Concrete, Class B	CONCRETE EXPRESSWAY GUTTER	Cubic Yards	Linear Feet
English	87068	2018	0.038	Concrete, Class B - E	Concrete, Class B, Curb and Gutter Machine	1-6" CONCRETE CURB & GUTTER	Cubic Yards	Linear Feet
English	87082	2018	0.111	Concrete, Class B - E	Concrete, Class B	4" CONCRETE PAVED DITCH	Cubic Yards	Square Yards
English	87068	2018	0.038	Concrete, Class B - E	Concrete, Class B	1-6" CONCRETE CURB & GUTTER	Cubic Yards	Linear Feet
English	87074	2018	0.089	Concrete, Class B - E	Concrete, Class B, Curb and Gutter Machine	CONCRETE EXPRESSWAY GUTTER	Cubic Yards	Linear Feet
English	87081	2018	0.167	Concrete, Class B - E	Concrete, Class B	6" CONCRETE DRIVEWAY	Cubic Yards	Square Yards
English	87069	2018	0.059	Concrete, Class B - E	Concrete, Class B, Curb and Gutter Machine	2-6" CONCRETE CURB & GUTTER	Cubic Yards	Linear Feet
English	87084	2018	0.333	Concrete, Class B - E	Concrete, Class B	12" CONCRETE ISLAND COVER	Cubic Yards	Square Yards
English	87070	2018	0.045	Concrete, Class B - E	Concrete, Class B	SHOULDER BERM GUTTER	Cubic Yards	Linear Feet
English	88527	2018	0.111	Concrete, Class B - E	Concrete, Class B	4" SLOPE PROTECTION	Cubic Yards	Square Yards
English	87086	2018	0.140	Concrete, Class B - E	Concrete, Class B	5" MONOLITHIC CONCRETE ISLANDS(KEYED IN)	Cubic Yards	Square Yards
English	88293	2018	0.167	Concrete, Class B - E	Concrete, Class B	6" CONCRETE REINFORCED PAD	Cubic Yards	Square Yards

Zoom:  ◀ ▶

Page 1 of 5 ▶ ▶

Can be saved as pdf or printed

Ready

# Conversion Factor Tips

- If the material uom is the same as the line item uom, the conversion factor will be 1.
  - Stay-in-place forms will be less than the square footage for the deck and will vary depending on the type of construction and spacing of girders, etc.
- If the uom's are different, typically the conversion will be less than 1.
- Conversions for Lump Sum items will be the amount of material needed to complete the work. Example on next slide.

# Conversions for Lump Sum items

Line Item	Contract Adj	Work Item	Description	Quantity	Unit of Measure	Check for Materials	Labor Only
1			MOBILIZATION	1.000	LS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2			CONSTRUCTION SURVEYING	1.000	LS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3			CLEARING & GRUBBING	1.000	LS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4			SUPP CLEARING & GRUBBING	5.000	ACR	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5			UNCLASSIFIED EXCAVATION	100,000.000	CY	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6			REINF BRG APPR ***** [(225+92.26 -L-)]	1.000	LS	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7			REINF BRG APPR ***** [(35+12.05 -Y8- RPDB)]	1.000	LS	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8			REINF BRG APPR ***** [(62+99.10 -L-)]	1.000	LS	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9			UNDERCUT EXCAVATION	150,000.000	CY	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10			BORROW EXCAVATION	2,310,000.000	CY	<input type="checkbox"/>	<input type="checkbox"/>
11			EMBM'T SETTLEMENT GAUGE	14.000	EA	<input type="checkbox"/>	<input type="checkbox"/>

General **MSG** History

Row	Material	Master Conv Unknown	Incidental Material	Conversion Factor	Substitution Group	Quantity	Unit of Measure
1	Coarse Aggregate, #78M	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5.000		5.000	TON
2	Geomembrane	<input checked="" type="checkbox"/>	<input type="checkbox"/>	700.000		700.000	SY
3	PVC Perforated Subdrain Pipe, 4 in	<input checked="" type="checkbox"/>	<input type="checkbox"/>	65.000	B	65.000	LF
4	Select Material, Class III, Type 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10.000	A	10.000	TON

Conversion factors for lump sum items = the amount of material used

# Conversion Factor Tips

- Some conversions may be found in contract or on plans.
  - Pounds of Steel-Slip Form Barrier (typically  $> 1$ )
  - Tons lime per acre (typically  $>1$ )
- Conversion factors can have an affect on Pay Records and Estimates
- Contact M&T is you need assistance

# Material Discrepancy Report

- Prior to generating Material Discrepancy Report:
- Add missing materials to CBOM
- Remove any unnecessary materials from CBOM
- Correct conversion factors for Lump Sum items
- Enter conversion factors indicated on plans or in contract

# To generate a Material Discrepancy Report

- Note: Corrections should be made to CBOM prior to generating Material Discrepancy report
- Functions – Project Certification – Review Project Certification
- **Click ‘(Re) Generate’ for most current data**
- Make sure ‘Criticality’ and ‘Material Type’ are set to ‘(All)’
- If you only want to see the discrepancies change ‘Const Status’ or ‘M&T Status’ to ‘TBR’
- Preview to print report, if desired

# Materials Discrepancy Report

Functions-Project Certification-Review Project Certification-Enter or Select Contract Number

HiCAMS - [hicansprod]

File Edit Functions Inquiries References Admin Tools Window Help

Review Project Certification (DH00222)

Contract Material Quantities | Line Item Quantities | Detail | Previous Material Quantities | Log | Comments

Contract:  Contractor: DANE CONSTRUCTION INC Status: Accepted

Description (nickname): CEDAR CREEK CULVERT REPLACEMENT

Generate Data Using  Last Reviewed By M&T  M&T Group Group 1

By

Material Quantities List Filter

Criticality  Const. Status   Include 'Not Received' Material Types

Material Type  M&T Status  *Can select TBR to filter for issues*

Material Quantities ( as of 12/28/2018 13:14:46 )

Material	Constr Status	M&T Status	Accepted - Used	Received - Used	Received - Accepted	Notes	LI Disc	Plan	Estimated	Accepted	Received
Concrete, Class AA - Cubic	TBR	TBR	(338.800)	(419.800)	(81.000)		*	428.800	428.800	90.000	
Borrow Excavation - Cubic	TBR	TBR	(91.444)	(91.444)	.000		*	120.000	91.444	.000	
Concrete, Class A - Cubic	TBR	TBR	(24.800)	(24.800)	.000		*	428.800	428.800	404.000	40
Post, Guardrail, Steel - Each	TBR	TBR	(24.600)	120.400	145.000		*	209.000	169.600	145.000	29
Block, Guardrail, Plastic - Each	TBR	TBR	(24.600)	570.400	595.000		*	204.000	169.600	145.000	74
Glass Beads - Pounds	TBR	TBR	(17.460)	102,982.540	103,000.000		*	51.840	17.460	.000	103,000
Work Zone Signs (Stationary)	TBR	TBR	(5.180)	(5.180)	.000		*	79.000	112.000	106.820	10
Field Density - Subgrade - Each	TBR	TBR	(1.000)	(1.000)	.000		*	1.000	1.000	.000	
Asphalt Binder, PG 58 - Ton	OK	OK	.000	.000	.000			60.000	41.486	.000	
Asphalt Binder, PG 64 - Ton	OK	OK	.000	.000	.000			60.000	41.486	.000	
Asphalt Binder, PG 70 - Ton	OK	OK	.000	.000	.000			60.000	41.486	.000	
Asphalt Concrete Base Course	OK	OK	.000	.000	.000			580.000	573.070	.000	

1 to 11 of 68 rows

# Print Preview of Materials Discrepancy report



## North Carolina Department of Transportation Contract Material Quantities (DH00222 - as of 1/15/2019 15:56:23)

Contract Number: DH00222      Criticality: (All)      Include 'Not Received' Material Types: Yes  
 Contract Description: REPLACEMENT OF BRIDGE NO. 510 OVER CEDAR FORK CREEK  
 Contract Location: BRIDGE NO. 510 OVER CEDAR FORK CREEK ON SR 3120 (CEDAR CREEK)  
 Const. Status: All Status      M&T Status: To Be Reviewed

Filtered by selecting TBR in M&T Status

Material	Constr Status	M&T Status	Accepted - Used	Received - Used	Received - Accepted	LI Disc	Plan	Estimated	Accepted	Received	Paid/Used	Critical
Concrete, Class AA - Cubic Yards	TBR	TBR	(338.800)	(419.800)	(81.000)	*	428.800	428.800	90.000	9.000	428.800	Critical
Borrow Excavation - Cubic Yards	TBR	TBR	(91.444)	(91.444)	.000	*	120.000	91.444	.000	.000	91.444	Critical
Concrete, Class A - Cubic Yards	TBR	TBR	(24.800)	(24.800)	.000	*	428.800	428.800	404.000	404.000	428.800	Critical
Post, Guardrail, Steel - Each	TBR	TBR	(24.600)	120.400	145.000	*	209.000	169.600	145.000	290.000	169.600	Critical
Block, Guardrail, Plastic - Each	TBR	TBR	(24.600)	570.400	595.000	*	204.000	169.600	145.000	740.000	169.600	Critical
Glass Beads - Pounds	TBR	TBR	(17.460)	102,982.540	103,000.000	*	51.840	17.460	.000	103,000.000	17.460	Critical
Work Zone Signs (Stationary) - Square Feet	TBR	TBR	(5.180)	(5.180)	.000	*	79.000	112.000	106.820	106.820	112.000	Critical
Guardrail Anchor Units, Type MASH TL-2 - Each	TBR	TBR	(4.000)	(4.000)	.000	*	4.000	4.000	.000	.000	4.000	Critical
Field Density - Subgrade - Unstabilized - Square Yards	TBR	TBR	(1.000)	(1.000)	.000	*	1.000	1.000	.000	.000	1.000	Critical
Guardrail, Steel Beam - Linear Feet	TBR	TBR	140.000	(80.000)	(220.000)	*	1,275.000	1,060.000	1,200.000	980.000	1,060.000	Critical
Soil Nails - Linear Feet	TBR	TBR	(365.775)	(365.775)	.000	*	480.000	365.775	.000	.000	365.775	Non-Critical
Safety Fencing - Linear Feet	TBR	TBR	(263.000)	(263.000)	.000	*	200.000	263.000	.000	.000	263.000	Non-Critical
Precast Concrete Right of Way Markers - Each	TBR	TBR	(8.000)	(8.000)	.000	*	8.000	8.000	.000	.000	8.000	Non-Critical
Stone for Erosion Control - Class B - Tons	TBR	TBR	(7.297)	(7.297)	.000	*	8.000	7.297	.000	.000	7.297	Non-Critical
Grout - Cubic Yards	TBR	TBR	(2.289)	1.711	4.000	*	24.000	18.289	16.000	20.000	18.289	Non-Critical
Coarse Aggregate, #78M - Tons	TBR	TBR	(.010)	35.260	35.270	*	.010	.010	.000	35.270	.010	Non-Critical
Sand, 2MS - Tons	TBR	TBR	(.010)	298.320	298.330	*	.010	.010	.000	298.330	.010	Non-Critical
Grout Cylinders - Each	TBR	TBR	4.342	(3.658)	(8.000)	*	4.800	3.658	8.000	.000	3.658	Non-Critical

1 to 18 of 18 rows

Report generated after adding materials to Line Items 48 & 74SA1. Note the addition of Mash TL-2 & Safety Fence. Report can be printed or saved as pdf.

# Resolving Material Discrepancies

- Receive additional material or enter missing MRR's?
- Review MRR's for errors?
- Remove unused substitutable materials?
- Adjust conversion factors?
- Add notes in Project Certification module?

# Reviewing Material Discrepancy Details

- Highlight material and click 'Line Item Quantities' to see line items associated to the material.
- Click 'Detail'
- Click 'Line Item' and scroll to desired line item
- Click 'OK' to get details based on options selected.
- You can navigate to MRR's, Samples, Pay records, etc for more information.

# Review Material Details

HiCAMS - [hicansprod]

File Edit Functions Inquiries References Admin Tools Window Help

Review Project Certification (DH00222)

**Contract Material Quantities** | Line Item Quantities | Detail | Previous Material Quantities | Log | Comments

Contract: DH00222 Contractor: DANE CONSTRUCTION INC Status: Accepted

Description (nickname): CEDAR CREEK CULVERT REPLACEMENT

Generate Data Using: MSG spec on source record Last Reviewed By M&T: 00/00/0000 M&T Group: Group 1

Material Quantities List Filter

Criticality: (All) Const. Status: All Status Include 'Not Received' Material Types

Material Type: (All) M&T Status: All Status

Material Quantities ( as of 1/3/2019 21:08:39 )

Material	Constr Status	M&T Status	Accepted Used	Received - Used	Received - Accepted	Notes	LI Disc	Plan	Estimated	Accepted	Receiv
Concrete, Class AA - Cubic	TBR	TBR	(338.800)	(419.800)	(81.000)		*	428.800	428.800	90.000	
Borrow Excavation - Cubic	TBR	TBR	(91.444)	(91.444)	.000		*	120.000	91.444	.000	
Concrete, Class A - Cubic	TBR	TBR	(24.800)	(24.800)	.000		*	428.800	428.800	404.000	40
Post, Guardrail, Steel - Eac	TBR	TBR	(24.600)	120.400	145.000		*	209.000	169.600	145.000	29
Block, Guardrail, Plastic - E	TBR	TBR	(24.600)	570.400	595.000		*	204.000	169.600	145.000	74
Glass Beads - Pounds	TBR	TBR	(17.460)	102,982.540	103,000.000		*	51.840	17.460	.000	103,00
Work Zone Signs (Stationar	TBR	TBR	(5.180)	(5.180)	.000		*	79.000	112.000	106.820	10
Field Density - Subgrade -	TBR	TBR	(1.000)	(1.000)	.000		*	1.000	1.000	.000	
Asphalt Binder, PG 58 - Tor	OK	OK	.000	.000	.000			60.000	41.486	.000	
Asphalt Binder, PG 64 - Tor	OK	OK	.000	.000	.000			60.000	41.486	.000	
Asphalt Binder, PG 70 - Tor	OK	OK	.000	.000	.000			60.000	41.486	.000	
Asphalt Concrete Base Cot	OK	OK	.000	.000	.000			580.000	573.070	.000	

1 to 11 of 68 rows

Ready

Highlight material and click  
Line items Quantities

# Review Materials Details for LI 72

HiCAMS - [hicansprod]

File Edit Functions Inquiries References Admin Tools Window Help

Review Project Certification (DH00222)

Contract Material Quantities **Line Item Quantities** Detail Previous Material Quantities Log Comments

Material: Concrete, Class AA - Cubic Yards  Show All LI

LI	Cont Adj	Work item	LI Description	Accepted -Used	Received -Used	Received -Accepted	Const Status	M&T Status	Notes	Plan	Acce
72			CLASS A CONCRETE (CULV)	(338.800)	(419.800)	(81.000)	TBR	TBR		428.800	

1 to 1 of 1 rows

CBOM Materials for LI 72

Material Description	Material Type	How Received	How Accepted	Subs Group	Conv Factor	Incidental	
Concrete, Class A - CY	Concrete, Class A	Material Receipt	Sample/Test	A	1.000	<input type="checkbox"/>	
Concrete, Class AA - CY	Concrete, Class AA	Material Receipt	Sample/Test	A	1.000	<input type="checkbox"/>	<

Ready

Click Detail to get further information

Provides a list of all materials associated to the line item

# Review Line Item Details

- The detail window gives a breakdown of all of the activity associated to the materials that are linked to this item.
- You can navigate to the various activities by double clicking source id on the left.
  - Prefix M – Material Received
  - Prefix T – Tickets
  - Prefix P – Pay Records
  - Prefix S – Samples
  - Prefix F – Field Inspection Reports
  - Prefix W – Work Accomplished

# Review Line Item 72 Details

Project Certification Display Options

**Source**  
Source Date From: 00/00/0000 To: 00/00/0000

MRRs       Samples  
 MRR Alt IDs       Sample - Contract Line Items

Tickets       FIRs       Incidental  
 Pay Records       Work Items

**MSG & Material**

Pretest       Match       No Match       Alt ID Required  
 Certification       RE Owner       M&T Owner  
 Approved List       Visual Inspection       Catalog Cut  
 Sample Required Material Types Only  
 FIR Required Material Types Only  
 Criticality       Critical       Non-Critical       Minor  
 Include 'Not Received' Material Types

Material:   
Material Type: (All)  
Group: (All)

**Contract Line Item**  
Line Item: (All)

**Discrepancies (at LI level)**  
Type:  All       -ve       Both       +ve  
Category:  Acc - Paid       Rec - Paid       Rec - Acc

Display Detail       Show Line Separator  
 Hide Zero Qty's       Hide Canceling Rows

**Sort Order & Group Totals**  
 By Contract LI       Other  
 By Material       None

Sort By:	Header ?	Total ?
Material	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(None)	<input type="checkbox"/>	<input type="checkbox"/>
(None)	<input type="checkbox"/>	<input type="checkbox"/>
(None)	<input type="checkbox"/>	<input type="checkbox"/>
(None)	<input type="checkbox"/>	<input type="checkbox"/>

Restore Defaults      Save Settings      Restore Settings      OK      Cancel

Various options for customizing details you would like to see

# Review Line Item 72 Details

Project Certification Display Options

**Source**  
Source Date From: 00/00/0000 To: 00/00/0000

MRRs       Samples  
 MRR Alt IDs       Sample - Contract Line Items  
 Tickets       FIRs       Incidental  
 Pay Records       Work Items

**MSG & Material**

Pretest       Match       No Match       Alt ID Required  
 Certification       RE Owner       M&T Owner  
 Approved List       Visual Inspection       Catalog Cut  
 Sample Required Material Types Only  
 FIR Required Material Types Only  
 Criticality       Critical       Non-Critical       Minor  
 Include 'Not Received' Material Types

Material:    
Material Type: (All)   
Group: (All)

**Contract Line Item**  
Line Item: 72 - CLASS A CONCRETE (CULV)

**Discrepancies (at LI level)**  
Type:  All       -ve       Both  
Category:  Acc - Paid       Rec - Paid       Rec - Acc

Display Detail       Show Line Separator  
 Hide Zero Qty's       Hide Canceling Rows

**Sort Order & Group Totals**

By Contract LI       Other  
 By Material       None

Sort By:	Header ?	Total ?
Material	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(None)	<input type="checkbox"/>	<input type="checkbox"/>
(None)	<input type="checkbox"/>	<input type="checkbox"/>
(None)	<input type="checkbox"/>	<input type="checkbox"/>
(None)	<input type="checkbox"/>	<input type="checkbox"/>

Restore Defaults      Save Settings      Restore Settings      **OK**      Cancel

Select LI 72 from Dropdown

Click OK

# Review Line Item 72 Details

as of 12/28/2018 13:14:46

S R C	Source ID	Source Quantity		Conversion Factor	N P	Material Quantity			Source Status	Source Date	Subs tution Group	
		Represented	Accepted			PAR	Paid/Used	Accepted				Received
<b>Material - Concrete, Class A</b>												
<b>Cubic Yards</b>												
▶	M 36	81.00000			1.000			81.000	Received	08/04/2017		
	M 37	50.00000			1.000			50.000	Received	08/22/2017		
	M 38	5.00000			1.000			5.000	Received	08/30/2017		
	M 40	70.00000			1.000			70.000	Received	09/06/2017		
	M 47	8.00000			1.000			8.000	Received	09/27/2017		
	M 48	7.00000			1.000			7.000	Received	09/28/2017		
	M 65	114.00000			1.000			114.000	Received	12/06/2017		
	M 66	63.00000			1.000			63.000	Received	12/08/2017		
	M 67	6.00000			1.000			6.000	Received	12/12/2017		
	P	90.00000			1.000		90.000		Processed	08/15/2017	A	
	P	115.10000			1.000		115.100		Processed	09/15/2017	A	
	P	9.70000			1.000		9.700		Processed	10/15/2017	A	
	P	214.00000			1.000		214.000		Processed	12/15/2017	A	
	S 870511	81.00000	81.000	.000	1.000			81.000	Meets Specs	08/04/2017		
	S 873516	50.00000	50.000	.000	1.000			50.000	Does Not Meet	08/22/2017		
	S 873668	5.00000	5.000	.000	1.000			5.000	Meets Specs	08/24/2017		
	S 875758	70.00000	70.000	.000	1.000			70.000	Does Not Meet	09/06/2017		
	S 878655	8.00000	8.000	.000	1.000			8.000	Does Not Meet	09/26/2017		
	S 879091	7.00000	7.000	.000	1.000			7.000	Meets Specs	09/28/2017		
	S 889008	100.00000	100.000	.000	1.000			100.000	Does Not Meet	12/04/2017		
	S 889010	14.00000	14.000	.000	1.000			14.000	Does Not Meet	12/04/2017		
	S 889704	63.00000	63.000	.000	1.000			63.000	Meets Specs	12/08/2017		
	S 890042	6.00000	6.000	.000	1.000			6.000	Does Not Meet	12/12/2017		
Total for group Material - Concrete, Class A:							428.800	404.000	404.000			
<b>Material - Concrete, Class AA</b>												
<b>Cubic Yards</b>												
	M 87	9.00000			1.000				Received	03/06/2018		
	P	90.00000			1.000		90.000		Processed	08/15/2017	A	
	P	115.10000			1.000		115.100		Processed	09/15/2017	A	
	P	9.70000			1.000		9.700		Processed	10/15/2017	A	
	P	214.00000			1.000		214.000		Processed	12/15/2017	A	
	S 890590	90.00000	90.000	.000	1.000			90.000	Does Not Meet	12/15/2017		
Total for group Material - Concrete, Class AA:							428.800	90.000	9.000			

From this window you can double click the source id, on the left, to take you directly to the source module

# Review LI 72 – Class A

HiCAMS - [hicansprod]

File Edit Functions Inquiries References Admin Tools Window Help

Review Project Certification (DH00222)

Contract Material Quantities | Line Item Quantities | **Detail** | Previous Material Quantities | Log | Comments

as of 1/3/2019 21:08:39

S R C ID	Source Represented	Source Quantity		CBOM D Conversion N Factor P	Material Quantity			Source Status	Source Date	Substi tution Group
		Accepted	PAR		Paid/Used	Accepted	Received			
<b>Material - Concrete, Class A</b>										
<b>Cubic Yards</b>										
M 36	81.00000			1.000			81.000	Received	08/04/2017	
M 37	50.00000			1.000			50.000	Received	08/22/2017	
M 38	5.00000			1.000			5.000	Received	08/30/2017	
M 40	70.00000			1.000			70.000	Received	09/06/2017	
M 47	8.00000			1.000			8.000	Received	09/21/2017	
M 48	7.00000			1.000			7.000	Received	09/28/2017	
M 65	114.00000			1.000			114.000	Received	12/06/2017	
M 66	63.00000			1.000			63.000	Received	12/08/2017	
M 67	6.00000			1.000			6.000	Received	12/12/2017	
P	90.00000			1.000	90.000			Processed	08/15/2017	A
P	115.10000			1.000	115.100			Processed	09/15/2017	A
P	9.70000			1.000	9.700			Processed	10/15/2017	A
P	214.00000			1.000	214.000			Processed	12/15/2017	A
S 870511	81.00000	81.000	.000	1.000			81.000	Meets Specs	08/04/2017	
S 873516	50.00000	50.000	.000	1.000			50.000	Does Not Meet	08/22/2017	
S 873668	5.00000	5.000	.000	1.000			5.000	Meets Specs	08/24/2017	
S 875758	70.00000	70.000	.000	1.000			70.000	Does Not Meet	09/06/2017	
S 878655	8.00000	8.000	.000	1.000			8.000	Does Not Meet	09/26/2017	
S 879091	7.00000	7.000	.000	1.000			7.000	Meets Specs	09/28/2017	
S 889008	100.00000	100.000	.000	1.000			100.000	Does Not Meet	12/04/2017	
S 889010	14.00000	14.000	.000	1.000			14.000	Does Not Meet	12/04/2017	
S 889704	63.00000	63.000	.000	1.000			63.000	Meets Specs	12/08/2017	
S 890042	6.00000	6.000	.000	1.000			6.000	Does Not Meet	12/12/2017	
Total for group Material - Concrete, Class A:					428.800		404.000	404.000		
<b>Material - Concrete, Class AA</b>										
<b>Cubic Yards</b>										
M 87	9.00000			1.000			9.000	Received	03/06/2018	
P	90.00000			1.000	90.000			Processed	08/15/2017	A
P	115.10000			1.000	115.100			Processed	09/15/2017	A

Alt ID Distribution | **Go To Source** | Display Options | More Info | 1 of 1 Pages

Ready

Appear to be no issues between received and accepted qty for Class A

# Review LI 72 – Class AA

S 873516	50.00000	50.000	.000	1.000	50.000	Does Not Meet	08/22/2017
S 873668	5.00000	5.000	.000	1.000	5.000	Meets Specs	08/24/2017
S 875758	70.00000	70.000	.000	1.000	70.000	Does Not Meet	09/06/2017
S 878655	8.00000	8.000	.000	1.000	8.000	Does Not Meet	09/26/2017
S 879091	7.00000	7.000	.000	1.000	7.000	Meets Specs	09/28/2017
S 889008	100.00000	100.000	.000	1.000	100.000	Does Not Meet	12/04/2017
S 889010	14.00000	14.000	.000	1.000	14.000	Does Not Meet	12/04/2017
S 889704	63.00000	63.000	.000	1.000	63.000	Meets Specs	12/08/2017
S 890042	6.00000	6.000	.000	1.000	6.000	Does Not Meet	12/12/2017
Total for group Material - Concrete, Class A:					428.800	404.000	404.000

## Material - Concrete, Class AA

## Cubic Yards

M 87	9.00000			1.000		9.000	Received	03/06/2018
P	90.00000			1.000	90.000		Processed	08/15/2017 A
P	115.10000			1.000	115.100		Processed	09/15/2017 A
P	9.70000			1.000	9.700		Processed	10/15/2017 A
P	214.00000			1.000	214.000		Processed	12/15/2017 A
S 890590	90.00000	90.000	.000	1.000	90.000		Does Not Meet	12/15/2017
Total for group Material - Concrete, Class AA:					428.800	90.000	9.000	

Accepted qty = 90 cy, Received qty = 9 cy  
Should review MRR for possible data entry error

# Corrections for Line Item 72

- Class A concrete 404 cy received and accepted
- Class AA concrete 9 cy received, 90 cy accepted
- Review of MRR 87 (in SharePoint) indicates batch tickets to account for 90 cy. It appears, received qty may have been entered incorrectly and should be adjusted.
- When using multiple materials on the same line item, conversion factor should be calculated based on the percentage of each material used.

# Conversion Factors for Line Item 72

- After corrections are made to MRR 87, the total amount of concrete received for line item 72 is 494 cy. (Class A = 404cy, Class AA = 90cy)
- Conversion for Class A would be  $404 \div 494 = .817$  (approximately 82%)
- Conversion for Class AA would be  $90 \div 494 = .182$  (approximately 18%)
- Conversions added together would equal 1

# Conversion Factors for Line Item 72

- Functions – Contract Maintenance – Review Contract BOM
- Scroll to Line item 72 and enter conversion factor for each material and save.
  - If conversion factor is grayed out contact: Section Materials Specialist, Area Materials Engineer or Compliance & Assurance Engineer for assistance.
- Return to Project Certification module and re-generate to update discrepancies.

# Correcting Conversion Factors for LI 72 Class A & AA

Functions-Contract Maintenance-Review Contract BOM-Enter or Select Contract

HiCAMS - [hicansprod]

File Edit Functions Inquiries References Admin Tools Window Help

Review Contract BOM (DH00222)

Contract:  Contractor: DANE CONSTRUCTION INC Status: Accepted

Description (nickname): CEDAR CREEK CULVERT REPLACEMENT Letting Date: 01/24/2017

Line Item	Contract Adj	Work Item	Description	Quantity	Unit of Measure	Check for Materials	Labor Only
64			FERTILIZER TOPDRESSING	.250	TON	<input type="checkbox"/>	<input type="checkbox"/>
65			IMPERVIOUS DIKE	327.000	LF	<input type="checkbox"/>	<input checked="" type="checkbox"/>
66			SPECIALIZED HAND MOWING	10.000	MHR	<input type="checkbox"/>	<input checked="" type="checkbox"/>
67			RESPONSE FOR EROS CONTROL	13.000	EA	<input type="checkbox"/>	<input checked="" type="checkbox"/>
68			CONCRETE WASHOUT STRUCTURE	2.000	EA	<input checked="" type="checkbox"/>	<input type="checkbox"/>
69			REMV EXIST STR ***** [(15+11.00-L-)]	1.000	LS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
70			CULV EXCAV @ ***** [(15+11.00-L-)]	1.000	LS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
71			FND CONDIT MAT, BOX CULV	198.000	TON	<input type="checkbox"/>	<input type="checkbox"/>
72			CLASS A CONCRETE (CULV)	428.800	CY	<input type="checkbox"/>	<input type="checkbox"/>
73			REINF STEEL (CULVERT)	46,600.000	LB	<input type="checkbox"/>	<input type="checkbox"/>
74SA1			GR END TYPE TL-2	4.000	EA	<input checked="" type="checkbox"/>	<input type="checkbox"/>

General **MSG** History

Row	Material	Master Conv Unknown	Incidental Material	Conversion Factor	Substitution Group	Quantity	Unit of Measure
1	Concrete, Class A	<input type="checkbox"/>	<input type="checkbox"/>	.817	A	350.330	CY
2	Concrete, Class AA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	.182	A	78.042	CY

Scroll to LI 72

Change from 1.00 to .817

Change from 1.00 to .182

# Substitutable Materials on Pay Records

- Conversion factors do not have to be adjusted if using substitutable materials on pay records.
  - Does require inspectors to indicate type of material on pay records
  - Would not suggest using mid-project
  - May be different with new pay record process in shared site?

# Substitutable Materials on Pay Records

Functions-Contract Maintenance-Review Pay Records-Enter or Select Contract

HiCAMS - [train] Training Environment

Review Pay Records (DH00222)

Contract: DH00222 Contractor: DANE CONSTRUCTION INC Status: Accepted **Enter or Select Line Item**

Description (nickname): CEDAR CREEK CULVERT REPLACEMENT

WBS: 17BP.8.C.1 Line Item: 72 CLASS A CONCRETE (CULV)

Row	Date	Line Item	Source	Book	Page	Quantity	Rvwd	Inspector	Pay Record Status	Estimate Number
1	12/15/2017	72	Electronic Pay Record			214.00000	<input type="checkbox"/>	Fine, PE, Cary A	Processed	8
2	10/15/2017	72	Electronic Pay Record			9.70000	<input type="checkbox"/>	Fine, PE, Cary A	Processed	6
3	09/15/2017	72	Electronic Pay Record			115.10000	<input type="checkbox"/>	Fine, PE, Cary A	Processed	5
4	08/15/2017	72	Electronic Pay Record			90.00000	<input type="checkbox"/>	Fine, PE, Cary A	Processed	4

**Click tab**

Quantity To Date: 428.80000

General **Substitutable Material** History

Group	Material Description
A	Concrete, Class A - CY
	Concrete, Class AA - CY

**Select which material was used**

Ready

# Back to the Discrepancy Report

## (save changes and re-generate)



### North Carolina Department of Transportation

#### Contract Material Quantities (DH00222 - as of 1/15/2019 16:08:34)

Contract Number: DH00222      Criticality: (All)      Include 'Not Received' Material Types: Yes  
 Contract Description: REPLACEMENT OF BRIDGE NO. 510 OVER CEDAR FORK CREEK  
 Contract Location: BRIDGE NO. 510 OVER CEDAR FORK CREEK ON SR 3120 (CEDAR CREEK)  
 Const. Status: All Status      M&T Status: To Be Reviewed  
 Material Type: (All)

Material	Constr Status	M&T Status	Accepted - Used	Received - Used	Received - Accepted	LI Disc	Plan	Estimated	Accepted	Received	Paid/Used	Critical
Borrow Excavation - Cubic Yards	TBR	TBR	(91.444)	(91.444)	.000	*	120.000	91.444	.000	.000	91.444	Critical
Post, Guardrail, Steel - Each	TBR	TBR	(24.600)	120.400	145.000	*	209.000	169.600	145.000	290.000	169.600	Critical
Block, Guardrail, Plastic - Each	TBR	TBR	(24.600)	570.400	595.000	*	204.000	169.600	145.000	740.000	169.600	Critical
Glass Beads - Pounds	TBR	TBR	(17.460)	102,982.540	103,000.000	*	51.840	17.460	.000	103,000.000	17.460	Critical
Work Zone Signs (Stationary) - Square Feet	TBR	TBR	(5.180)	(5.180)	.000	*	79.000	112.000	106.820	106.820	112.000	Critical
Guardrail Anchor Units, Type MASH TL-2 - Each	TBR	TBR	(4.000)	(4.000)	.000	*	4.000	4.000	.000	.000	4.000	Critical
Field Density - Subgrade - Unstabilized - Square Yards	TBR	TBR	(1.000)	(1.000)	.000	*	1.000	1.000	.000	.000	1.000	Critical
Guardrail, Steel Beam - Linear Feet	TBR	TBR	140.000	(80.000)	(220.000)	*	1,275.000	1,060.000	1,200.000	980.000	1,060.000	Critical
Soil Nails - Linear Feet	TBR	TBR	(365.775)	(365.775)	.000	*	480.000	365.775	.000	.000	365.775	Non-Critical
Safety Fencing - Linear Feet	TBR	TBR	(263.000)	(263.000)	.000	*	200.000	263.000	.000	.000	263.000	Non-Critical
Precast Concrete Right of Way Markers - Each	TBR	TBR	(8.000)	(8.000)	.000	*	8.000	8.000	.000	.000	8.000	Non-Critical
Stone for Erosion Control - Class B - Tons	TBR	TBR	(7.297)	(7.297)	.000	*	8.000	7.297	.000	.000	7.297	Non-Critical
Grout - Cubic Yards	TBR	TBR	(2.289)	1.711	4.000	*	24.000	18.289	16.000	20.000	18.289	Non-Critical
Coarse Aggregate, #78M - Tons	TBR	TBR	(.010)	35.260	35.270	*	.010	.010	.000	35.270	.010	Non-Critical
Sand, 2MS - Tons	TBR	TBR	(.010)	298.320	298.330	*	.010	.010	.000	298.330	.010	Non-Critical
Grout Cylinders - Each	TBR	TBR	4.342	(3.658)	(8.000)	*	4.800	3.658	8.000	.000	3.658	Non-Critical

1 to 16 of 16 rows

Concrete Discrepancy has been cleared – Review Glass Beads

# Discrepancies on LI 37 & LI 38 – Glass Beads

- The accepted quantity for Glass beads on LI's 37 & 38 did not populate
- Review MRRs 13 & 55 on LI 37 and MRR's 14 & 56 on LI 38 for proper certifications
- If certifications on file; enter approved date, check documents received box and enter Approved by:, under certification tab in Review MRR module

# Corrections for LI 37 & 38

Access from Detail tab or Functions-Contract Tracking-Review Material Receipts

Review Material Receipts (DH00222)

Contract:  Contractor: DANE CONSTRUCTION INC Status: Accepted

Description (nickname): CEDAR CREEK CULVERT REPLACEMENT

Line Item:  PAINT PVT MKG LINES 24" UOM: Linear Feet

Row	MRR	Date	Line Item	Material	UOM	Received Quantity	Received By	Plant ID	Status
1	56	11/27/2017	38	Glass Beads	LB	5,000.000	Byrd, Travis H	OT1198	Received
2	54	11/27/2017	38	Paint for Pavement Marking - WHITE	GAL	50.000	Byrd, Travis H	OT1226	Received
3	14	05/09/2017	38	Glass Beads	LB	44,000.000	Byrd, Travis H	OT1198	Received
4	12	05/09/2017	38	Paint for Pavement Marking - WHITE	GAL	550.000	Byrd, Travis H	OT1226	Received

Review MRR to verify certs on file and enter Approved Date, Documents Received and Approved By

General Certification Alternate ID History

Certifications: 3: Manufacturer's Certification  M&T  RE  Both

4: Certified Test Reports  M&T  RE  Both

(None)  M&T  RE  Both

Approved Date:    Documents Received

Approved By:

# Materials Discrepancy Report

## (saved and re-generated after corrections)



### North Carolina Department of Transportation

#### Contract Material Quantities (DH00222 - as of 1/15/2019 16:15:06)

Pa  
01

Contract Number: DH00222      Criticality: (All)      Include 'Not Received' Material Types: Yes  
 Contract Description: REPLACEMENT OF BRIDGE NO. 510 OVER CEDAR FORK CREEK  
 Contract Location: BRIDGE NO. 510 OVER CEDAR FORK CREEK ON SR 3120 (CEDAR CREEK)  
 Const. Status: All Status      M&T Status: To Be Reviewed  
 Material Type: (All)

Material	Constr Status	M&T Status	Accepted - Used	Received - Used	Received - Accepted	LI Disc	Plan	Estimated	Accepted	Received	Paid/Used	Critical
Borrow Excavation - Cubic Yards	TBR	TBR	(91.444)	(91.444)	.000	*	120.000	91.444	.000	.000	91.444	Critical
Post, Guardrail, Steel - Each	TBR	TBR	(24.600)	120.400	145.000	*	209.000	169.600	145.000	290.000	169.600	Critical
Block, Guardrail, Plastic - Each	TBR	TBR	(24.600)	570.400	595.000	*	204.000	169.600	145.000	740.000	169.600	Critical
Work Zone Signs (Stationary) - Square Feet	TBR	TBR	(5.180)	(5.180)	.000	*	79.000	112.000	106.820	106.820	112.000	Critical
Guardrail Anchor Units, Type MASH TL-2 - Each	TBR	TBR	(4.000)	(4.000)	.000	*	4.000	4.000	.000	.000	4.000	Critical
Field Density - Subgrade - Unstabilized - Square Yards	TBR	TBR	(1.000)	(1.000)	.000	*	1.000	1.000	.000	.000	1.000	Critical
Guardrail, Steel Beam - Linear Feet	TBR	TBR	140.000	(80.000)	(220.000)	*	1,275.000	1,060.000	1,200.000	980.000	1,060.000	Critical
Soil Nails - Linear Feet	TBR	TBR	(365.775)	(365.775)	.000	*	480.000	365.775	.000	.000	365.775	Non-Critical
Safety Fencing - Linear Feet	TBR	TBR	(263.000)	(263.000)	.000	*	200.000	263.000	.000	.000	263.000	Non-Critical
Precast Concrete Right of Way Markers - Each	TBR	TBR	(8.000)	(8.000)	.000	*	8.000	8.000	.000	.000	8.000	Non-Critical
Stone for Erosion Control - Class B - Tons	TBR	TBR	(7.297)	(7.297)	.000	*	8.000	7.297	.000	.000	7.297	Non-Critical
Grout - Cubic Yards	TBR	TBR	(2.289)	1.711	4.000	*	24.000	18.289	16.000	20.000	18.289	Non-Critical
Coarse Aggregate, #78M - Tons	TBR	TBR	(.010)	35.260	35.270	*	.010	.010	.000	35.270	.010	Non-Critical
Sand, 2MS - Tons	TBR	TBR	(.010)	298.320	298.330	*	.010	.010	.000	298.330	.010	Non-Critical
Grout Cylinders - Each	TBR	TBR	4.342	(3.658)	(8.000)	*	4.800	3.658	8.000	.000	3.658	Non-Critical

1 to 15 of 15 rows

Glass Bead Discrepancy has been cleared  
 Review Sand & Stone

# Discrepancies for Coarse Aggregates and Sands

- For discrepancies on coarse aggregates like 78M's or 2MS Sand; enter a note in the Project Certification Module, stating material is from an approved produce or supplier participating the QC/QA Aggregate Program
- Change Status to RVWD to indicate discrepancy has been addressed.

# Adding a note in Project Certification Module

**Material:** Coarse Aggregate, #78M - Tons

**Critical:** Non-Critical      **MSG Group:** Aggregate      **How Received:** Ticket

**Plan:** .010      **Estimated:** .010

**Paid / Used:** .010      **Accepted:** .000      **Received:** 35.270

Notes Log:

New Note:  
Material is from approved producer participating in QC/QA Aggregate Program

Buttons: Spell Check, OK, Cancel

Material	Unit	Quantity	Estimated
Block, Guardrail			169.600
Glass Bead			17.460
Work Zone			112.000
Field Density			1.000
Guardrail, Stone			1,060.000
Soil Nails -			365.775
Precast Concrete			8.000
Stone for Earth Retention			7.297
Grout - Cubic Yards	TBR	TBR	18.289
Coarse Aggregate, #78M -	TBR	TBR	.010
Sand, 2MS - Tons	TBR	TBR	.010

Highlight Material and click notepad

# Coarse Aggregates, Sand & Small Quantity ABC- not requiring a sample

- Accepted Quantity will populate if 'Small Quantity' box is checked when entering tickets for Coarse Aggregates, Sand and Small Quantities of ABC (less than 2500 tons).
- Box cannot be checked after tickets are entered and saved.

# Entering Small Quantity Tickets

Functions-Contract Maintenance-Review Tickets-Enter or Select Contract

HiCAMS - [hicansprod]

File Edit Functions Inquiries References Admin Tools Window Help

Review Tickets (DH00222)

Contract: DH00222 Contractor: DANE CONSTRUCTION INC Status: Accepted

Description (nickname): CEDAR CREEK CULVERT REPLACEMENT

WBS: 17BP.8.C.1 Line Item: 70 CULV EXCAV @ \*\*\*\*\* [(15+11.00-L-)]

Enter or select line item

Row	Line Item	Material	Book	Date	Quantity	Loads	Plant ID	JMF	AC Line Item	Ticket Status	Station From	Station From Fraction
1	70	Coarse Aggregate, #78M - TON	9002	12/29/2017	35.270	2	CA46	- -		Not Estimated	15	11.00
2	70	Sand, 2MS - TON	9001	12/29/2017	87.770	5	FA251	- -		Not Estimated	15	11.00
3	70	Sand, 2MS - TON	9000	12/27/2017	210.560	12	FA251	- -		Not Estimated	15	11.00

Check Small Qty box

General Certification History

Line Item: 70 - CULV EXCAV @ \*\*\*\*\* [(15+11.00-L-)] Plan Quantity: 1.000

Applied LI Quantity: 3,527.000 LI UOM: LS Unit Price: \$45,740.0000

Received By: Byrd, Travis H Conversion Factor: .010

Approved Producer: Martin Marietta, Jamestown Quarry - Jamestown - CA46

Other Producer:

How Accepted: Sample/Test  Small Quantity

Comment: NO PAY - Incidental to work

Offset Distance: Map Number:

Location: Lot: Lot Status:

Truck:

Station Information

From: 15 + 11.00

To: 15 + 11.00

Do Not Pay Ticket

Replacement

Other Payment Method

Core Required

Job Mix Formula

Virgin AC %: .00

RAP AC %: .00

Other AC %: .00

Total AC%: .00

Asphalt Type:

Bdr Grd Pay:

Ready

# Precast & Prestressed Alternate ID's

- Any precast or prestressed concrete items must be approved by NCDOT Materials and Tests Unit and include valid bar code/RFID tag
- Precast or prestressed alternate id issues may cause Open Issues in the Estimate Module.
- Open Issues will need to be resolved before processing the Final Estimate.
- The following slides show how to lookup alternate id's.

# NCDOT Vendor Approved Products Alternate ID Lookup

<https://apps.ncdot.gov/vendor/approvedproducts/PrecastLookup.aspx>



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Minimum Sampling Guide

Alternate ID Lookup

Business »

## Alternate ID Lookup

Materials:  Alternate ID:  Produced/Made Date:

3-Enter Alt ID or use wildcards

**SEARCH NOTES:** This portal supports wildcard searches. Please use the character '\*' in order to do a wildcard search.

Typing a '\*' in front of the value to be searched will result in all records ending with that value being retrieved. (Ex: '\*000123' retrieves all records ending with '000123').  
Typing a '\*' at the end of the value to be searched will result in all records starting with that value being retrieved. (Ex: '1C0123\*' results in all records starting with '1C0123').

1-Click to select

2-Option to select precast or prestressed from dropdown

# Alternate ID Lookup

## Search for tag # 1C01670000000000000020242



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### Alternate ID Lookup

Select Precast from drop down

Enter \*20242 to narrow search

Materials:  Alternate ID:  Produced/Made Date:

**SEARCH NOTES:** This portal supports wildcard searches. Please use the character '\*' in order to do a wildcard search.

Typing a '\*' in front of the value to be searched will result in all records ending with that value being retrieved. (Ex: '\*000123' retrieves all records ending with '000123').

Typing a '\*' at the end of the value to be searched will result in all records starting with that value being retrieved. (Ex: '1C0123\*' results in all records starting with '1C0123').

Entering the prefix (ie: 1C0167\*) as a wild card, without a produced date, retrieves a large amount of data

# Alternate ID Lookup

## Search for tag # 1C0167000000000000000020242

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### Alternate ID Lookup

Materials:  Alternate ID:  Produced/Made Date:

**SEARCH NOTES:** This portal supports wildcard searches. Please use the character '\*' in order to do a wildcard search.

Typing a '\*' in front of the value to be searched will result in all records ending with that value being retrieved. (Ex: '\*000123' retrieves all records ending with '000123').  
Typing a '\*' at the end of the value to be searched will result in all records starting with that value being retrieved. (Ex: '1C0123\*' results in all records starting with '1C0123').

Alternate ID	Report Type	FIR Report ID	FIR Status	Alt ID Type	Alt ID Status	Qty Available	Producer/Facility/Plant ID	Material	Inspector	Inspection Date	Contract Nbr	Produced/Made Date
1C01740000000000000020242	Precast Concrete	70530	Authorized	Piece	Available	1	Smith-Carolina Corp. - Smith - Columbia Plant - PC95	Concrete, Precast, Barrier	Kevin Deja	4/11/2017 12:00:00 AM		1/1/0001 12:00:00 AM
1C01550000000000000020242	Precast Concrete	74426	Authorized	Piece	In Use	0	Carr Precast Concrete Inc. - Carr Precast Concrete - Dunn - PC14	Precast Concrete Wall Panel	R. Glenn Dudley	10/5/2017 12:00:00 AM		1/1/0001 12:00:00 AM
1C01500000000000000020242	Precast Concrete	78655	Authorized	Piece	In Use	0	Mack Industries Inc. - Mack Industries Inc., of North Carolina - PC77	Precast Drainage Structure	Joseph A. Brewer	7/12/2018 12:00:00 AM		1/1/0001 12:00:00 AM
1C01570000000000000020242	Precast Concrete	79937	Authorized	Piece	In Use	0	Precast Supply Inc. - Precast Supply Inc. - PC69	Precast Drainage Structure	Kevin Deja	8/21/2018 12:00:00 AM		1/1/0001 12:00:00 AM
1C01670000000000000020242	Precast Concrete	81856	In Process	Piece	Available	1	Concrete Pipe and Precast, LLC - Concrete Pipe and Products - Dunn - PC12	Precast Manhole	Kenneth B. Johnson	1/15/2019 12:00:00 AM		1/1/0001 12:00:00 AM

← Piece is available but will not be able to receive until FIR is Authorized

Useful information: Alt ID status, type, qty, Material Description, Inspection Date, etc

# Alternate ID's

- Data is downloaded to HiCAMS overnight and a FIR is generated. The FIR will be reviewed for accuracy and subsequently Authorized.
- Occasionally pieces are shipped to projects on the same day as inspection.
- If you find pieces that have not been Authorized or need assistance with precast or prestressed issues, contact:
  - Jason Poppe – [jepoppe@ncdot.gov](mailto:jepoppe@ncdot.gov)

# Addressing Other Discrepancies

- Incidental precast items – enter MRR add comment in Project Cert Module stating: Type III documentation on file.
  - NOTE: The MSG was modified on 10/16/17 to allow contracts let afterwards; to allow acceptance of incidental precast items with indication of certification.
- Grout & Grout Cylinders- enter comment on Grout cylinders – material association for sampling purposes – received as Grout.
- Add comments if contractor is compensated for reusing or re-laying material

# Addressing Other Discrepancies

- Review MRR's for missing quantities or request additional information from Contractor
- Discrepancies involving material requiring a Field Inspection Report (FIR), may need assistance from local Section Materials Specialist (SMS)
- Materials indicated as "Not Received" may be associated to line items for sampling purposes only. (Grout, Borrow, Field Density Types, etc.)

# Addressing Discrepancies

- If notes are entered; change status to RVWD to indicate material has been reviewed and no further corrections can be made.
- Re-generate to refresh data.
- Change status to: TBR to see materials that have not been resolved or addressed
- Un-check box beside Not-Rec'd Material types to review materials needing MRR's, etc.

# Print Preview of Material Discrepancy Report



**North Carolina Department of Transportation**  
**Contract Material Quantities (DH00222 - as of 1/15/2019 16:18:32)**

Contract Number: DH00222      Criticality: (All)      Include 'Not Received' Material Types: No ←

Contract Description: REPLACEMENT OF BRIDGE NO. 510 OVER CEDAR FORK CREEK

Contract Location: BRIDGE NO. 510 OVER CEDAR FORK CREEK ON SR 3120 (CEDAR CREEK)

Const. Status: All Status      M&T Status: To Be Reviewed ←

Material Type: (All)

Material	Constr Status	M&T Status	Accepted - Used	Received - Used	Received - Accepted	LI Disc	Plan	Estimated	Accepted	Received	Paid/Used	Critical
Post, Guardrail, Steel - Each	TBR	TBR	(24.600)	120.400	145.000	*	209.000	169.600	145.000	290.000	169.600	Critical
Block, Guardrail, Plastic - Each	TBR	TBR	(24.600)	570.400	595.000	*	204.000	169.600	145.000	740.000	169.600	Critical
Work Zone Signs (Stationary) - Square Feet	TBR	TBR	(5.180)	(5.180)	.000	*	79.000	112.000	106.820	106.820	112.000	Critical
Guardrail Anchor Units, Type MASH TL-2 - Each	TBR	TBR	(4.000)	(4.000)	.000	*	4.000	4.000	.000	.000	4.000	Critical
Guardrail, Steel Beam - Linear Feet	TBR	TBR	140.000	(80.000)	(220.000)	*	1,275.000	1,060.000	1,200.000	980.000	1,060.000	Critical
Soil Nails - Linear Feet	TBR	TBR	(365.775)	(365.775)	.000	*	480.000	365.775	.000	.000	365.775	Non-Critical
Safety Fencing - Linear Feet	TBR	TBR	(263.000)	(263.000)	.000	*	200.000	263.000	.000	.000	263.000	Non-Critical
Precast Concrete Right of Way Markers - Each	TBR	TBR	(8.000)	(8.000)	.000	*	8.000	8.000	.000	.000	8.000	Non-Critical
Stone for Erosion Control - Class B - Tons	TBR	TBR	(7.297)	(7.297)	.000	*	8.000	7.297	.000	.000	7.297	Non-Critical
Grout - Cubic Yards	TBR	TBR	(2.289)	1.711	4.000	*	24.000	18.289	16.000	20.000	18.289	Non-Critical

1 to 10 of 10 rows

Report generated after corrections and notes entered. Remaining materials need additional review.

# Project Certification Components

- There are 3 components to be completed before a project is certified
  - Material Pre-Certification
    - Review of Material Pre-Certification may show line item discrepancies that were not listed as material discrepancies. (Total amount of material received and accepted adequate but line item distribution may be incorrect)
  - Asphalt Pre-Certification
  - Soils Pre-Certification

# Material Pre-Certification (Discrepancies by Line Item)

- This report gives a break down of discrepancies by line item.
  - Functions – Project Certification – Review Material Pre-Certification
  - Report can be printed or saved as pdf
  - Can toggle back to Project Certification Module

This report also shows the Theoretical amount of monies that could be withheld for non-compliance.

# Material Discrepancies by Line Item

## Functions-Project Certification-Review Material Pre-Certification

HiCAMS - [hicansprod]

File Edit Functions Inquiries References Admin Tools Window Help

Review Material Pre-Certification (DH00222)

Contract: DH00222 Contractor: DANE CONSTRUCTION INC Status: Accepted

Description (nickname): CEDAR CREEK CULVERT REPLACEMENT

Pre Certification Status: Working Theoretical Non Compliance Amount: \$302,068.98 Full Oversight: No  
 Admin Division: 8 Actual Non Compliance Amount: 100% State Funded: Yes

Deficiency Activity Log History **PC Material**

Line Item	Material Description	FHWA Part	Deficiency Type	Non Comp Quantity	Conversion Factor	Converted LI Qty	Theoretical \$ Amount	Non Comp Unit Price
3	Field Density - Subgrade - Unstabilized	No	Density Shortage	1.000	1.000	1.000	\$172,500.00	172,500.000
4	Borrow Excavation	No	Density Shortage	91.444	.025	3,657.760	\$16,381.54	179.142
4	Grout	No	Material Certification	2.289	.005	457.800	\$2,050.29	895.714
4	Soil Nails	No	Material Certification	365.775	.100	3,657.750	\$16,381.49	44.785
16	Precast Concrete Right of Way Markers	No	Field Inspection Shortage	8.000	1.000	8.000	\$800.00	100.000
21	Block, Guardrail, Plastic	No	Field Inspection Shortage	11.800	.160	73.750	\$110.63	9.375
21	Post, Guardrail, Steel	No	Field Inspection Shortage	11.800	.160	73.750	\$110.63	9.375
25	Stone for Erosion Control - Class B	No	Other	7.297	.010	729.700	\$364.85	50.000
							\$302,068.98	

Line Item: GRADING Lump Sum  
 Conversion Factor: 1.000 Unit Price: 345,000.000

Comment:

PC Notes

Ready

Click to return to Project Cert Module

Report can be printed or saved as pdf

# Material Discrepancies by Line Item

## (Printed Version)

Materials addressed with comments will still be listed. Theoretical \$ amount will be adjusted manually.

### Material Deficiency Report

Page 1 of 1  
1/15/2019

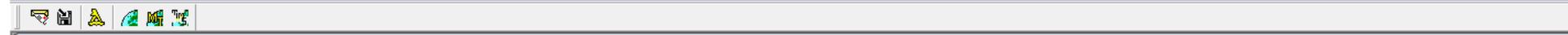
Contract: DH00222 Contractor: DANE CONSTRUCTION INC Theoretical Amount: \$242,489.47 Pre Cert. Status: Working  
 Status: Accepted Description: CEDAR CREEK CULVERT REPLACEMENT Actual Amount: Admin Division: 8  
 100% State Funded: Yes Full Oversight: No

Line Item	Material Description	FHWA Part	Deficiency Type	Non Comp Quantity	Conversion Factor	Converted LI Qty	Theoretical \$ Amount	Non Comp Unit Price	Line UOM	Non Comp Status
3	Field Density - Subgrade - Unstabilized	No	Density Shortage	1.000	1.000	1.000	\$172,500.0000	172,500.0000	LS	Reviewed
4	Borrow Excavation	No	Density Shortage	91.444	0.025	3,657.760	\$16,381.5400	179.1429	SF	Reviewed
4	Grout	No	Material Certification	2.289	0.005	457.800	\$2,050.2900	895.7143	SF	Reviewed
4	Soil Nails	No	Material Certification	365.775	0.100	3,657.750	\$16,381.4900	44.7857	SF	Reviewed
16	Precast Concrete Right of Way Markers	No	Field Inspection Short:	8.000	1.000	8.000	\$800.0000	100.0000	EA	Reviewed
21	Block, Guardrail, Plastic	No	Field Inspection Short:	11.800	0.160	73.750	\$110.6300	9.3750	LF	Reviewed
21	Post, Guardrail, Steel	No	Field Inspection Short:	11.800	0.160	73.750	\$110.6300	9.3750	LF	Reviewed
25	Stone for Erosion Control - Class B	No	Other	7.297	0.010	729.700	\$364.8500	50.0000	SY	Reviewed
26	Work Zone Signs (Stationary)	No	Material Certification	5.180	1.000	5.180	\$38.8500	7.5000	SF	Reviewed
38	Paint for Pavement Marking - YELLOW	No	Field Inspection Short:	0.630	0.018	35.000	\$10.2100	16.2037	LF	Reviewed
48	Safety Fencing	No	Field Inspection Short:	263.000	1.000	263.000	\$236.7000	0.9000	LF	Reviewed
70	Coarse Aggregate, #78M	No	Sampling Shortage	0.010	0.010	1.000	\$11,435.0000	1,143,500.0000	LS	Reviewed
70	Sand, 2MS	No	Sampling Shortage	0.010	0.010	1.000	\$11,435.0000	1,143,500.0000	LS	Reviewed
74SA1	Guardrail Anchor Units, Type MASH TL-2	No	Field Inspection Short:	4.000	1.000	4.000	\$6,380.0000	1,595.0000	EA	Reviewed
75SA1	Block, Guardrail, Plastic	No	Field Inspection Short:	72.800	0.160	455.000	\$1,418.0800	19.4792	LF	Reviewed
75SA1	Guardrail, Steel Beam	No	Field Inspection Short:	455.000	1.000	455.000	\$1,418.0800	3.1167	LF	Reviewed
75SA1	Post, Guardrail, Steel	No	Field Inspection Short:	72.800	0.160	455.000	\$1,418.0800	19.4792	LF	Reviewed

Note discrepancy for yellow paint – remove from CBOM on LI 38 – Paint pvt mkg 24"

# Asphalt Pre-Certification

- Asphalt reports are reviewed and compared with Density results for the following requirements:
  - Failing Densities have PARs
  - All PARs are Closed
  - Testing Quantities
  - Non-Compliant Testing Quantities
  - Non-Compliant PAR Quantities



**Contract:** DH00222  **Contractor:** DANE CONSTRUCTION INC **Status:** Accepted

**Description (nickname):** CEDAR CREEK CULVERT REPLACEMENT

- Asphalt General**
- Non-Compliant Testing Quantities
- Non-Compliant PAR Quantities
- History

**Asphalt Pre Certification Requirements**

- Failing Densities have PARs** 
- All PARs are Closed** 
- Testing Quantities** 
- Non-Compliant Testing Quantities**
- Non-Compliant PAR Quantities**

**Asphalt Certification Status:** Working

**Project Certification Status:** Working

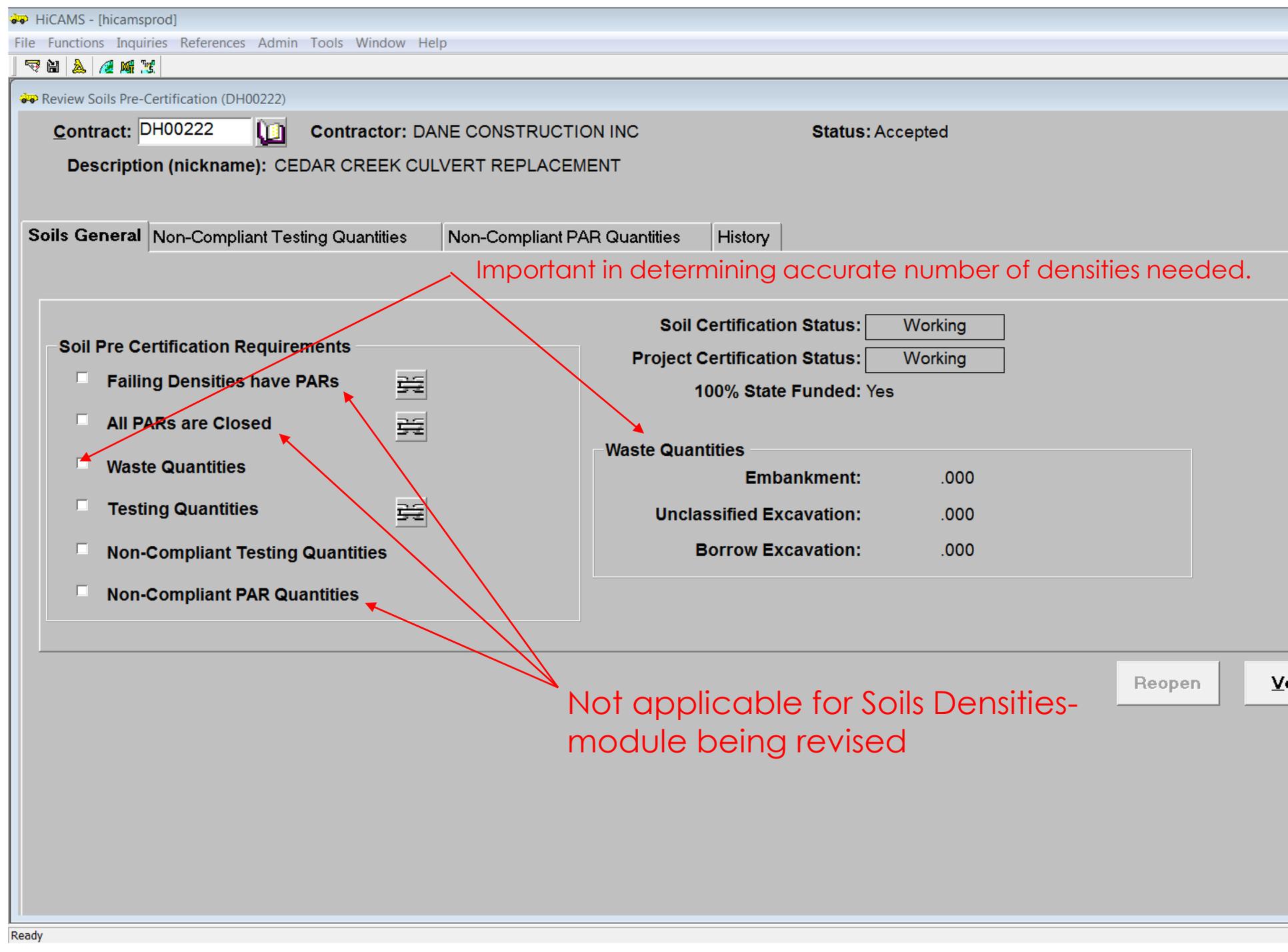
**100% State Funded:** Yes

Reopen

View

# Soils Pre-Certification

- Density reports are reviewed for the following requirements:
  - ~~\*Failing Densities have PARs~~
  - ~~\*All PARs are closed~~
  - Waste Quantities (**Note: important in determining accurate number of densities needed**)
  - Testing Quantities
  - Non-Compliant Testing Quantities
  - ~~\*Non-Compliant PAR Quantities~~
- \* *Soils Pre-Certification module is being revised. These items will be eliminated*



Important in determining accurate number of densities needed.

Not applicable for Soils Densities-  
module being revised

**Soil Pre Certification Requirements**

- Failing Densities have PARs
- All PARs are Closed
- Waste Quantities
- Testing Quantities
- Non-Compliant Testing Quantities
- Non-Compliant PAR Quantities

Soil Certification Status: Working

Project Certification Status: Working

100% State Funded: Yes

**Waste Quantities**

Embankment: .000

Unclassified Excavation: .000

Borrow Excavation: .000

Reopen

V

# To enter Waste Quantities

Functions-Contract Maintenance-Review Contract Details-Completion

HiCAMS - [hicansprod]

File Edit Functions Inquiries References Admin Tools Window Help

Review Contract Details (DH00222)

Contract: DH00222 Contractor: DANE CONSTRUCTION INC Status: Accepted

Description (nickname): CEDAR CREEK CULVERT REPLACEMENT

General Routes/Countries Staff Goals Dates Financials Status **Completion** Project Guarantee Project Closeout M&T Status History

Acceptance Date: 12/19/2018 Approved:

Contractor Notification: 00/00/0000

Interest Due:

CCU Received Final Est.: 00/00/0000

Workflow Status:

Comment:

Final Est. Docs. Received Include

Final Statement Received: 00/00/0000

136-29 Claim Received: 00/00/0000

136-29 Claim Closed: 00/00/0000

136-29 Award Amount: \$0.00

Material Certification: 00/00/0000

Non Compliance Amounts

Actual: \$0.00

Theoretical: \$0.00

FHWA 1446B Completed On:

Final Voucher Paid: 00/00/0000

Final Voucher Amount: \$0.00

Construction Quality Index

CQI Completed On:

CQI Overall Score:

Waste Quantities

Embankment:	.000	Cubic Yards
Unclassified Excavation:	.000	Cubic Yards
Borrow Excavation:	.000	Cubic Yards

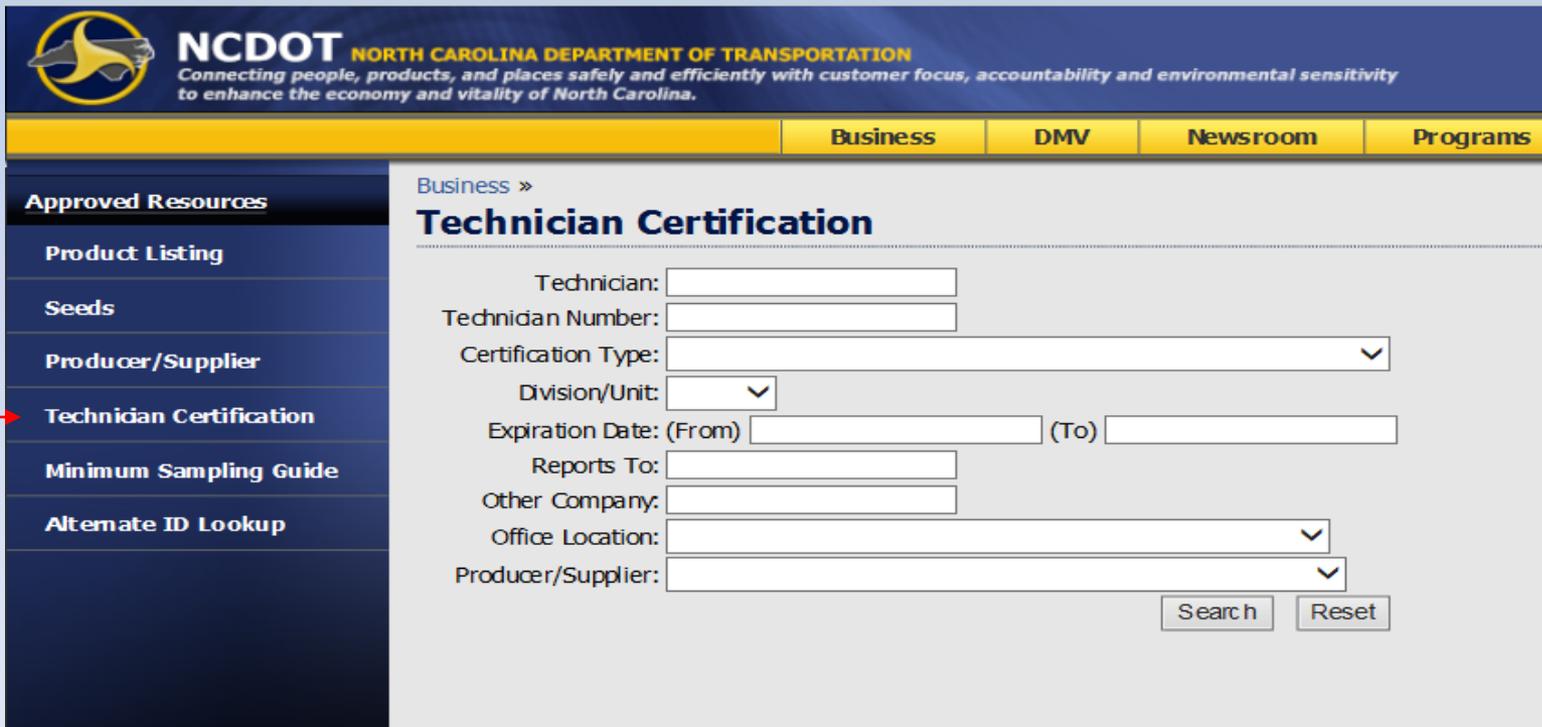
Activate Indicators Warranties

# Additional items that may be reviewed

- Technician certifications & assessments
- Independent Assurance Testing
- Conformance to Minimum Sampling Guide
- Proper Certifications
- Buy America Documentation
- ITS & Signal Qualified Products
- Approved products

# Technician Certifications

- All sampling and testing should be performed by NCDOT Certified Technicians.
- Technician Certifications can be verified via the website: [NCDOT Vendor Approved Products](#)



The screenshot displays the NCDOT website interface. At the top left is the NCDOT logo and the text "NCDOT NORTH CAROLINA DEPARTMENT OF TRANSPORTATION" with the tagline "Connecting people, products, and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina." Below this is a navigation bar with "Business", "DMV", "Newsroom", and "Programs". A left sidebar menu lists "Approved Resources" with sub-items: "Product Listing", "Seeds", "Producer/Supplier", "Technician Certification" (highlighted with a red arrow), "Minimum Sampling Guide", and "Alternate ID Lookup". The main content area shows "Business »" followed by the "Technician Certification" search form. The form includes fields for "Technician:", "Technician Number:", "Certification Type:" (dropdown), "Division/Unit:" (dropdown), "Expiration Date: (From) [ ] (To) [ ]", "Reports To:", "Other Company:", "Office Location:" (dropdown), and "Producer/Supplier:" (dropdown). "Search" and "Reset" buttons are at the bottom right.

# Technician Certifications (Vendor)

- Can also be verified through HiCAMS/Vendor
  - Vendor – Functions – Technician – Review Technician Certifications.

DOH Vendor System - [hicansprod]

File Functions Inquiries Admin Tools Window Help

Review Technician Certifications

Technician Selection

**Filter**

Technician ID:

Last Name:  

First Name:  

SSN:

Certification Type: (All)  

Certification Status: (All)  

Staff Status: (All)

Division/Unit: (All)

Office Location: (All)

Office Category: (All)

Job Title: (All)

Other Company:  

Technician ID	Name	SSN	Certification Type	Certification Status	Start	Expiration	Office Location
---------------	------	-----	--------------------	----------------------	-------	------------	-----------------

# Independent Assurance Testing

- Required by FHWA
- Performed by Materials and Tests Unit or their representative
- See minimum sampling guide for materials which require IA testing
- Prior to construction contact Area Materials Engineer for assistance
- Assessments Performed On Technicians

# Technician Assessments

- All active technicians should be assessed once per calendar year
- A technician is considered active if they perform 5 or more tests in a calendar year
- Satisfactory completion of Concrete Field technician certification will count as assessment for the year certification is received.
- It is the technician's responsibility to make sure their assessments are current

# Minimum Sampling Guide

- Sampling and testing should be per the:
  - Minimum Sampling Guide (MSG) and can be accessed via the website or HiCAMS.
  - Website access: [NCDOT Vendor Approved Products](#)



The screenshot displays the NCDOT website interface. At the top, the NCDOT logo and name are visible, along with the tagline: "Connecting people, products, and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina." Below this, there are navigation tabs for "Business", "DMV", and "Newsroom". On the left side, a vertical menu lists various resources, with "Minimum Sampling Guide" highlighted and indicated by a red arrow. The main content area shows the "Business >" breadcrumb, the title "Minimum Sampling Guide", and a "Sort By:" dropdown menu set to "Material Type". Below this is a scrollable list of material types, including "ADA Materials", "Adjustment of Catch Basins, Drop Inlets, Manholes and Boxes", "Admixtures for Concrete", "Asphalt, Work Zone Island", "Bridge Control System (Complete)", "Bridge Joints, Standard", "Buildings", "Casing For Drilled Shaft - Permanent", "Casing For Drilled Shaft -Temporary", "Concrete Rip Rap", "Concrete, Polyester Polymer Materials", "Cured-In-Place Liner", "Curing Blankets", "Ditch Lining Materials", and "Earthwork Excavations - Misc.". At the bottom right of the list, there are "Search" and "Reset" buttons.

# Minimum Sampling Guide (HiCAMS)

Access via HiCAMS: References – Scroll to Minimum Sampling Guide

The screenshot shows the HiCAMS application window with the 'References' menu highlighted. The 'Minimum Sampling Guide' window is open, displaying the following information:

**Filter**

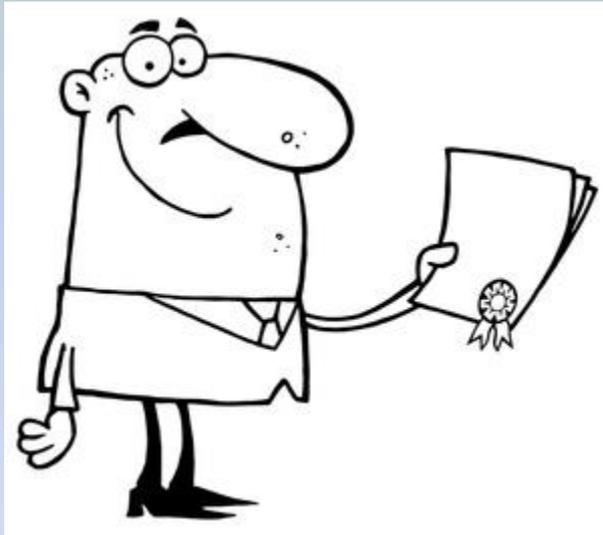
- Material Type Group: (All)
- Status: Current
- Material Type: (All)
- From Date: 00/00/0000
- To Date: 00/00/0000
- Metric/English: (All)
- Material Type ID:

**Retrieve** **Reset**

**Selected Material Type:** Aggregate - New Source Evaluation - English

**General** | Detail | Acceptance | Testing Requirements | Test Formats | Materials

Row	Group	Material Type	Version	Metric/English	Status	From Date	To Date	Performed By	Action Date	ID
1	Aggregate	Aggregate - New Source Evaluation	3.03	English	Current	01/01/1999	12/31/2075	fdward	05/15/2014	1268
2	Aggregate	Aggregate - New Source Evaluation	3.01	Metric	Current	01/01/1999	12/31/2075	fdward	05/14/2014	1267
3	Aggregate	Aggregate Base Course	6.02	English	Current	02/19/2014	12/31/2075	fdward	02/19/2014	C2
4	Aggregate	Aggregate Base Course	3.01	Metric	Current	01/01/1999	12/31/2075	conv61	09/22/2006	11
5	Aggregate	Aggregate Base Course, Type B	2.02	English	Current	01/01/1999	12/31/2075	fdward	05/14/2014	1285
6	Aggregate	Aggregate Base Course, Type B	2.00	Metric	Current	01/01/1999	12/31/2075	v5conv	01/01/1999	C284
7	Aggregate	Aggregate Shoulder Borrow	1.03	English	Current	09/14/2011	12/31/2075	rpacer	09/14/2011	1480
8	Aggregate	Aggregate, Coarse	3.03	English	Current	01/01/1999	12/31/2075	fdward	07/10/2017	167
9	Aggregate	Aggregate, Coarse	3.01	Metric	Current	01/01/1999	12/31/2075	fdward	07/13/2017	176
10	Aggregate	Aggregate, Coarse - For Electrochemical	2.01	English	Current	01/01/1999	12/31/2075	rpacer	02/14/2013	1289
11	Aggregate	Aggregate, Coarse - For Electrochemical	2.00	Metric	Current	01/01/1999	12/31/2075	v5conv	01/01/1999	C290
12	Aggregate	Aggregate, Fine - Asphalt	4.03	English	Current	01/01/1999	12/31/2075	fdward	07/13/2017	1254
13	Aggregate	Aggregate, Fine - Asphalt	5.01	Metric	Current	01/01/1999	12/31/2075	fdward	07/13/2017	1255
14	Aggregate	Aggregate, Fine - Chemistry Check	3.02	English	Current	01/01/1999	12/31/2075	bhunter	03/29/2016	1396
15	Aggregate	Aggregate, Fine - Chemistry Check	1.00	Metric	Current	01/01/1999	12/31/2075	v5conv	01/01/1999	C397



# Types of Certifications

# Type 1— Certified Mill Test Report

- Material tested, by manufacturer, from the same heat or lot as the material actually shipped to the project
- Report has to identify the heat or lot number
- Examples: Structural & reinforcing steel

CERTIFIED MILL TEST REPORT

REFABCO INC  
 • PO BOX 5100  
 • CHARLOTTE, NC 28225



BIRMINGHAM STEEL CORP  
 BIRMINGHAM, AL STEEL DIVISION  
 2301 F L SHUTTLESWORTH ROAD  
 BIRMINGHAM, AL 35234-1335  
 (205)252-8777

50952010  
 DATE: 03/26/99

B.L. NO.: 58-A14993

LOAD NO.: 5800025452

SHIP TO  
 • REFABCO INC  
 • 200 E. 27TH ST.  
 • CHARLOTTE, NC

HEAT NO.*	DESCRIPTION	PHYSICAL TESTS						CHEMICAL TEST					
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 2"	Bend	WTX DEF	C	Mn Ni	Cr	P Mo	S V	Si Cu	Al
PO#: 5329 5899I5850	BIRMINGHAM, AL STEEL DIVISION 22 Rebar 60' (Gr420/#7Gr60) ASTM A615/A615M-96	67,500 465MPa	109,000 752MPa	11.0%	OK	-5.6% .055	.38 .09	1.18 .11	.016 .02	.037 .005	.21 .004	.26	
5899I5851 ✓	BIRMINGHAM, AL STEEL DIVISION 22 Rebar 60' (Gr420/#7Gr60) ASTM A615/A615M-96	64,000 441MPa	101,000 696MPa	14.0%	OK	-5.1% .056	.37 .08	1.09 .08	.012 .02	.035 .004	.28 .004	.23	

TYPE  
1

Heat No. Plant: 55 Kankakee IL, 58 Birmingham AL, 70 Seattle WA, 84 Jackson MS

JIM BASISTA

# Type 2—

## Typical Certified Mill Test Report

- Material tested, by the manufacturer, on lot which is typical of the material actually shipped, but may or may not be from the lot shipped
- Examples: re-bar supports & pavement markers



# Potters Industries Inc.

an affiliate of The PQ Corporation

829 Larkin Road  
Apex, NC 27502  
Phone: (919) 362-7374  
Fax: (919) 362-8439

TYPE  
2

## MATERIAL CERTIFICATION

The material covered by this Certification has been tested according to standard procedures by our Quality Control Department and complies with the applicable specifications.

Quality Control Data to substantiate this certification is on file in our Laboratory.

CUSTOMER: CLARK PAVEMENT MARKINGS  
CUSTOMER PO #: 13568  
POTTERS ORDER #: 133538  
Bill Of Lading #: 80163775

### Material:

HWY SPHERES NC (MP) PRETEST  
LOT #40-00 ON PALLET #13372,13388,  
13389,13390,13391,13392,13393,13394  
13395,13396,13397,13400,13401,13402  
13403, LOT #42-00 ON PALLET #14196,  
14193,14192,14199,14200,14198,14197.

Quantity: 44,000.000  
Total Quantity: 44,000.000

DATE: 08/07/2000

BY:

RICHARD E. DAHLE

## Type 3— Manufacturer's Certification

- Material is manufactured by processes routinely inspected for conformance to specification requirements.
- Examples: glass beads, paint markings, erosion control materials, incidental precast.

3M Traffic Control  
Materials Division

6675 US Highway 43  
Guin, AL 35563  
205 468 3315

TYPE 3

**3M**

June 5, 1998

CERTIFICATE OF CONFORMANCE:

TRI STATE TRAFFIC  
SAFETY  
PO BOX 146  
GAFFNEY, SC 29342 0146

THIS IS TO CERTIFY THAT THE MATERIAL SHIPPED AS INDICATED  
HEREIN ALSO COMPLIES TO THE SPECIFICATION LISTED BELOW:

MATERIAL:

"SCOTCHLITE" BRAND REFLECTIVE SHEETING, ENGINEER GRADE NO.  
3284E

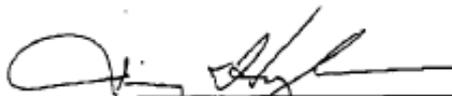
PURCHASE ORDER NUMBER(S): 1312

INVOICE NUMBER(S): TP 61834

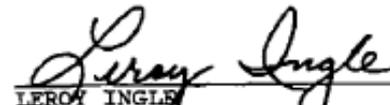
SPECIFICATIONS:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
SPECIFICATIONS FOR TYPE I ENCLOSED LENS SHEETING (ENGINEER  
GRADE), DATED JUNE 1, 1995 AND AMENDED JUNE 22, 1995 WITH THE  
WARRANTY RESTRICTION AND LIMITATIONS CONTAINED ON PAGE. 2.

SUBSCRIBED AND SWORN TO BEFORE ME ON THIS 5TH DAY OF JUNE,  
1998.



JIMMY HUGHES, NOTARY PUBLIC  
STATE OF ALABAMA AT LARGE  
MY COMMISSION EXPIRES JANUARY 21, 1999



LEROY INGLE  
GUIN QUALITY CONTROL  
TRAFFIC CONTROL MATERIALS DIVISION



3126 West Lake Avenue • Glenview, Illinois 60025  
847/724-7880  
Fax: 847/724-7891

December 4, 2000

Construction Materials, Inc.  
T.A. Loving Co.  
Project #8.T162102  
Onslow & Castaret Counties

Laminated Elastomeric Bearings  
100 Pcs. 1-11/16" x 8" x 18"  
22 pcs. 1-11/16" x 8" x 14"  
LOT 50 NR 10-27-00

#### CERTIFICATE OF CONFORMANCE

Tobi Engineering, Inc., hereby certifies that the elastomeric bearing pads manufactured for use on the above referenced project, were fabricated in accordance with requirements set forth in the State of North Carolina 1990 Edition, and the special provisions for project #8.T162102 and that the materials used in the manufacture of said bearings are in conformance with the requirements specified therein.

Certified by,

TOBI ENGINEERING, INC.

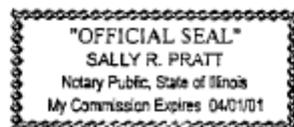
A handwritten signature in cursive script, appearing to read 'Ralph Hoydn'.

Ralph Hoydn, President

Subscribed and sworn to before me,  
a Notary Public, State of Illinois,  
County of Cook, on this Fourth day  
of December 2000

A handwritten signature in cursive script, appearing to read 'Sally R. Pratt'.

NOTARY PUBLIC



# Type 4— Certified Test Reports

- Basically a Type 1, but material is tested by an approved independent testing laboratory on samples taken from the same heat or lot
- Report shall identify the heat or lot number
- Examples: structural timber, elastomeric bearings

# A.W. WILLIAMS INSPECTION CO., INC

P. O. BOX 2107  
MOBILE, ALABAMA 36601  
TELEPHONE 334-435-3691 FACSIMILE 334-435-3791

FOR

NORTH CAROLINA D.O.T.  
C.L. JONES, STATE MAT ENG.  
P.O. BOX 25201  
RALEIGH, NC

27611

Treatment Inspection Report No. 1823698  
Date Treated DECEMBER 10 200  
Client's Mat. Order No. STOCK  
Client's Requisition No. \_\_\_\_\_  
Client's Insp. Order No. 227390  
Our Order No. 0069543  
Ship To MONROE JOHNSON CONST. INC.  
Treated By WOOD TREATERS, INC.  
JACKSONVILLE, FL.  
Material SOUTHERN PINE PILES

MATERIAL TREATED				MATERIAL TREATED				MATERIAL REJECTED & NOT TREATED			
Pieces	Size	Length	B.M. or Lin. Ft.	Pieces	Size	Length	B.M. or Lin. Ft.	Pieces	Size	Length	B.M. or Lin. Ft.
15		60.00	900					1		60.00	60
14"	BUTT	50'						14"	BUTT	60'	
								SHAKES			
Total				Total				Total			
15				900				1 60			
Cubic Feet <u>X</u>				State of Seasoning <u>KILN DRIED</u>							
Grade No. <u>454</u>											

hrs. to X \*F. 0 to X lbs.  
 hrs. at X \*F. X lbs.

hrs. 0 to X inches. Temp. X \*F. to X \*F.  
 hrs. X to X inches. Minimum Temp. X \*F.

inches final vacuum attained in 29 minutes.

pounds initial air attained in X minutes.  
 pounds maximum preservative pressure.  
 hrs. duration preservative pressure period.  
 \*F. Min. 82 \*F. Max. preservative Temp. in Cylinder.

100° F.	Gallons	Pounds	Gauge	Assay
				2.50 & 1.50
Required				X
Injected				3.17 & 2.32
Retained				

Pieces Accepted 15 Pieces Rejected \* 0

**WATERBORNE SOLUTION**

CHROMIUM	44.17
COPPER	19.68
ARSENIC	36.13
CONCENTRATION	7.24

Each accepted piece stamped SEE BELOW  
Inspected by HINES, C.M. & OWENS, D. J.  
REMARKS:  
AWW 59 OR 88 BOTH ENDS

Complete Sapwood Penetration		Some Untreated Sapwood				
Inches Penetration	Size & Number of Pieces	Piece No.	Inches Sapwood	Inches Penetration	Percent Sapwood Penetration	Size of Piece
50'						
3.1	1					
3.3	1					
3.5	2					
3.6	2					
3.7	3					
3.8	4					
3.9	2					

TYPE 4

We do not assume any liability for the product inspected. We assume liability for the inspection performed only to the extent of our inspection fee.

## Type 5—

# Typical Certificated Test Report

- Basically a Type 2, but material is tested by an approved independent testing laboratory. Samples taken from lot are typical of the material shipped, but may or may not be from the same lot
- Example: emulsified asphalt, cement, latex.

N. C. DIVISION OF HIGHWAYS  
TYPE 5 - MATERIALS CERTIFICATION  
FOR PORTLAND CEMENT

Date: \_\_\_\_\_  
Project: \_\_\_\_\_  
County: \_\_\_\_\_  
Contractor: \_\_\_\_\_

This is to certify that all Portland cement used in concrete finished to the above project will meet the requirements of Article 1000-1 of the 2006 N.C. Division of Highways Standard Specifications.

It is also certified that we will have on hand Type 1, Type 2 or Type 3 material certifications from the manufacturer to cover the cement,

Supplier of concrete \_\_\_\_\_  
Signed \_\_\_\_\_  
Title \_\_\_\_\_

TYPE  
5

# Type 6— Supplier's Certification

- Signed statement by the supplier. Supplier has on hand a Type 1 or 2 materials certification to cover material shipped
- Example: planting & landscape materials, utility pipe

Type  
6

LANE ENTERPRISES, INC.  
34 STROHM ROAD  
SHIPPENSBURG, PA 17257  
PHONE: (717) 532-5959

BRAND REGISTRATION AND GUARANTEE FOR HIGH DENSITY  
POLYETHYLENE PIPE MATERIALS

This guarantee verifies that all high density polyethylene (HDPE) pipe materials to include tees, elbows, reducers, flared end sections, coupling bands, and accessories furnished by Lane Enterprises, Inc. conforms to the requirements of the HDPE Quality Control / Quality Assurance Program, the NCDOT Standard Specifications, and the applicable AASHTO Specifications M-294 or M-252 for the class and type of pipe specified in the contract or purchase order.

Any material found not in conformance will be replaced at no cost to the North Carolina Department of Transportation.

Date: 1/28/2005 By: Robert J. Deil Plant Manager

Notary: Charles A. Wine Notary Public

COUNTY OF CUMBERLAND  
COMMONWEALTH OF PENNSYLVANIA  
SWORN TO AND SUBSCRIBED BEFORE ME  
THIS 28<sup>th</sup> DAY OF January, 2005  
BY Charles A. Wine  
NOTARY PUBLIC

# Type 7—

## Contractor's Certification

- Signed statement by the contractor. Material meets the requirements of the current specifications to the best of the contractor's knowledge. At time of purchase had, in possession, a Type 1 or 2 certification.
- Example: traffic control barricades & barriers

*in*

# Blythe Construction, Inc.

P.O. Box 31635, Charlotte, NC 28231  
Telephone (704) 375-8474, Fax (704) 375-7814

June 2, 1998

*TYPE  
7*

Mr. B.R. Trivette Jr.  
North Carolina Dept. Of Transportation  
124 Prison Camp Road  
Statesville, NC 28625

**RE: Mecklenburg County (80004-725)  
8.1674201  
Type 7 Certification (Revised)**

Dear Mr. Trivette:

This letter is to serve as notice that the changeable message, flashing arrow panels, truck mounted impact attenuators, and construction drums which are to be used on the above referenced project, meet the current NCDOT specifications for the said items.

Should you need any additional information, please do not hesitate to contact me.

Sincerely,



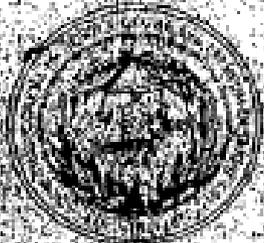
Jim Rynkewicz  
Assistant Division Manager

cc: R. Snelson

# Other Types of Certifications

- Dept. of Agriculture License Certificate
  - License from the year project was completed
  - Required from each certified nursery that was utilized

NCDA  
Certificate of  
Inspection  
for Plantings

NORTH CAROLINA DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES		UNRECORDED FEE	
SEVEN ROCKS ROAD, RALEIGH, NC 27601		\$00	
EXPIRES 2011			
LICENSE/CERTIFICATE: Certificate (more than 1 year)			
EXPIRATION DATE: 09/30/2011			
The National Plant Industry Council (NPI) is a non-profit organization that provides plant health services to the plant industry. For more information, contact the NPI at 1000 North 17th Street, Raleigh, NC 27601. Website: www.npiweb.org			
ISSUED TO: CLARIDGE STATE NURSERY			
ADDRESS: 743 CLARIDGE NURSERY ROAD			
GOLDSBORO NC 27531			
ISSUED BY: [Signature]		DATE: 09/15/10	
THIS LICENSE/CERTIFICATE MAY BE SUBJECT TO REVOCATION OR SUSPENSION BY THE DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES			



# Buy America Documentation

- All steel or iron used on the project must be melted/manufactured/coated in the United States
- See Code of Federal Regulations Title 23-635.410 Buy America Requirements
- Documentation/Verification:
  - Contractor's responsibility (Agency must verify)
  - Agency responsibility (by certification letter)
- Check Invoices on: piles, rebar, guardrail, fence, etc.
- Review at ALL preconstruction meetings





# AMERISTEEL™

*Domestic  
Steel  
Cert*

Project Number 8.T1622102  
 County ONSLow  
 Supplier S.T. WOOTEEN CORP  
 C. C. BHA,BH3,BIP,BIH,BHL,BHS,BHK,BHC

We hereby certify that the steel used in products furnished by us for the above referenced are in compliance with special provision entitled " Domestic Steel " dated September 23, 1986.

This letter is to certify that the bars coated for the State of North Carolina meet the specifications of the State of North Carolina. Thickness, continuity, and flexibility tests have been performed, and the results conform to the State of North Carolina requirements.

If you need any further information, please contact us.

Very truly yours,  
*John Meadows*  
 Quality Control Inspector

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_

\_\_\_\_\_  
 Notary Public



# Qualified Products List (QPL)

- [NCDOT: ITS and Signals Qualified Products List](#)
- Contractor will submit a list of proposed materials included on QPL
- Relieves the contractor from submitting catalog cuts
- Certifications are still required
- Need verification that product used is product submitted on the QPL – Invoice



- Additional information can be found via the NCDOT weblinks below:

- [NCDOT Vendor Approved Products](#)

- Approved Products List

- Seeds

- Approved Producer/Supplier

- [Specifications and Special Provisions](#)

# Area M&T Contact Information

## Divisions 1 thru 5

### Area Materials Engineer

- Darrell Lumley – [dlumley@ncdot.gov](mailto:dlumley@ncdot.gov) (919) 422-4724

### Section Materials Specialist

- Maria Bonds – [mmbonds@ncdot.gov](mailto:mmbonds@ncdot.gov) Division 1
- Jim Cobb – [jrcobb@ncdot.gov](mailto:jrcobb@ncdot.gov) Division 2
- BJ Maynard – [wtmaynard2@ncdot.gov](mailto:wtmaynard2@ncdot.gov) Division 3
- Alan Strickland – [dastrickland@ncdot.gov](mailto:dastrickland@ncdot.gov) Division 4
- Jason Fragnito – [jfragnito@ncdot.gov](mailto:jfragnito@ncdot.gov) Division 5

# Area M&T Contact Information

## Divisions 6 thru 9

### Area Materials Engineer

- Rusty Tucker – [rtucker@ncdot.gov](mailto:rtucker@ncdot.gov) (980) 521-0939

### Section Materials Specialist

- Guy Christian – [gchristian@ncdot.gov](mailto:gchristian@ncdot.gov) Division 6
- Rusty Tucker - interim for Division 7
- Brandon Jackson – [bmjackson@ncdot.gov](mailto:bmjackson@ncdot.gov) Division 8
- Mitchell Wagoner – [rmwagoner@ncdot.gov](mailto:rmwagoner@ncdot.gov) Division 9

# Area M&T Contact Information

## Divisions 10 thru 14

### Area Materials Engineer

- Mark Thomas – [markthomas@ncdot.gov](mailto:markthomas@ncdot.gov) (704) 201-3916

### Section Materials Specialist

- Mark Thomas – interim for Division 10
- Tracey Church – [tchurch@ncdot.gov](mailto:tchurch@ncdot.gov) Division 11
- Millie Adair – [madair@ncdot.gov](mailto:madair@ncdot.gov) Division 12
- Rob Rhymer – [rrhymer@ncdot.gov](mailto:rrhymer@ncdot.gov) Division 13
- Michael Wood – [dmwood@ncdot.gov](mailto:dmwood@ncdot.gov) Division 14

# Thank you!

If you have any questions, my contact information is:

Pam Carriker- Compliance & Assurance Engineer

email: [pcarriker@ncdot.gov](mailto:pcarriker@ncdot.gov)

mobile#: 704-798-4332