

Section 5.13 PLAN SUMMARY BOXES/ESTIMATED QUANTITIES REPORT

5.13.1 Purpose

This chapter provides instructions for the Department's Construction personnel in charge of compiling and documenting the information necessary to substantiate the final pay quantities as it relates to the **Plan Summary Boxes** and **Estimated Quantities Report (EQR)**, as well as **Form 700-050-10, Pay Item Summary and Certification**.

5.13.2 Authority

Sections 20.23(3) (a) and 334.048 (3), Florida Statutes (F.S.)

5.13.3 References

Sections 337.11(10), 337.145(1) (2) and 334.044(30), F.S.

FDOT Design Manual

Review & Administration Manual

Computer Aided Design and Drafting (CADD) Manual

Structures Manual

Basis of Estimates (BOE) Manual

5.13.4 General Information

The **Plan Summary Boxes** were created to replace the Computation Book and are located on the Summary of Quantity Sheets in the **Final As-Built Plans**. For Design requirements regarding the **Plan Summary Boxes**, please see the **FDOT Design Manual (FDM) Chapter 307** and **CADD Manual, Chapter 8**.

The **Estimated Quantities Report** was created to replace **Plan Summary Boxes** for NexGen Plans development. This is a standalone report that provides pay item information previously found in the **Plan Summary Boxes** and on plan sheets. ~~For Design requirements regarding the **EQR**, please see the **FDM Chapter 902** and **CADD Manual Chapter 8**.~~

For Design requirements regarding the **EQR**, please see the **FDM Chapter 902** and **CADD Manual Chapter 8**.

A list of all the **Plan Summary Boxes, EQR tables**, and their descriptions is available in the **Basis of Estimates (BOE) Manual, Chapter 8**. Design requirements for bridge projects can be found in the **Structures Manual**. Also see the **FDOT Design Manual** for further requirements. ~~A list of all the **Plan Summary Boxes, EQR tables**, and their descriptions is available in the **Basis of Estimates (BOE) Manual, Chapter 8**.~~

~~The Engineer of Record (EOR) is required to provide either a .DWG file in AUTOCADD or Civil 3D or a .DGN file in MicroStation and backup calculations in Excel spreadsheets to support the pay item quantities shown in the Contract.~~

5.13.5 Resident Office **(RO)** Responsibilities

The Resident Office will track quantities each month and reconcile quantities in AASHTOWare Project Construction (PrC) within 30 days of pay item closeout. Document all changes in quantities and enter backup documentation into EDMS per **CPAM 5.14** and **CPAM 5.15**. Ensure supporting documentation for quantities is available once payment is made per **CPAM 2.2**.

(A) Quantity Verification

Spot check original quantities. If a dispute arises before or during the construction of a project involving quantities, address and correct the quantities in the following manner:

(1) Errors of Minor Nature:

(a) Example: ~~would be if~~ the EOR reported 100 LF of curb and gutter rather than the actual quantity of 1,000 LF.

~~(a)(b)~~ In this case, a simple correction will~~would~~ suffice.

(2) Errors of Major Nature:

(a) Example: ~~would be if~~ the EOR omitted the southwest quadrant of an intersection.

(b) ~~The Construction Office will sSend a written request, in writing, that asking~~ the EOR to submit detailed documentation or verification of the concern for the quantity in question, per the **BOE Manual, Chapter 8**. The EOR is required to~~shall~~ submit the

supporting documentation within five (5) business days of the request ~~from Construction~~.

(B) Quantity Totals Precision and Rounding

A standard method of calculation has been established for all estimating functions to be consistent. When calculating final quantities, use the precision for each unit of measure and standard rounding rules identified in the **BOE Chapter 2.2**.

Use all decimals when calculations are generated automatically from a computer application, then use common rules to round to the appropriate precision for final payment. Manual calculations should be performed using one additional significant figure, then use common rules to round to the appropriate precision for final payment.

(B)(C) Plan Summary Boxes

The Resident Office has~~Construction staff have~~ the following responsibilities regarding **Plan Summary Boxes**:

- (1) Ensure all revised **Plan Summary Boxes** are included in the **Final As-Built Plans** per **CPAM 5.12**.
- (2) Ensure all **Plan Summary Boxes** are updated with all additions, deletions, and changes to reflect the actual conditions of the project~~final quantities and any changes made during construction~~ within 30 days of pay item closeout per **CPAM 5.12.8**. Place a red check mark in the final quantities column when there are no changes to the contract quantity. Enter the final quantity when the contract quantity differs from the final quantity.
- (3) Use red font color for any markups.
- (4) Reference all back-up documentation by EDMS number in the Remarks column.
- ~~(5)~~ Use the Excel spreadsheets included in the **CADD_[FPID].zip** or **BIM [FPID].zip file**, in the **Calculations** directory (see Figure 1) to add a new **Plan Summary Box** to the **Final As-Built Plans**. Refer to the CADD Manual.

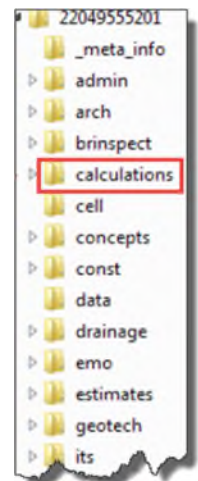


Figure 1 -
CADD_[FPID].zip

~~(6)~~(5) See **Attachment 5.-13-1**.

~~(C)(D)~~ EQR

~~Construction staff have~~ The Resident Office has the following responsibilities regarding the **EQR**:

- (1) Ensure the original EQR and all revisions are ~~inputted~~ uploaded into EDMS.
 - (a) It is not required to update the EQR to create a "Final" Estimated Quantities Report.
 - (b) The Responsible Engineer is not required to sign and/or seal the EQR.
 - (c) An EQR Excel file is an optional tool for the RO to track all changes. When used, merge revised EQRs and add field changes to the spreadsheets. The EQR Excel file can be found within the **CADD [FPID].zip** or **BIM [FPID].zip file**. See **Attachment 5.13-2**. Enter the updated EQR Excel file(s) in EDMS and reference when used.
- (2) Reference all back up documentation by EDMS number on **Form 700-050-10, Pay Item Summary and Certification Sheet**. See **CPAM 5.13.7**.
 - ~~— An~~ The EQR Excel file is an optional tool for the RO to track all changes. When used merge revised EQRs and add field changes to the spreadsheets. The EQR can be found within the **CADD [FPID].zip** or **BIM [FPID].zip file**, may be used to track all changes by merging revised EQRs and adding field changes to the spreadsheets. See **Attachment 5.13-2**.
 - ~~(3) —~~ Enter the updated EQR Excel file(s) in EDMS and reference when used.

~~5.13.6 See Precision and Rounding~~

~~A standard method of calculation has been established, so all design estimating functions are consistent. The precision for each unit of measure and standard rounding rules are identified in the **BOE Chapter 2.2**. During construction: use all decimals when calculations are generated automatically from a computer application, then use common rules to round to the appropriate precision for final payment. Manual calculations should be~~

~~performed using one additional significant figure, then use common rules to round to the appropriate precision for payment.~~

5.13.75.13.6 Form 700-050-10, Pay Item Summary and Certification

(A) Resident Office Responsibility

~~Generate The Form 700-050-10, Pay Item Summary and Certification shall be generated~~ at the end of the project to incorporate all the necessary data, such as pay items, quantities, adjustments, Supplemental Agreements (SAs), and Work Orders (WOs). ~~This document will be sSubmitted this document~~ with the **Final Estimates Documentation**. The steps below explain how to locate this form:

- Access the [State Construction Office Construction application](#)
- Login
- Select Reports
- Select Central Office (Statewide Reports)
- Select the Estimates tab
- Select Pay Item Summary and Certification Report

To create the report, enter the contract number, select the desired output format (i.e., PDF or Excel) and select *Get*. ~~The Form 700-050-10, Pay Item Summary and Certification~~ will be generated by obtaining data from PrC. Ensure all information is correct and reference all appropriate back-up documentation in the *EDMS Doc/Page # columnfield*.

The Final Estimates Level 2 qualified staff (typically the Project Administrator (PA) and/or Contract Support Specialist), the PA, and the Resident Engineer will sign to certify the accuracy of the final quantities. **See Attachment 5.13-3.**

(B) District Office Responsibility

The District Final Estimates Office staff will sign **Form 700-050-10, Pay Item Summary and Certification** and ~~upload into~~replace in EDMS after reviewing the **Final Estimates Documentation**. **See Attachment 5.13-3.**

5.13.85.13.7 Attachments

<u>Attachment 5.13-1</u>	Updated Plan Summary Box
<u>Attachment 5.13-2</u>	Estimated Quantities Report
<u>Attachment 5.13-3</u>	Form 700-050-10, Pay Item Summary and Certification

ATTACHMENT 5-13-1 Updated Plan Summary Box

Any field changes should be noted in red. Reference ~~back up~~backup documentation EDMS numbers in Construction Remarks columns.

SUMMARY OF EARTHWORK					
PAY ITEM NO.	PAY ITEM DESCRIPTION	CY		DESIGN NOTES	CONSTRUCTION REMARKS
		P	F		
0120 1	REGULAR EXCAVATION				
	SR 600	1668.00			
	TOTAL:	1668.00	1830.00		See EDMS # 1165422, pages 8 and 18. See plan sheet 27A for details on SQ-6A, Plan Quantity Analysis.
0120 5	CHANNEL EXCAVATION				
	LAKE PARKER DRAINAGE	507.00	864.00		
	SADDLE CREEK	1080.00	969.00		
	TOTAL:	1587.00	1833.00		EDMS # 1169176 for Lake Parker Drainage, and EDMS # 1169178 for Saddle Creek.
0120 6	EMBANKMENT				
	SR 600	3178.00			
	STA. 1231+99.10 to STA. 1232+48.38 (RT./LT.) BOX CULVERT	3364.00			
	STA. 1233+01.38 to STA. 1233+42.44 (RT./LT.) BOX CULVERT	2699.00			
	TOTAL:	9241.00	9381.00		See EDMS # 1165422, pages 8 and 18. See plan sheets 27A and 27B for details on SQ-6B. Plan Quantity Analysis.

Use a red checkmark to indicate quantities are unchanged. Use an arrow to indicate a range of unchanged quantities.

SUMMARY OF PERFORMANCE TURF-SOD								
LOCATION	SIDE	P			F			FIELD BOOK REFERENCE
		L	W	SY	L	W	SY	
△ CONST.-SR 10				119647.9				✓
△ DEMPSEY MAYO RD.				801.3				↓
△ CHURCH DRIVEWAY				158.1				
△ TAYLOR RD.				205.3				
△ HIGHLAND DR.				219.1				
△ EDENFIELD RD.				1093.5				
△ PEDRICK RD.				2146.5				
△ CHAMPAGNE DR.				585.5				
△ VINEYARD WAY				167.2				
△ ARENDELL WAY				139.1				
△ WINERY WAY				159.6				
△ THORNTON RD.				428.8				
△ POND 1				37768.7				
△ DRAINAGE STRUCTURES				550.0				
△ SUB TOTAL:				164070.6				
△ TEMP. EROSION CONTROL				12604.7				✓
△ TOTAL:				176676				✓

For lump sum projects, the tracking of pay item quantities is not required. However, it is ~~good practice~~recommended to insert a red check mark within the ***Plan Summary Boxes*** as the work is completed.

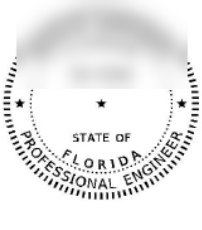
ATTACHMENT 5-13-2 Estimated Quantities Report

Example EQR Cover Sheet:

ESTIMATED QUANTITIES REPORT

Financial Project ID: [REDACTED]
Contract Number: [REDACTED]
Project Description: [REDACTED]

This document has been digitally signed and sealed by:



STATE OF
FLORIDA
PROFESSIONAL ENGINEER

on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

[REDACTED]

The estimated quantities contained in this document:

- 1. Were developed in compliance with Florida Department of Transportation procedures, processes, and requirements.*
- 2. Contain no known errors or omissions.*
- 3. Match the pay item numbers and quantities in Designer Interface for AASHTOWare Project Preconstruction™.*

11/18/2020 3:53:59 PM Page 1 of 54

Example EQR Table:

Summary of Pavement														
Pay Item Number	Pay Item Description	Units of Measure	Quantity		Total Quantity		Location						Design Notes	Construction Remarks
			P	F	P	F	Alignment	Begin Station	End Station	Location Description	Side	Element ID		
			437.86				BROADWAY							
							CL-BROADWAY	498+67.90	502+45.05			LT/RT	244540	
0337 7 82	Asphalt Concrete Friction Course, Traffic C, FC-9.5, PG 76-22	TN	48.71		707.19		SR972	207+21.07	210+40.49			RT	228781	
			20.39				SR972	207+21.07	209+37.04			RT	228418	
			14.7				SR972	207+21.07	210+40.49			RT	228816	
			101.39				SR972	207+21.07	210+40.49			RT	228612	
			12.84				SR972	208+18.04	210+40.49			RT	228811	
			47.46				SR972	208+99.08	210+40.49			LT	228607	
			22.26				SR972	208+99.08	210+40.49			LT	228776	
			4.94				SR972	210+11.11	210+40.49			RT	228854	
			0.03				SR972	210+38.33	210+40.49			RT	228358	
			0.06				SR972	210+38.33	210+40.49			RT	228348	
			30.03				CL-BROADWAY	495+16.15	495+97.56			LT/RT	287738	
			35.68				CL-BROADWAY	495+97.55	498+67.90			RT	291808	
			27				CL-BROADWAY	495+97.55	498+67.90			LT	291803	
			74.16				CL-BROADWAY	495+97.55	498+67.90			RT	291633	
			57.37				CL-BROADWAY	495+97.55	498+67.90			LT	291628	
			210.17				CL-BROADWAY	498+67.90	502+45.05			LT/RT	244534	
0350 30 13	Concrete Pavement For Roundabout Apron, 12 Depth	SY	245.54		245.54		CL-BROADWAY	499+63.98	500+47.29			RT	216161	
0526 1 1	Pavers, Architectural, Roadway	SY	245.54		245.54		CL-BROADWAY	499+63.98	500+47.29			RT	216161	
...														
...														
...														

ATTACHMENT 5-13-3 Form 700-050-10, Pay Item Summary and Certification

Example EDMS References:

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION PAY ITEM SUMMARY AND CERTIFICATION SHEET									
Contract Details									
Contract:	District:								
Quantity	Unit	Item Code	SA #	Item Description	EDMS Doc /Page #	Unit Price	Item Paid Amount	Line Item Adjustment Amount	Total Item Paid Amount
816.000	SY	0110 4 10		REMOVAL OF EXISTING CONCRETE	EDMS# 1471926	\$44.0000	\$35,904.00	\$0.00	\$35,904.00
793.000	SY	0522 1		CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	EDMS# 1472699	\$60.0000	\$47,580.00	\$0.00	\$47,580.00
78.000	SY	0522 2		CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	↓	\$90.0000	\$7,020.00	\$0.00	\$7,020.00
591.000	LF	0630 2 11		CONDUIT, FURNISH & INSTALL, OPEN TRENCH	EDMS# 1471857	\$19.5000	\$11,524.50	\$0.00	\$11,524.50
24,548.500	LF	0630 2 12		CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	EDMS# 1471858	\$18.6000	\$456,602.10	\$0.00	\$456,602.10
64.000	LF	0630 2 14		CONDUIT, FURNISH & INSTALL, ABOVEGROUND	EDMS# 1471861	\$36.0000	\$2,304.00	\$0.00	\$2,304.00
282.000	LF	0630 2 15		CONDUIT, FURNISH & INSTALL, BRIDGE MOUNT	EDMS# 1471859	\$23.0000	\$6,486.00	\$0.00	\$6,486.00
160.000	LF	0630 2 65		CONDUIT, REMOVE, BRIDGE MOUNT	EDMS# 1471860	\$11.5000	\$1,840.00	\$0.00	\$1,840.00
6,100.000	LF	0633 1121		FIBER OPTIC CABLE, F&I, UNDERGROUND, 2-12 FIBERS	EDMS# 1471927	\$2.4000	\$14,640.00	\$0.00	\$14,640.00

* Highlighted rows signify adjustments.

Report: PayItemSummaryAndCertification

Example Signatures:

DFEO USE ONLY	Certification Statement
Par Reviews Digitally signed by ali rastagh Date: 2021.06.04 08:20:33 -0400 Signature: <u>ali rastagh</u> Date: _____ Digitally signed Date: 2021.03.29 14:15:32 -0400 Project Administrator Signed: _____ Printed: _____	(This block shall be signed by the qualified person(s) responsible for the accuracy of the Final Estimates Package, as submitted, in accordance with CPAM 5.11.) I certify, based on my personal knowledge and well-founded belief, the quantities are accurate and conform to the contract plan dimensions and specification tolerances, manuals and that this final estimate, as submitted is true and correct. Title: <u>Contract Support Specialist</u> Signature: _____ Date: _____ And/Or TIN# <u>1471857</u> Title: _____ Signature: _____ Date: _____ Digitally signed Date: 2021.03.29 12:06:41 -0400 Resident Engineer Signed: _____ Printed: _____