Basis of Estimates Manual 2024

https://www.fdot.gov/programmanagement/estimates/documents/basisofestimatesmanual/boemanual

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Revision History

By Chapter

Introduction
BASIS OF ESTIMATES MANUAL

I.1 PURPOSE

The ***Basis of Estimates Manual*** sets forth the standard methods of documenting design quantities, as well as selection criteria, for pay items for Florida Department of Transportation (FDOT) projects.

Pay items are used to define, quantify, and pay for items of work to be completed on the Department's Maintenance and Construction Contracts.

I.2 AUTHORITY

Sections 334.044(2), 20.23(3)(a), and 334.048(3), Florida Statutes (F.S.)

I.3 SCOPE

This procedure impacts anyone preparing construction plans or specifications for the Department.

I.4 GENERAL INFORMATION

Chapter 334 of the ***Florida Statutes***, as part of the ***Florida Transportation Code,*** establishes the responsibilities of the State, counties, and municipalities for the planning and development of the transportation systems serving the people of Florida, with the objective of assuring development of an integrated, balanced statewide system. The ***Code's*** purpose is to protect the safety and general welfare of the people of the State and to preserve and improve all transportation facilities in Florida. Under ***Sections 20.23(3)(a) and 334.048(3), F.S.***, the ***Code*** sets forth the powers and duties of the Department of Transportation including adopting rules, procedures, and standards for the conduct of its business operations and the implementation of any provisions of law for which the Department is responsible.

I.5 DISTRIBUTION

This document is published online at http://www.fdot.gov/programmanagement/. Contacts, updates, and registration information are available at the Basis of Estimates link on the above internet web page.

I.6 REGISTRATION

All users are encouraged to register online with the FDOT Project Management Contact Database located at http://www.fdot.gov/designsupport/contactdatabase.shtm. Registered users will receive e-mail notification of major updates and bulletins.

I.7 REVISIONS and UPDATES

Basis of Estimates users are encouraged to submit comments and suggestions for changes to this manual to the Program Management Office. When ideas or suggestions are received, they will be reviewed by appropriate Design and/or Construction staff in a timely manner and will be coordinated with other offices affected by the proposed change. Issues warranting immediate change will be made with the approval of the State Estimates Engineer or State Program Management Engineer in the form of a *Program Management Bulletin*.

Program Management Bulletins will be posted online at http://www.fdot.gov/programmanagement/ .

NOTE: ***Program Management Bulletins*** will remain effective until either:

a) an official manual revision is published, or
b) the Bulletin is made void.

The Program Management Office will coordinate proposed revisions or additions with affected offices within the Central Office. All new chapters and substantive revisions that result in policy change will be coordinated in accordance with the Forms and Procedures Office in accordance with ***Procedure No. 025-020-002, Standard Operating System***, and the Executive Committee for concurrence.

Basis of Estimates Coordinator,
FDOT State Program Management Office
605 Suwannee St., MS 34
Tallahassee, FL 32399-0450
http://www.fdot.gov/programmanagement/

Updates are posted online annually. Pay Item Reference data is updated as needed. Issues resulting in a ***Program Management Bulletin*** will be updated as approved by the State Program Management Engineer. Additions, minor issues, or corrections not requiring a bulletin will be updated as needed.

I.8 TRAINING

No training required. Optional training for the ***Basis of Estimates***, reports, and supporting computer systems is available through the Estimating Systems Support section of the State Program Management Office.

I.9 FORMS

The Pay Item Request form is available online at http://www.fdot.gov/development/
The use of this form is optional; refer to ***Chapter 6*** for complete information.

Chapter 1

GLOSSARY, APPLICATIONS, REPORTS, AND PROJECT DATA VALIDATION

1.1 General

The definitions provided in this chapter are common terms used to describe or perform tasks related to construction cost estimating. Not all terms shown are found within this publication but are provided for reference and improved communication when working with the District Estimates staff.

The applications described in this chapter are related to the pay item and quantity data collected as part of the design documentation, effort of performing estimating tasks for determining the cost of the proposed work, and the need for adequate budgeting to meet the project needs and public commitments. Not all of these applications are accessed by the design team but are provided as an overview of the process to successfully prepare a project for advertisement.

Validation of the project data is important to ensure current and active pay items are included in the design documentation. Certain applications and reports accessed by the design team can aid in performing Quality Control of the project data entered within the Department's databases and applications. These resources and other reports are described in section 1.4.2.

1.2 Definitions of Terms and Abbreviations

Addendum: Changes made to a proposal after advertisement but prior to the letting.

Advertisement: Public solicitation to potential bidders for FDOT contracts.

Allowance: An amount or percentage of cost used to account for known items of work with quantities yet to be determined.

American Association of State Highway and Transportation Officials (AASHTO): Association representing highway and transportation departments whose goal is to foster the development, operation, and maintenance of an integrated national transportation system.

Alternative Contracts: Contract delivery method that, other than traditional Design-Bid-Build contracting, which leverage innovative means to improve the construction project, speed project delivery, and improve project delivery without compromising safety and quality. The types include Lump Sum, Design-Build, Push Button and A+B, etc.

Alternative Technical Concept (ATC): Process within Design-Build procurement method which allows the Design-Build firm to deviate from the RFP to allow for innovation, flexibility, time and cost savings on the design and construction of Design-Build projects while providing the best value for the public.

Authorization Estimate: Construction cost estimate used for federal authorization, advertisement, and the Work Program construction amount.

Bid Analysis Monitoring System (BAMS)/ Decision Support System (DSS): An AASHTOWare computer-based information system that receives data from AASHTOWare Project Preconstruction and supports business or organizational decision making activities.

Bid-Based Estimating: Method of cost estimating based on the preliminary design which uses historical bid data from prior projects.

Bridge Culvert: Box culvert measuring more than 20 feet in length, regardless of width.

Candidate List: List of projects proposed to be adopted into the Department's Five Year Work Program.

Class 1 Contract: Contracts let in Central Office.

Class 7 Contract: Contracts let in District office.

Class 9 Contract: Design-Build Contract.

Contingency: An amount or percentage of cost used to account for project unknowns.

Contract: Term for a proposal used after award. Contracts are identified by Contract Number.

Contract Plans: The signed and sealed documents prepared during the design phase and used by construction personnel to build a project.

Cost-Based Estimating: Method of cost estimating which uses material, equipment and labor costs, and production rates.

CER: Cost Estimate Review

CPAM: Construction Project Administration Manual

CRA: Cost Risk Assessment

CSRA: Cost and Schedule Risk Assessment

Design Groups: A group of construction items that are specific to project work areas, such as structures, roadway, or signalization, that are represented by a numeric value. Design Groups are also known as categories in AASHTOWare Project Preconstruction and Designer Interface.

Design Quantities and Estimates (DQE) Application: A computer application used during design phases which produces detailed construction cost estimates for roadway and bridge projects.

Designer Interface: Department developed web-based program that interfaces with PrP and is used by designers and estimators to enter pay item and quantity information.

Engineer of Record (EOR): Individual who signs and seals documents prepared during the design phase and used by construction personnel to build a project.

Engineer's Estimate: Cost estimate representing the reasonable cost of a construction project, usually produced by the EOR of the contract plans.

Estimator: Estimates Office staff member who prepares construction cost estimates for the Five Year Work Program.

Estimated Quantities Report (EQ Report): A single PDF file that contains all pay item and quantity information for a project.

Estimates Report Tracking System (ERTS): Computer reporting tool that tracks the history of changes to long range and detailed construction cost estimate values; queries other systems for data, does not house any of its own data.

Exceptions: Construction cost estimates within the Five-Year Work Program which do not meet certain criteria. For Design Exceptions, see FDOT Design Manual 122.

Fiscal Year: FDOT fiscal year begins on July 1st and ends June 30th each year. For example, July 1, 2024 will start fiscal year 2025.

Fixed Price Pay Item: A pay item where the unit price is set by the Department at the project level. The pay item appears on the proposal/bid documents with a set unit price and in the bidder's Expedite file. Fixed price pay items contain the words "Do Not Bid" in the pay item description.

Forms and Procedures Library: Location of the Florida Department of Transportation Forms and Procedures; located at https://pdl.fdot.gov/.

FHWA: Federal Highway Administration

Gap: The dollar amount that the total low bid is either above the High Tolerance or below the Low Tolerance.

Initial Contingency Amount: Cost, as defined by Section 7.4.6.1 of the Construction Project Administration Manual, added to the construction cost estimate for unforeseen work.

Intelligent Transportation Systems (ITS): Integration of advanced communications technologies into transportation infrastructure.

Letting: Process of receiving and processing bids, at a predetermined date and time, for a specific listing of proposals.

Letting ID: The Letting ID is comprised of eight characters in the format ##YYMMDD, using two numbers for each District (i.e. 07 for District 7) or CT for Central Office lettings, followed by two digits for year, two digits for month, and two digits for day.

Long Range Estimating (LRE) Application: Parametric estimating computer application used early in project development, prior to determining detailed quantities and pay items, which produces conceptual construction cost estimates for roadway and bridge projects.

Lump Sum: Projects bid as one pay item that represents the detailed scope of work contained in the plans.

Materially Unbalanced: A bid that generates reasonable doubt that award to the bidder would result in the lowest ultimate cost or, one that could cause a switch in low bidder due to a quantity error.

Mathematically Unbalanced Bid: A bid that contains lump sum or unit bid items that do not responsibly reflect the actual costs (plus reasonable profit, overhead costs, and other indirect costs) to construct the item. A mathematically unbalanced bid is the first step in determining if a bid is materially unbalanced.

NEPA: National Environmental Policy Act

Non-Bid Pay Item: A pay item included in a project and proposal with the goal of encumbering funds, without affecting the bidder's total bid. The pay item does not appear in the bidder's proposal/bid documents.

Notice to Bidder: A document that lists pay items with significantly unbalanced bids that requires an explanation and confirmation of the unit price bid from the contractor.

Official Estimate: Construction cost estimate used for evaluating bids received on a proposal and protected by **Section 337.168(1), Florida Statutes.**

Parametric Estimation: Method of cost estimating based on the conceptual design which using modeling tools, typical characteristics, and historical costs.

Pay Item: A number representing work in accordance with the FDOT Standard Specifications for Road and Bridge Construction or Contract Documentation.

Plans, Specifications, and Estimate (PS&E): The contract plans, specifications, and estimate package submittal used for project authorization, advertisement, and letting.

Project: Planned construction activity with set limits and scope, as defined in the Department's Work Program.

Projects of Division Interest (PoDI): Projects which FHWA has determined have an elevated risk, contain elements of higher risk, or present a meaningful opportunity for FHWA involvement to enhance meeting FHWA program or project objectives.

PD&E: Project Development and Environment

Project Manager (PM): Staff member responsible for management of a component of the Work Program; project managers are responsible for managing the production of plans, specifications, and estimates for projects in the Department's Work Program.

Project Preconstruction (PrP): part of the AASHTOWare suite of software which facilitates letting.

ProjectSuite Enterprise Edition (PSEE): Application which supports transportation construction project development activities and processes; PSEE pulls information from Work Program, Consultant Invoice Transmittal System (CITS), and Enterprise Electronic Document Management System (EEDMS).

Project Unknown Factor: Factor used in the process of estimating to account for unknowns that may be added to the project.

Proposal: Project or group of projects submitted as one contract for bidding purposes. Proposal Number refers to the Contract Number prior to award.

Revisions: Changes made to a proposal after acceptance of the PS&E submittal prior to advertisement.

RFP: Request for Proposal

RFQ: Request for Quote

Specifications Package: The signed and sealed document prepared for inclusion in the contract documents, which is comprised of special provisions, developmental specifications, supplemental specifications, and appendices.

Significantly Unbalanced Bid: A bid that is extremely low (mathematically unbalanced) and typically not practical to construct for the price submitted.

Snapshot: A copy of a project cost estimate detail or total amount saved in LRE or DQE which can be used to graph the change in cost of the project at various milestones throughout the project's development.

Trns•port: Predecessor to AASHTOWare Project Preconstruction (PrP). Trns•port was replaced by AASHTOWare Project Preconstruction at FDOT on June 1, 2015.

USDOT: United States Department of Transportation

Webgate: This FDOT website is a location of links to multiple AASHTOWare applications and other applications. It contains links to Designer Interface, AASHTOWare Project Preconstruction, LRE, AASHTOWare Project Webgate Reporting, etc.

Work Program: The statewide project specific list of transportation system improvements that meets the objectives and priorities of the Florida Transportation Plan.

Work Program Administration (WPA): Department mainframe database containing project descriptions, estimated costs, and scheduled phases for all past and present Department projects; WPA is a part of the Financial Management (FM) system.

Work Type: PrP field describing the majority of work on a proposal.

1.3 Applications

The designer will be granted access to applications and reporting portals to facilitate entering and verifying project pay items and other project related data. Coordinate with the Project Manager on what access will be granted as some districts perform data entry and validation tasks with FDOT staff while other districts contract design consultants to perform these tasks.

The Long Range Estimating (LRE) application contains the pre-design project scope and cost estimate covering the proposed work. Some districts require the designer to populate this application with the project information necessary for early project development phases.

The Design Quantities and Estimates (DQE) application has public links available to the designer for viewing available pay item configurations (Pay Item Structures (Templates)

and variables) and currently active items (Master Pay Item List). These links are available on the top menu on the login screen. No log in is required to access these links to the pay item reference information.

AASHTOWare Project Preconstruction (PrP) is part of a suite of programs developed by AASHTO (American Association of State Highway Transportation Officials). Many states around the country use this suite of programs for their transportation contracts. Additional information is available at http://www.aashtoware.org/ FDOT uses the Project Preconstruction (PrP) module. Details on the modules are available at https://www.aashtoware.org/products/project/project-modules/

The Designer Interface (DI) is available to the designer to facilitate the data entry necessary for pay items and quantities that are representative of the project's scope. The Designer Interface enables the designer to load pay item and quantity data into AASHTOWare PrP without needing to access that application directly. Automated data validation features are applied within DI to ensure accurate population of data into PrP. Once the pay items are loaded, DQE is utilized by Department Estimates staff to develop the construction cost estimate.

The Webgate menu is a FDOT portal that serves as a doorway to the Designer Interface, the AASHTOWare Project Webgate Reporting Login, and various other applications.

LRE, DI, and Webgate Reports are accessed with a RACF user ID and password and/or a Microsoft Azure AD Account (Office 365 account) and password, depending on the application and whether the user has internal or external access permissions. The design project's Project Manager facilitates requests for access by designers.

1.4 Project Data and Validation

1.4.1 General

Once assigned to a project, the designer should verify:

a) that the project exists (or that proper control has been given)
b) that all project header information is correct

If proper control is not given, the project will not appear on the designer's list of available projects. The designer should contact the District Estimates Office to request access.

If the project appears on the Project List with a lock, another user may be accessing the project. If the lock remains, contact the District Estimates Office; the lock may be the result of closing a browser without closing the project from editing.

Many of the Webgate reports are available to any user with access to the Reports Menu. The reports listed below are generally used by the Designer, with the “Designer” role; Users may not have access to all the reports listed below.

1.4.2 Reports and Data Extracts

Project Edit Report

The Webgate **Project Edit Report is the single most important report.** It should be run at the project level after updating any items or quantities, after an update bulletin, or after a project has been idle or “shelved” for a period of time. In addition to listing the current items and quantities, this report will provide an item check (based on the proposed letting date) that identifies obsolete items, quantity precision errors, and Categories with no pay items.
For projects with a structures category, this report MUST be used to review structures header information.
This report can also be used to quickly identify most non-standard pay items on the project: If non-standard, the first column of the report (titled SPC) will be populated with a character. That character (letter) correlates to the Spec Type flags in the BOE, allowing for easy identification of items that may require additional documentation, approvals, or other deliverables. See Chapter 2 for more information about non-standard items.

Master Pay Item List Report

The Webgate Master Pay Item List Report is a list of items currently available in PrP. This report is generated from a “live” database in DQE that is the primary source of all pay items; designers are encouraged to use the Master Pay Item List online through DQE. This report also includes valid (effective/obsolete) dates. A Spec flag is assigned to all pay items for non-standard work. See Chapter 2 for more information. Additional items may be opened upon request; refer to Chapter 6 for additional information.

Summary of Pay Items Report

This report produces a summary of pay items and quantities for a selected project. If a proposal exists, the report will be of the proposal level - if not attached to a proposal, the report will be of the project level. Either level, project or proposal, may be used for phase reviews; the proposal summary must be used for final plans. The report also identifies the participating and non-participating quantity for each pay item.
For Summary of Pay Items Report requirements, see ***FDM 902***.

Item Average Unit Cost by Item Number

This Webgate report will compute a regular average for unit price, and a weighted average for unit price based on quantity. The total number of contracts that are selected (that have

the items on the contract) will be listed, as well as the total quantity and total dollar amount for that item. This report is helpful when detailed project information is needed for a specific pay item, as it can provide some historical project information for the selected items. Note: The pay items must be entered individually, rather than as a group.

Item Average Unit Cost by Item Range

This Webgate report provides a historical average for a pay item range, over a specified date range. This report is helpful when general price information is needed for selected pay item ranges.

Custom Reports

The State Program Management Office has the ability to create and/or run custom reports for user specified criteria. Please contact your District Estimates Office if custom reports are desired.

Chapter 2

PAY ITEMS GENERAL INFORMATION

2.1 General

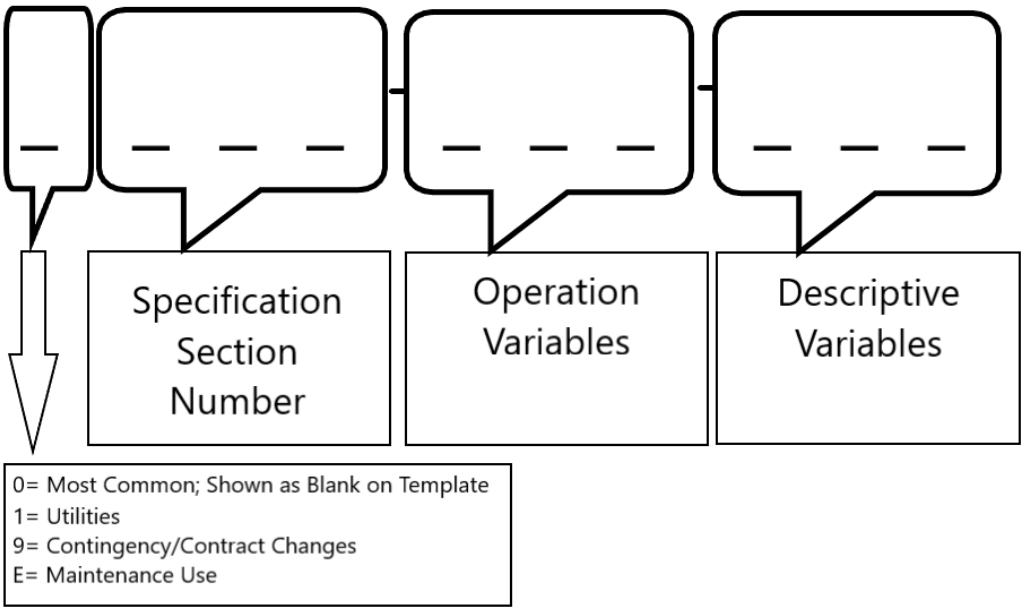
The purpose of this Chapter is to provide general information about pay items, list common units of measure, and assist users with understanding the pay item structure/template. It will also assist users with understanding how/why pay items are formatted and displayed in the plans.

It should be noted that this chapter is a guide for understanding pay items, not a restriction on how they may/may not be used. Each pay item group will be evaluated based on the many needs of our customers: Design, Estimates, Construction, Maintenance, Traffic Operations, Contracts, and Management. It should be understood that the needs of one group may be considerably different from those of another. Communication between these groups is essential whenever a new pay item request is evaluated.

The pay item format is shown below. More information on pay item format and the variables used is available in sections 2.3 and 2.4.

Pay Item Format

Number layout/formatting for most items is as follows (exceptions and variations excluded).



2.2 Pay Item Measurement and Quantity Accuracy

2.2.1 Unit of Measurement Abbreviations

Listed below are selected Unit of Measure abbreviations used in the Basis of Estimates.

Abbreviation	Unit of Measure	Precision
AC	Acre	0.01
AS	Assembly[1]	1
BF	Board Feet[3]	1
CF	Cubic Foot	0.1
CY	Cubic Yard	0.1
DA	Day	1
EA	Each	1
ED	Each Day	1
FD	Feet-Day	1
GA	Gallon	1
GM	Gross Mile	0.001
HR	Hour	1
LB	Pound	1
LF	Linear Foot	1
LO	Location	1
LS	Lump Sum	1
LU	Luminaire[1]	1

MB	Board Measure/ Thousand Feet	0.1
MG	Thousand Gallons[3]	1
MH	Man-hour[2]	1
MI	Mile	0.001
MO	Month[3]	1
NM	Net Mile[3, 4]	0.001
PI	Per Intersection[1]	1
PM	Per Mile[3, 4]	1
PS	Per Set[1]	1
SF	Square Foot	1
SY	Square Yard	1
TN	Ton	0.1

[1] Units which will be (or have already been) replaced with unit of Each (EA) upon pay item/specification update. See details below.
[2] Units will be replaced with Hour (HR), upon pay item/specification update. See details below.
[3] Unit used by Maintenance pay items only
[4] Unit will be replaced with Gross Mile or Mile as appropriate (GM or MI), upon pay item/specification update.

Conversion to Each: Units of measure previously identified as assembly, luminaire, plant, or other units will be changed to EA, as specifications are revised. The item's description should indicate the item to be measured with the EA unit of measure.

2.2.2 Quantity Totals Precision and Rounding

Precision is noted on the abbreviations table above. Calculations are performed with one additional significant figure, and then rounded to the above precision for the quantity total.

As a quick guide, most units are paid to the nearest whole number, except for:

0.1: Cubic Yard, Cubic Foot, Tons, MB (lumber)
0.01: Acre
0.001: Gross Mile, Mile, and Net Mile* (stripe) *See Note 4 above

Rounding shall be completed in accordance with the common rule: If the number you are rounding is followed by 5, 6, 7, 8, or 9, round the number up. If the number you are rounding is followed by 1, 2, 3, or 4, round the number down. DO NOT use "up rounding", which will always round up the next value. For example: A calculated total of 132.3 ft should be shown as 132 ft, and NOT up rounded to 133 ft.

The pay items in the automated Summary Tables in the EQ Report have precision and rounding in accordance with this Chapter. See Chapter 8 for additional guidance.

2.2.3 Lump Sum Pay Items with Secondary Units

Sometimes referred to as hybrid units, Secondary Units apply only to some Lump Sum (LS) pay items. When a lump sum pay item has secondary units other than another lump sum (LS/LS), the designer must enter the estimated secondary quantity into the Designer Interface. Estimating reports will show the secondary units for estimating purposes. The Project Summary, Proposal Summary, and other bid document reports will show the primary LS units with a quantity of 1 for bidding purposes, while detailed Summary Tables show secondary unit and quantities.

Example: 102-1-1 Maintenance of Traffic, LS/DA has a secondary unit of days. After the designer enters the number of MOT days for that project number, estimating reports will show the number of days while the Proposal Summary of Quantities will show 1 LS. However, secondary unit of DA and the number of MOT days will be shown on Estimated Quantity Report (EQR).

For Lump Sum items with a secondary unit of Lump Sum (LS/LS), partial payments will be made based on the percentage completed, per Section 9 of the Specifications. Percentage will be rounded to 2 decimal places (0.01 of the total quantity of 1).

Additional guidance for pay items with secondary units may be included with the pay item number details. Refer to BOE Chapter 9 for guidance on Supplementary Descriptions. Refer to Chapter 8 for guidance on documenting work and materials for Lump Sum items. NOTE: Lump Sum pay items are NOT PERMITTED on Push Button/Work Document Contracts. Additional details are included in Chapters 6.

2.2.4 Plan Quantity Concept

Plan Quantity Measurement is defined in 9-1.3 of the specifications. Estimated quantities must be calculated and documented as accurately as possible. Plan Quantity pay items shall not include contingencies in the quantity calculation.

2.3 Pay Item Number Formatting / Legend

When viewing items in the BOE within DQE, pay item fields are shown in the following format:

Pay Item Template Structure Detail

Structure ID	**Title**	
(XXXX-XXX-XXX)	(Title with nomenclature derived from spec)	
	Unit	**Plan Quantity?**
	(See above)	(Yes or No)

Notes (Important Notes or Dates)

Details (Details and usage recommendations)
Plan Summary Box (Summary Box/Table title)
References (As appropriate)
PPM/FDM Chapter(s) (As appropriate)
CPAM Chapters (As appropriate)
Other (As appropriate)
Standards (Associated Standard Plans Index/Indices)
Specifications (Associated Standard Specifications Section(s))
Struct. (XXXX-XXX-XXX, Title, Unit)
(This area describes the variables and what they represent)
(X = Variable 1)
(Y = Variable 2)
(Z = Variable 3, etc.)
Pay Items (List of open and active items under this structure/template)

Each of the above fields are clarified below:

Structure ID: Each 10 character Pay Item is structured into three parts: 0123-456-789. Spaces, as well as digits, may be used to detail an item and are an important part of the template that is often mistyped/overlooked.

Within the first group (first 4 characters):

- the leading digits can be 0, 1, 9 or E. See 2.1 for definitions.
- the remaining digits in the first group (second through fourth digits) identify the applicable Specification Section.

The two proceeding groups (fifth through tenth spaces/digits) are descriptive fields, as detailed for each item. These variables are described under the “Struct.” field (see below).

Note: the 900 series items are developmental, special, and/or project specific. (See the applicable pay item group for more information). In those instances, the *middle* group of digits may identify the applicable Specification Section.

Title: The structure/template level description of the pay item group. Whenever possible, the title should use common terminology. This description may be abbreviated on some reports, due to space constraints. The complete, “Long Description”, is used whenever possible.

Unit: Unit of measure and precision (decimal places) are defined in this Chapter. When secondary units are shown, they are intended for estimating purposes, and should be documented in the EQ Report as instructed (see BOE Chapter 8).

Plan Quantity?: Indicator that this item is, or is not, designated to be paid under the Plan Quantity concept, per Section 9 of the Specifications. The pay item’s applicable

specification section will identify measurement and payment details.

Important Notes or Dates: Many pay items are opened or blocked with an effective/obsolete date. Verify that these dates correspond with a project's scheduled letting date. The Designer Interface and/or reports will verify valid dates for selected pay items.

Important dates are normally shown in this field for 1 year after implementation of a change. Longer or shorter durations may be used, based on the change and number of projects impacted.

Detail: General guidance and coordination/approval requirements may be found in this area. Often includes a description of the most common usage of the pay item, intended to assist designers with the selection of pay items. Also includes, when necessary, detailed information useful to the designer for calculating quantities and determining related pay items. Text may include "Use When…", "Do not use when…", or "Estimate xx items per…".

Comments from any BOE user are welcome to enhance or update outdated information. Details must follow current Specifications, Standards, or other FDOT documents.

References- FDM Chapter, SDGs, Other: Links are provided to applicable ***FDOT Design Manual*** Chapter(s), ***Structures Design Guidelines***, or other design references.

Standards: Indicates the Index sheet number(s) for the applicable Standard Plans. When the Index number is listed in the pay item description, the pay item **must** be used in accordance with the referenced standard. Contact the governing District's Specifications, Estimates, and/or other Responsible Office for non-standard applications. Non-standard applications may be required to use a different pay item number, due to differing cost history.

Specifications: Links are often provided to the current FDOT Standard Specifications (Specifications eBook), applicable specifications section, and/or the specifications library. These links are for reference purposes only; the designer is responsible for using applicable specifications, as available from the State Specifications Office, for the project's letting date. Contact your District Specifications Office for further assistance.

Struct: Displays the structure, or *template*, of how the item is numbered, titled, and its unit of measure. Directly below the structure/template will be the list of variables (if applicable) that are used in the item structure, and their respective operations, values, descriptions, sizes, etc. Notes and/or restrictions may be listed here as well, to describe how the variables may/may not be formatted to represent valid combinations.

Pay Items: List of all currently open and active pay items under the given structure.

2.4 Pay Item Structure/Template

The Pay Item Structure/Template may vary somewhat between items, but the intent is to define the operation and variables needed to pay for the work and/or materials provided. Additional operations may be added per request.

2.4.1 Common Operations

Valid operations and numbering may vary by item (some operations may not be valid; additional operations may exist):

1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Replace)
4 (Relocate)
4 (Repair)
5 (Adjust & Modify)
6 (Remove)
7 (Preventative Maintenance)
8 (Diagnostic and Minor Repair)
9 other item specific operation, as needed

The specifications normally describe furnish & install operations. For all other operations, always verify that the specifications/plan details correctly and completely describe the work to be completed. Refer to Chapter 7 for assistance with determining if a Modified Special Provision (MSP), Technical Special Provision (TSP) or plan detail is needed.

FURNISH & INSTALL: Includes all work and materials necessary for a complete installation in accordance with the contract documents (plans, specifications, standard plans, etc.).

FURNISH: This operation is valid for very few pay item groups. Approvals by the responsible office may be required for each project. Do not furnish additional items to FDOT maintenance yards using construction funds. When requested, and funded by the maintaining agency, the furnish-only item may be used. Plans or specifications must detail instructions for delivery of item(s) to the maintaining agency. Do not use separate “Furnish” and “Install” pay items for the same item of work.

INSTALL: To be used ONLY when the item is to be furnished by the Department or other maintaining agency. Plans or specifications should clearly identify the item(s) to be installed, pick-up/delivery instructions, as well as installation instructions. Payment includes any incidentals necessary (furnished by the Contractor) for a complete installation.

RELOCATE: Ensure that the existing item is in good condition; it may not be cost effective to relocate an old/obsolete item. Plans or specifications should clearly identify the item and initial/final locations. As needed, detail the incidental items (included in relocate item payment) to be furnished by the Contractor for a complete installation. Clearly identify conditions under which item replacement (damaged by contractor) is needed.

ADJUST/MODIFY: Detail minor work to be completed by the Contractor. Incidental items are to be furnished by the Contractor. This operation may include retrofits.

REHABILITATE: Includes the removal and replacement of an item, as detailed in the contract documents. Designer should ensure that materials and installation instructions are available to the contractor.

REMOVE: Plans or specifications should identify if contractor is to take ownership, stockpile, or deliver item(s) to a FDOT maintenance yard.

PREVENTATIVE MAINTENANCE: Work to be completed to extend the useful life of a product, as allowed by Federal Highway Administration (FHWA). This does not include routine maintenance, such as litter removal, mowing, or graffiti removal. Details must be included in the contract documents to describe the work to be completed.

PLUG & PLACE OUT OF SERVICE: Plans or specs should identify materials and work to be completed.

DIAGNOSTIC AND MISCELLANEOUS REPAIR: This is normally a maintenance operation to determine the work required to return an item to full working order. If components or assemblies are needed to complete the repair, they will be paid under related pay items, i.e. Furnish & Install, Replace, or Install.

SPECIAL/CUSTOM: To be used only when there is a significant deviation from the standard item or work to be completed: existing specifications and/or standards do not apply. Complete details including description, materials, installation, maintenance, method of measurement, and basis of payment are to be included in the plans or specifications. Project Specific Pay Items may be recommended for unique situations.

2.4.2 Equipment and Materials

When there is a need for the design to specify the equipment and/or materials to be installed (i.e. solar versus AC power, or standard versus preformed thermoplastic), the equipment or materials may be included within the pay item structure. Selection guidance should be available in the supporting documentation or handbook, to ensure consistent use of the item.

If no selection guidance is available, all equipment and material options, per the specification, should remain a contractor option.

2.4.3 Construction Means and Methods

For most specifications, acceptance criteria are based on the end result or performance criteria; the contractor's means and methods, equipment used, or how something is installed is not a factor. The pay item structure should not differentiate various means and methods, unless the approved specification includes these requirements.

Non-Standard pay items may be needed when approved specifications identify means and methods that will likely cause significant bid price variations.

2.4.4 Maintenance Office Contracts

Maintenance Office contracts deviate from normal construction contracts, due to different specification needs. Some pay items are reserved for Maintenance Use Only, and are supported by Maintenance Specifications. When pay items are identified for Maintenance use, ensure that contract needs and applicable specifications are available/applicable, as needed. More information and links to the current Maintenance Specifications can be found on the FDOT's Program Management website.

2.5 Pay Item Ranges and Other Variables

The pay item structure/template (####-abc-def) should be used to define parameters which affect the price (i.e. size, shape, material), and variables "a" through "f" are detailed as needed. Parameters which do not affect the price may be detailed in the plans; additional pay item variables will not be created for these parameters. Limited structures can be used to encourage price competition between products that perform similar functions and/or provide similar end results (i.e., more items, less history per item).

Ranges are established to combine items/sizes with similar installed costs. When a pay item range is used, the designer must specify the specific size/shape needed on the plans and/or tabulation sheet(s). Ranges are not intended as a "contractor's option".

For most reports, including the Master Pay Item List and Project Edit Report, descriptive information such as size, shape, and color will be included after the primary description. The title and/or description may include abbreviations when the pay item is created.

Currently open pay item numbers are shown following the pay item structure. For additional information on opening or requesting new pay items, refer to Chapter 6.

2.6 Displaying Pay Items in the Plans and Other Contract Documents

2.6.1 General

Pay item numbers and descriptions may vary, depending on where it is displayed and the available space. When referring to a **group of pay items**, the format XXX- XXX- is normally used, with the last group of variables omitted. When referring to individual pay item numbers, the complete Pay Item Number format XXXX-XXX-XXX is used with the full item description. Below are some exceptions and guidelines.

Pay item descriptions must remain as shown in the BOE and as provided from the various system reports. This is the description used for the contract bid documents through final payment. See Chapter 6 for information about requesting pay items when non-standard applications require other descriptions.

2.6.2 Displaying Pay Items in Specifications

Specifications normally apply to an entire **group of pay items**. Therefore, only the group level of the Pay Item Structure is shown in the specification (XXX- XXX-) with the group level description. Placeholder letters for the pay item variables are not included with the specification.

2.6.3 Displaying Pay Items from Applications or Reports

Reports normally apply to specific **pay item numbers**. The complete pay item number should be used with the pay item's description. The complete pay item description should be used, as shown in the Master Pay Item List (long description). NEVER alter the application's report/output; do not change report content or format.

2.6.4 Displaying Pay Items in Plans

When pay items are shown in the plans, a dash is normally used to separate the format group numbers. When referring to a pay item group in the plans or specifications, the variables may be omitted, with only the numerical part of the pay item structure/template included; these should also follow the pay item structure/template. When referring to a specific pay item number, the complete number should be shown.

Some applications and reports (CADD, Designer Interface, or other) may omit the dash in their default formatting. The spaces within a pay item number, or lack thereof, have significance in these situations, and MUST be retained. The designer must NEVER manually add or delete a dash or space from a report or application output.

Summary Tables within the Estimated Quantities (EQ) Report may be a combination of CADD automation and user input data with formatting. Quantities are summarized by pay item number, per BOE Chapter 8. The pay item description, automated by CADD software or manual input, shall be consistent with the Pay Item Template in BOE.

2.7 Changing/Updating Pay Item Descriptions in the Master File

In general, pay item descriptions cannot be changed or updated, due to the impact on the historical database and previously let contracts. Minor clarifications will be considered, depending on the scope of the change and project impact. Contact the Basis of Estimates Coordinator for item specific concerns.

2.8 Pay Items and Specifications

2.8.1 General

As noted in other sections of this chapter, the first group of digits in the pay item structure/template typically corresponds to the applicable Specification Section. The following table is helpful for finding common pay item groups. Note that it does not include all possible section numbers; it is only a guide to help identify “Where to find it…”

2.8.2 Where to Find Pay Items in the Specifications

Pay Item Group/ Specification Section	**Description, including key words for searches**
101	Mobilization
102	Maintenance of Traffic
104	Erosion Control
107	Litter Removal and Mowing
110	Clearing and Grubbing
120-175	Excavation, Embankment, and other Earthwork
200s	Base Courses
300-341	Bituminous Mixtures, Milling, Superpave, Friction Courses
349	Ultra High Performance Concrete
350-353	Concrete Pavement
400	Concrete Structures
415	Reinforcing Steel and FRP Bars
425-446	Drainage: Inlets, Manholes, Junction Boxes, Pipe, Trench Drain, Underdrain, French Drain, Edgedrain
450	Precast, Prestressed Concrete
455	Structures Foundations: Piling, Drilled Shafts
470	Timber Structures
508-510	Movable Bridges: Navigation Lights, Machinery
520-522	Concrete Gutter, Curb, Barriers, Traffic Separator, Sidewalk
523	Patterned/Textured Pavement

530	Riprap
534	Sound Barriers
536-538	Guardrail
550	Fencing
560-561	Coating Structural Steel
570-580	Grassing, Seeding, Sodding, Landscaping, Trees, Plants
600s	Signalization: ITSFM, Fiber Optics, Conduit, Mast Arms, Detectors, Cabinets
700-706	Signing, Delineators, RPM's
709-714	Pavement Markings: Paint, Thermo, Tape
715	Lighting: Poles, Conduit (see also 630 for conduit)
800s	Mass Transit
900s	Special, Developmentals, Trial Items
1000s	Utilities

2.8.3 Specification Flags on Pay Items

Several letters or "flags" are used on the Master Pay Item list to indicate when a pay item is non-standard.

The Spec-Type flags in the BOE are indications of the level of pay item support that were likely necessary at the time of item creation. Updates to the Standards might not be immediately reflected in the BOE, but the presence of a flag can still indicate that further due diligence may be required (to ensure the item has received all approvals and/or is properly supported in the contract documents).

Flags descriptions are listed below:

A= Approvals needed
B= BOE guidance
D= Developmental Spec
E= Estimates Use Only
G= Generic Item
T= Technical Special Provision
M= Maintenance use only
P= Plan Details
R= Permit
S= Modified Special Provision

Approvals: Contact the monitor for approval on each project. Additional information is provided in the BOE details for the pay item.
BOE Guidance: Specification flag(s) may depend on multiple factors, as described in the BOE details for the pay item group.
Developmental Specification: Developmental Specifications must be requested from

the District Specifications Office, for approval by the Central Office (CO) Specifications Office, on a project-by-project basis. Follow the instructions on the Specifications Office's developmental specifications page at https://www.fdot.gov/programmanagement/OtherFDOTLinks/Developmental/Default.shtm

Estimates Use Only: These items are intended for estimating/accounting use. For additional information, see ***BOE*** guidance for the pay item number.

Generic Item: See Chapter 6 for details

Technical Special Provision (TSP): Specification preparation assistance is available at https://www.fdot.gov/programmanagement/PackagePreparation/Default.shtm While TSPs are project specific, coordinate with the District Specifications Office, as past specifications may be available for reference.

Maintenance Use Only: Selected pay items are available for use on Maintenance Contracts only, due to maintenance specification changes that provide for separate payment and/or method of measurement.

Plan Details: While all pay items have selected plan details showing the quantities, locations, and/or dimensions, this flag is used to identify pay items with additional information required, per the Specifications.

Permit: Pay item is used for work required by a permit, normally issued by an environmental or water management agency. These pay items should NOT be used unless addressed in the permit.

Modified Special Provision: Modified specifications must be coordinated with the District Specifications Office. Additional guidance is available at https://www.fdot.gov/programmanagement/PackagePreparation/Default.shtm

Refer to the details for the specific pay item group in the Basis of Estimates ***DQE*** Pay Item Database for additional information.

Chapter 3

PROJECT AND PROPOSAL COST ESTIMATES

3.1 General

The Department is required to develop and review Construction Cost Estimates for all projects within the Work Program. Both during early project planning stages and while the project is being designed, the scope must be maintained so that cost estimates correctly reflect the anticipated work. This chapter will address estimate requirements at each project phase, as well as periodic updates that may be required.

3.2 Initial Work Program and Scope Estimates

The Initial Work Program and Scope Estimates are often completed by the Department, prior to a Consultant Design Contract being issued. These estimates are normally entered into the **Long Range Estimates (LRE)** system, based on available scope information and historical prices.

The purpose of these estimates is to determine a budget amount for the Work Program. For additional information, see procedures ***600-010-005, Development & Review of the 5 Year Work Program Construction Cost Estimates,*** *and* ***600-010-001, Preparation of the Authorization/Official Construction Cost Estimate & Contract Bid Review Package,*** *available in the Procedural Document Library.*

3.3 Project Design Estimates

3.3.1 Phase I Estimate

Update the estimate to reflect any scope changes. ***FDM 901*** identifies preliminary information that should be available at this phase. Verify that the following items are correctly reflected in the Phase I Estimate:

Typical Section(s)
Right of Way widths
Bridge and Bridge Culvert lengths and widths
Curb and/or Sidewalk preliminary lengths
Drainage needs, including open/closed system or retention ponds
Other components, including Signalization, Lighting, Landscaping

While specific pay items and quantities may not be known at this phase, it is important that the estimate identify all anticipated work/scope.

3.3.2 Phase II Estimate

Update the estimate to reflect any scope changes. ***FDM 901*** identifies preliminary design information that should be available at this phase. Verify that the following items are correctly reflected in the Phase II Estimate:

Typical Section(s)
Right of Way widths
Bridge and Bridge Culvert lengths and widths
Curb and/or Sidewalk preliminary lengths
Drainage Structures and Pipe Sizes
Retention Pond Size
Other components, including Signalization, Lighting, Landscaping

In addition to updating scope information for the Phase II Estimate, the ***FDM*** requires that pay items be loaded into the Designer Interface. This will help to identify specification and pay item needs that must be addressed before the Phase III submittal. Coordinate with the District Specifications Office and the District Estimates Office for any non-standard specification or pay item needs. See the ***Specifications Handbook*** for additional specification guidance. See ***BOE Chapter 6*** for requesting pay items.

The District Estimator will update/review the Department's Phase II Cost Estimate using any combination of LRE, DQE, AASHTOWARE PrP, Phase II plans, and other scope documentation.

3.3.3 Phase III Estimates

FDM 901 requires that all pay items and quantities should be "complete, but subject to change". Verify that all items are correctly reflected in Estimated Quantities Report. Update pay items and quantities through the Designer Interface.

Notify the District Specifications Office and District Estimates Office of any pending non-standard specifications or pay items, so that the cost estimates can reflect all anticipated work. The District Estimator may request the Designer/Engineer's cost estimate on certain pay items, especially Lump Sum pay items and those with non-standard specifications or pay items.

The District Estimator will update the Department's Phase III Cost Estimate, based on the pay items and quantities loaded through the Designer Interface. The project, details, proposed work items, materials needs, and applicable specifications will be considered by the District Estimator as well as specifics of the unique project activities and non-typical work site conditions and considerations.

3.3.4 Phase IV Estimates

FDM 901 calls for Work Zone Traffic Control pay items to be updated based on the

established construction duration. Update all remaining pay items, including any changes due to non-standard specifications or pay items. Finalize the Estimated Quantities Report. Update the quantities through the Designer Interface.

The District Estimator will update the Department's Phase IV Cost Estimate, based on the pay items and quantities loaded through the Designer Interface. The project details, work items, material needs, and applicable specifications will be considered by the District Estimator as well as specifics of the unique project activities and non-typical work site conditions and considerations.

3.3.5 PS&E Phase Estimates *[Plans, Specifications, and Estimate (PS&E) Submittal Phase for Advertisement]*

Per the ***FDM 901***, "after corrections noted during the Phase IV submittal review are completed and verified, the plans are referred to as Final Plans." Projects with outstanding specifications or pay item issues are not ready to begin the PS&E phase.

The District Estimator will begin preparation of the Department's Authorization Estimate inclusive of all projects on the proposal/contract. Proposal and Project details, work items, material needs, and applicable specifications will be considered by the District Estimator as well as specifics of the unique project activities and non-typical work site conditions and considerations.

Additional guidance on the cost estimates during this phase is available in ***procedure 600-010-001, Preparation of the Authorization/Official Construction Cost Estimate & Contract Bid Review Pkg***

3.4 Revisions and Addenda

Coordinate with the District Estimator to update the Authorization Estimate. The District Estimator will update the Official Estimate for all design updates processed as revisions or addenda. Provide an updated EQ Report that accurately reflects all design updates and update the PrP final design pay items and quantities as directed by the Project Manager or the District Estimator.

3.5 Estimating Systems for Designers

Long Range Estimates (LRE):
https://fdotwp1.dot.state.fl.us/LongRangeEstimating/default.asp

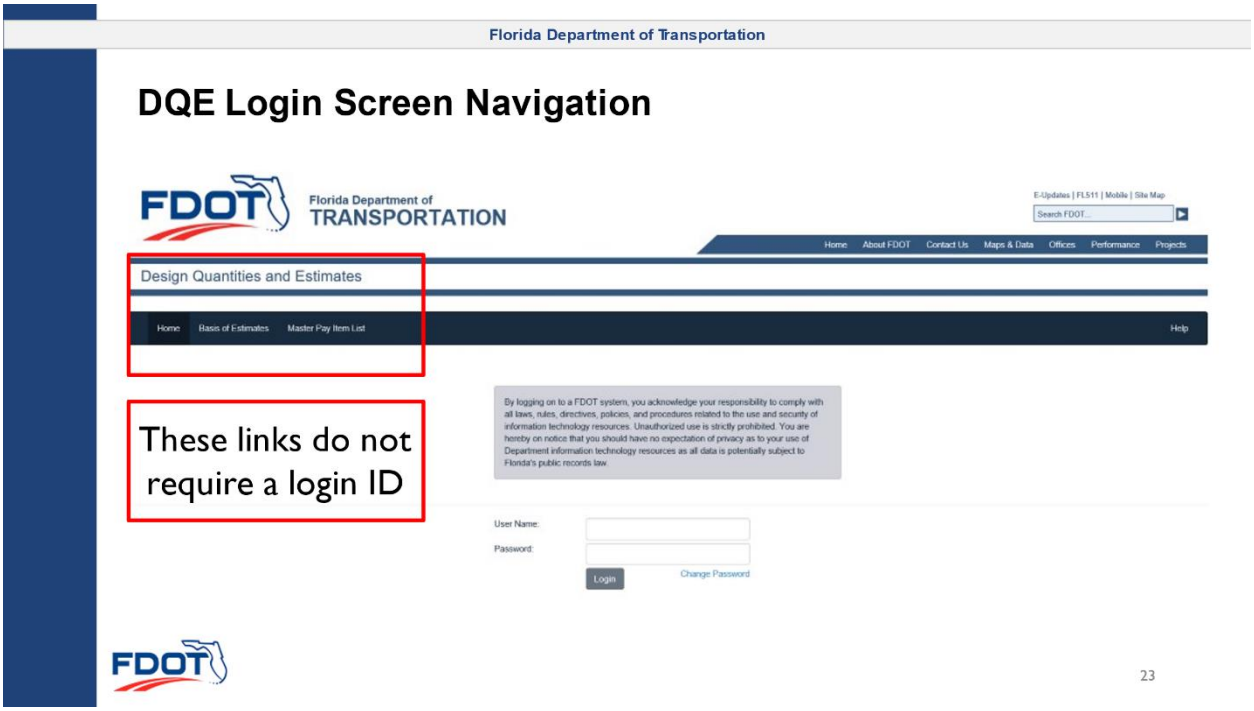
This application contains the project scope and the construction cost estimate. The districts may provide access to designers in accordance with their defined processes for project development and estimating needs.

Webgate and Designer Interface:
https://fdotwp1.dot.state.fl.us/WTWEBGATEREPORTS/WebGate.aspx.

This interface is utilized by the designer to populate project pay items and quantities into AASHTOWare Project Preconstruction (PrP). The completed advertisement documentation is generated from the project and proposal data contained within PrP.

Design Quantities & Estimates (DQE):
https://fdotewp1.dot.state.fl.us/designquantitiesandestimates

The ***Basis of Estimates: Pay Item Reference Data*** and the ***Master Pay Item*** list are available to view/print on the DQE public pages. From the home page, select the Basis of Estimates or Master Pay Item link from the dark blue border at the top of the page; do NOT enter a user ID/password.



Chapter 4

PAY ITEMS FOR ALTERNATIVE CONTRACTS

4.1 General

When alternative contracting methods are used, factors need to be considered which are different from that of the traditional Design-Bid-Build contracting considerations. This chapter covers some of the factors for various FDOT alternative contracting methods. Additional instructions may be found in the ***Construction Project Administration Manual*** (***CPAM***).

Designers should work with the District Specifications Office and the Estimates Office to validate that the appropriate specifications and pay items are incorporated into the Alternative Contract.

4.2 Lump Sum Projects and Proposals

Lump sum contracting involves the contractor providing the Department with a lump sum price to complete a project, as opposed to bidding on individual pay items and quantities. The contractor is provided with a set of bid documents and develops a lump sum bid for all work for the project.

Lump Sum proposals consist of one or more Lump Sum projects. The following is an example of a typical Lump Sum projects' pay items:

Pay Item	Description	Unit	Qty
999-2	Lump Sum Contract, Alternative Bidding (123456-1-52-01)	LS	1
999-25	Initial Contingency Amount, Do Not Bid (123456-1-52-01)	LS	1

Supplemental descriptions for each lump sum pay item are necessary to distinguish between projects when more than one project is in a proposal.

Completed Summary Tables, in accordance with Chapter 8, are required for lump sum projects. Designers enter Pay Items in a project with the same project number (Duplicate Project) with the letters "LS" appended to the end of the project number, and a duplicate proposal is also created with the letters "LS" appended to the end of the proposal number. The "duplicate LS" project(s) and proposal contain the detail needed for estimating purposes.

Estimators will prepare a detailed estimate for the "duplicate LS" projects and proposal, and enter the total amounts in the "for bid" projects and proposal documentation used for

advertisement of the entire lump sum scope of the proposed work.

4.3 Design-Build Projects and Proposals

Design-Build is a special type of lump sum project and proposal which combines the design and construction phases of one or more projects into a single proposal.

Design-Build proposals consist of one or more Design-Build projects. The following is an example of a typical Design-Build proposals' pay items:

Pay Item	Description	Unit	Qty
50-4	Design / Build, Bridge Construction (123456-1-52-01)	LS	1
50-4	Design / Build, Bridge Construction (123456-1-52-01)	LS	1
50-4	Design / Build, Bridge Construction (123456-2-52-01)	LS	1
999-16	Partnering, Do Not Bid (123456-1-52-01)	LS	1
999-20-1	Disputes Review Board, Meeting-Do Not Bid	DA	55
999-20-2	Disputes Review Board, Hearing-Do Not Bid	EA	2
999-25	Initial Contingency Amount, Do Not Bid (123456-1-52-01)	LS	1
999-25	Initial Contingency Amount, Do Not Bid (123456-2-52-01)	LS	1

Supplemental Descriptions for each lump sum pay item are necessary to distinguish between projects when more than one project is included in a proposal. See additional guidance in Chapter 9.

Design-Build projects and proposals may be estimated in either LRE or DQE. Estimators will prepare a detailed estimate in duplicate "DB" projects and proposal and enter the total amounts in the projects and proposal used for bidding purposes.

An estimate for the design portion of the work is included in the LRE and DQE estimate total to account for the design fees for each Design-Build project.

Even though Design-Build proposals follow a different procurement process than traditional Design-Bid-Build proposals, every Design-Build project and proposal has an Authorization Estimate and Official Estimate estimated in DQE by the Estimator.

4.4 Push-Button/Work Document Projects and Proposals

Push-button projects and proposals are used to expeditiously resolve state roadway deficiencies at various locations concerning signalization, signing, pavement, pavement markings and other miscellaneous roadway deficiencies for a pre-determined contract term. Push-button proposals are commonly referred to as either Indefinite Delivery/Indefinite Quantity, Task Work Order, or Work Document proposals. This contracting process establishes a varied possible scope of work to be completed by the

Contractor based on Department need. The bids received by the Department establish the unit cost prices for the predetermined work items (pay items) included in the bidding documents. Any of the included work elements may be completed by the Contractor pursuant to the Department's issuance of Work Documents containing the scope and tasks for completion. The original scope of work as defined by the estimated quantity for each pay item is approximate. Each Work Document will identify the location, description and what work is to be performed. Under Push-Button contracting, the Department does not guarantee any maximum quantity or minimum quantity of the actual work to be performed.

Refer to Chapter 2 for guidance on including work typically handled via Lump Sum pay items and the appropriate detailed units of measure to cover the work as it is to be called for in the Work Documents. Refer to Chapter 7 for additional guidance on documentation.

Designers will enter pay items through the Designer Interface into the proper Design Groups.

Estimators will prepare an Authorization and Official Estimate in DQE, in accordance with current procedures.

Lump Sum compensation for Maintenance of Traffic and Mobilization are not to be accounted for in separate pay items and must be distributed among other items of work.

4.5 A + B Projects and Proposals

Cost-plus-time bidding or A + B bidding, where A is the standard construction cost and B is the time bid, is designed to shorten the total contract time by allowing each contractor to bid the number of days to construct the project.

The Department determines the contract time duration, and the order of the bidders is adjusted by applying a cost per day dollar amount times the duration (in days) provided by each bidder.

No special pay items are needed for projects on an A + B proposal.

No special actions are needed for A + B project and proposal estimating tasks, however, the Estimator is responsible to enter the cost per day on the Site Record within PrP that will be used when determining the order of bidders based on their monetary bid (A-portion) and time bid (B-portion).

Chapter 5
CONTACT LISTS

This information is now available on the website.
https://www.fdot.gov/programmanagement/staff.shtm

Chapter 6

PAY ITEM SELECTION AND REQUESTS

6.1 General

Pay items are available for use on projects to identify and quantify the proposed work, and shall be chosen based on the FDOT Standard Specifications that apply to the work to be performed. Pay items also exist for non-standard work. When specifications or standards are not available for the proposed work, the designer must provide the appropriate information and documentation to describe the work. The FDOT Specification Handbook explains the process related to handling and including non-standard work.

Non-standard pay items may be requested when work is not covered by the FDOT Standard Specifications. A complete request will provide the information needed to complete all fields for the pay item's format. Incomplete requests must be addressed prior to implementation of the pay item(s).

To aid the designer in following the required processes for pay item usage, the following three options apply to how pay items are categorized for use:

(A) Standard (has specifications and applicable standards). Most available options within the pay item template/structure are active. These are the "regular" items that are generally available and used commonly.

(B) Non-Standard (no specifications or standards, or missing specifications or standards). Known needs and options are active; District shall manage usage, CO will provide Quality Assurance for proper and allowed usage. These can include the items that previously would have been termed "project specific", items that need additional plan details or deliverables, or items requiring further approvals/coordination.

(C) Non-Standard on a Controlled Basis (rarely needed or controlled usage requirements that are evaluated each time the pay item is to be included). CO will activate these pay items for use based on District concurrence.

NOTE: (B), or sometimes (C), apply to Developmental Pay Items as well; Developmental Specifications are not considered part of the Department's adopted standards.

For some pay items, approval must be obtained to include the planned work on the project. Refer to Chapter 2 for definitions of the flags placed on the pay item details that denote additional considerations and applicable required documentation; a flag designation is shown for required approvals.

6.2 Pay Item Request Process

When the required pay item is not available for use, the designer shall work with District staff to process the request to create and activate the needed pay item(s). Coordinate this effort with the District Specifications Office or designee; this office will request the pay item(s) from Estimates Staff within the State Program Management Office.

For Developmental Specification pay items, an automated request is sent to the State Estimates Office at the time the State Specifications Office approves use of the Developmental Specification. No additional pay item request is needed.

6.2.1 Pay Item Selection

The following considerations are provided as an overview of what information will impact the pay item selection and processing effort:

1. Do Standard Specifications or Standard Plans exist for the proposed work?
2. Does the proposed work differ in any way from the applicable Standard Specifications or Standard Plans?
3. Do the Standard Specifications and Standard Plans cover all the needed information to describe the proposed work?
4. For pay item requests for work not covered by Standard Specifications and Plans, what will be provided to document the requirements for completing the work?

6.2.2 Submitting the Pay Item Request Timely

As a general rule, all pay item requests are to be submitted for inclusion in the Phase II submittal. It is important to identify all portions of the proposed work that are non-standard as early as possible as these requests take longer to process. The State Estimates Office has activated commonly used non-standard items for inclusion on projects. If the non-standard pay item is already available for use, the designer will ensure as early as possible all required and applicable documentation is included on the project.

Pay items may be requested for inclusion on projects being developed within LRE. These requests will typically be for standard use pay items that are not already available on the Component of Work X-Item drop down list within the application. These requests may be sent directly to the State Estimates Office at the following email recipient group - **FDOT-PayItems@dot.state.fl.us**. Within LRE, an X-Item should be used instead of an EX-Item whenever possible. EX-Items are user defined and are not able to be included in data searches.

The pay items selected and placed on projects, both within LRE and PrP, are used for planning purposes for future needs for both materials and budget. The earlier the detailed pay item information is available for the work on the proposed project the more beneficial it is to those using this data for decision-making purposes.

6.2.3 Steps for Requesting a Pay Item

1. Select the appropriate Standard Specification covering the work (if available)
2. Determine if there is an existing Specification Section that the proposed work most closely aligns
3. Identify the pay item number configuration needed; refer to the Pay Item Structures (Templates) within DQE to view the available options for the pay item designations (for assigned and available variables)
4. Send the requested pay item number to the District Specifications Office or designee for processing; be sure to include the project number, letting date, and what project information will be developed to cover any non-standard work as this information will facilitate efficient processing of the request

Required approvals may be obtained after the new pay item is activated for use and placed on the project. The designer should acknowledge in the request that the approval is pending and should provide the summary of the request for approval. This will assist the individual processing the pay item request with understanding how the item will be used on the project.

The District Estimates Office should also be provided with the details of the pay item request to assist with pricing the proposed work. This information is retained as part of the project estimate file for use and reference by all estimators in the district and maintained for future review of the project by the State Estimates Office on an as requested basis.

6.2.4 Other Considerations for Selecting and Requesting a Pay Item

- Has the ***FDM*** guidance been followed for design decisions?
- Are other FDOT handbooks or manuals applicable, such as the ***FDOT Design Manual*** (***FDM***), ***Traffic Engineering Manual*** (***TEM***), ***Construction Project Administration Manual*** (***CPAM***)?
- Are other external handbooks or test methods applicable, such as the ***Manual for Uniform Traffic Control Devices*** (***MUTCD***), American Society for Testing and Materials (ASTM), or Federal Highway Administration (FHWA)?

The responsible office will work together with the above groups when a significant change is proposed, to reduce the potential “unintended consequences”. The affected offices will coordinate the implementation date, as needed.

Pay Item Structure (Group level for Pay Item Numbers):

Pay item structure numbers will be assigned by the Basis of Estimates Coordinator in the Central Office. Specification Section numbers will be selected with recommendations from the State Specifications Office. See additional guidance in Chapter 2 for Formatting Pay Items.

Guidelines for new pay item structures 0123-456-789:

- See Chapter 2 for first digit details (0).
- Next three digits (123) match the Specification Section. See also Developmental Pay Items and/or Generic items for special cases.
- Digits (456-789) may have nearly any combination of variable "slots" used, but are always right-justified within the group.
- Variables ABC-DEF are shown in the "slots" of digits 456-789 when describing the template/structure-level; likewise, they represent multiple combinations depending upon variable needs. These variables are used to define operation, size, shape, color, type, etc. (when needed) to separate items with significantly different cost. ***Variables that can be defined in the plans or specifications do not need separate pay items if the cost is similar***. Contact the Basis of Estimates Coordinator for assistance.
- When install, relocate, or other non-furnish operations are defined, the remaining variables may be blank or zero. These should be clearly indicated with the structure.

6.3 Generic Pay Items for Utility Work

6.3.1 Description

Currently, generic pay items are only available for utility work. Generic pay items are general use pay items available for Utility Work that are defined by a pay item supplemental description on a project-by-project basis. They are intended to support one-time usage pay items or specialty situations where a standard pay item is not available, and for which it is not practical to create a new pay item. A single generic pay item number can be used many times, but only once per project/proposal; each time it is used the appropriate descriptive information must be included. Since these items are for unique situations, tracking of cost history for future estimation purposes is not necessary. If cost history might be helpful, consider requesting a new pay item.

Coordinate with the District Estimates Office, as needed, to address contract issues when generic items are used on multiple projects or similar items within a contract.

6.3.2 Rules

The following rules apply in the usage of all **generic pay items, including duplicate Lump sum projects:**

- Must not be used if there is an existing pay item.

- Must not be used to violate or circumvent standard pay items. Must not be used to circumvent the approval process (for specification usage) on developmental items.
- Must not be used as a standard means to work-around a pay item that has been rejected for statewide usage by Central Office.
- Must not be used for sole-sourcing of materials/methods for items of work.
- Must not be used to circumvent the pay item request process if the pay item should be activated for statewide usage.
- Must be supported by a technical special provision and/or plan details; refer to 7.3 of the Basis of Estimates.
- Must be loaded under the appropriate project Category (Utilities=700).

6.3.3 Process

The process that is to be followed when generic pay items are used is as follows:

1. District identifies work that is appropriate for a generic pay item but must not violate the rules.
2. Designer includes all supporting details for the generic pay item in the contract documents.
3. Designer loads generic pay item via the Designer Interface and supplies the District Estimates staff with the pay item supplemental description.
4. District Estimates staff loads supplemental description and units for generic pay item.

6.3.4 Quality Control and Quality Assurance

Quality Control: Districts assume all responsibility for proper usage of generic pay items. No approvals from Central Office will be required; no Quality Control reviews will be performed by Central Office.

Quality Assurance: Quarterly post-letting reviews of generic pay items will be performed by the Central Office Project Review team. The team will check for:

- Supplemental Proposal Description (clearly representing the item of work), with unit of measure, has been loaded; and
- Complete documentation (drawings and/or specifications) is included in the contract package.

The responsible Central Office Design personnel may be consulted to verify appropriate usage.

6.3.5 Pay Item Structure and Description

Generic pay items are structured as:

0000-AAA-BBB
AAA = Design Group/ Category (700 for Utilities)

BBB= Sequential Number that can be re-used

Note: Zeros are hard-coded; they are NOT blanks.

The default unit of measure for all generic pay items is ZZ. The actual unit of measure must be entered with the project-specific description being added at the end of the Supplemental Proposal (Pay Item) Description.
Example:

```
0000-700-  1  UTILITY DESIGN GROUP – GENERIC PAY ITEM 1 (UTILITY PIPE, F&I, DI/CI,
              WATER/SEWER, 10” - LF)          ZZ
```

Description: The Supplemental Proposal (Pay Item) Description and unit of measure are entered as follows:

By default, the Description field will be filled with the generic description that is associated with the pay item number in the master pay item list; the default unit of measure will be ZZ. While the designer may enter the pay item number and quantity, it is the District Estimates Office’s responsibility to enter the Supplemental Proposal Description and actual unit of measure, as shown in parentheses in the example above.

Utility Pay Items: Generic pay items can provide greater flexibility for Utilities projects. They can be used to:

- Specify a pipe size when the standard pay item is for a size range:
- Break out fittings on items that normally have fittings included as an incidental cost of the pipe (pipe size less than 8”):
- Combine fittings into one pay item when the standard pay item does not include the fittings (pipe size greater than or equal to 8”).
- Separate payment for unique utility work or materials

6.4 Developmental Pay Items and Special Use Items

6.4.1 Developmental Pay Items

Developmental Pay Items are used with Developmental Specifications. See the ***Specifications Handbook*** for additional information.

When an item is recommended for implementation while details are under review (specifications, standards, policy, etc.) a developmental pay item template may be established. Developmental items are intended for limited use, for a limited period of time, while the items are under review. A monitor is assigned for each Developmental Specification. Any problems or concerns with the Developmental Specification, from

either Design or Construction, should be directed to the monitor (see respective items for monitor details).

Per the Developmental Specifications instruction, requests for project specific approval of the Developmental Specification must be through the District Specification Office, for approval by the CO Specifications Office. Non-standard or project specific pay item numbers are available/assigned through an FDOT internal established process upon approval of the specification. This pay item will be delivered to the district for further dissemination.

Upon completion of the review period for the specification, standard, and/or policy change(s), the monitor may recommend that a specification and associated pay item(s) be activated for statewide implementation.

6.4.2 Special Use Pay Items

Special Use pay items are generally used to encumber funds. They are numbered similarly to items in 6.4.1. Details for most of these pay items are found in the ***Construction Project Administration Manual (CPAM)***. Examples of Special Use Pay items include Lump Sum Contract, Partnering, Disputes Review Board, Speed and Law Enforcement, and Initial Contingency Amount. Note that some of the special use pay items are marked “DO NOT BID” and/or contain pre-set prices.

Chapter 7

PAY ITEM DOCUMENTATION

7.1 General

To assist the designer with proper pay item selection and usage, Chapter 2 provides a list of Specification Type Flags (Spec Type codes). All pay items intended to cover Non-Standard work are assigned a Spec Type code (flag). When the code "A" is assigned for "Approvals Needed", additional deliverables are needed to document the Non-Standard work even though an additional code is not designated.

7.2 Non-Standard Work Included in Projects

The following information describes the different ways of denoting non-standard work and the requirements for proper inclusion in the project documentation.

Detailed plan notes, modified special provisions, and/or technical special provisions must be provided by the designer for all pay items not covered by existing specifications. Plan notes are not acceptable as a substitute for specifications. Plan notes are intended to work *with* the specifications, and are not intended to supersede the specifications. Plan notes must not:

Change the specifications
Conflict with the specifications
Duplicate the specifications
Change the pay item description

When existing specifications are not applicable, coordinate specification revisions with the District Specifications Office. Every effort should be made to avoid conflicts, as plan notes are overridden by some specifications but take precedence over others. In either case, plan notes must *never* conflict with specifications. Details necessary for complete information include:
Description of item
Materials
Construction and installation
Method of measurement
Basis of payment

Modified Special Provisions are also known as "MSPs". Technical Special Provisions are also known as "Tech Specs" or "TSPs". In general, the difference is:

- MSPs: used to modify existing specification sections
- TSPs: used when no specification section exists

For additional information on various types of specifications, refer to the ***Specifications***

Handbook at https://www.fdot.gov/programmanagement/packagepreparation/default.shtm. Contact the District Specifications Office with any project related specifications concerns.

NOTE: Refer to the ***FDOT Design Manual* (*FDM*** [Procedure 625-000-002]**)**, for additional guidelines on using plan notes. It is located online at http://www.fdot.gov/roadway/FDM. Contact the Roadway Design Office with any questions, comments, or corrections regarding these notes. Similar guidance is in the ***Structures Detailing Manual, Volume 2 - Chapter 5***. The manual is located online at https://www.fdot.gov/structures/StructuresManual/CurrentRelease/StructuresManual.shtm

7.3 Choosing Between Specifications and Plan Notes/Details

When trying to decide between Specifications and Plan Details, there are several quick questions to consider:

1. What is the work to be completed?
2. What are the material requirements? What are the testing criteria?
3. How is this to be installed? What are the performance requirements?
4. Will the item be measured in the field, or paid by plan quantity?
5. What work/materials are included with, or excluded from, this payment?

When is a Plan Note sufficient? When all of the questions above are answered by the specifications, a plan note is usually sufficient. This frequently occurs when the specification indicates “use xxx, unless otherwise shown in the plans.” Remember, plan details/drawings show dimensions and location; they alone are not a substitute for complete specifications.

When is a Specification Required? If the above questions are *not* answered by the existing specifications, a non-standard specification is required. The Designer is responsible for ensuring that all pay items are completely supported within the contract documents (specs, standards, and/or plans).

A complete specification includes:

Description: A Description of the work to be completed may be in the form of a drawing/plan detail, words in a specification, or both.

Material requirements: Materials may be identified in the specifications, design standards, by reference to ASTM or other testing criteria, or by notes in the plans. Consider long-term material requirements, such as UV protection or other coatings.

Construction: Either installation methods or performance requirements may be given. Some products may be installed “in accordance with manufacturer’s instructions.”

Method of Measurement: Describe HOW the item will be measured, as well as whether it will be paid by plan quantity or field measured. The standard text normally includes the “furnish and install” operation. When working with “install only” items, ensure that the pick-up/delivery instructions are included. For “relocate” items, clearly identify original and final location, as well as clean-up work at the original location and incidental items needed at the final location. “Remove” items should clearly identify

whether contractor takes ownership (dispose), or the Department retains ownership (stockpiled within right of way or delivered to maintenance yard). Additional operations are explained in Chapter **2.**

Basis of Payment: Payment is often "full compensation for all work specified" for a complete and accepted installation.

Special/Custom items should only be used when there is a significant deviation from the standard item of work; existing specifications and/or standards do not apply. Complete specifications are needed.

7.4 Choosing between Plan Notes, Pay Item Notes, and Summary Table Design Notes Column

Plan and pay item notes should be coordinated with the District Specifications and District Estimates Offices. Notes are not to be used in conflict with Specification text for Measurement and Payment. Notes should not be redundant. Notes that would begin with "Payment includes…" should be moved to the appropriate Specification's Basis of Payment whenever possible. Do not use a note to change or duplicate the specification without approval of the District Specifications Engineer. Minor changes may be noted in the plans, using standard pay items, as long as conflicts are not created within the contract documents. Coordinate proposed specification changes with the District Specifications Office.

- Plan notes are used to assist the designer in detailing Plans to clearly describe the work to be performed by the contractor. I.E., indicating when details are based on Standard Plans that have been *modified*, or to state which base option was used for plotting the cross sections/calculating earthwork quantities.

- Pay item notes are used to provide unique project information **not covered** by the basis of payment information in the Standard Specifications. Pay item notes may be used to clarify how incidental work is to be paid for (provided the notes will not conflict with, or are not already covered by, the Specifications). Pay item notes are used to clarify an item's purpose, uses, requirements, etc. Pay item notes are also used to provide location information for settlement, vibration, and groundwater monitoring when Standard Specifications, Section 108, does not provide prescribed distances (or when a structure is beyond the prescribed distances). Pay item notes are placed on the General Notes sheet in the Plans.

- Designer notes, as used with the Design Notes column of an EQR Summary Table, are used to show information that is location and/or payment specific; to provide clarification on how the quantities were derived. **Do not** use the design notes column to provide direction to the contractor. **Do not** use the design notes column for specification details, such as material requirements. See Chapter 8

for information about the EQR Design Notes Column.

Refer to the ***FDOT Design Manual (FDM)*** for additional guidance.

7.5 Federal Participation at the Pay Item Level

On a project with federal funds, all items will “participate” in the funding, unless specifically noted otherwise. Summarized from FHWA requirements, all items of work, including preventative maintenance, which are intended to extend the useful life of the highway will be eligible for participation in federal funds.

Items of “routine maintenance” are not eligible for participation in federal funds. Examples of “routine maintenance” include litter removal and mowing.

For construction contracts, most items will be loaded as participating. Pay Items specifically noted in the ***BOE Pay Item Database*** (accessible within DQE) as “non-participating” will default to “non-participating”. Do not change the participating/non-participating field, unless specifically instructed by the District Estimates Office.

Chapter 8

EQ REPORT AND SUMMARY TABLES

8.1 Introduction

Beginning with the 2021 ***FDM***, FDOT started the process of phasing out Summary Boxes as part of project plan phased submittals. As a replacement, projects beginning design in 2021 began to utilize an Estimated Quantities Report (EQ Report) containing Summary Tables to serve contract quantity requirements needs. EQ Reports will be required for project submittals starting at Phase III, or at Phase II if including preliminary quantities (at request of the district). The summaries within the EQ Report continue to be an integral part of the Plans, Specifications, and Estimates Contract Package**.** See ***FDM 901*** and ***902*** for more information.

For projects beginning design using Summary Boxes, see ***BOE 2021*** and ***FDM 2020***; Contact Estimates Office for support if needed.

Contact CADD.support@ dot.state.fl.us for CADD support issues.
Contact FDOT-Payitems@dot.state.fl.us for Estimates support issues.

8.2 Estimated Quantities Report and Summary Tables

Pay item quantities will be documented in the contract documents via the EQ Report using Summary Tables. The Summary Tables identify the pay item number, pay item description, unit of measure, quantities, location (station to station), and any design notes.

Some of the tables' contents may be auto populated with the quantity data from the design files within the CADD modeling software (such as ORD, OBM or C3D) by the CADD Quantity Takeoff Manager (QTM) tool; Some of the Tables will need to be completed by the Designers manually. See ***FDM 902***, ***CADD Manual 8.4.3*** and ***FDOT Automated Quantity Training Guides*** for Summary Table requirements.

The EQ Report is a separate PDF file from the Plans PDF. It is the Designer's responsibility to ensure that quantities provided, automated or manually done, are accurate and conform to design intent. The EQ report contains a signature sheet that must be signed and sealed per ***FDM*** requirements and CADD workflow as referenced within. ***FDM 902*** clarifies the format of the EQ report for strung projects and projects presented in the same set of plans.

Once all the Summary Tables are generated, use the Summary Report Builder to create the EQ Report PDF file for submittals. There should only be one Summary Table per Summary Table title for a given FPID – do not create multiple/duplicate tables for different

designers under one project. The final EQ Report document is digitally signed and sealed only by the lead Engineer of Record (EOR) - See ***FDM 910*** for information on including a Statement of Responsibility and exculpatory language when professionals share responsibility for content on any given sheet.

8.2.1 Other Requirements

Use Summary Tables to document all pay items. Information about which Summary Tables to use for a given item can be found within the item's details in the BOE-within-DQE, under the "Plan Summary Box" field. Typically, items should only be added to the Table(s) listed in that item's Structure ID (Template), regardless of where the items are displayed in the Plans. There can be only one Category (Design Group) per Summary Table, and the Category must correspond to the work to be completed. Items divided amongst Summaries run the risk of duplicative payment and/or creating confusion for bidders. For example, architectural work on the Summary of General Items – If individual aspects of a building's construction (parking area asphalt, conduit, light pole, etc.) are all detailed on the same General Summary, and there are similar items also being used under Roadway, it may be difficult for bidders to determine who should be performing the work; Enhancing biddability may reduce risk to the contractor. Consideration should be given to where a demarcation point or "footprint" of an area of work extends, and the items of payment within (or outside) of that point must be clearly defined in the Contract Documents, for every pay item (i.e., method of measurement and basis of payment – whether it is one LS item, or several individual items).

The quantity of each item, by location, is required. Each quantity must be calculated with one additional significant decimal place, totaled, and then rounded to the defined precision for each pay item per Chapter 2. Pay items with automated quantities shall meet the precision requirements. The CADD Office is continuously in the process of developing quantity automation features; it is recommended to stay updated with the progress as new features are added.

If station equations exist in the alignment, the region numbers are required for the station locations.

Do not include contingency quantities. Due to state and federal regulations, bid quantities must reflect actual work to be completed. Unforeseen work will be addressed in accordance with the Specifications. Quantity overruns, measurement, and payment are addressed in Section 9 of the Standard Specifications. Construction/Final Estimates will adjust Final quantities and/or prices, as applicable, per the Specifications.

Designers must retain back-ups. If a question arises involving quantities, Construction will request in writing that the designer provide detailed documentation or verify the concern of the pay item(s) in question. The designer shall produce the back-up documentation within five working days of the request from Construction.

Summary Tables for the Project, including components, will be included in the EQ Report.

The table order is automated; Follow Chapter 3 and ***FDM 902*** for guidance on submitting the report.

Do not reformat Summary Tables. See Chapter 8.3 and ***FDOT Automated Quantity Training Guides*** for additional information about table automation and report creation.

NOTE: Design data tables are not intended for location, quantity, or pay item information; they may be used as called for in the ***FDM*** or ***Standard Plans***. These are used to supplement data calculations or item specific details. Do not use data tables to duplicate or relocate information from a Summary Table; As the Department moves towards model centric design, the Summary Tables may include more supporting data, currently placed in plan sheet notes and tables.

8.3 Summary Table Format

The Summary Tables follow a consistent format - Pay Item Definition information, followed by Quantity Values, Location Information, then Notes and Remarks. The format is critical for the generation of the Estimated Quantities Report.
Points to note:

- Do not add, delete, move, or change any columns within the table.
- Don't mix Summary Boxes with Summary Tables in the EQ Report. Use only Summary Tables.
- Don't use the Construction Remarks column for documenting design quantity needs. They are for Construction As-Builts information.
- IMPORTANT: Using the Excel cell format to apply rounding will not carry through to the EQR - The Summary Reports Builder is programmed to provide the Total of the Proposed quantities to the precisions listed in Chapter 2. Proposed quantities should be entered with the correct precision in the Tables with one additional significant digit for calculations, so that the Proposed and Total Quantities transfer to the EQ Report with the appropriate precision for that unit of measure - For automated Summary Tables generated in FDOTConnect 10.11 and prior, quantity totals might vary due to rounding differences.

See FDOTConnect Automated Quantity Training for table automation.

8.3.1 Adding and Deleting Columns or Rows

The Summary Tables are generated from a single master Excel template, and each cell in the Table template has a specific column and row designation that is used to transfer data to the EQ Report PDF - altering the columns will create errors in the PDF. Do not add, delete, move, or change any columns within the table.
Rows reflect the individual pay item location(s), as needed. Do not add a sub-total row to the Summary Tables in Sheet1. If the Excel file is used to check the work/verify totals, then additional worksheets should be created (named something other than Sheet#) for

supporting documentation. As noted above, the data in the Sheet1 worksheet MUST be formatted correctly to be compatible with the Summary Reports Builder. A blank row (without a proposed value in the Quantity or Secondary Quantity column) triggers the Report Builder to move on to the next worksheet. Note also that the Summary Report Builder will *add* 3 “blank” rows to the end of each Summary Table on the EQ Report for Final Estimates use. On occasion the “blank” rows will fall at a page break, causing a mostly empty page below it. This is normal – do not delete the blank rows, as they are intended for Final Estimates/Construction use. See the ***CADD Manual*** at https://www.fdot.gov/cadd/downloads/publications/caddmanualfdm/fdotconnectc3d.shtm for additional information.

8.3.2 Design Notes Column

When location-specific notes are needed to clarify details or quantities, the design notes column may be used. See Chapter 7 and the ***FDM*** for additional information on plan/project pay item related notes.

8.4 Pay Items that Do Not Require a Summary Table

Maintenance pay items do not require a Summary Table.
DO NOT BID and "Special" pay items do not require a Summary Table.

8.5 Lump Sum Contracts

Projects or Contracts using pay item 999-2 will continue to require detailed quantities on the duplicate (non-advertised) project, by location, for work shown in the plans. Complete the summary tables, similar to traditional pay item projects - pay items and quantities are loaded into the Designer Interface system by category to reflect the work shown in each design group.

For example, Roadway guardrail is summarized by location from station A to B as 250’, station C to D as 300’, and station E to F as 500’. Pay item numbers related to specific work are not needed on Summary Tables but may be used to describe work to be completed.

8.6 Summary Tables Examples

For Summary Table examples, refer to the Estimates Office webpage - **Chapter 8 Summary Table Examples**

Chapter 9

DESIGN GROUPS/CATEGORIES, CATEGORY DATA, AND PAY ITEM ALTERNATE GROUPINGS

9.1 General

Pay items are assigned to Design Groups (Categories) when they are loaded onto a project. This is done both when adding pay items manually and by automation from the CADD file. Some items may be loaded in multiple categories. Refer to the details available in the ***BOE Pay Item Database***.

9.2 Design Groups / Categories

Pay items are loaded and grouped by Categories when placed on the project via the Designer Interface. Each Category type has details on the Category Header. The Structures Category Header details requires the designer to provide additional details about the design of the structure. Each bridge structure is placed in a separate Category.

To create the additional structures categories needed the designer can select, copy, and/or delete categories from the project record within the Designer Interface.

At a minimum, each component set of plans (structures, roadway, lighting, etc.) must have a corresponding Category**.** In accordance with the ***FDOT Design Manual*** (***FDM***), it is possible to have minor/incidental work from another design group included on the roadway plans, yet still have a separate Category for the pay items. Unused/blank categories should be deleted when no work on the project is shown for the design group.

9.2.1 Pay Items, Categories, and Component Plans

Pay items within a Category must correspond to the work shown in the component plans. For example, the signal pay items shown in the Signalization Category must correspond to the work shown in the Signalization plans.

Category totals are used for reporting purposes. Ensure that all work shown in a Category uses the appropriate items for that Category. Additional reminders:

For landscaping- all work must be detailed in the plans.
For structures- each bridge must be entered separately. All work associated with each structure must be entered accordingly.
For signalization- use signals pay items.
For lighting- use lighting pay items.

Note: Some pay items are valid in multiple categories, such as conduit or pull

boxes. Some items are separated by Category and Specification, such as pavement markings. Select the pay item appropriate for the Category and work to be completed. Refer to the Specifications for materials and installation requirements.

When a project does not have a roadway component (Structures only, Signalization only, Landscape only, etc.), the “roadway” pay items are loaded into the Category that corresponds with the primary component plans. For example, Mobilization and Maintenance of Traffic are included in the Signalization component plans and Category of a “Signalization project” without Roadway plans. The pay items within a Category will continue to correspond to the work shown in each of the component plans. Additional details may be included with specific pay items and/or summary tables.

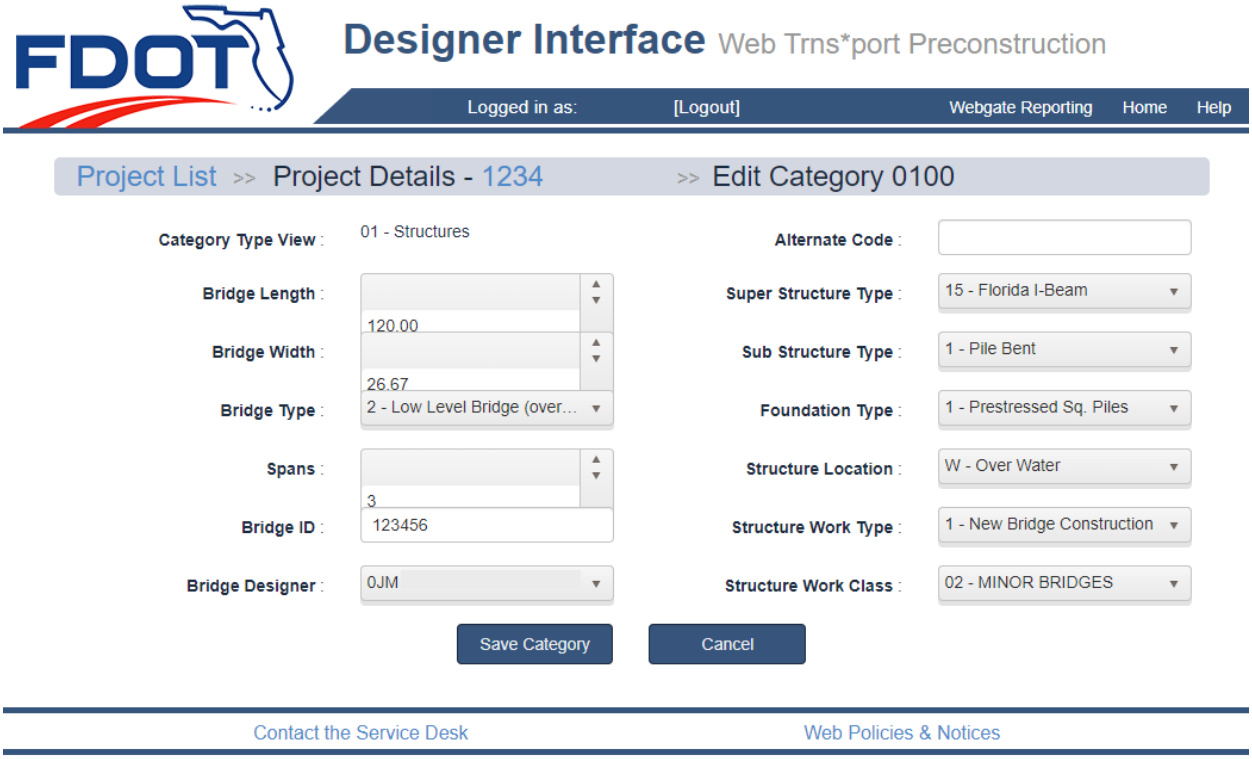
Supplemental Description for Lump Sum Pay Items: Supplemental Descriptions are required to differentiate lump sum items on projects and proposals. For most lump sum pay items, designers must enter the project's FPID in the Supplemental Description through Designer Interface. For structures lump sum pay items, designers must enter the project's FPlD and Bridge Number in the Supplemental Description through Designer Interface.

The Supplemental Description provides a reference for each lump sum pay item to the corresponding project and/or structure. Supplemental Descriptions are used for lump sum pay items having both lump sum as the secondary unit of measure, such as 101-1 Mobilization (LS/LS), and lump sum pay items having a secondary unit of measure, such as 110-1-1 Clearing and Grubbing (LS/AC).

Typically, supplemental descriptions are not added to other pay items, as this will prohibit the pay item from “rolling up” for bidding purposes.

9.2.2 Bridge Structure Category Details

The Bridge Structure Category details are to be entered into the Bridge Category Header through the Designer Interface. For each Bridge Category, Designer Interface requires that the Bridge Category Header information specific to that Bridge ID be entered prior to loading or editing the pay items for the structure.



The following fields must be completed in Designer Interface:

Alternate Code: leave blank unless using alternate structures. Contact your District Estimates Office for assistance when considering alternate structures. Alternates are defined and explained in 9.3.

Bridge Length (feet): Enter the total bridge length, not including approach slabs.

Bridge Width (feet): For new/replacement bridges or bridge repair, enter the total bridge deck width, from outside to outside of traffic railing. For bridges with variable width, divide the total bridge deck area, outside to outside, by the length to obtain the average width. For bridge widening, enter the widened width.

Bridge Type: Select the appropriate type. Bridge height levels are defined in the Structures Manual, SDG 1.1.4.

As of this writing, height classifications of bridges over water are based on the

following vertical clearances:

A. Low Level: Less than 20-feet.
B. Medium Level: 20-feet or greater but less than 45-feet.
C. High Level: 45-feet or greater.

Code	Description	Notes
1	Overpass (over road/railroad)	
2	Low Level Bridge (over water)	
3	Medium Level Bridge (over water)	
4	High Level Bridge (over water)	
5	Movable Bridge	
6	Pedestrian Overpass	
7	Box Culvert	Used for Culverts with Spans > 20-feet (Bridge Culverts).
8	Miscellaneous	
9	Ramp Overpass (over land)	
10	Viaduct (over land)	

- Box culverts not meeting Bridge Culvert definition should be loaded in Roadway Category, regardless of where plan sheets are located.
- Retaining Walls are loaded in Roadway Category, regardless of where plan sheets are located.
- Pedestrian overpass must have bridge ID, due to “over roadway” condition. Pedestrian “trail” bridges may be loaded in roadway if they are not designed for vehicular weights and do not need to be inspected. Coordinate with District or CO Bridge Maintenance to determine if a “trail bridge” is assigned a bridge ID.

Number of Spans: Enter the number of spans.

Bridge ID: Enter the valid bridge number. For bridge replacements, use the new bridge ID (replacement) number, not the “existing” or old number.

Note that the ***Structures Detailing Manual*** (also referenced by the ***FDM***) recommends that the bridge ID be obtained in the early design phase. By phase 2 and phase 3 submittals, as defined in the ***FDM***, this information must be known in order to correctly complete the Bridge Category information.

Do not enter invalid bridge ID numbers or alpha characters. Contact the District Maintenance Office to obtain a valid bridge number for any structure, including Pedestrian Bridges or other structures that may be subject to inspection.

Pedestrian bridges over travel lanes are subject to inspection. Other pedestrian bridges will be considered on a case-by-case basis, depending on the location and anticipated loading. Contact the Maintenance Office for guidance.

Bridge Designer: Select the applicable coder for the design firm.

Superstructure Type: Select the appropriate superstructure type.

Code	Description	Notes
0	Combination	
1	Steel Box Girders	
2	Steel Plate Girder/Rolled Shape	
3	AASHTO Girder	Use this code for AASHTO Type II Beams.
~~4~~	~~AASHTO PT or Bulb T PT Girder~~	Code 4 is no longer used for new construction. See Code 17.
~~5~~	~~Slab (precast)~~	Code 5 is no longer used for new construction. See Code 16.
6	Slab (Cast-in-Place)	
7	Concrete Box	Use for cast-in-place or precast Culverts with Spans > 20-feet (Bridge Culverts).
8	Segmental Balanced Cantilever	
9	Segmental Span by Span	
~~10~~	~~Florida Bulb-Tee~~	Code 10 is no longer used for new construction. See Code 3 or Code 15 as applicable.
11	Florida U-Beam	
12	Inverted Tee	
13	Steel Truss	
14	Cable Stayed	
15	Florida-I Beam	
16	Florida Slab Beam	
17	Post-Tensioned Girder	Use for longitudinally post-tensioned Florida-I Beams or other longitudinally post-tensioned concrete girder shapes.

Substructure Type: Select the appropriate type.

Code	Description	Notes
0	Combination	Do not use if the bridge includes a Straddle Pier or C-Pier. See Code 7, Code 8, or Code 9 as applicable.
1	Pile Bent	
2	Multi Columns	Do not use for Straddle Piers. See Code 7.
3	Single Column	Includes Hammerhead Piers. Do not use for C-Piers. See Code 8 or Code 9 as applicable.
4	Other	Use for Culverts with Spans > 20-feet (Bridge Culverts).
5	Drilled Shaft Bent	
6	GRS-IBS	
7	Straddle Pier	Multi column pier that straddles an underlying

		traveled way. Use Code 7 if the bridge includes a Straddle Pier but no C-Pier. See Code 9 if the bridge includes both.
8	C-Pier	Cantilever type pier that typically extends over an underlying traveled way. Use Code 8 if the bridge includes a C-Pier but no Straddle Pier. See Code 9 if the bridge includes both.
9	Combination with Straddle Pier and C-Pier	Use Code 9 when the bridge includes both a Straddle Pier and a C-Pier.

Foundation Type: Select the appropriate type.

Code	Description	Notes
0	Combination	
1	Prestressed Square Piles	
2	Steel Pipe Piles	
3	Drilled Shafts	
4	Spread Footing	
5	Post Grouting Drilled Shafts	
6	Cylindrical Concrete Piles	
7	Steel H Piles	
8	Special	Use for Bridge Culverts.
9	GRS Abutments	

Structure Location: Select the appropriate type.

Code	Description
R	Over Road
W	Over Water
X	Over Railroad

Structure Work Type: Select the appropriate type.

Code	Description	Notes
1	New Bridge Construction	
2	Bridge Widening	Use Code 2 for bridge widenings. See Code 6 for rail retrofits or replacements that don't include widenings.
3	Bridge Repair	
~~4~~	~~Retaining Walls only~~	Not used - Loaded into Roadway category.
5	Fender System only	
6	Rail Retrofit (Special Case)	Use Code 6 exclusively for bridge railing retrofits or replacements. See Code 2 for bridge widenings.
7	Miscellaneous	

Structure Work Class: Select the appropriate Structure Work Class from the following:

New Bridge Construction Structure Work Classes:

Code	Description	Notes
01A	Major Bridge – Bascule Spans	
01B	Major Bridge – Curved Steel Girders	
01C	Major Bridge – Multi-Level Roadways	
01D	Major Bridge – Concrete Segmental Construction	
01E	Major Bridge – Steel Truss Construction	
01F	Major Bridge – Cable Stayed Construction	
01G	Major Bridge – Over Water	Bridges of conventional construction which are over a water opening of 1,000-feet or more.
01H	Major Bridge – Cast in Place/Post-Tensioned/Super-Structure	
02	Minor Bridges	Bridges that have span lengths not exceeding 50-feet center to center of cap, and total length not exceeding 300-feet. Includes Concrete Box Culverts with a span length 20-feet or greater.
07	Intermediate Bridges	Bridges that contain none of the types of construction listed under Major Bridges and have span lengths exceeding 50-feet center to center of cap.

Bridge Repair and Rehabilitation Structure Work Classes:

Code	Description	Notes
08	Bascule Bridge Rehabilitation	
30F	Bridge Painting	
30L	R&R Minor Bridges	Bridges that have span lengths not exceeding 50-feet center to center of cap, and total length not exceeding 300-feet. Includes Concrete Box Culverts with a span length 20-feet or greater.
30M	R&R Intermediate Bridges	Bridges that contain none of the types of construction listed under Major Bridges

		and have span lengths exceeding 50-feet center to center of cap.
30N	R&R Major Bridge – Multi-Level Roadways	
30O	R&R Major Bridge – Concrete Segmental Construction	
30P	R&R Major Bridge – Steel Truss Construction	
30Q	R&R Major Bridge – Cable Stayed Construction	
30R	R&R Major Bridge – Over Water	Bridges of conventional construction which are over a water opening of 1,000-feet or more.
30S	R&R Major Bridge – Curved Steel Girders	
30U	Cathodic Protection	
30Y	Bridge Deck Overlay	

After loading all bridge header information through the Designer Interface, verify the project and category header information by generating the Project Edit Report. This bridge header information can then be saved and loaded into the Designer Interface Quantities Builder, a CADD program. The output from the Builder in XML format can be used as input at the Designer Interface for project data to auto-populate into AASHTOWare.

FDOT

Florida Department of Transportation
web Trnsport
Project Edit Report

9/7/2022 10:39:06 AM

Project: 1234

Proposal:		Description:	SR 45
FA Project:	1234	Location:	TRAINING
Project Item Year:	13	Trns System:	03 - Intrastate State Highway
Letting Date:	11/01/2022	US Route:	
Designer:		State Route:	

SPC	ALT	Item		Description		Unit	Quantity
Category - 0100		Structures	Struc. Work Class:	02 - MINOR BRIDGES			
Bridge ID:		123456	Struc. Work Type:	1 - New Bridge Construction			
Bridge Type:		2 - Low Level Bridge (over water)	Super Struc:	15 - Florida I-Beam			
Bridge Length:		120.0000	Sub Struc. Type:	1 - Pile Bent			
Bridge Width:		26.6700	Struc. Location:	W - Over Water			
Number of Spans:		3	Foundation Type:	1 - Prestressed Sq. Piles			

Bridge Category Header fields may be developed during PD&E stage. In that case, Bridge Category Header fields need to be updated or verified throughout design to reflect design changes. This information may be used to estimate future funding or to search for historical structures.

9.2.3 Additional Information and Considerations for Populating Data on Bridge Categories

Movable Bridges, Control House, and Control Equipment: For all movable bridges, follow the instructions above for entering each bridge in a separate Category, including bridge ID, length, width, etc., to complete Bridge Category Headers. Load pay items applicable to each bridge in the appropriate bridge Category.

For parallel movable bridges controlled by a common control house, the control house is associated with the nearest/attached bridge. Only the control house and common electrical/control equipment pay items are loaded with the nearest/attached bridge. Pay Items common to both bridges include: Bridge Operator, Functional Checkouts, Preventative Maintenance, Electrical/Control Equipment.

Box Culverts, Less Than 20 Feet: Pay items and quantities for box culverts that do not meet the Bridge Culvert definition are to be loaded in the Roadway Category. Follow the ***FDM*** instructions for placement of the box culvert details in the Structures plans.

9.3 Alternates

When alternates are included in the project design, the bidder is presented with different sets of pay items that make up each alternate scope of work. Documenting and creating the alternate sets of pay items may be accomplished via Pay Item Alternates or Category Alternates. The designer has access to enter the alternate sets from within the Designer Interface.

If there is a need to consider alternate pay items or alternate categories, contact your District Estimates Office for assistance. Additional coordination may be needed with Contracts Administration for any innovative contracting.

NOTE: The innovative contracting-type Scope Alternates are not documented in the same manner as Category and Pay Item alternates.

Revision History

Revision history for the ***BOE Introduction*** and ***Chapters 1-10***. Revisions and history of *individual pay items* are available through the State Specifications and Estimates Office, care of the Basis of Estimates Coordinator.

Introduction

11-1-23: Updated header for 2024 edition. Updated hyperlinks
11-1-22: Updated header for 2023 edition. Updated publication frequency info.
11-1-21: Updated header for 2022 edition.
11-1-20: Updated header for 2021 edition.
11-1-19: Updated header for 2020 edition.
12-1-18: Updated header for 2019 edition. Updated web links for fdot.gov web pages.
11-21-17: Updated header for 2018 edition. Updated web links and references to Program Management Office.
10-4-16: Updated header for 2017 edition.
12-30-14: Updated header for 2015 edition.
1-15-14: Updated header for 2014 edition. Added definition of a pay item.
2-20-13: Updated header dates for 2013 edition.
11-23-11: Updated header dates for 2012 edition.
12-1-10: Updated header dates for 2011 edition.
12-9-09: Expanded ***Revisions and Updates*** to include a limitation on the lifespan of an ***Estimates Bulletin***.
10-30-09: Updated header dates for 2010 edition.
6-30-09: Removed draft watermark. Updated header date for publication.
11-14-08: Updated internet links to current addresses.
11-5-08: Updated formatting in accordance with Forms and Procedures Office's recommendations.
10-1-08: Updated header dates for 2009 edition. Forms- added note to indicate form is optional.

Chapter 1

11-1-23: Updated header for 2024 edition. Minor readability edits.
11-1-22: Updated Application access info. Expanded Reports definitions. Updated header for 2023 edition.
11-3-21: Updated/reorganized chapter information. Added Glossary and moved Registration info to website. Renamed chapter to - *Glossary, Applications, Reports, and Project Data Validation.* Updated header dates for 2022 edition.
11-1-20: Update header dates for 2021 edition.
11-1-19: Update header dates for 2020 edition.

12-1-18: Update header dates for 2019 edition. Update web links for fdot.gov web page. Removed critical dates for 2016/2017 editions.
11-1-17: Update header dates for 2018 edition.
7-6-17: Update header dates for 2017 edition.
10-24-16: Update header dates for 2016 edition. Updated contact database hyperlink. Updated office titles. Updated critical dates.
7-26-16: Updated 1.5 with proposed schedule for coordinated implementation.
11-25-15: Updated header dates for 2016 edition. Added note to 1.5 regarding coordination with specs and standards implementation dates.
12-30-14: Updated header dates for 2015 edition.
12-2-13: Updated header dates for 2014 edition.
2-20-13: Updated header dates for 2013 edition.
11-23-11: Updated header dates for 2012 edition.
12-1-10: Updated header dates for 2011 edition.
10-30-09: Updated header dates for 2010 edition.
10-19-2009: Removed cover letter reference; all major changes announced with a bulletin.
10-1-2008: Updated header dates for 2009 edition.

Chapter 2

11-1-23: Updated header for 2024 edition. Minor readability edits.
11-1-22: Updated PI format info. Reorganized/updated chapter information. Updated header for 2023 edition.
11-3-21: Incorporated Chapter 10. Reorganized/updated chapter information and renamed to – *Pay Items General Information.* Updated header dates for 2022 edition.
1-22-21: Updated calculation guidance in 2.3, per CADD Office.
11-1-20: Updated header dates for 2020 edition. Added 2.3 heading for secondary units. Added FD Feet-Day, BF Board Feet, MG Thousand Gallons, MO Month, NM Net Mile, and PM Per Mile units of measure.
11-1-19: Updated header dates for 2020 edition. Removed old footnote for Mile (MI) units. Updated 2.1 guidance for Lump Sum pay items.
11-1-18: Updated header dates for 2019 edition. Deleted 2.3 metric conversion factors. Added note for item vs. each.
10-23-17: Updated header dates for 2018 edition. Added reference to Chapter 9 for Supplemental Description used with Lump Sum items.
6-22-17: Added LS/LS information for rounding partial payment percentage, per Final Estimates- Construction Office request.
10-25-16: Updated header dates for 2017 edition. Added abbreviations and rounding information. Removed discontinued section 2.4 Accuracy/Precision information updated in 2.1 and 2.2.
3-14-16: Added information for secondary units to 2.1.
2-1-16: Added note for removal of alphabetical list.
11-25-15: Updated header dates for 2015 edition. Corrected AC unit of measure to 1/100 AC.

12-30-14: Updated header dates for 2015 edition. Added end date to PM unit; refer to Rumble Strip pay items for details.
2-27-14: Removed units for Clean-out (CO), Bushel (BU), Dollars per Day (DD), Luminaire (LU).
12-2-13: Updated header dates for 2014 edition. Added note to 2.1 to indicate that abbreviated text for pay item descriptions may vary from with Design Standards. Moved Alphabetical list from Chapter 3 to 2.4.
2-20-13: Updated header dates for 2013 edition.
11-23-11: Updated header dates for 2012 edition.
12-1-10: Updated header dates for 2011 edition.
10-30-09: Updated header dates for 2010 edition.
1-28-09: Added 2.2 Accuracy. Renumbered 2.3 Conversion Factors.
10-1-08: Updated header dates for 2009 edition.

Chapter 3

11-1-23: Updated header for 2024 edition.
11-1-22: Updated header for 2023 edition.
11-3-21: Reorganized/updated chapter information and renamed to – *Project and Proposal Cost Estimates.* Updated header dates for 2022 edition.
11-1-20: Updated header dates for 2021 edition. Changed the scope of the chapter to address estimating guidance to Designers, working with FDM changes.
11-1-19: Updated header dates for 2020 edition.
12-1-18: Updated header dates for 2019 edition.
10-25-16: Updated header dates for 2017 edition. Ongoing draft text.
11-25-15: Updated header dates for 2016 edition.
12-30-14: Updated header dates for 2015 edition. Added DQE definition.
-14-14: Started adding DRAFT text for new section.
12-2-13: Deleted 3.2. Moved Alphabetical List to Chapter 2.
2-20-13: Updated header dates for 2013 edition.
11-23-11: Updated header dates for 2012 edition.
2-1-10: Updated header dates for 2011 edition.
5-14-10: Restored Alphabetical Index. Created explanation text for chapter.
10-30-09: Updated header dates for 2010 edition.
10-1-08: Updated header dates for 2009 edition. Deleted “Alphabetical Index” chapter. Users, please use search/find, as needed.

Chapter 4

11-1-23: Updated header for 2024 edition.
11-1-22: Editorial corrections. Updated header for 2023 edition.
11-4-21: Reorganized/updated chapter information and renamed to – *Pay Items for Alternative Contracts.* Removed guidance on using Bid Factor Bidding on Push-button

contracts per Program Management Office Bulletin 20-04/Contracts Administration Bulletin 20-01 dated 12-2-2020. Updated header dates for 2022 edition.
11-1-20: Updated header dates for 2021 edition.
11-1-19: Updated entire chapter. Updated header dates for 2020 edition.
7-1-19: Updated 4.4 for Pay items on Push Button Contracts.
12-1-18: Updated header dates for 2019 edition.
10-31-17: Updated header dates for 2018 edition.
3-3-17: Draft started for Alternative Contracts. Moved text from BOE Chapter 6 to 4.1.
10-25-16: Updated header dates for 2017 edition.
11-25-15: Updated header dates for 2016 edition.
12-30-14: Updated header dates for 2015 edition.
4-30-14: Updated header dates for 2014 edition.
2-20-13: Updated header dates for 2013 edition.
11-23-11: Updated header dates for 2012 edition.
11-23-10: Updated header dates for 2011 edition.
10-30-09: Updated header dates for 2010 edition.
10-01-08: Updated header dates for 2009 edition.

Chapter 5

11-1-23: Updated header for 2024 edition.
11-1-22: Updated header for 2023 edition.
11-4-21: Moved contact information to website, eliminating the need for this chapter. Updated header dates for 2022 edition.
11-1-20: Updated header dates for 2021 edition.
11-1-19: Updated header dates for 2020 edition. Updated LRE, DQE, and Specifications contacts.
12-1-18: Updated header dates for 2019 edition. Updated Maintenance contacts.
7-16-18: Updated Program Management contact names.
10-23-17: Updated header dates for 2018 edition. Updated CADD and Specifications contacts. Replaced office contacts with web links to various offices.
10-25-16: Updated header dates for 2017 edition.
5-24-16: Updated names and phone numbers for responsible office contact persons. Updated web address in 5.2.
2-1-16: Updated header dates for 2016 edition. Corrected names and numbers.
12-30-14: Updated header dates for 2015 edition. Corrected names and numbers. Corrected ITS and TMS references, due to changes in 600 series.
4-30-14: Updated header dates for 2014 edition. Corrected names and numbers.
2-20-13: Updated header dates for 2013 edition. Corrected names and numbers for Specifications Office contact persons.
11-23-11: Updated header dates for 2012 edition.
10-24-11: Updated names and phone numbers for responsible office contact persons.
11-17-10: Removed table 5.2 for District Estimates and Specifications Offices; added link to contact list on web page. Updated header dates for 2011 edition.
10-30-09: Updated header dates for 2010 edition.

10-29-09: Updated Pay Item ranges & contact persons.
10-22-09: Updated contact information for CO and District Specs/Estimates.
10-22-08: Updated contact information for District Specs/Estimates.
10-1-08: Updated header dates for 2009 edition.
10-1-08: Updated CO Specs contact information.
5-28-08: Updated contact information for Districts 3.

Chapter 6

11-1-23: Updated header for 2024 edition. Minor readability edits.
11-1-22: Editorial corrections. Updated header for 2023 edition.
11-4-21: Reorganized/updated chapter information. Updated header dates for 2022 edition.
11-1-20: Updated header dates for 2021 edition. Editorial changes to 6.8, to be consistent with Specifications Handbook.
11-1-19: Updated header dates. Updated the pay item process and graphic. Renumbered section, as needed. Updated Generic Items, to limit applications to only Utility category work.
12-1-18: Updated header dates for 2019 edition.
10-30-17: Updated header dates for 2018 edition. Changed “Trial Pay Items” to “Project Specific”. Removed 6.10- Related Documents.
10-1-16: Updated header dates for 2017 edition.
2-1-16: Updated header dates for 2016 edition. Clarified difference between open/activating and new pay items in 6.2.
12-30-14: Updated header dates for 2015 edition. Corrected minor spelling and punctuation errors.
4-30-14: Updated header dates for 2014 edition. Added notes for Comp Books/Summary Boxes in 6.10. Updated hyperlinks.
2-20-13: Updated header dates for 2013 edition.
11-23-11: Updated header dates for 2012 edition.
10-17-11: Added Pay Item Process flowchart, with details about color paths. Updated 6.2 through 6.7 to refer to the flowchart processes.
4-21-11: Updated header date. Revised 6.5.2 regarding Technical Special Provisions and/or plan details to refer to 7.3 of the BOE. Revised 6.9 to detail differences between Developmental, Trial, and Special Use pay items.
11-22-10: Updated header dates for 2011 edition. Expanded 6.2 and 6.3 for e-mail requests.
3-10-2010: Updated 6.5.2 to expand generic pay item rules to duplicate LS projects.
12-9-2009: Inserted section 6.5 Generic Pay Items. Text is based on Estimates Bulletin 09-06, and the accompanying Guidelines for Usage of Generic Pay Items.
10-30-2009: Updated header dates for 2010 edition.
10-1-2008: Updated header dates for 2009 edition.
10-1-2008: Updated text to make the pay item request form optional. Complete information may be submitted by e-mail.

Chapter 7

11-1-23: Updated header for 2024 edition. Minor readability edits. Editorial/clarification and hyperlink updates.
11-1-22: Editorial corrections. Updated header for 2023 edition.
11-4-21: Reorganized/updated chapter information and renamed to – *Pay Item Documentation.* Moved some content to Chapter 2. Updated header dates for 2022 edition.
11-1-20: Updated header dates for 2021 edition. Formatted text in 7.2. Added 2021 FDM guidance to 7.4.
4-17-20: Added “S” code for specification type. Expanded guidance in 7.2.
11-1-19: Updated header dates for 2020 edition. Added 7.4.2 for pay item notes.
12-1-18: Updated header dates for 2019 edition. Added text for pay item descriptions. Added 7.7 for Proprietary Products.
8-8-18: Updated 7.1 and 7.4 references from PPM to FDM chapters.
10-23-17: Updated header dates for 2018 edition. Updated PPM reference and web page to FDM. Updated General Notes quote from 2018 FDM.
8-12-16: Added PPM reference to 7.4 for active voice wording. Updated web links to fdot.gov.
5-9-16: Updated 7.2 to include B value.
2-1-16: Updated header dates for 2016 edition. Updated PPM reference in 7.4.
12-30-14: Updated header dates for 2015 edition. Added third paragraph to 7.1 to define Tech Specs and refer to specs web page. Corrected missing text from last sentence of 7.6.1.
5-14-14: Updated 7.2 to include developmental specs.
1-14-14: Updated header dates for 2014 edition. Updated “Spec Type” flag list. Included Quick Reference information into section 7.3. Updated hyperlink.
2-20-13: Updated header dates for 2013 edition.
12-30-11: Added 7.5 to include Plan Quantity information, per Estimates Bulletin 11-06.
11-23-11: Updated header dates for 2012 edition.
10-17-11: Added 7.4 to detail pay item notes, along with PPM guidance.
4-21-11: Updated header date. Moved text from “Quick Reference” to new section 7.3. The “Quick Reference” content will also be available as a separate file online.
11-23-10: Updated header dates for 2011 edition. Added color to “Quick Reference” page.
5-14-10: Updated “Quick Reference” page.
10-30-09: Updated header dates for 2010 edition.
9-16-09: Changed chapter title from Plan Notes to Design Tools. Added section for Tech Spec and other flags. Added “Quick Reference” page.
10-1-08: Updated header dates for 2009 edition.
5-28-08: Deleted notes; refer to PPM for current information for: Key Sheet Notes, Typical Section Notes, Summary of Quantities Sheet Notes, Plan and Profile Sheet Notes, Pay Item Footnotes, Drainage Map Notes, and Utility Adjustment Sheet Notes.

Chapter 8

11-1-23: Updated header for 2024 edition. Minor readability edits. Reorganized sub chapters. Expanded and clarified guidance.
11-1-22: Reorganized/updated chapter information. Moved Summary Table examples to Estimates webpage for ease of updates. Updated header dates for 2023 edition.
11-4-21: Reorganized/updated chapter information. Removed section for Summary Boxes – see 2021 BOE for information. Updated header dates for 2022 edition.
5-5-21: Updated Summary of Signing and Pavement Marking: Updated requirements for 710-90- Final Surface Markings, LS, per pay item details.
2-2-21: Updated Summary Table titles and order, to coordinate with the latest CADD release. Ongoing coordination with the CADD Office.
11-1-20: Updated header dates for 2021 edition. Separate “Summary Table” information for FDM 2121 projects in this file. Instructions for “Summary Boxes”, valid for FDM 2020 projects, are in a separate Chapter 8 posting.
11-1-20: Updated header dates for 2021 edition. Added notice at top of file for transition between Summary Boxes and NexGen Estimates Reports.
1-24-20: Updated Summary Box numbering. Added Summary of Special Detours.
11-1-19: Updated header dates for 2020 edition. Noted pending change for Special Detours.
11-1-18: Updated header dates for 2019 edition. Added Summary of Temporary Highway Lighting. Added Summary of Pedestrian Special Detours, Summary of Pedestrian Channelization Devices. Renumbered summary boxes.
2-20-18: Expanded 8-1 to clarify limitations for custom summary boxes.
8-1, Expanded information regarding use of the Design Notes Column.
8-3, List of Summary Boxes- added Summary of Temporary Longitudinal Channelization Devices. Renumbered remaining summary boxes.
Summary of Lump Sum Items- added text to require summary of quantities based on secondary units.
Summary of Temp Traffic Control…- Added text to require whole numbers for EA and ED items, to prevent “reverse calculation” of quantities. Also clarified summary of MOT and final surface paint.
Summary of Temp Signalization- Added text to allow/recommend design notes column to identify intersections.
Summary of Temporary Longitudinal Channelization Devices- new summary box added.
Summary of Permanent Barriers (formerly Barrier Wall)- Updated title based on specification and standard index terminology change.
8-3.3 Added text for plans with multiple projects.
Throughout chapter: for existing PPM references added FDM references.
11-1-17: Updated header dates for 2018 edition. Removed introductory text for Summary Box implementation.
7-6-17: Minor updates:

- Clarified text for roadway pay Items on projects without Roadway component plans.
- Added text to clarify contingency items vs. overruns/adjustments.
- Summary of Lump Sum Items: Clarified usage note.

- Summary of Earthwork: Added guidance for pay items with SY units.
- Summary of Sidewalk: Deleted note for removal of sidewalk. See details for 522-items.

4-11-17: Added note to prohibit custom/project specific summary boxes.
2-2-17: Added notes for Monitor Existing Structures. Added instructions and example for Temporary Traffic Control Devices with different durations within a phase.
11-1-16: Updated header dates for 2017 edition.

- Summary of Clearing and Grubbing & Removal Items: Updated title, replaced graphic.
- Summary of General Items: removed old note.
- Summary of Box Culverts: Clarified instructions for bridge culverts.
- Summary of Performance Turf: Removed note regarding Temporary Sod. Future guidance pending.
- Summary of Traffic Monitoring Site Items: added graphic.
- Examples: Added text to clarify some of the correct/incorrect features.

6-8-16: NO policy or instruction changes were made. Corrected title of "Traffic Monitoring Site". Updated examples. Added Landscape Soil details.
1-28-16: Updated entire Chapter for 2016 edition.

- Header: Updated header dates.
- 8-1: Expanded 3rd paragraph to include calculation note.
- 8-2: Clarified that empty columns/rows do not need to be deleted. Added reminder to keep Construction notes column reserved for construction use (not used by designer). Added note to restrict added subtotals.
- 8-3: Clarified sheet numbering. Updated PPM reference. Converted list to table. Added hyperlinks to sample box and examples.
- 8-4: Added "and Instructions" to article heading. Added note regarding examples.
- 8-5 through 8-8: Corrected article numbering.
- 8-5: Expanded text to clarify calculations. Added PPM reference for sheet numbering.
- Summary of General Items: updated guidance. Removed reference to Traffic Monitoring due to new summary box.
- Summary of Special Detour Quantities: Summary Box removed; no longer valid.
- Summary of Monitor Existing Structures: New Summary Box, per bulletins and 2016 PPM. Note change from "Protection of Existing Structures" to "Monitor Existing Structures".
- Summary of Removal Items: Clarified note for LS item.
- Summary of Geotechnical Items: Clarified note for specification reference.
- Summary of Turnouts: Clarified guidance for showing surface course.
- Summary of Pavement: Clarified guidance for driveways and overbuild.
- Summary of Misc. Asphalt Pavement: Removed obsolete note.
- Summary of Sidedrain & MES: updated guidance for Sod/Turf, added reference to PPM, and added note for updated summary box.
- Summary of Sidewalk & Detectable Warnings: Clarified guidance for driveways.
- Summary of Permanent Driveways: Clarified guidance for asphalt driveways.
- Summary of Traffic Monitoring Items: Sample summary box is pending.
- Added Examples & links for all summary boxes. Additional populated examples

will be added as they become available.
- Landscape tabulation of Quantities: This tabulation sheet may include the plant

8-20-15: Added Summary Box Examples to end of chapter. Added note above 8.1 Introduction. Formatted 8-3 table for Summary Box Order, to include hyperlinks within chapter to instructions and examples for each summary box.
8-6-15: Added text to 8.1 Introduction, to address 5-day language for response to quantity questions from Construction. This text was previously located in the *Computation Methods for Design, Construction, and Final Estimates Handbook.* Added text to Summary of Miscellaneous Drainage Items, Summary of Side Drain and Mitered End Sections, Summary of Trench Drain, Summary of Underdrain, and Summary of French Drain, to clarify usage and avoid duplication of quantities.
4-28-15: Added details to Summary of Pavement, to require overbuild quantities to be shown separately from structural quantities. Removed reference to Field Office from Summary of General Items. Removed reference to Special Detours from Summary of Temporary Traffic Control Plan Items. Added note to keep Summary of Temporary Signalization & Detection separate from Summary of Temporary Traffic Control Devices.
2-20-15: Updated note for Summary of Permanent Barrier Wall, to address 521-8 items. Added Summary of Temporary Signalization to list in 8-3. Marked Summary of Special Detour with strikethrough, due to Estimates Bulletin 14-06. Added Summary of Cable Barrier (Pending).
2-10-15: Updated Summary of Structure Quantities and Summary of Walls with note for Sheet Piling. Replaced Summary of Drainage Structures box. Updated note for Special Detour, per Estimates Bulletin 14-06. Updated Summary of Miscellaneous Asphalt; removed column for Temporary Sidewalk.
12-30-14: Updated header dates for 2015 edition. Removed contact information from header. Updated note in red at top of chapter to refer to revision history. Added text to 8.2 for summary box totals to be shown on the first page, per the CADD templates. Added text to 8.3 for multiple projects let under one contract.
10-20-14: Added note to Summary of Guardrail for removal pay item.
10-17-14: Updated all graphics for the latest Summary Boxes.
10-13-14: Added rumble strips to Summary of Pavement.
9-24-14: Temporary Signalization- updated detail. When the new box with total is used, do not include the total on the Summary of Temporary Traffic Control Plan Items. If the old box is used, the total remains on the Summary of Temporary Traffic Control Plan Items.
9-19-14: Updated details for Summary Boxes, as follows:
- Temporary Traffic Control Plan Items: Corrected items, based on new boxes. Added notes to limit format of summary box. Added note for 710-90 and temporary items.
- Added Summary of Temporary Signalization and Detection.
- Litter and Mowing: added notes for areas identified in the plans.
- Miscellaneous Asphalt Pavement: updated notes to remove temporary asphalt and temporary sidewalk.
- Utility Adjustments: updated notes to clarify items to be included.

- Sidedrain and Mitered End Sections: clarified that pay item numbers are not shown, and are not to be added by designer.
- Sidewalk & Detectable Warnings: clarified note for location/area ID.
- Sidewalk, Curb, and Ditch Pavement: added note for removal work. Permanent Crash Cushions: Removed note- CADD file is current.
- Fencing: Added note for temporary fencing.
- Performance Turf: Added note for temp sodding.

9-19-14: Update 8.2 to clarify when columns or rows may be added or deleted.
9-17-14: Updated 8.3 to clarify that non-standard tables may not be included with SQ sheets. Changed TABQLT to TABQXX. Added Summary of Temp Signals to list of Summary Boxes.
9-16-14: Updated 8.6 to clarify note location on the Summary of Pay Items.
8-28-14: Updated Special Detour to include Temporary Bridge information.
8-12-14: Updated introductory information to remove “Draft” statement.
8-7-14: Updated instructions for Lump Sum projects, to allow pay item numbers, with notice.
4-18-14: Updated instructions based on user comments.
3-17-14: Added instructions for projects with no roadway component.
2-26-14: Updated text with additional notes and guidance, per CADD webinar training.
3-6-13: Complete re-write of Chapter, due to change from Comp Book to Plan Summary Boxes. Chapter title changed from “Forms” to “Plan Summary Boxes”. Refer to Estimates Bulletin 13-09 for details.
2-20-13: Updated header dates for 2013 edition.
11-23-11: Updated header dates for 2012 edition.
7-29-11: Updated web link for Construction forms.
5-19-11: Updated web link for Computation Methods for Design, Construction & Final Estimates Handbook.
11-10-10: Updated header dates for 2011 edition. Updated Construction Office web links. Changed font size from 10 pt to 12 pt.
11-8-10: Inserted 8.5 to better explain Forms and Documentation. Renumbered Estimates Forms from 8.5 to 8.6.
10-30-09: Updated header dates for 2010 edition.
10-6-08: Updated header dates for 2009 edition.
10-6-08: Updated pay item request form information, per Chapter 6. Use of the form is optional.
5-14-08: Inserted 8.4, note from Construction and CADD Offices. Requested by Sherry Valdes, State Construction Office & Kenny Rudd, District 3 CADD Office.

Chapter 9

11-1-23: Updated tables/added columns and info to match DI dropdowns. Updated header dates for 2024 edition. Minor readability edits.
11-1-22: Editorial corrections. Updated header for 2023 edition.
11-4-21: Reorganized/updated chapter information and renamed to – *Design Groups/Categories, Category Data, and Pay Item Alternate Groupings.* Moved some

content to Chapter 1. Updated header dates for 2022 edition.
4-13-21: Updated details for movable bridges, to clarify instructions for category header and loading pay items.
11-1-20: Updated header dates for 2021. Changed footer from “Webgate, PrP and Designer Interface” to “Applications for Designers”. Updated reports information, including 2021 FDM guidance. Updated screens/sample graphics.
1-9-20: Added Class 30U for Cathodic Protection to table of Structure Work Classes.
11-1-19: Updated header dates for 2020. Added text to 9.3.1 for locked project. Removed table of contents.
12-1-18: Updated header dates for 2019. Updated Bridge Type/Structure Type instructions.
2-19-18: Updated Bridge Header information in 9.3.2.
10-30-17: Updated header dates for 2018 edition. Added additional text for bridge ID number and pedestrian bridges. Added text for loading box culverts, less than 20’. Leading Zero reference in 9.3 updated to include reference to Chapter 10 for pay item formatting.
9-6-17: Added Supplemental Description information, per Program Management Bulletin 16-02.
5-10-17: Added Structure Work Class to 9.2.2 Bridge Category Header; revised Category/Design Groups.
10-25-16: Updated header dates for 2017 edition. Updated web addresses and Program Management Office title. Removed TRNSPORT references; included PrP references, as needed.
12-30-14: Updated header dates for 2015 edition. Updated note in 9.1. Added last sentence to 9.3.6 to indicate that additional information may be specific to a pay item or summary box.
4-30-14: Updated header dates for 2014 edition. Updated hyperlink.
2-20-13: Updated header dates for 2013 edition. Added note to 9.1 General to indicate software development is ongoing.
11-23-11: Updated header dates for 2012 edition. Added note to 9.1.
11-23-10: Updated header dates for 2011 edition. Added note to 9.1 General about pending webTrnsport.
10-30-09: Updated header dates for 2010 edition. Updated formatting for section & subsection titles.
1-27-09: Expanded 9.3.6 to include instructions for projects without roadway component plans.
10-1-08: Updated header dates for 2009 edition.
10-1-08: Updated 9.3.6 Pay Items, TRNS*PORT Category, and Component Plans to include examples of items/category usage.

Chapter 10

11-4-21: Moved content to Chapter 2, eliminating the need for this chapter. Updated header dates for 2022 edition.

11-1-20: Updated header dates for 2021 edition. Minor editorial changes. Expanded 10.3 to include Materials, Means & Methods, and Maintenance text. Expanded 10.5.4 to add reference to 2021 FDM changes. Updated references to existing reports and new Estimated Quantities Report.
11-1-19: Updated header dates for 2020 edition.
12-1-18: Updated header dates for 2019 edition.
10-31-17: Updated header dates for 2018 edition. Editorial changes throughout Chapter. Removed fields associated with obsolete computation books. Updated references to PPM/FDM and Design Standards/Standard Plans. Moved Tech Spec information to Chapter 7. Expanded 10.5 for displaying pay items in plans and other documents.
8-5-16: Updated header dates for 2017 edition. 10.2 Specifications: Specification links added to most pay items in DQE. Updated pay item structure information to match DQE screens.
2-1-16: Updated header dates for 2016 edition.
12-30-14: Updated header dates for 2015 edition. Added 10.5 for displaying pay item numbers in plans and specs; renumbered remaining sections.
4-30-14: Updated header dates for 2014 edition. Updated 10.3 for commonly used operations. Updated hyperlink.
2-20-13: Updated header dates for 2013 edition.
10-23-12: Added operations to 10.3, per meeting with Maintenance, Construction, and Roadway Design Offices.
9-17-12: Added typical detail for Rehabilitation operation.
11-1-11: Updated header dates for 2012 edition.
2-1-11: Clarified 10.3 relocate and other operations requiring Tech Spec or plan details. Corrected numbering on 10.4 and 10.5.
11-23-10: Updated header dates for 2011 edition. Added reference to Chapter 7 in 10.2, Plan Details.
10-30-09: Updated header dates for 2010 edition.
9-16-09: Added 10.3 Pay Item Structure, with guidance on common operations. Corrected Office and web links to “State Specifications and Estimates Office”.
1-28-09: Expanded 10.2 to include TRNS*PORT Category.
10-1-08: Updated header dates for 2009 edition.