

COPS Specifications and Pay Item Updates



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Summary of Changes

- ◆ Part 1:
 - ✓ Changes **approved** for July 2013

- ◆ Part 2: Changes **proposed** for January 2014
 - ✓ Specifications are at/near Industry Review
 - ✓ Bulletins expected in 2-4 weeks



Summary of Changes, Part 1

- ◆ July 2013 lettings:
 - ✓ COPS: Consolidation of Products and Specifications
 - ✓ 555, 556, 557: Directional Bore, Jack & Bore
 - ✓ 630: Conduit
 - ✓ 715: Lighting- conduit, pull boxes



Summary of Changes, Part 1

- ◆ July 2013 lettings:
 - ✓ 660: Vehicle Detection System
 - ✓ 786: ITS Vehicle Detection
 - ✓ 632: Signal Cable
 - ✓ 633: Communication Cable (Fiber Optic)
 - ✓ 783: ITS Fiber Optic
 - ✓ 635: Pull, Splice, & Junction Boxes



Summary of Changes

- ◆ Specifications- Industry Review:
<http://www2.dot.state.fl.us/SpecificationsEstimates/Development/IndustryReview.aspx>
Proposed changes to Specs
- ◆ Estimates- Bulletins:
<http://www.dot.state.fl.us/Specificationsoffice/Estimates/EstimatesBulletins/Default.shtm>
Approved changes to BOE, Specs, Standards, other
- ◆ Contact Database
<http://www.dot.state.fl.us/projectmanagementoffice/contactdatabase.shtm> *E-mail Announcements*



What is COPS?

- ◆ **C**onsolidation **O**f **P**roducts and **S**pecifications “**COPS**”
 - ✓ Minimum Specifications for Traffic Control Signals and Devices (MSTCSD) “Min Specs”
 - ✓ Standard Specifications
 - ✓ Approved Product List (APL)
 - ✓ Qualified Products List (QPL)
 - ✓ Pay items
- ◆ Consolidation of multiple specifications and pay items spread across traffic signal, ITS, and lighting specifications

Estimates Bulletin 12-12



COPS Overview

- ◆ Background
- ◆ Conduit
- ◆ Pull, Splice, and Junction Boxes
- ◆ Vehicle Detectors
- ◆ Signal and Communication Cable



fhwaapps.fhwa.dot.gov

COPS

- ◆ How does this affect my PSE package (plans, specs, and estimates) ?
 - ✓ Plans- tabulation sheets and some details
 - ✓ Specs- updated workbook
 - ✓ Estimates- pay items and/or quantities updated
- ◆ When will these changes be effective?
 - ✓ July 2013, January 2014, and July 2014 lettings, as specs are posted online, and noted in the Estimates Bulletins.
- ◆ Part 1: July 2013 changes
- ◆ Part 2: January 2014 changes



Conduit

- ◆ **555, 556, 557: Directional Bore, Jack & Bore**
 - ✓ No payment under 555, 556
 - ✓ 557 Vibratory Plowing has been deleted.
- ◆ Payment is included under the conduit (Section 630) or drainage pipe (Section 430) to be installed
- ◆ **715: Lighting**
 - ✓ No payment for conduit under 715; payment is included under Section 630.

Estimates Bulletins 12-14 and 12-15

Reminder: Load lighting quantities in lighting category, signals quantities in signals category, etc.



Conduit

- ◆ Section 630 includes requirements for signals, lighting, ITS, and irrigation.
- ◆ Measurement for underground or underpavement is by horizontal **TRENCH LENGTH**
 - ✓ 4 conduits in 100' length is paid as 100'
 - ✓ See Estimates Bulletin 12-15 for noting multiple conduits on plans. Ex 630-2-11 (4 runs @ 100')
- ◆ Existing “**pre-construction**” **conditions** determine underground or underpavement.
- ◆ Use box-to-box length



Conduit- pay item structure

- ◆ **630-2-AB Conduit, LF**

A= Operation

1 (Furnish & Install)

B= Installation Method/location

1 (Open Trench) Underground *

2 (Directional Bore) Underground or Underpavement*

3 (Jack & Bore) Typically under railroad*

4 (Aboveground)**

5 (Bridge Mount)**

*Measured as the horizontal length of the trench or bore; no additional payment for multiple conduits in trench.

**Measured as the actual length of each conduit.



Estimates Bulletin 12-15

Default 2": 630-2-1 1 (2 runs @ 100'). For larger : 630-2-11 (2 runs of 4" @ 100')



http://www.dot.state.fl.us/trafficoperations/ITS/Projects_Telecom/ITSFM/ITSFM-checklist.shtml

Vehicle Detectors

- ◆ Specs Before:

- ✓ 660 Loop Assemblies
- ✓ 663 Vehicle Detectors/Signal Pre-Emption
- ✓ 786 ITS Vehicle Detection System

- ◆ Specs After:

- ✓ 660 Vehicle Detection Systems
- ✓ 663 Signal Pre-Emption (Bus/Emergency vehicles, Tech Spec required)

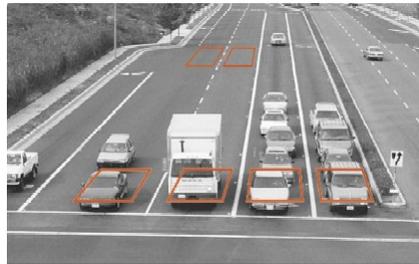


Estimates Bulletin 12-17



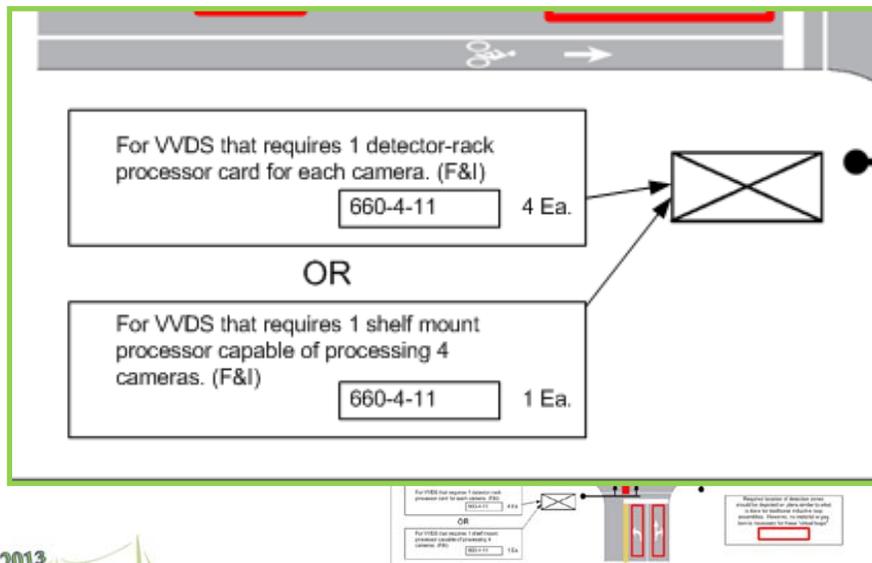
Vehicle Detectors

- ◆ Section 660 Types
 - ✓ Loops
 - ✓ Microwave
 - ✓ Video
 - ✓ Wireless Magnetometer
 - ✓ AVI: Automatic Vehicle Identification
 - Transponder
 - Bluetooth
 - License Plate



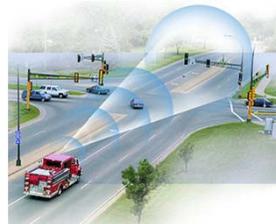
modot.org

Vehicle Detectors



Vehicle Detectors

- ◆ Section 663: Signal Pre-Emption
 - ✓ Tech Specs will be required, until standard specs are available.
 - ✓ Used for emergency vehicle and/or bus pre-emption
 - Optical
 - GPS
 - ✓ Detail components in the plans or Tech Specs
 - ✓ Products must be on the APL



ops.fhwa.dot.gov/publications/fhwahop08024/chapter9.htm

Signal & Communications Cable

- ◆ Section 632 Signal Cable
- ◆ Section 633 Communication Cable
- ◆ Section 783 ITS Fiber Optic- included in 633

Estimates Bulletin 12-18



http://www.dot.state.fl.us/trafficoperations/ITS/Projects_Telecom/ITSFM/ITSFM-checklist.shtm

Signal & Communications Cable

- ◆ **Section 632 Signal Cable Revised for Jan 14:**
 - ✓ 632-7 Signal Cable, PI for New/ Reconstructed intersection
 - ✓ 632-7 Signal Cable, LF for Repair/Replace/other
- ◆ **Section 633 Communication Cable**
 - ✓ 633-1- Fiber Optic Cable, LF
 - ✓ 633-2- Connection, EA (EACH FIBER, NOT EACH CABLE)
 - ✓ 633-3- Fiber Optic Connection Hardware, EA
 - ✓ 633-4- Twisted Pair Cable, LF



Pull, Splice, Junction Boxes

- ◆ Section 635: Pull, Splice, and Junction Boxes
- ◆ Replaces
 - ✓ Pay Item 715-14- Lighting Pull Box
 - ✓ Pay Items 783-5, 783-6, and 783-7 ITS Pull/Splice Box for Fiber Optic

Estimates Bulletin 12-19



http://www.dot.state.fl.us/trafficoperations/ITS/Projects_Telecom/ITSFM/ITSFM-checklist.shtm

Pull, Splice, Junction Boxes

- ◆ 635-2 Pull and Splice Boxes, EA
 - ✓ Sizes are included in the specs and pay item
 - ✓ Small- signal/lighting
 - ✓ Medium- fiber optic
 - ✓ Large- fiber optic splice box
 - Rectangular
 - Round
- ◆ 635-3 Junction Boxes, EA
 - ✓ Aerial
 - ✓ Mounted
 - ✓ Embedded junction boxes are incidental to component, i.e. barrier wall



PART 2: Proposed Changes for January 2014

Summary of Changes

- ◆ January 2014 lettings:
 - ✓ 670: Flashing Beacon (Intersection Control)
 - ✓ 700: Signs
 - Static Signs
 - Illuminated Signs
 - DMS Signs
 - Electronic Display Signs
 - Flashing Beacon Signs



Summary of Changes

- ◆ January 2014 lettings:
 - ✓ 654: Mid-Block Crosswalks
 - ✓ 665: Pedestrian Detectors
 - ✓ 687: Highway Advisory Radio
 - ✓ 688: Road Weather Information System (RWIS)
 - ✓ 682: Video Equipment for ITS/Signals
 - ✓ 684: Network Devices for ITS/Signals
 - ✓ 690: Removal of Traffic Control Signals and Devices



Flashing Beacon

◆ Signal Intersection Control



◆ Sign with flashing beacon



Safety.fhwa.dot.gov, MUTCD, FDOT Index 17344

Flashing Beacon for Intersection Control

- ◆ Similar to Signalized Intersection:
 - ✓ 650: Signal- 1 Section, # ways
 - ✓ 670: Intersection Control Beacon Controller Assembly
 - ✓ 634 Span Wire Assembly
 - ✓ 641 Prestressed Concrete Pole



Signs

- ◆ Static Signs
 - ✓ Single Post, assembly
 - ✓ Multi Post, assembly
 - ✓ Overhead sign panel
 - ✓ Overhead sign structure
- ◆ Illuminated Signs
- ◆ DMS Signs
- ◆ Electronic Display Signs
- ◆ Flashing Beacon Signs



Signs

- ◆ Single Post Assembly
 - ✓ Combined total sign area= front panels + back panels (sheeting area)
 - ✓ Barrier Mount- Refer to Index 11871 max 20 ft² wind load



Signs

◆ Multi-Post Sign Assembly

1 assembly

Sign Area=

A + B+ C+...



Upstatenroads.com

Signs

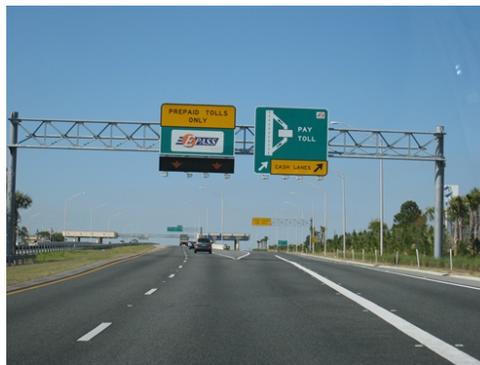
◆ Overhead Sign Structure

◆ Overhead Signs, EA

✓ 1 Sign panel= Prepaid + E-Pass

✓ 1 Sign panel = right lanes pay toll

✓ 1 DMS



Each sign panel should be a complete message.



Upstatenroads.com

Signs

- ◆ Illuminated
- ◆ Dynamic Message
- ◆ Electronic Display
- ◆ Flashing Beacon



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Signs

- ◆ Illuminated Signs
 - ✓ Internally Illuminated Signs
 - ✓ Highlighted Signs



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Signs

- ◆ Dynamic Message
 - ✓ Front Access DMS
 - ✓ Walk-in DMS
 - ✓ Embedded DMS



Upstateroads.com

Signs

- ◆ Electronic Display
 - ✓ Electronic Warning Signs
 - ✓ Electronic Regulatory Signs
 - ✓ Blank-out Signs
 - ✓ Electronic Speed Feedback Signs



dot.state.fl.us/trafficoperations/ITS/Projects_Telecom/ITSFM/ITSFM-checklist.shtm, Upstateroads.com

Signs

- ◆ Flashing Beacon, assembly

- ✓ Static sign with support
- ✓ Beacon(s)
- ✓ Solar panel
- ✓ Controller



- ✓ Signal cable paid separately (LF)
Used to “tie together” multiple signs for a school zone.



Upstatenroads.com

Mid-Block Crosswalks

- ◆ Section 654 (new)

- ✓ In-Roadway Light Assemblies
- ✓ Rectangular Rapid Flashing Beacon Assemblies (RRFB)
- ✓ Pedestrian Hybrid Beacon Assemblies

- ◆ Guidance in Traffic Engineering Manual, Subsection 3.8.6

- ◆ Must be on APL



Safety.fhwa.gov

Mid-Block Crosswalks

- ◆ In-Roadway Light Assemblies
 - ✓ Includes lights, controller, signs
 - ✓ 1 assembly per crosswalk/location



Mid-Block Crosswalks

- ◆ Rectangular Rapid Flashing Beacon Assemblies (RRFB)
 - ✓ Includes everything on 1 post: RRFB, sign(s), pedestrian detector, solar panel
 - ✓ 2 or 3 assemblies per crosswalk (each end, median)



Mid-Block Crosswalks

- ◆ Pedestrian Hybrid Beacon Assemblies
 - ✓ High intensity **A**ctivated crosswalk
 - ✓ Includes 3 face signal with backplate
 - ✓ Normally **2-4 assemblies** per crosswalk
- ✓ Separate payment for
 - Sign
 - Mast arm or span wire
 - Controller
 - Pedestrian Detector



changelabsolutions.org

Pedestrian Detectors

- ◆ Standard
 - ✓ Black- intersections
 - ✓ Yellow- mid block crossings
- ◆ Accessible
- ◆ Instruction signs are included with payment for detector



FTP-25-06



Polara.com: FDOT Design standards

Video Equipment, Network Devices, HAR, RWIS

- ✓ Consolidating traditional ITS equipment into 600s
- ✓ Devices are used on freeway and arterial (traffic signal) projects
- ✓ Network Devices: 784 moving to 684
- ✓ Video Equipment
 - CCTV camera
 - Video Display Equip.
 - Must be on APL



D2 Command center- seefloridago.org, dot.state.fl.us/trafficoperations/ITS/

Video Equipment, Network Devices, HAR, RWIS

- ✓ Highway Advisory System (HAR)
- ✓ Road Weather Information System (RWIS)



D6 Command center- seefloridago.org

Removal of Traffic Control Signals and Devices

- ◆ Changed the default:
 - ✓ Items will become property of the contractor.
 - Dispose
 - Salvage
 - ✓ Items to be stockpiled must be identified in the contract documents
- ◆ Pay item structure under discussion with industry



Questions

- Estimates Bulletins: Link from top of BOE page
- <http://www.dot.state.fl.us/Specificationsoffice>
- Melissa.Hollis@dot.state.fl.us



Thank you for your time



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<http://www.dot.state.fl.us/specificationsoffice/>



Summary of Changes, Part 1

- ◆ July 2013 lettings:
 - ✓ COPS: Consolidation of Products and Specifications
 - ✓ 430: Jack & Bore for Drainage
 - ✓ 555, 556, 557: Directional Bore, Jack & Bore
 - ✓ 630: Conduit
 - ✓ 715: Lighting- conduit, pull boxes
 - ✓ 334, 337, 916: Asphalt Binders



Summary of Changes, Part 1

- ◆ January 2014 lettings:
 - ✓ 580: Landscape and Related Work
 - ✓ LS and Special Design on Push Button Contracts



Drainage- J&B

- ◆ 430: Drainage Pipe installed by J&B
 - ✓ When drainage pipe is installed by J&B, two options are possible
 - Optional Pipe with a casing
 - Optional Pipe as a carrier (without a casing)

430-17A-BCC Opt Pipe- **Excavation or Trenching**, LF

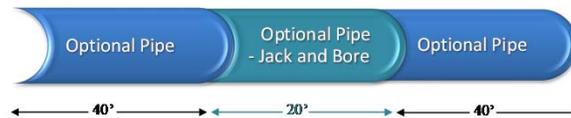
430-18A-BCC Opt Pipe- **Jack & Bore**, LF

Estimates Bulletin 12-14



Drainage- J&B

- ◆ 430: Drainage Pipe installed by J&B
 - ✓ When drainage pipe is installed by J&B, two options are possible:
 - A. Optional Pipe as a carrier (without a casing)



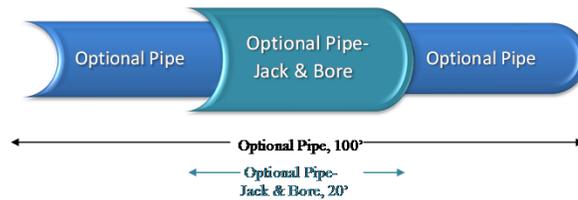
Optional Pipe, Pay Item 430-17A-BCC = 80'

Optional Pipe- Jack & Bore, Pay Item 430-18A-BCC = 20'



Drainage- J&B

- ◆ 430: Drainage Pipe installed by J&B
 - ✓ When drainage pipe is installed by J&B, two options are possible:
 - A. Optional Pipe with casing



Optional Pipe, Pay Item 430-17A-BCC = 100'

Optional Pipe, Jack & Bore, Pay Item 430-18A-BCC = 20'



Asphalt Binders

- ◆ Specification Changes for Asphalt Binders in Section 916
- ◆ 334-1-AA Superpave Asphaltic Concrete, TN
- ◆ 337-7-AA Asphaltic Concrete Friction Course, TN
- ◆ Many combinations of Traffic Level and binders; update plans/typical section to match pay item description
- ◆ No “crosswalk” from old item to new item; coordinate with the District Pavement Design Office

Estimates Bulletin 12-16



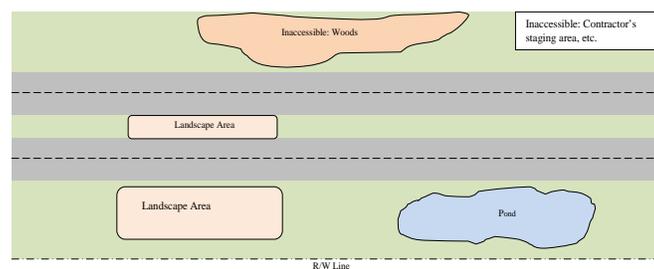
Litter Removal and Mowing

- ◆ Updated Specification to address differences between urban and rural situations
 - ✓ Before: Only for “areas to be mowed”
 - ✓ After: Areas from edge of pavement to R/W
 - ✓ Exclude inaccessible areas (woods, wetlands/ponds, etc.) and Landscape Areas covered under Section 580
- ◆ Coordinate with Maintenance for Signals, Landscaping, Mill & Resurface projects; may choose to continue with normal maintenance

Estimates Bulletin 12-20

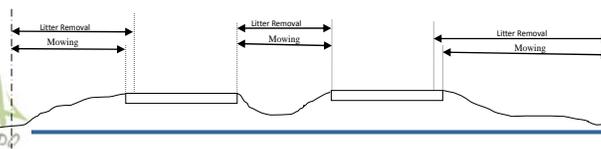


Litter Removal and Mowing



Examples of excluded areas: Woods, Ponds/Wetlands, Landscape Areas

Areas included for Litter Removal and Mowing



Curb, Sidewalk, Detectable Warnings

- ◆ 520: Curb
- ◆ 522: Sidewalk and Driveways
- ◆ 527: Detectable Warnings
- ◆ Index 304
 - ✓ **CR-1 to CR-26** replaced with **CR-A to CR-G**
 - ✓ Added standard area for detectable warning
- ◆ Tabulate the detectable warning area in the plans

