

Section 5.13

PLAN SUMMARY BOXES

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. The final pay quantities will be documented in the **Plan Summary Boxes** located on the Summary of Quantity Sheets in the Final As-Built Plans.

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 Concept

The **Plan Summary Boxes** were created to replace the Computation Book. The Engineer of Record (EOR) is required to provide either a .DWG file in AUTOCADD or Civil 3D or a .DGN file in MicroStation or Geopak and backup calculations in Excel spreadsheets to support the pay item quantities shown in the Contract.

The method used by EOR to develop design quantities for pay items **IN NO WAY** reflects the method to be used to determine final pay quantities.

For Design requirements regarding the **Plan Summary Boxes**, quantities, and supporting calculations for roadway projects, please see the **CADD Manual, Chapter 4**. 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** and their descriptions is available in the **Basis of Estimates (BOE) Manual, Chapter 8**.

The Construction personnel will document the Final Quantities in the **Plan Summary Boxes** and reference to any supporting computations for all changes made during construction.

5.13.5 Resident Office Responsibilities

Construction staff have the following responsibilities regarding **Plan Summary Boxes**:

- (A) A responsible person shall spot check Plan Quantity (PQ) Designer quantities. If a dispute arises before or during the construction of a project involving quantities for one or more of the plan quantity items, address and correct the quantities in the following manner:
 - (1) PQ Errors of Minor Nature: an example would be if the EOR reported 100 LF of curb and gutter rather than the actual quantity of 1,000 LF. In this case, a simple correction would suffice.
 - (2) PQ Errors of Major Nature: an example would be if the EOR omitted the southwest quadrant of an intersection. Errors of major nature are to be resolved by the EOR. Construction will request, in writing, that the EOR submit detailed documentation or verify the concern for the plan quantity item(s) in question, per the [BOE Manual](#), Chapter 8. The EOR shall submit the supporting documentation within five (5) business days of the request from Construction.
- (B) Any markups in the **Plan Summary Boxes** will be made using red font color throughout the construction and final acceptance phases. For the District Final Estimates Offices (DFEO) color convention see [Section 5-12 of this Manual](#) and [Chapter 4 of the Review & Administration Manual](#).
- (C) Place red check mark in the final quantities column of the Plan Summary Box when there are no changes to the contract quantity. Enter the final quantity when the contract quantity differs from the final quantity. See **Attachments 5-13-1A and 5-13-2A**. See **Attachment 5-13-3A** for a Lump Sum Project Summary of Quantities Sheet.
- (D) All back up documentation will be referenced in the **Plan Summary Boxes**.
- (E) To add a new **Plan Summary Box** to the original plans during construction, refer to the [CADD Manual](#) and **Section 5.14** of this **Manual**.

5.13.6 Basis of Estimating

A standard method of calculation and rate of application has been established for each pay item, so all design estimating functions will use the same method and rate for contingent items.

The basis of estimating, and the accuracy required, are shown in the ***Basis of Estimates Manual***.

5.13.7 Final Estimates Backup Documentation

All backup documentation for each pay item within a Summary Box will be referenced in the Final As-Built Plans. Standard construction forms, such as Site Source Records, are used to record field measurements for final quantities. All required field measurements shall be recorded on the appropriate form. See **Section 5.14** of this ***Manual*** for information on all Site Source Records to be used for back up documentation.

Only final measured pay items should be final measured. Plan quantity items are not final measured. Only field changes and plan errors are measured and documented on the appropriate forms, as stated in **Section 5.14** of this ***Manual***.

All changes in rates of application, limits, etc., shall be documented in the ***Plan Summary Box*** along with the revised quantities. All backup calculations of final quantities will be referenced.

All changes by Supplemental Agreements (SA) and/or Work Orders must be reflected in the quantities with their supporting computations.

(A) Backup Documentation Submittal Options:

(1) Using the Excel CADD Zip File:

Construction personnel may use the Excel version of the ***Plan Summary Box*** that is in the CADD [FPID].zip file included with the project delivery. (See **Section 5.14** of this ***Manual*** or the ***CADD Manual*** for further instructions.)

- a) The remarks column on the right side of each ***Plan Summary Box*** should be used to reference where to find supporting documentation or show changes.
- b) Additional information (i.e. explanations, comments, and calculations) can be recorded in the "Final Backup" tab of each ***Plan Summary Box*** Excel workbook file when necessary. (See ***Attachment 5-13-1A*** and ***5-13-1B*** for an example.)

- c) A PDF of the Excel file (***Plan Summary Box***) with references to all the necessary backup information can be inserted into the Final As-Built Plans behind the original Summary of Quantity Sheet, which will be voided. The .xls version shall be input into EDMS.
- d) Regardless of how the backup is created, indicate in the “Remarks Column” of the ***Plan Summary Box*** where the backup can be found.

(2) Using the Final As-Built Plans file

- a) The “Remarks Column” on the right side of each ***Plan Summary Box*** can be used to reference where to find supporting documentation or show changes. (See ***Attachment 5-13-2A*** and ***5-13-2B*** for an example.)
- b) Department forms, or Excel or Word formatted documents can be used to show any changes or backup calculations to substantiate a quantity change.
- c) Backup documentation shall be input into EDMS. If files contain computerized calculations, input into EDMS in the native file format (i.e. .xls, not PDF) for verification purposes.
- d) Always reference where to find the backup documentation on the ***Plan Summary Box***.

5.13.8 Form 700-050-10, Pay Item Summary and Certification Sheet

This form shall be generated at the end of the project, to incorporate all the necessary data, such as pay items, quantities, adjustments, Supplemental Agreements (SA), and Work Orders. This document will be submitted with the Final Estimates Documentation. The steps below explain how to locate this form:

- Access the [Employee Portal@MyFDOT](#)
- Select Office Sites
- Select Construction Intranet Address
- Select Ad-Hoc Report System
- Select Statewide Construction Dashboard
- Select the Estimates tab
- Select Pay Item Summary and Certification Sheet Report

To create the report, enter the contract number, select the desired output format (i.e. PDF or HTML) and select Submit. The ***Pay Item Summary and Certification Sheet*** will be generated by obtaining data from SiteManager.

5.13.9 Attachments

- Attachment 5-13-1A Excel Plan Summary Box and Backup Documentation Example
- Attachment 5-13-1B Excel Plan Summary Box Backup Documentation Example
- Attachment 5-13-2A Plan Summary Box and Backup Documentation Example
- Attachment 5-13-2B Plan Summary Box Backup Documentation Example
- Attachment 5-13-3A.....Plan Summary Box for a Lump Sum Project Example

ATTACHMENT 5-13-1A

EXCEL PLAN SUMMARY BOX AND BACKUP DOCUMENTATION EXAMPLE

1 2 3 4 5	PAY ITEM DESCRIPTION	LOCATION		SIDE	AREA ID	LENGTH	WIDTH	UNI T	QUANTITY		TOTAL		DESIGN NOTES	CONSTRUCTION REMARKS
		STA. TO STA.	DESCRIPTION						P	F	P	F		
6	OPTIONAL BASE GROUP 9	105+00 TO 225+00		RT		17550.0	24.0	SY	46800.00		46800.0	✓		FINAL QUANTITY
7														SEE CPF AND OTHER
8														ADJUSTMENTS
9														EDMS 665543
10														
11														
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**ATTACHMENT 5-13-1B
 EXCEL PLAN SUMMARY BOX BACKUP DOCUMENTATION EXAMPLE**

PAY ITEM NUMBER	DETAILED REMARKS	DFEO REMARKS	
		SHEET/CELL	DESCRIPTION
285-709	CPF Adjustment Calculations		
	CPF Lot 1 = 1.03 = + 0.03% 17,541 SY		
	CPF Lot 2 = 0.98 = - 0.02% 3,780 SY		
	CPF Lot 3 = 0.99 = - 0.01% 1,659 SY		
	Unit Price = \$ 50.35		
	Lot CPF Unit Price Adjusted Unit Price		
	1 0.03 \$ 50.35/SY + \$ 1.51*		*Round to two decimal points for Dollar Amount
	2 -0.02 \$ 50.35/SY - \$ 1.01		
	3 -0.01 \$ 50.35/SY - \$ 0.50		
	Total Line Item Adjustments in SiteManager:		
	CPF 1.03 = +\$ 1.51/SY X 17,541 SY = + \$26,486.91		
	CPF 0.98 = - \$ 1.01/SY X 3,780 SY = - \$ 3,817.80		
	CPF 0.99 = - \$ 0.50/SY X 1,659 SY = - \$ 814.50		

Example of CPF backup calculation within the 'Final Backup' tab of the Excel CADD file.

ATTACHMENT 5-13-2A PLAN SUMMARY BOX AND BACKUP DOCUMENTATION EXAMPLE

SUMMARY OF CURB & GUTTER AND/OR TRAFFIC SEPARATORS															
PAY ITEM NO.	PAY ITEM DESCRIPTION	LOCATION		SIDE	AREA ID	UNIT	QUANTITY				TOTAL		DESIGN NOTES	CONSTRUCTION REMARKS	
		STA. TO STA.					GROSS LENGTH	DEDUCTIONS		NET LENGTH		P			F
								TYPE	LENGTH	P	F				
		436+26.88													
0520 1 7	CONCRETE CURB & GUTTER, TYPE E	436+36.88 to 436.77.27		LT		LF	131.7			131.7	141.7	963	973	Plan Error; see backup documentation & plan Quantity Analysis 65453	
		465+06.43 to 465+48.14		LT			134.9			134.9					
		493+76.01 to 494+15.18		LT			130.1			130.1					
		518+97.00 to 520+22.96		LT			303.4			303.4					
		556+13.32 to 556+52.73		LT			129.7			129.7					
		578+55.13 to 578+95.88		LT			133.3			133.3					

The plan summary box shown is within the Final As-Built plans file. The plan error is shown in red font and the backup calculation are referenced using an EDMS number. See the next sheet for a backup documentation example.

ATTACHMENT 5-13-2B PLAN SUMMARY BOX BACKUP DOCUMENTATION EXAMPLE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
FINAL MEASUREMENTS "MISCELLANEOUS"

700-050-61
CONSTRUCTION
12/07
Page No. 1 of 1

Date: 12/29/2015
Pay item #: 520-17 CONCRETE CURB AND GUTTER, TYPE E
Plan ERROR; STA.436+36.88 SHOULD HAVE BEEN 436+26.88
Gross Length PQ from STA 436+36.88 to 436+77.27 =131.7 LF
Plan Error from STA 436+26.88 to 436+77.27 = 141.7 LF
Added additional of 10 LF
Unit Price = \$ 14.00 per LF
Total PQ = 963 LF
Plan Quantity Analysis:
10 LF X \$ 14.00 = \$ 140.00 < \$ 5,000
(10 ÷ 963) 100 = 1.03% < 5% both scenarios do not qualify to change PQ.
Therefore Pay PQ of 963 LF
65453

ATTACHMENT 5-13-3A PLAN SUMMARY BOX FOR A LUMP SUM PROJECT

SUMMARY OF SIDEWALK													
LOCATION STA. TO STA.	SIDE	AREA ID	LENGTH	WIDTH	CONC SIDEWALK 4"		CONC SIDEWALK 6"		DETECTABLE WARNINGS		DESIGN NOTES	CONSTRUCTION REMARKS	
					0522 1		0522 2		0527 2				
					SY		SY		SF				
419+28.59 to 419+33.63	LT	26675								9.9	✓		
422+73.57 to 422+83.04	RT	31077								21.0	✓		
423+18.74 to 423+30.78	RT	31082								24.1	✓		
429+65.05 to 429+70.88	LT	26678								10.6	✓		
430+19.20 to 430+26.44	LT	26679								13.5	✓		
435+96.64 to 435+98.65	LT	31163								8.1	✓		
436+01.16 to 436+05.41	RT	26685								9.4	✓		
436+05.77 to 436+14.92	LT	31162								25.2	✓		
436+08.65 to 436+13.65	LT	31165								10.0	✓		
436+13.66 to 436+18.04	RT	26686								10.1	✓		
436+61.18 to 436+77.77	LT	26683								38.6	✓		
436+64.53 to 436+76.29	RT	26687								26.1	✓		
417+29.56 to 417+34.86	LT									4.5			ROADWAY PLANS, SHEET 8
418+75.92 to 418+81.82	LT									1.0			ROADWAY PLANS, SHEET 8
419+32.12 to 419+38.12	LT									1.0			ROADWAY PLANS, SHEET 8
430+40.84 to 430+57.73	LT									0.5			ROADWAY PLANS, SHEET 10
SUB-TOTAL:													
TOTAL:													

For lump sum projects, the tracking of pay item quantities is not required. However, it is good practice to insert a red check mark within the summary boxes as the work is completed. Any field changes should be noted in red.