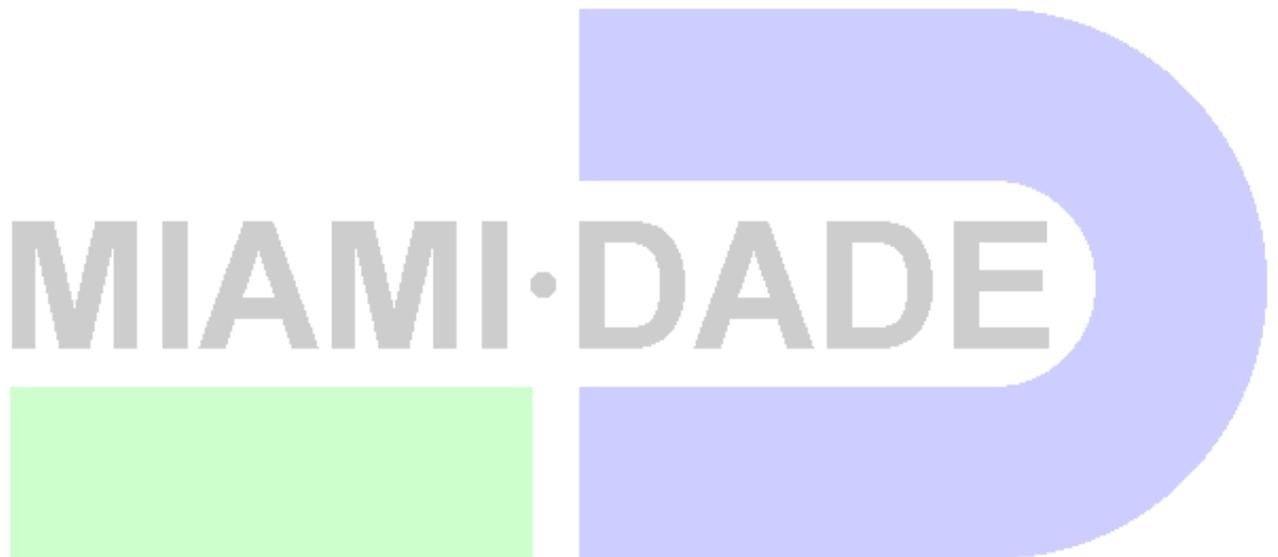


**Miami-Dade County
Public Works and Waste Management Department
Traffic Signals & Signs Division**



Kathleen Woods-Richardson
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Public Works and Waste Management Department

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Prepared by:

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Traffic Control Standards & Specifications Coordinator

**Miami-Dade County
Public Works and Waste Management Department (PWWM)
Traffic Signals & Signs Division (TSS)
Qualified Products List (QPL)**

Introduction

The PWWM Qualified Products List (QPL) was developed to assist manufacturers, suppliers, Contractors, and other government agencies who want to sell, purchase, furnish, and/or install traffic control equipment and materials for the installation and/or modification of traffic signalizations, flashers, beacons, variable message, and feedback devices in Miami-Dade County (MDC).

Such equipment and materials are to be installed within public R/W, at government facilities, and on properties open to public travel within the jurisdictional boundaries of MDC including all municipalities, unincorporated areas, state roads, and MDX toll-way on/off ramp intersections.

MDC requires that certain devices and materials adhere to more stringent requirements and specifications than those in the Florida Department of Transportation's (FDOT's) Approved Products List (APL). All QPL listed devices that are required to be "pre-certified" by FDOT (i.e. APL listed) are noted on this QPL with the FDOT APL numbers which are shown in blue and include FDOT's approval date. In regard to those items, the QPL is intended to be a subset of the APL. Additionally, items that do not require or have FDOT APL numbers are noted "N/A" and the approval date is the County's QPL approval date.

Process for Adding Products to the Qualified Products List

Only those products listed in this QPL, or submitted to and approved in writing by PWWM for addition to this QPL, are allowed to be installed in MDC. Following is information regarding the process of adding a new product to this QPL:

- 1) Contractors, manufacturers, suppliers or government agencies who desire to sell, purchase, or install a vehicle or pedestrian traffic control product (as described in Florida State Statute [FSS] 316.0745) within the State of Florida must first follow FDOT's approval process as outlined in their APL website at:
http://www.dot.state.fl.us/trafficoperations/Traf_Sys/Traf_Sys.shtm.
- 2) Once the product has been approved by FDOT and assigned an APL number, or for products which are not subject to FDOT approval, the contractor, manufacturer, supplier, or government agency may request PWWM to consider adding it to the QPL. PWWM may require further product literature, specifications, datasheets, evaluation, inspection, and in-house or independent lab testing.
- 3) Products must be submitted for review and/or approval to the Traffic Control Standards & Specifications Coordinator, PWWM TSS Division, 7100 NW 36 Street, Miami FL 33166, c/o Mr. Robert Janosi.

- 4) For answers to any questions concerning the QPL approval process, contact the Traffic Control Standards & Specifications Coordinator at boj@miamidade.gov or 305-592-3470x227.
- 5) No product will be returned to the supplier unless previously requested in writing prior to evaluation.
- 6) Any damage to any product due to any aspect of the evaluation process will in no way be a claim or payment to the supplier by MDC unless stipulated and agreed upon in writing prior to the start of the process.

Notes Regarding the Qualified Products List

This QPL follows the FDOT numbering format as established in the FDOT publication: "Standard Specifications for Road and Bridge Construction".

Any discrepancies, errors, or omissions found in this QPL by any user should be immediately reported to the Traffic Control Standards & Specifications Coordinator. This QPL is a "living document" and will be updated as warranted to address changes, corrections, additions, and deletions. Revision dates will be noted. Dated copies of old versions of the QPL may be available offline from the Traffic Control Standards & Specifications Coordinator if needed.

Contractor's submittal data (shop drawings) for equipment and materials, for every project, must refer and adhere to the latest version of the QPL at the time the submittal data package is presented to the County. If after receiving TSS approval for submittal; a product is removed from the QPL, then the Contractor may petition the Construction Project Manager and the County's Traffic Control Standards & Specifications Coordinator for an equitable adjustment in accordance with the Contract Documents. (Rev. 11/11)

Miami-Dade County
Public Works and Waste Management Department
Traffic Signals & Signs Division

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NOTE:

Product Listings are in Alphabetical order by Manufacturer and shall in no way be considered as a listing of product preference.

620 - SIGNAL INSTALLATION GROUNDING

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A) Ground Rods - Copper bonded (Clad) 10' x 5/8":

Pointed w/compression couplings & Sectional w/threaded couplings (UL 467-1984; ANSI C33.8)

FDOT APL No.	Approval	Manufacturer	Part Number / Device Description
N/A	08/01/09	Eritech (Erico International Corp.)	615800 / Pointed Ground Rod
N/A	08/01/09	Eritech (Erico International Corp.)	635800 / Sectional Ground Rod
N/A	04/13/11	Galvan Industries Inc.	6260 / Pointed Ground Rod
N/A	04/13/11	Galvan Industries Inc.	6260S / Sectional Ground Rod
N/A	08/27/10	Harger Lightning & Grounding	5810 / Pointed Ground Rod
N/A	08/27/10	Harger Lightning & Grounding	S5810 / Sectional Ground Rod
N/A	08/01/09	Southern Grounding Products	C5810 / Pointed Ground Rod
N/A	08/01/09	Southern Grounding Products	CS5810 / Sectional Ground Rod

B) Ground Rod Couplings for 5/8-inch:

For Pointed and Sectional Ground Rods; (UL 467 Listed)

FDOT APL No.	Approval	Manufacturer	Part Number / Device Description
N/A	08/01/09	Eritech (Erico International Corp.)	CC58 / Compression for Pointed
N/A	08/01/09	Eritech (Erico International Corp.)	CR58 / Threaded for Sectional
N/A	04/13/11	Galvan Industries Inc.	60-TC / Compression for Pointed
N/A	04/13/11	Galvan Industries Inc.	60-C / Threaded for Sectional
N/A	08/27/10	Harger Lightning & Grounding	GRCC58 / Compression for Pointed
N/A	08/27/10	Harger Lightning & Grounding	GRC58 / Threaded for Sectional
N/A	08/01/09	Southern Grounding Products	58DC / Compression for Pointed
N/A	08/01/09	Southern Grounding Products	58C / Threaded for Sectional
N/A	04/13/11	T&B/Blackburn	60CNT2 / Compression for Pointed
N/A	04/13/11	T&B/Blackburn	60C / Threaded for Sectional

C) Exothermic Welded Connections:

1, 2, 3 or 4 Conductor for 5/8-inch Copper Clad Ground Rods; Solid or Stranded #3, 4, 6 AWG (UL 467 Listed)

FDOT APL No.	Approval	Manufacturer	Part Number / Device Description
N/A	08/01/09	Continental Industries, Inc.	thermOweld Single Shot CR-1 / 1 Conductor
N/A	08/01/09	Continental Industries, Inc.	thermOweld Single Shot CR-2 / 2 Conductor
N/A	08/01/09	Continental Industries, Inc.	thermOweld Single Shot CR-25 / 3 Conductor
N/A	08/01/09	Continental Industries, Inc.	thermOweld Single Shot CR-24 / 4 Conductor
N/A	08/01/09	Erico International Corp.	Cadweld One Shot GR1161L / 1 Conductor
N/A	08/01/09	Erico International Corp.	Cadweld One Shot GT1161L / 2 Conductor
N/A	08/01/09	Erico International Corp.	Cadweld One Shot NT1161L / 3 Conductor
N/A	08/01/09	Erico International Corp.	Cadweld One Shot NX1161L / 4 Conductor
N/A	08/25/10	Harger Lightning & Grounding	Ultraweld Uni-Shot G11-584 / 1 Conductor
N/A	08/25/10	Harger Lightning & Grounding	Ultraweld Uni-Shot G21- 584/ 2 Conductor
N/A	08/25/10	Harger Lightning & Grounding	Ultraweld Uni-Shot G31- 584 / 3 Conductor
N/A	08/25/10	Harger Lightning & Grounding	Ultraweld Uni-Shot G41- 584 / 4 Conductor

NOTE:

When used with Sectional Ground Rods (threaded type) the threaded portion shall be cut-off prior to attachment of Exothermic Welded Connections.

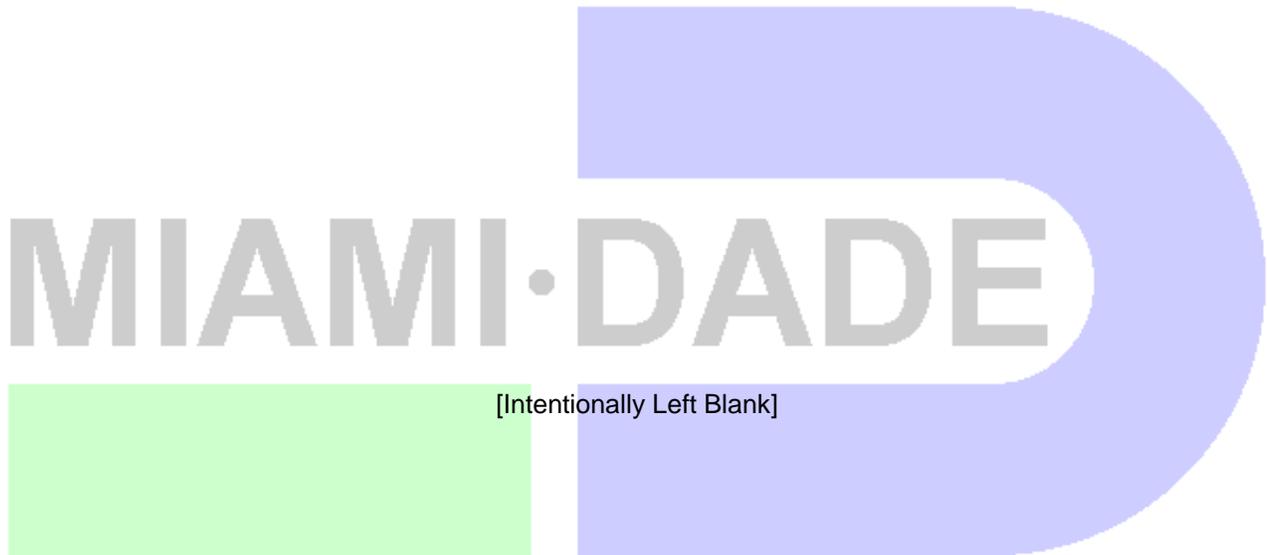
620 - SIGNAL INSTALLATION GROUNDING (Cont'd) [\(Back to Table of Contents\)](#)

D) Universal Grounding Clamps (UGC):

5/8-inch Acorn Type Grounding Connector for Ground Rod (UL 467 Listed)

FDOT APL No.	Approval	Manufacturer	Part Number / Device Description
N/A	04/13/11	Galvan Industries Inc.	G-5 / #10 Solid - #2 Stranded
N/A	08/01/09	Harger Lightning & Grounding	301LD / #10 Solid - #2 Stranded
N/A	08/01/09	Southern Grounding Products	G-5 / #10 Solid - #2 Stranded
N/A	04/13/11	T&B/Blackburn	G-5 / #10 Solid - #2 Stranded

***** If not listed above Contractor shall submit Manufacturer name and part number *****



Continental Industries, Inc www.conind.com or www.thermoweld.com
 Erico International Corp. www.erico.com
 Galvan Industries Inc. www.galvanelectrical.com
 Harger Lightning & Grounding www.harger.com
 Southern Grounding Products www.southatlanticllc.com
 T&B/Blackburn www.tnb.com

HISTORY:
 Addition of Galvan and T&B/Blackburn to various Items above to QPL (04-13-11)

630 – CONDUIT ([Back to Table of Contents](#))

A) 2-Inch Schedule 40 PVC Rigid Nonmetallic Conduit (RNC):

Heavy Wall EPC (UL 651 Conformance; NEMA TC-2)

FDOT APL No.	Approval	Manufacturer	Part Number / Description / Length
N/A	08/01/09	Allied Tube & Conduit	8108 / Belled End / 10'
N/A	08/01/09	Cantex, Inc	A52CA12 / Belled End / 10'
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	49011-010 / Belled End / 10'
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	49011-020 / Belled End / 20'

B) 2-Inch Schedule 80 PVC Rigid Nonmetallic Conduit (RNC):

Extra Heavy Wall EPC-80 (UL 651 Conformance; ASTM D1785-06)

FDOT APL No.	Approval	Manufacturer	Part Number / Description / Length
N/A	08/01/09	Allied Tube & Conduit	9308 / Belled End / 10'
N/A	08/01/09	Cantex, Inc.	- / - / -
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	49411-010 / Belled End / 10'
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	49411-020 / Belled End / 20'

C) 2-Inch Schedule 40 PVC Plain End Elbows:

Standard Radius (UL 651 Conformance)

FDOT APL No.	Approval	Manufacturer	Part Number / Description
N/A	08/01/09	Allied Tube & Conduit	59593 / 90°
N/A	08/01/09	Cantex, Inc.	5133828 / 90°
N/A	08/01/09	Kraloy	078545 / 90°
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	UA9AJ / 90°
N/A	08/01/09	Allied Tube & Conduit	9580 / 45°
N/A	08/01/09	Cantex, Inc.	5133768 / 45°
N/A	08/01/09	Kraloy	078557 / 45°
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	UA7AJ / 45°
N/A	08/01/09	Allied Tube & Conduit	59566 / 30°
N/A	08/01/09	Cantex, Inc.	5133748 / 30°
N/A	08/01/09	Kraloy	078569 / 30°
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	UA6AJ / 30°

D) 2-Inch Schedule 40 PVC Belled End Elbows:

Standard Radius (UL 651 Conformance)

FDOT APL No.	Approval	Manufacturer	Part Number / Description
N/A	08/01/09	Allied Tube & Conduit	802757 / 90°
N/A	08/01/09	Cantex, Inc.	5233828 / 90°
N/A	08/01/09	Kraloy	078593 / 90°
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	UA9AJB / 90°
N/A	08/01/09	Allied Tube & Conduit	802771 / 45°
N/A	08/01/09	Cantex, Inc.	5233768 / 45°
N/A	08/01/09	Kraloy	078605 / 45°
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	UA7AJB / 45°

630 - CONDUIT (Cont'd) [\(Back to Table of Contents\)](#)

D) 2-Inch Schedule 40 PVC Belled End Elbows:

Standard Radius (UL 651 Conformance)

FDOT APL No.	Approval	Manufacturer	Part Number / Description
N/A	08/01/09	Allied Tube & Conduit	802783 / 30°
N/A	08/01/09	Cantex, Inc.	5233748 / 30°
N/A	08/01/09	Kraloy	- / 30°
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	UA6AJB / 30°

E) 2-Inch PVC Couplings:

For use with Schedule 40 & 80 Conduit (UL 651 and 514 Conformance)

FDOT APL No.	Approval	Manufacturer	Part Number / Description
N/A	08/01/09	Allied Tube & Conduit	59606 / Standard
N/A	08/01/09	Cantex, Inc.	R6141628 / Standard
N/A	08/01/09	Kraloy	078006 / Standard
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	CP200 / Standard (E940J)

F) 2-Inch Schedule 40 Special Long Line PVC Couplings:

For use with Schedule 40 & 80 Conduit (UL 651 and 514 Conformance)

FDOT APL No.	Approval	Manufacturer	Part Number / Description
N/A	08/01/09	Allied Tube & Conduit ***	XXXXXXXX / Long Line Type
N/A	08/01/09	Cantex, Inc. ***	XXXXXXXX / Long Line Type
N/A	08/01/09	Kraloy ***	XXXXXXXX / Long Line Type
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	CPLCS200X4125 / Long Line Type (E941J)

*** Contractor shall submit Manufacturer name and part number ***

G) 2-Inch End Bells:

For use with Schedule 40 & 80 Conduit (UL 651 and 514 Conformance)

FDOT APL No.	Approval	Manufacturer	Part Number / Description
N/A	08/01/09	Allied Tube & Conduit ***	XXXXXXXX / End Bell
N/A	08/01/09	Cantex, Inc. ***	XXXXXXXX / End Bell
N/A	08/01/09	Kraloy ***	XXXXXXXX / End Bell
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	EB200 / End Bell (E997J)

*** Contractor shall submit Manufacturer name and part number ***

H) 2-Inch Fabricated End Bells:

For use with Schedule 40 Conduit; 6-inch long (UL 651 and 514 Conformance)

FDOT APL No.	Approval	Manufacturer	Part Number / Description
N/A	08/01/09	Allied Tube & Conduit***	XXXXXX / Fabricated use w/Sch. 40
N/A	08/01/09	Cantex, Inc. ***	XXXXXX / Fabricated use w/Sch. 40
N/A	08/01/09	Kraloy***	XXXXXX / Fabricated use w/Sch. 40
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	EB200X600 / Fabricated use w/Sch. 40

*** Contractor shall submit Manufacturer name and part number ***

630 - CONDUIT (Cont'd) ([Back to Table of Contents](#))

I) 2-Inch Adapters:

For use with Schedule 40 & 80 Conduit (UL 651 and 514 Conformance)

FDOT APL No.	Approval	Manufacturer	Part Number / Description
N/A	08/01/09	Allied Tube & Conduit***	XXXXXX / Female Adapter
N/A	08/01/09	Cantex, Inc. ***	XXXXXX / Female Adapter
N/A	08/01/09	Kraloy***	XXXXXX / Female Adapter
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	FA200 / Female Adapter (E942J)
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	TA200 / Male Terminal Adapter (E943J)

*** Contractor shall submit Manufacturer name and part number ***

J) 2-Inch High Density Polyethylene Pipe (HDPE):

Smooth Interior Wall; Type S/S; Wall Standard Dimensional Ratio: SDR 11 (UL 651 A & B Conformance; NEMA TC-7)

FDOT APL No.	Approval	Manufacturer	Part Number / Description
N/A	08/01/09	Isco Industries***	XXXXXX
N/A	08/01/09	Prime Conduit Inc. (formally Carlon)	A13C6N1ENNA4000 / Grey

*** Contractor shall submit Manufacturer name and part number ***

K) Galvanized Rigid Metallic Conduit (GRMC):

Hot Dipped Galvanized with both ends reamed and threaded (UL Safety Standard #6 and ANSI C80.1)

FDOT APL No.	Approval	Manufacturer	Trade Size
N/A	08/01/09	Allied Tube & Conduit	1 ½ - Inch
N/A	08/01/09	Allied Tube & Conduit	1 ¼ - Inch
N/A	08/01/09	Allied Tube & Conduit	1 - Inch
N/A	08/01/09	Allied Tube & Conduit	½ - Inch
N/A	08/01/09	Republic Conduit	1 ½ - Inch
N/A	08/01/09	Republic Conduit	1 ¼ - Inch
N/A	08/01/09	Republic Conduit	1 - Inch
N/A	08/01/09	Republic Conduit	½ - Inch
N/A	08/01/09	Western Tube & Conduit Co.	1 ½ - Inch
N/A	08/01/09	Western Tube & Conduit Co.	1 ¼ - Inch
N/A	08/01/09	Western Tube & Conduit Co.	1 - Inch
N/A	08/01/09	Western Tube & Conduit Co.	½ - Inch
N/A	08/01/09	Wheatland Tube Co.	1 ½ - Inch
N/A	08/01/09	Wheatland Tube Co.	1 ¼ - Inch
N/A	08/01/09	Wheatland Tube Co.	1 - Inch
N/A	08/01/09	Wheatland Tube Co.	½ - Inch

630 - CONDUIT (Cont'd) ([Back to Table of Contents](#))

L) Conduit Fittings for GRMC:
(UL and ANSI C80 Standards)

FDOT APL No.	Approval	Manufacturer	Trade Sizes
N/A	08/01/09	Allied Tube & Conduit	½ - Inch to 1 ½ - Inch
N/A	08/01/09	Republic Conduit	½ - Inch to 1 ½ - Inch
N/A	08/01/09	Western Tube & Conduit Co.	½ - Inch to 1 ½ - Inch
N/A	08/01/09	Wheatland Tube Co.	½ - Inch to 1 ½ - Inch

Allied Tube & Conduit www.alliedtube.com
 Cantex, Inc. www.cantexinc.com
 Isco Industries www.isco-pipe.com
 Kraloy www.kraloyfittings.com
 Prime Conduit Inc. (formally Carlon) www.primeconduit.com or www.carlon.com
 Republic Conduit www.republic-conduit.com
 Western Tube & Conduit Co. www.westerntube.com
 Wheatland Tube Co. www.wheatlandtube.com

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HISTORY:
 Change listing from Carlon to Prime Conduit Inc. in QPL (04-20-11)

632 - SIGNAL & INTERCONNECT CABLE ([Back to Table of Contents](#))

A) Traffic Signal Cable (Aerial and Duct):

Standard 4, 7, 12 or 20 Cabled Conductor Stranded Bare Copper #14 AWG with Polyethylene Insulation; PVC Jacket; Stranded Bare Copper Conductors; Color Coded per specification; Rated 600 Volts (IMSA 19-1)

FDOT APL No.	Approval	Manufacturer	Number Conductors / Part Number
N/A	08/01/09	ADC (Advanced Digital Cable)	4 / 8104
N/A	08/01/09	ADC (Advanced Digital Cable)	7 / 8107
N/A	08/01/09	ADC (Advanced Digital Cable)	12 / 8112
N/A	08/01/09	ADC (Advanced Digital Cable)	20 / 8120
N/A	08/01/09	Belden Electronics Division	4 / 601137
N/A	08/01/09	Belden Electronics Division	7 / 601205
N/A	08/01/09	Belden Electronics Division	12 / 601207
N/A	08/01/09	Belden Electronics Division	20 / 601443
N/A	08/01/09	Deca Cables	4 / 72-754
N/A	08/01/09	Deca Cables	7 / 72-757
N/A	08/01/09	Deca Cables	12 / 72-732
N/A	08/01/09	Deca Cables	20 / 72-765
N/A	08/01/09	Falcon Fine Wire	4 / 980414X19-1
N/A	08/01/09	Falcon Fine Wire	7 / 980714X19-1
N/A	08/01/09	Falcon Fine Wire	12 / 981214X19-1
N/A	08/01/09	Falcon Fine Wire	20 / 982014X19-1
N/A	08/01/09	Isotec (General Cable)	4 / IM144BA19
N/A	08/01/09	Isotec (General Cable)	7 / IM147BA19
N/A	08/01/09	Isotec (General Cable)	12 / IM1412BA19
N/A	08/01/09	Isotec (General Cable)	20 / IM1420BA19

B) Shielded Loop Detector Lead-In Cable:

2-Conductor Stranded Tinned Copper #14 AWG with Polyethylene Insulation; Twisted; Shielded w/Alum. Mylar and Jacketed with Black Low-Density Polyethylene; complete w/Drain Wire; Rated 600 Volts (IMSA 50-2)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number
N/A	08/01/09	ADC (Advanced Digital Cable)	8780
N/A	08/01/09	Belden Electronics Division	601765
N/A	08/01/09	Deca Cables	70-915
N/A	08/01/09	Falcon Fine Wire	98021450-2
N/A	08/01/09	Isotec (General Cable)	ILT142AP19

C) Loop Detector and Lead-In Cable:

XHHW Stranded Bare Copper Conductor #14 AWG with Black Cross-Linked Polyethylene (XPL) Insulation; High Heat and Moisture Resistant; Rated: 600 Volts (IMSA 51-3)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number
N/A	08/01/09	ADC (Advanced Digital Cable)	8465
N/A	08/01/09	Belden Electronics Division	582100

632 - SIGNAL & INTERCONNECT CABLE (Cont'd) ([Back to Table of Contents](#))

D) Electrical Service Wire RHW / RHH / USE:

#6 AWG Copper Conductors with 7 Strands; Rated 600V with Cross-Linked Polyethylene (XLP) Insulation; High Heat, High Moisture, and Sunlight Resistant; Insulation Jacket Colors: BLACK for Ungrounded Conductor and WHITE for Grounded Conductor; (UL Standard 44)

Exception: *Insulation Jacket Colors: RED for Ungrounded Conductor and WHITE for Grounded Conductor when used for Traffic Infraction Detectors (TID) Electrical Service; TID Electrical Service Wire require RED color coded tie wrap flag markers*

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number / Description
N/A	12/01/10	Prysmian Cables & Systems	Q01820A / Type RHH/RHW-2 /USE
N/A	03/02/11	Southwire Company	#6 [specify color(s)] / Type RHH/RHW-2 /USE

***** Contractor shall submit Manufacturer name and part number if other than listed *****

E) Communications Interconnect Cable:

RUS 7 CFR 1755.390 (formerly REA PE-39); 6 pair / 19 AWG Solid, Annealed Bare Copper Conductors; Core assembly completely filled with an extended thermoplastic rubber (ETPR) filling between the pairs and under the core tape; Shield shall be corrugated, rodent resistant copper alloy or copper clad steel tape longitudinally applied with overlap; Black, low density polyethylene jacket; For use in wet environments; Approved for direct burial, duct or aerial installations when supported by a messenger (Compliance with RUS 7 CFR 1755.390 and ANSI/ICEA S-84-608-1994)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number
N/A	08/01/09	General Cable	7524618
N/A	08/01/09	Houston Wire & Cable Co.	HW353 01906
N/A	08/01/09	Superior Essex	04-026-21

F) Pull and Locate Wire:

THHN/THWN Stranded Single Bare Copper Conductor #12 AWG; Insulation Jacket Color: ORANGE; Gasoline and Oil resistant; High Heat and Moisture resistant; Wet locations (UL Standard 83)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number
N/A	03/02/11	Southwire Company	22 97 08 (Orange)

***** Contractor shall submit Manufacturer name and part number if other than listed *****

632 - SIGNAL & INTERCONNECT CABLE (Cont'd) ([Back to Table of Contents](#))

G) Composite Cable (Power & Video):

For use with Video Detection (**Iteris**); Two (2) Components: Component 1 (Power cable) w/16 AWG 3 conductors 19/29 bare copper, 0.030" PVC insulation, color code: Black, White, Green; Component 2 (75Ω Coax) w/20 AWG 1 conductor solid bare copper; .198" solid polyethylene insulation, color code: Natural, 98% tinned copper braid shield x 2; overall .030" black PVC jacket; Sun Resistant; Rated 600 Volts

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number
N/A	10/22/10	ADC (Supplied by Iteris)	99163SFX
N/A	10/22/10	Isotec (Supplied by Iteris)	I59PVCC-00

For use with Video Detection (**Traficon**); Two (2) Components: Component 1 (Power cable) w/18 AWG 6 conductors 7/26 bare copper, .016" PVC insulation, color code: Black, Blue, Brown, Green, Red, White; Component 2 (75Ω Coax) w/20 AWG 1 conductor solid bare copper; .056" foam polyethylene insulation, color code: Natural, 95% bare copper braid shield; overall .037" HDPE jacket black; overall .030" black PVC jacket; Sun Resistant; Rated 300 Volts

FDOT APL No.	Approval	Manufacturer	Manufacturer / Supplier Part Number
N/A	10/22/10	Isotec (Supplied by Control Technologies)	X3411242-00 / WIRE-VC-RG#18/6

- Advanced Digital Cable www.advanceddigitalcable.com or ADC www.adcable.com
- Belden Electronics Division www.belden.com
- Deca Cables www.decacables.com
- Falcon Fine Wire www.falconfinewire.com
- General Cable www.generalcable.com
- Houston Wire & Cable Co. www.houwire.com
- Isotec www.isotecwire.com
- Prysmian Cables & Systems www.prysmianusa.com
- Southwire Company www.southwire.com
- Superior Essex www.superioressex.com

HISTORY:

- Addition of Composite Cable to QPL (11-01-10)
- Addition of Color Coding Electrical Service Wires for TID to QPL (12-01-10)
- Addition of Southwire to Items D & F to QPL (03-02-11)

635 - PULL & JUNCTION BOXES ([Back to Table of Contents](#))

A) Meter Type Pull Box & Covers:

Fabrication material for boxes and covers shall be: Polymer Concrete (box & cover); Sheet Moulding Compound (SMC) w/High Density Polymer Concrete collar (box) w/High Density Polymer Concrete (cover); Fiberglass Reinforced Polymer Concrete (box) w/ Fiberglass Reinforced Polymer (cover); Concrete Box (#38) w/ High Density Duo Mold & Composite Polymer Concrete; Cover Identification shall be engraved/molded and marked: "TRAFFIC SIGNAL"; "ELECTRIC"; "TELEPHONE"; or "STREET LIGHTING" with 1-1/8 inch minimum legend height; "MIAMI-DADE PWD" w/5/8 inch minimum legend height; "20K" or "TIER 15" w/minimum 1/2 inch legend height; Two (2) SS Hex Head Bolts opposite corners to secure cover to box; FDOT APL Certification Number shall be stenciled or engraved on inside of box and underside of cover; Maximum weight of Box (w/o cover): 130 lbs.; Minimum weight of Cover: 35 lbs. (ANSI/SCTE 77 2007 or latest revision thereof)

FDOT APL No.	Approval	Manufacturer	Approved Manufacturer Reference Drawings
63510140026023	05/28/97	Armorcast Products Co.	Dwg # A6001946TAPCX12
63510140413133	03/18/10	CDR Systems Corp. (Hubbell)	Dwg # A24132412AR81
63510141707043	01/20/06	NewBasis	Dwg # C1003266
63510140210103	04/07/95	Oldcastle Precast	Dwg # 1324-12 CPC (04/26/11)
63510142101063	07/05/01	Quazite, Division of Hubbell	Dwg # P05198
63510142448013	04/11/05	Synertech, Div. of Oldcastle Precast	Dwg # 1324-12 PPC (04/26/11)

A-1) Meter Type Pull Box & Covers: (Refer to Notes)

Approved for use when pullboxes and conduits are installed independent of County owned/maintained conduits and boxes. Boxes and Cover requirements same as "A" above, with following **Exceptions: Cover Identification** shall be engraved/molded and marked with acronym: "T I D" with 1-1/8 inch minimum legend height; **In lieu of "MIAMI-DADE PWD" shall have no ownership name listed;** "20K" or "TIER 15" w/minimum 1/2 inch legend height]. (ANSI/SCTE 77 2007 or latest revision thereof)

NOTES:

FDOT Traffic Infraction Detectors (TID) a.k.a. Red Light Running Camera System (RLRC)

EQUIPMENT and MATERIALS FOR USE & OPERATION OF TRAFFIC INFRACTION DETECTOR EQUIPMENT

QPL APPROVAL REQUIRED FOR DEVICES WHEN INSTALLED WITH PWSM TRAFFIC SIGNAL EQUIPMENT

(NOTE: Equipment Owned, Operated and Maintained by the Traffic Infraction Detector Company)

- Armorcast Products Co. www.armorcastprod.com
- CDR Systems Corp., Division of Hubbell www.cdrcsystems.com
- NewBasis www.newbasis.com
- Oldcastle Precast www.oldcastleprecast.com/enclosuresolutions
- Quazite, Division of Hubbell www.quazite.com
- Synertech Molded Products, Division of Old Castle www.synertechproducts.com

HISTORY:

- CDR Pull Box Failures: MODEL SA24-1324-SERIES 12/18/2006 APL # 63510140413053 REMOVED from APL (2/12/09)
- CDR Pull Box Redesigned with new FDOT APL (03/18/10)
- Addition of "A-1" Pull boxes & Covers for use w/TID equipment to QPL (03-03-11)

639 - ELECTRICAL POWER SERVICE ASSEMBLY ([Back to Table of Contents](#))

A-1 Service Disconnect - Heavy Duty Safety Switch (Main Disconnect):

NEMA Heavy Duty Type HD with NEMA 3R, outdoor enclosure (rainproof **); 60 Ampere, 120/240 Volt, Single Phase; Fusible, 2 Pole, 3-Wire; **Replace with item "B" below when Traffic Infracton Detector (TID) equipment is connected to Main Disconnect;** (Conformance with UL 98, Listed File E2875 or E154828; NEMA Standards Publication KS1, Enclosed Switches; Federal Specifications WS-865c for Type HD)

FDOT APL No.	Approval	Manufacturer	Manufacturer Catalog Number / Type
N/A	08/01/09	Cutler-Hammer (Eaton Corp.)	DH222NRK / NEMA 3R
N/A	08/01/09	General Electric Co. (GE)	TH3222R / NEMA 3R
N/A	08/01/09	Square D (Schneider Electric)	H222 NRB / NEMA 3R

A-2 Service Disconnect - (Same as A-1) Exception: with NEMA 4X Enclosure (Required on FDOT Projects)**

Raintight, watertight, corrosion resistant, windblown dustproof outdoor enclosure; Type 304 Stainless Steel (Conformance with UL 98, Listed File E2875 or E154828; NEMA Standards Publication KS1, Enclosed Switches; Federal Specifications WS-865c for Type HD)

FDOT APL No.	Approval	Manufacturer	Manufacturer Catalog Number / Type
N/A	01/27/11	Cutler-Hammer (Eaton Corp.)	DH222NWK or DH262NWK / NEMA 4X
N/A	01/27/11	General Electric Co. (GE)	TH3222SS / NEMA 4/4X
N/A	01/21/11	Square D (Schneider Electric)	H222 DS / NEMA 4/4X

B-1 Service Disconnect - Heavy Duty Safety Switch (Main Disconnect Required with TID equipment):

NEMA Heavy Duty Type HD with NEMA 3R, outdoor enclosure (rainproof **); 60 Ampere, 120/240 Volt, Single Phase; Fusible, 3- Pole, 4- Wire; (Conformance with UL 98, Listed File E2875 or E154828; NEMA Standards Publication KS1, Enclosed Switches; Federal Specifications WS-865c for Type HD)

FDOT APL No.	Approval	Manufacturer	Manufacturer Catalog Number / Type
N/A	08/01/09	Cutler-Hammer (Eaton Corp.)	DH322NRK / NEMA 3R
N/A	08/01/09	General Electric Co. (GE)	TH4322R / NEMA 3R
N/A	08/01/09	Square D (Schneider Electric)	H322 NRB / NEMA 3R

B-2 Service Disconnect - (Same as B-1) Exception: with NEMA 4X Enclosure (Required on FDOT Projects)**

Raintight, watertight, corrosion resistant, windblown dustproof outdoor enclosure; Type 304 Stainless Steel (Conformance with UL 98, Listed File E2875 or E154828; NEMA Standards Publication KS1, Enclosed Switches; Federal Specifications WS-865c for Type HD)

FDOT APL No.	Approval	Manufacture	Manufacturer Catalog Number / Type
N/A	01/27/11	Cutler-Hammer (Eaton Corp.)	DH322NWK or DH362NWK / NEMA 4X
N/A	01/27/11	General Electric Co. (GE)	TH4322SS / NEMA 4/4X
N/A	01/21/11	Square D (Schneider Electric)	H322 DS / NEMA 4/4X

Cutler-Hammer www.eaton.com
 GE www.geindustrial.com
 Square D Company www.squared.com or www.schneider-electric.us

639 - ELECTRICAL POWER SERVICE ASSEMBLY (Cont'd) ([Back to Table of Contents](#))

C) 40 & 15 Amp Fuses for Service Disconnect - Heavy Duty Safety Switch:

Dual-Element, Time-Delay Fuses [10 seconds (minimum) at 500% rated current]; 250 Volt; Interrupting Rating: 200,000A RMS Sym. DC Ratings: 20,000 A/C @ 125 VDC (UL Standard 248-12, Class RK-5, Guide JDDZ)

FDOT APL No.	Approval	Manufacturer	Manufacturer Catalog Number
N/A	08/01/09	Cooper Bussman, Inc.	Fusetron FRN-R-40
N/A	08/01/09	Cooper Bussman, Inc.	Fusetron FRN-R-15
N/A	08/01/09	FerrazShawnut	Tri-Onic TR40R
N/A	08/01/09	FerrazShawnut	Tri-Onic TR15R

Cooper Bussmann www.bussmann.com or www.cooperbussmann.com
 FerrazShawnut www.ferrazshawnut.com

E) Transient Protection Device:

Also known as Surge Protective Devices (SPDs) or Surge Lightning Arrester is *required for installation with all Service Disconnect switches*; Rated for a maximum permissible line to ground voltage of 175 VAC; (Conformance with NEMA standards for surge arresters)

FDOT APL No.	Approval	Manufacturer	Manufacturer Catalog Number
N/A	12/22/11	Intermatic, Inc.	AG2401C
N/A	12/22/11	Square D (Schneider Electric)	SDSA1175

Intermatic, Inc. www.intermatc.com
 Square D Company www.squared.com or www.schneider-electric.us

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639 - ELECTRICAL POWER SERVICE ASSEMBLY (Cont'd) ([Back to Table of Contents](#))

E) Outdoor Load Center (Secondary Disconnect Required for TID equipment): ([Refer to Notes](#))

NEMA 3R outdoor, rainproof enclosure; Current Rating 100 Amps, Copper wire size #8-1 AWG; 120/240 VAC, Single Phase w/ 40 Amp, 2-pole, Main Circuit Breaker and 20 Amp, Single pole, Branch Circuit Breakers w/ AIR Rating 10Ka (Conformance with Federal Specification W-P-115c as Type 1 Class 2; UL and NEMA Standards)

FDOT APL No.	Approval	Manufacturer	Manufacturer Catalog Number
N/A	01/25/11	Square D (Schneider Electric)	QO6-12L100RB Series G04

Square D Company www.squared.com or www.schneider-electric.us

NOTES:

**FDOT Traffic Infraction Detectors (TID) a.k.a. Red Light Running Camera System (RLRC)
EQUIPMENT and MATERIALS FOR USE & OPERATION OF TRAFFIC INFRACTION DETECTOR EQUIPMENT
QPL APPROVAL REQUIRED FOR DEVICES WHEN INSTALLED WITH PWWM TRAFFIC SIGNAL EQUIPMENT
(NOTE: Equipment Owned, Operated and Maintained by the Traffic Infraction Detector Company)**

HISTORY:

- Addition of Main and Secondary Disconnects for use w/TID equipment to QPL (12-01-10)
- Addition of Outdoor Load Center for use w/TID equipment to QPL (01-25-11)
- Addition of Stainless Steel NEMA 4X Enclosure; "A-2" & "B-2" required use on FDOT Projects to QPL (01-28-11)
- Addition of Transient Protection Device for use w/all Service Disconnect switches to QPL (12-22-11)

641- CONCRETE STRAIN POLES ([Back to Table of Contents](#))
 (FDOT QPL Item)

A) Service Pole (Direct Burial)

Type P-2 Service pole; 18-foot Precast, Prestressed Solid Concrete Pole from a manufacturing plant that is currently on the FDOT QPL list of Producers with Accepted Quality Control Programs; w/ 6 foot burial depth; pole taper = 0.162 in/ft; #6 Copper Ground Wire; Chamfer corners; Concrete Strength: 4,000 PSI (Release); 6,000 Ultimate (28 days). (Per FDOT QPL requirements and specifications for Type P-2 Service pole; Prestress ASTM A416, Rebar ASTM A615)

<i>FDOT QPL No.</i>	<i>Approval-Last Recent</i>	<i>Manufacturer</i>	<i>Drawing Description</i>
S641-0700	09/25/09	Dura-Stress Inc.	Type P-II (Service Pole) / Burial Depth**

**** NOTE:** Service Pole require 12-foot pole height above finish grade - direct burial depth 6'-0" May require installation with a Concrete foundation depending on soil conditions. Soil bearing capacity should be at least 1000 lb/sq in.

Contractor required to provide complete Pole Submittal Data and Calculations signed and sealed by a Florida Registered P.E. for Approval on FDOT Projects

B) Service Pole (backfilled w/Concrete)**

Type P-2 Service pole; 16-foot Precast, Prestressed Solid Concrete Pole from a manufacturing plant that is currently on the FDOT QPL list of Producers with Accepted Quality Control Programs; w/ 4 foot burial depth may require a concrete foundation; pole taper = 0.162 in/ft; #6 Copper Ground Wire; Chamfer corners; Concrete Strength: 4,000 PSI (Release); 6,000 Ultimate (28 days)(Per FDOT QPL requirements and specifications for Type P-2 Service pole; Prestress ASTM A416, Rebar ASTM A615)

<i>FDOT QPL No.</i>	<i>Approval-Last Recent</i>	<i>Manufacturer</i>	<i>Drawing Description</i>
S641-0100	04/06/09	Accord Industries	FDOT Type P-2 SER / 870-P200-016 / Burial Depth**
S641-0700	09/25/09	Dura-Stress Inc.	Type P-II (Service Pole) / Burial Depth**

**** NOTE:** Service Pole require 12-foot pole height above finish grade - May require installation backfilled with Concrete depending on soil conditions. Soil bearing capacity should be at least 1000 lb/sq in.

Contractor required to provide complete Pole Submittal Data and Calculations signed and sealed by a Florida Registered P.E. for Approval on FDOT Projects

C) Span Wire Pole

Precast, Prestressed Concrete Poles from a manufacturing plant that is currently on the FDOT QPL list of Producers with Accepted Quality Control Programs; Permanently and legibly marked in accordance with FDOT Design Standards (DS), Index 17725, including the date cast. Markings on Load Face side of pole.

Contractor required to provide complete Pole Submittal Data and Calculations with Calculations signed and sealed by a Florida Registered P.E. for Approval

- Accord Industries www.accordindustries.com
- Dura-Stress Inc. www.dura-stress.com
- Pre-Cast Specialties, Inc. www.precastpecialties.com

HISTORY:
 Addition of Concrete Service Pole; Accord Industries & Dura-Stress Inc. to QPL (02-01-11)
 List of FDOT Concrete Pole Manufacturers to QPL (02-01-11)

649 - GALVANIZED STEEL STRAIN POLES, MAST ARMS and MONOTUBE ASSEMBLIES
 (FDOT QPL Item) [\(Back to Table of Contents\)](#)

A) Steel Mast Arms

Galvanized Finish; *Painted / Powder Coated Pole Finishes Prohibited*; Fabricate mast arm assemblies and miscellaneous hardware in accordance with Miami-Dade County Mast Arm Detail Sheets for all traffic signalization/flashers; Exception: Signalization projects bid by FDOT or signalizations installed on the State Highway System shall use the FDOT DS Indices 17745 Mast Arm Assemblies for pole fabrication. Note: Base hand hole required to be located at 0° orientation; Cut all materials to the final dimensions and complete all welding prior to galvanizing; All components for individual mast arm assemblies shall be from the same fabricator (In accordance with ASTM A123; except fastener assemblies ASTM A153)

FDOT QPL Listed Steel Mast Arm Pole Manufacturers:

JEM Engineering
 936 Highway 14
 Ellsworth, KS 67439
 (785) 472-5390

Maico Industries Inc.
 908 West 41st
 Tulsa, OK 74107
 (918) 446-4517

Millerbernd Manufacturing
 622 6th Street South
 Winsted, MN 55395
 (320) 485-2111

PelcoStructural, LLC
 1501 Industrial Boulevard
 Claremore, OK 74017
 (918) 283-4004

Rohn Products, LLC
 P.O. Box 5999
 Peoria, IL 61601-5999
 (309) 566-3005

Union Metal Corporation
 1432 Maple Ave., NE
 Canton, OH 44705
 (330) 456-7653

Valmont Ind. Inc.
 Post Office Box 358
 Valley, NE 68064
 (800) 825-6668

Contractor required to provide complete Pole Submittal Data with Calculations signed and sealed by a Florida Registered P.E. for Approval

HISTORY:
 Addition of Steel Mast Arms List of FDOT Approved Manufacturers to QPL (02-02-11)

650 - VEHICULAR TRAFFIC SIGNAL ASSEMBLY ([Back to Table of Contents](#))

A) 12-inch Vehicular LED Modules - BALLS:

Compliance with ITE VTCSH LED Circular Supplement Adopted June 27, 2005; (Conformance with Intertek's LED Traffic Signal Modules Certification Program; and ETL "Verified" product labeling including PWWM / FDOT Wiring Color Code)

FDOT APL No.	Approval	Manufacturer	Module Color / Model Number
65013050713061	02/20/07	Dialight Corp.	RED / 433-1210-003XLF
65013060713061	06/26/09	Dialight Corp.	YELLOW / 433-3230-901XLF
65013070713061	02/20/07	Dialight Corp.	GREEN / 433-2220-001XLF
65013051413041	02/20/07	Leotek Electronics	RED / TSL-12R-LX-IL3-A1
65013061413051	01/05/11	Leotek Electronics	YELLOW / TSL-12Y-LX-IL3-A1-C
65013071413041	02/20/07	Leotek Electronics	GREEN / TSL-12G-LX-IL3-A1
65013051122111	09/23/05	Lumination (GE)	RED / DR6-RTFB-17A
65013061122121	12/20/07	Lumination (GE)	YELLOW / DR6-YTFB-17A-YX1
65013071122111	09/23/05	Lumination (GE)	GREEN / DR6-GTFB-17A-FL

B) 12-inch Vehicular LED Modules - ARROWS (Omni Directional):

Compliance with ITE VTCSH LED - Part 3: LED Vehicle Arrow Traffic Signal Modules Adopted 03/04; (Conformance with Intertek's LED Traffic Signal Modules Certification Program; and ETL "Verified" product labeling including PWWM / FDOT Wiring Color Code)

FDOT APL No.	Approval	Manufacturer	Module Color / Model Number
65013150713051	11/19/07	Dialight Corp.	RED / 432-1314-001XODF
65013160713061	06/26/09	Dialight Corp.	YELLOW / 431-3334-901XODF
65013170713051	11/19/07	Dialight Corp.	GREEN / 432-2324-001XODF
65013151413021	01/05/11	Leotek Electronics	RED / TSL-12RA-LD-A1
65013161413021	01/05/11	Leotek Electronics	YELLOW / TSL-12YA-LD-A1
65013171413021	01/05/11	Leotek Electronics	GREEN / TSL-12GA-LD-A1
65013151122051	06/16/06	Lumination (GE)	RED / DR6-RTAAN-17A-FL
65013161122121	12/20/07	Lumination (GE)	YELLOW / DR6-YTAAN-17A-YX
65013171122051	06/16/06	Lumination (GE)	GREEN / DR6-GTAAN-17A-FL

C) Programmed Visibility Vehicular LED Modules - PV Type:

Plug-in module replacement for Optically Programmable Signal Heads

FDOT APL No.	Approval	Manufacturer	Module Color / Model Number
65011350713011	05/20/05	Dialight Corp.	RED / P46-3R33-003 **
65011360713011	05/20/05	Dialight Corp.	YELLOW / P46-3Y33-003 **
65011370713011	05/20/05	Dialight Corp.	GREEN / P46-3G33-003 **
65011351122011	12/12/03	Lumination (GE)	RED / DR3-RCFB-01A **
65011361122011	12/12/03	Lumination (GE)	YELLOW / DR3-YCFB-01A **
65011371122011	12/12/03	Lumination (GE)	GREEN / DR3-GCFB-01A **

** Modules not part of Intertek's ETL "Verified" product certification program - no "Verified" product labels

Dialight Corporation www.dialight.com

Leotek Electronics www.leotek.com

Lumination (formally GELcore) www.gelcore.com www.led.com

650 - VEHICULAR TRAFFIC SIGNAL ASSEMBLY (Cont'd) ([Back to Table of Contents](#))

D) Vehicular Traffic Signal Head and Hazard Beacon Housings and Visors:

Color: Flat (Dull) Black; Furnished with Stainless Steel hardware and terminal block; Housing approved only for use with LED modules listed in Section 650 "C" above; Visor exception: Full Circle type only when used with Louvers; (Compliance with all applicable sections of ITE Adjustable Face Vehicular Traffic Control Signal Head Standard; Dull Black- Matching Federal Standard 595b-37038)

FDOT APL No.	Approval	Manufacturer	Device Description
65011100803031	02/07/09	Econolite Control Products, Inc.	Poly Black Housing* w/Tunnel Visors
65011001618011	12/30/91	McCain Traffic Supply	Poly Black Housing* w/Tunnel Visors
65011012619021	12/10/85	Peek Traffic Corp.	Poly Black Housing* w/Tunnel Visors
65011010803021	06/02/87	Econolite Control Products, Inc.	Die Cast Black Housing w/Tunnel Visors
65011011618011	09/05/90	McCain Traffic Supply	Die Cast Black Housing w/Tunnel Visors
65011012619011	12/10/85	Peek Traffic Corp.	Die Cast Black Housing w/Tunnel Visors
65011010003011	05/14/82	Siemens ITS/Eagle	Die Cast Black Housing w/Tunnel Visors - FL Series

NOTE: Polycarbonate heads require attachment of internal metal mounting plate(s) (fabricated by Manufacturer) at point of attachment(s) to signal mounting bracket(s).

E) Optically Programmable Vehicular Traffic Signal Head:

Color: Flat (Dull) Black; Furnished with Stainless Steel hardware and terminal block; Directional traffic signals used to limit signal visibility to specific target areas to avoid motorist confusion at skewed intersections, when two intersections are in close proximity, or for precise lane control; Requires special masking kit from manufacturer; Approved only for use with PV Type LED modules listed in Section 650 "C" above; No dimming devices allowed; (Signal Head and Acrylic lenses color compliance with applicable portions of MUTCD and ITE standards/specifications; Dull Black- Matching Federal Standard 595b-37038)

FDOT APL No.	Approval	Manufacturer	Device Description
65013021618011	07/01/94	McCain Traffic Supply	HP-XX-3 / Die Cast Black Housing w/Tunnel Visors

Econolite Control Products, Inc. www.econolite.com
 McCain Traffic Supply www.mccaintraffic.com or Control Technologies www.cttraffic.com
 Peek Traffic Corp. (formally Traffic Control Technologies) www.peek-traffic.com
 Siemens ITS/Eagle www.itssiemens.com or Temple, Inc. www.temple-inc.com

HISTORY:

Lumination (GE) DR6-RTFB-17A; DR6-YTFB-17A-YX1; DR6-GTFB-17A-FL; DR6-RTAAN-17A-FL; DR6-YTAAN-17A-YX; and DR6-GTAAN-17A-FL
 QPL Administrative Suspension (09-02-10); ETL Verification conformance letter 11/10/10; Reinstated on QPL (12-01-10)
 Leotek Yellow Ball & Omni Directional LEDs; ETL Verification conformance /FDOT APL letter January 5, 2011; Added to QPL (01-05-11)
 Addition of Optically Programmable Vehicular Traffic Signal Head to QPL (04-21-11)
 Addition of Siemens ITS/Eagle FL Series Aluminum Head to QPL (09-22-11)

653 - PEDESTRIAN SIGNAL ASSEMBLY ([Back to Table of Contents](#))

A) 16"x18" Hand/Man w/Countdown LED MODULES:

Compliance with ITE PTCSI LED Pedestrian Traffic Control Signal Indicators - Light Emitting Diode Signal Modules (PTCSI LED) dated August 4, 2010; (Conformance with PWWM Technical Specification: Section A653 16-inch x 18-inch Hand/Person/Countdown LED Pedestrian Signal Modules dated June 2011; Intertek's LED Traffic Signal Modules Certification Program; and ETL Verified product labeling)

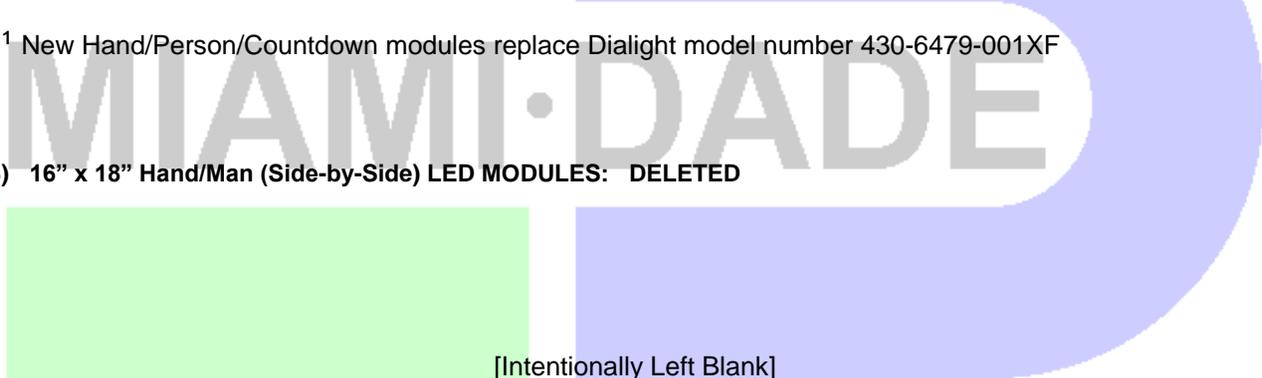
FDOT APL No.	Approval	Manufacturer	Model Number
65332100713051	06/24/11	Dialight Corp.	430-6479-805XF ¹

Compliance with ITE PTCSI Part 2 LED Pedestrian Traffic Signal Modules Adopted 03/04; (Conformance with Intertek's LED Traffic Signal Modules Certification Program; and ETL Verified product labeling)

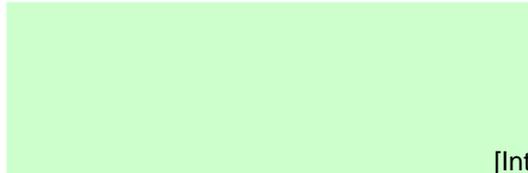
FDOT APL No.	Approval	Manufacturer	Model Number
65332100713041	07/05/07	Dialight Corp.	430-6479-001XF (Replaced as noted)
65332101413011	05/09/07	Leotek Electronics	TSL-PED-16-CIL-9-FL
65332101122051	03/13/08	Lumination (GE)	PS7-CFF1-26A

** Note: ITE PTCSI Part 2 LED Pedestrian Traffic Signal Modules Adopted 03/04 will be deleted once a second manufacturer conforms to new requirements, noted above, for PWWM QPL listing.

¹ New Hand/Person/Countdown modules replace Dialight model number 430-6479-001XF



B) 16" x 18" Hand/Man (Side-by-Side) LED MODULES: DELETED



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Dialight Corporation www.dialight.com
 Leotek Electronics www.leotek.com
 Lumination (formally GELcore) www.gelcore.com www.led.com

HISTORY:

16"x18" Hand/Man (Side-by-Side) Pedestrian Modules Deleted by PWWM for use(05-01-10)
 16"x18" Hand/Man (Side-by-Side) Dialight 430-6450-001XF & Lumination PS7-CFC1-26A LED Modules DELETED from QPL (05-01-10)
 Addition w/New ITE PTCSI LED specification for Hand/Person/Countdown module s, dated Aug. 4, 2010 (07-20-11)
 Addition of Dialight Model 430-6479-805XF replacing Model 430-6479-001XF for compliance w/ITE PTCSI LED dated Aug. 4, 2010 (07-20-11)

653 - PEDESTRIAN SIGNAL ASSEMBLY (Cont'd) ([Back to Table of Contents](#))

C) 16" x 18" Type Housings with Crate Type Visors:

Color: Black; w/Stainless Steel hardware; Approved only for use with LED modules in 653 "A" above;

FDOT APL No.	Approval	Manufacturer	Device Description / Model Number
65312220801011	05/22/07	Siemens ITS (Eagle)	Polycarbonate Black / FL7SZ1C01BBF/3BBB
65312191618031	01/07/00	McCain Traffic Supply	Polycarbonate Black / Series 8000
65312220801011	08/29/06	Siemens ITS (Eagle)	Die Cast Black / SG7SZ20COFFF
65312181618031	01/07/00	McCain Traffic Supply	Die Cast Black / Series 8000

Siemens ITS (Eagle) www.itssiemens.com

McCain Traffic Supply www.mccaintraffic.com

D) Bracket Assemblies for Pedestrian Signal Heads w/Tri-Stud:

Color: Natural Aluminum Finish - only; Exception: When used w/Painted Mast Arm pole/pedestal shall match pole color; w/Stainless Steel hardware; For mast arm pole or concrete pole mount (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Device Description / Part Number
65313380408013	05/14/82	Cost Cast, Inc.	Elbow Tri-stud / PN 1915
N/A		Cost Cast, Inc.	Pole End- Flat/Curved; (Assembly)
65313400808013	08/06/82	Cost Cast, Inc.	Alum.1-1/2" x 10" Pipe Nipple
65310390808043	05/12/94	Engineered Castings, Inc.	Elbow Tri-stud / PN 2054-T
65310390808053	05/12/94	Engineered Castings, Inc.	Pole End - Flat / PN 2053-F
N/A		Engineered Castings, Inc.	Pole End - Curved / PN 2053-C
65313382011013	07/07/87	Engineered Castings, Inc.	Alum.1-1/2"x10" Pipe Nipple/PN 2058-A
N/A		Pelco Products, Inc.	Pole End - Flat/Curved; (Assembly)
N/A		Pelco Products, Inc.	Alum.1-1/2" x 10" Pipe Nipple /SE-0436-10

Cost Cast, Inc. www.costcast.com

Engineered Castings, Inc. www.ecql.com

Pelco Products, Inc. www.pelcoinc.com

HISTORY:

Addition of Siemens 16"x18" (Poly & Die Cast) Type Housing w/crate Type Visors added to QPL (05-31-11)

659 - SIGNAL HEAD AUXILIARIES ([Back to Table of Contents](#))

A) Vehicle Signal Top/Bottom Bracket Assembly :

Cast Aluminum; Color: Black; w/Stainless Steel hardware; For span wire or pedestal mount (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Device Description / Part Number
65910240408013	05/14/82	Cost Cast, Inc.	2-Way (Bottom) / PN 1902B
65910240408013	05/14/82	Cost Cast, Inc.	2-Way (Top) / PN 1902
65910240808023	05/14/82	Engineered Castings, Inc.	2-Way (Bottom) / PN 2021
65910240808033	05/14/82	Engineered Castings, Inc.	2-Way (Top) / PN 2022
65910242011043	08/15/88	Pelco Products, Inc.	2-Way (Bottom) / SP-1027-FL
65910242011033	08/15/88	Pelco Products, Inc.	2-Way (top) / SP-1026-FL
65910240408023	05/14/82	Cost Cast, Inc.	3-Way (Bottom) / PN 1903B
65910240408023	05/14/82	Cost Cast, Inc.	3-Way (Top) / PN 1903
65910240808043	05/14/82	Engineered Castings, Inc.	3-Way (Bottom) / PN 2031
65910240808053	05/14/82	Engineered Castings, Inc.	3-Way (Top) / PN 2032
65910242011061	02/21/91	Pelco Products, Inc.	3-Way (Bottom) / SP-1016-FL
65910242011051	02/21/91	Pelco Products, Inc.	3-Way (top) / SP-1015-FL
65910240408033	05/14/82	Cost Cast, Inc.	4-Way (Bottom) / PN 1904B
65910240408033	05/14/82	Cost Cast, Inc.	4-Way (Top) / PN 1904
65910240808063	05/14/82	Engineered Castings, Inc.	4-Way (Bottom) / PN 2041
65910240808073	05/14/82	Engineered Castings, Inc.	4-Way (Top) / PN 2042
65910242011081	02/21/91	Pelco Products, Inc.	4-Way (Bottom) / SP-1018-FL
65910242011071	02/21/91	Pelco Products, Inc.	4-Way (top) / SP-1017-FL

B) Single Door Disconnect Hanger w/ Tri-Stud Hub Plate:

Cast Aluminum; 18 circuit; Top & Bottom Shurlock Boss Serrations; Color: Black; w/Stainless Steel hardware; For span wire (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Part Number
65910250408021	05/14/82	Cost Cast, Inc.	PN 1901T
65910250808031	08/06/82	Engineered Castings, Inc.	PN 1150-18T w/ PN 2152-T
65910252011021	02/04/87	Pelco Products, Inc.	SP-1022-FL

C) Pivotal Adjustable Signal Hanger Assembly w/1/2 - inch Stud:

Cast Aluminum; Color: Natural Aluminum Finish; Complete with Aluminum: 6-inch Clamp, Disconnect and Signal Head Reinforcement Plates, Vehicle Signal Top Bracket Reinforcement Plate, Spacers, Shims; Stainless Steel hardware and fasteners; For span wire (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Device Description / Part Number
65910200408013	10/12/07	Signal Safe Inc.(w/Cost Cast)	For Existing 2-Point Span Wire / PN 8880
65910352011013	09/22/87	Pelco Products, Inc.	Ext. Bar / SE-0507-72

659 - SIGNAL HEAD AUXILIARIES (Cont'd) ([Back to Table of Contents](#))

D) Adjustable Signal Hanger w/Tri-Stud:

Cast Aluminum; Color: Natural Aluminum Finish; w/Stainless Steel hardware and 1-inch Cable Clamp; For span wire (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Device Description / Part Number
65910260408033	05/13/83	Cost Cast, Inc.	Adjustable Hanger / PN 1906
65910350408043	05/13/83	Cost Cast, Inc.	Ext. Bar / PN 1906E
65910260808013	05/14/82	Engineered Castings, Inc.	Adjustable Hanger / PN 2075-T
65910350808013	05/24/83	Engineered Castings, Inc.	Ext. Bar 6061-T6 Alloy / PN 2076
65910262011023	04/02/93	Pelco Products, Inc.	Adjustable Hanger / SP-1029-FL

E) Adjustable Wire Entrance Hanger w/Tri-Stud:

Cast Aluminum; Color: Natural Aluminum Finish; w/Stainless Steel hardware and 1- inch Cable Clamp; For span wire (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Device Description / Part Number
65910230808043	08/06/82	Engineered Castings, Inc.	Adj. Hanger w/Single Ent. / PN 2083-T
65910230808053	08/06/82	Engineered Castings, Inc.	Adj. Hanger w/Dual Ent. / PN 2085-T
65910350808013	05/24/83	Engineered Castings, Inc.	Ext. Bar 6061-T6 Alloy / PN 2076

F) Wire Entrance Hanger w/Tri-Stud:

Cast Aluminum; Color: Natural Aluminum Finish; w/Stainless Steel hardware and stainless steel bushing; For span wire (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Device Description & Part Number
65910230408013	05/14/82	Cost Cast, Inc.	w/Single Entrance;1 bushing PN 1976T
65910230808013	08/06/82	Engineered Castings, Inc.	w/Single Entrance;1 bushing PN 2084-T1
65910230808013	08/06/82	Engineered Castings, Inc.	w/Single Entrance;3 bushing PN 2084-T3
65910230808063	08/06/82	Engineered Castings, Inc.	w/Dual Entrance;1 bushing PN 2087-T

G) Span Wire Hanger w/ Stainless Steel Bushing (Saddle):

Cast Aluminum; Color: Natural Aluminum Finish; w/Stainless Steel hardware and stainless steel bushing

FDOT APL No.	Approval	Manufacturer	Device Description & Part Number
65910150408013	08/18/82	Cost Cast, Inc.	Hanger w/ bushing PN 1909
65910150808013	08/06/82	Engineered Castings, Inc.	Hanger w/ bushing PN 2079-SSB

H) Horizontal/Vertical Mast Arm Signal Hanger (1, 2, 3, 4, or 5 Sections):

Cast Aluminum; Color: Natural Aluminum Finish; w/Stainless Steel hardware and aircraft cables; For mast arm or mast mount (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Device Description & Part Number
65910240408143	06/11/97	Cost Cast, Inc.	PN 1916-D (Refer to History)
65910240808123	06/27/86	Engineered Castings, Inc.	PN 3075
65910242011053	04/02/93	Pelco Products, Inc.	SP-1006-FL

659 - SIGNAL HEAD AUXILIARIES (Cont'd) ([Back to Table of Contents](#))

I) IISNS and IISS Mast Arm Hanger:

Cast Aluminum; Color: Natural Aluminum Finish; w/Stainless Steel hardware and aircraft cables; For mast arm or mast mount (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Device Description & Part Number
65910240408143	06/11/97	Cost Cast, Inc.	PN 1916-M (Refer to History)
65910240808123	06/27/86	Engineered Castings, Inc.	PN 3075
65910242011053	04/02/93	Pelco Products, Inc.	SP-1006-FL

J) Slip Fitter:

Cast Aluminum; Color: Natural Aluminum Finish; w/ minimum three (3) Stainless Steel set screws; For pedestal mount (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Device Description / Part Number
65910310408023	08/18/82	Cost Cast, Inc.	For use w/ 4-1/2" O.D. Alum. Tube / PN 1910
65910310808013	08/06/82	Engineered Castings, Inc.	For use w/ 4-1/2" O.D. Alum. Tube / PN 3004-T
65910312011043	04/02/93	Pelco Products, Inc.	For use w/ 4-1/2" O.D. Alum. Tube / PN SP-1034-FL

K) Aluminum Pedestals:

Spun Aluminum tube (*Standard*) - use w/Pedestrian Heads, Vehicular Heads and Flashers); Color: Natural Aluminum Finish; Schedule 40; 4-1/2 inch O.D. x 0.237 inch; No Threads; Installation of pedestal requires a pedestal base, refer to item "L" Square Aluminum Pedestal Base; *Not for use with ESFS installations, see Spun Aluminum tube "Special", below.* Solar Powered installations refer to item "M" Pole & Base Collar Assembly (Rev. 11/11)

Spun Aluminum tube (*Special*) - Required for use with Electronic Speed Feedback Signage (ESFS); Color: Natural Aluminum Finish; Schedule 40; 6-inch O.D. x 0.280 inch; No Threads; FDOT approved U-bolts w/lock washers and nuts for mounting signage to pedestals (ASTM A-307); Installation of pedestal requires special base and footing per FDOT Index 11860, refer to item "S", Aluminum Pedestal Slip Base, on next page (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number / Description
N/A	09/20/11	Eastern Metal Supply.	18-61-260/6061-T6 SCH 40 Alum.Pipe-Stds.21 / 4-1/2"OD (4" ID)
N/A	10/28/11	Eastern Metal Supply.	17-DOT-140 / D.O.T. Round Tube 6061-T6 - Stds.19 / 6" OD
N/A	11/03/11	Eastern Metal Supply	DOT-6-UBOLT / 6-inch U-bolts w/ lock washers & nuts
N/A	08/01/09	Pelco Products, Inc.	PB-5101

L) Square Aluminum Pedestal Base (T-Base):

Cast Aluminum; Color: Natural Aluminum Finish; Transformer Base (T-Base) w/Slip fit (threadless) mount for welding Aluminum tube; Alum. Access door; Ground lug; Stainless Steel hardware; Refer to item "R" for required anchor bolts (AASHTO Certified / FHWA Approval) (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number
74650696603011	01/13/00	Pelco Products, Inc.	PB-5338

NOTE: Aluminum Pedestal Bases ("L") are required to have Aluminum Pedestal ("K") continuously welded to Pedestal T-Base, using Heliarc Welding method prior to installation, for PWWM acceptance. (AWS G4 Certified Welder)

659 – SIGNAL HEAD AUXILIARIES (Cont'd) ([Back to Table of Contents](#))

M) Pole & Base Collar Assembly ** :

Cast Aluminum; Color: Natural Aluminum Finish; Reinforcing collar for use with new or retro-fit installation onto a Square Aluminum Pedestal Base (T-Base) with 4-1/2 inch O.D. Aluminum tube connection; required for use with all pedestal mounted *Solar Powered* installations (School Zone Warning and Hazard Warning Beacons) (Rev. 11/11)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number
74650666603011	01/13/00	Pelco Products, Inc.	PB-5325

**** NOTES:**

- 1) Required use on all SOLAR POWERED Pedestal Base Assemblies using Items “K” and “L” as specified above.
- 2) Refer to Item “P”, Precast Concrete Pedestal Base, on next page for T-Base SOLAR POWERED installations.

N) Backplates w/Retroreflective Borders:

Sheet Aluminum 0.0625 with 5-inch border width, mounting slots and louvers; Color: Flat Black (Powder Coat); configured to accommodate 12-inch signal head w/1 to 5 Sections In-line and 5 Section Cluster; with 2-inch wide Type VIII Yellow Retroreflective Sheeting attached to Face; complete w/ Stainless Steel hardware, 10-24x3/8 Truss Combo Type F and Washer; *For limited use at selected locations only*, (Federal Standard 595A-37038 for dull black and ASTM E1347)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number
65913331618013	07/20/09	McCain Traffic Supply	Model M6 Series
65913332608011	05/12/10	Transportation Control Systems	BP-5000B Series

O) CCD Camera Mount Mast Arm Bracket:

For use with Vehicle Detector (Section 660, item “C” Video); Cast Aluminum; Color: Natural Aluminum Finish; w/Stainless Steel hardware and aircraft cables; 74-inch maximum length internally reinforced aluminum tube

FDOT APL No.	Approval	Manufacturer	Device Description & Part Number
65910240808123	06/27/86	Engineered Castings, Inc.	PN 3075-CM
65910242011053	04/02/93	Pelco Products, Inc.	SP-1006-FL w/SH-0514-PNC

P) Precast Concrete Pedestal Base:

Precast concrete foundation required for use with T-base installed *Solar Powered* pedestal mounted Flashing Beacons (School Zone Warning and Hazard Warning Beacons); 2.5 ft x 7.0 ft cylindrical foundation; FDOT Class I concrete, minimum 3000 psi at 28 days; *Precast Foundation manufactured by an FDOT approved Facility*; (Reinforcing ASTM A615, Grade 60; Anchor Bolts ASTM F1554, Grade 55 Hot-Dipped Galvanized) (Rev. 11/11)

FDOT QC Facility No.	Approval	Manufacturer	Device Description / Drawing Date
IPC-012	05/31/11	Thompson Manufacturing Inc.	Red Light Camera Pole Foundation / (05/17/11)

659 - SIGNAL HEAD AUXILIARIES (Cont'd) ([Back to Table of Contents](#))

Q) Signal Head Closure Kit:

Weatherproof closure assembly to seal standard 2-inch opening(s); for use with vehicular signal heads, pedestrian signal heads, illuminated sign housings and aluminum cabinets; Aluminum with stainless steel hardware and gasket; Color: Match Housing color.

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number / Description
N/A	09/20/11	Pelco Products, Inc.	SP-1077-FL

R) Anchor Bolts for Aluminum T-Base:

Galvanized steel "J" shape anchor bolts, four (4) each required for Square Aluminum Pedestal Base (T-Base), item "L"; "3/4"-10NC, 18-inch long w/ 3-inch hook; threaded top 3-inches; complete with galvanized washers and nuts (ASTM A-307)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number / Description
N/A	10/25/11	Pelco Products, Inc.	PB-5306

S) Aluminum Pedestal Slip Base (Break-Away Base):

Cast Aluminum; Color: Natural Aluminum Finish; Aluminum sleeve and base plates (double beveled slots), Aluminum bolt keeper plates, shall be fabricated and assembled per FDOT Index 11860 for Single Column Ground Signs for use with 6-inch OD Spun Aluminum tube; *Required* for use with Electronic Speed Feedback Signage (ESFS) stand-alone or in combination with School Zone Flashers (Compliant with NCHRP 350)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number / Description
N/A	11/03/11	Eastern Metal Supply	DOT-6-BPB PKG Sign Pole Base w/(DOT-6-KIT) Bolt Kits

NOTE:

In addition to the FDOT standard requiring galvanized sleeve bolts for securing the Aluminum Pedestal Slip Bases ("S") to the 6-inch O.D. Aluminum Pedestal Tube ("K") the Pedestal shall be continuously welded to the Slip Base, using Heliarc Welding method, for PWWM acceptance. (AWS G4 Certified Welder)

T) Hub Plate Side of Pole (Pole End):

Cast Aluminum; Color: Natural Aluminum Finish; Exception: When used w/Painted Mast Arm pole/pedestal shall match pole color; w/Stainless Steel hardware; See item "D" Bracket Assemblies for Pedestrian Signal Heads w/Tri-Stud; For mast arm pole or concrete pole mount

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number / Description
(Listed Under 653)	05/14/82	Cost Cast, Inc.	PN 1915 / Pole End (Curved / Flat)
(Listed Under 653)	05/12/94	Engineered Castings, Inc.	PN 2053-C / Pole End - Curved
(Listed Under 653)	05/12/94	Engineered Castings, Inc.	PN 2053-F / Pole End - Flat
65910392011033	01/08/88	Pelco Products, Inc.	SE-0357 / Hub Plate, Lg. Pole 1-1/2" NPS Alum (Curved)
65910392011033	01/08/88	Pelco Products, Inc.	SE-0415 / Hub Plate, Lg. Pole 1-1/2" NPS Alum (Flat)

659 - SIGNAL HEAD AUXILIARIES (Cont'd) ([Back to Table of Contents](#))

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MIAMI-DADE

Cost Cast, Inc. www.costcast.com
Eastern Metal Supply www.easternmetal.com
Engineered Castings, Inc. www.ecql.com
McCain Traffic Supply www.mccaintraffic.com
Pelco Products, Inc. www.pelcoinc.com
Thompson Manufacturing Inc. (239) 332-0446 2700 Evans Avenue, Ft. Myers, FL 33901
Transportation Control Systems www.tcstraffic.com

HISTORY:

PWWM QPL w/FDOT APL reevaluation of improvements per release drawing dated 06/01/09
Addition of Backplates to QPL (09-14-10)
Addition of CCD Camera Bracket to QPL (10-28-10)
Addition of Cost Cast Wire Entrance & Span Wire Hangers to QPL (02-01-11)
Addition of Pole & Base Collar Assembly to QPL (04-20-11)
Addition of Precast Concrete Pedestal Base to QPL (05-31-11)
Addition of Eastern Metal Supply to QPL (09-20-11)
Addition of Signal Head Closure Kit (Pelco) to QPL (09-20-11)
Addition of Anchor Bolts to QPL (10-25-11)
Addition of 6-inch OD Aluminum Pedestals to QPL (10-28-11)
Addition of Aluminum Pedestal Slip Base to QPL (11-03-11)
Addition of Hub Plate Side of Pole to QPL (11-04-11)

660 - VEHICLE DETECTOR ([Back to Table of Contents](#))

A) Loop Amplifiers:

(Compliance with PWWM Traffic Signals & Signs Division technical specification: Traffic Controller Assemblies Specifications, 2007 Edition).

FDOT APL No.	Approval	Manufacturer	Model
66013550802041	06/24/05	Eberle Design Inc.	LM222
66013550802081	12/31/08	Eberle Design Inc.	LMD222

Eberle Design Inc. www.editraffic.com

B) Loop Sealant:

Two-component Polyester Loop Sealant; self leveling; permanently flexible; shall withstand corrosive effect of road salts, automotive fluids, jet fuel, gasoline and extreme weather conditions; rapid curing with extreme adhesion to concrete and asphalt

FDOT APL No.	Approval	Manufacturer	Device Description
66013810714013 or 66013820714013	04/16/96	Durant Performance Coatings	STAT-A-FLEX (For Asphalt or Concrete)
66013810707013 or 66013820707013	06/17/86	Dynatron / (3M) Bondo Corp.	Bondo P-606 (For Asphalt or Concrete)

Durant Performance Coatings www.durantcorp.com
 Dynatron / (3M) Bondo Corp. www.bondo.com

C) Video:

Video Image Processing (VIP) unit(s) and Communications Module shall be modular; mounted in Type 170 input file rack; control from 1 to 4 VIP boards; Serial (Programming Keypad) and Ethernet (TCP/IP) communications; communication to upload/download detector configurations, traffic data, events, software upgrades and remote set-up of detectors; MPEG-4 Video system communications module; Image Sensor shall be high resolution, 1/3" image format CCD camera w/motorized variable-focal 6.5-65mm lens with auto iris; Aluminum camera housing for outdoor CCD camera installations; Video camera(s) with IR filter enclosure and sunshield; Special Composite cable required, located under Section 632 - Signal and Interconnect Cable, item "G" Composite Cable (Power & Video); CCD Camera Mount Mast Arm Bracket, located under Section 659 - Signal Head Auxiliaries, item "N"

FDOT APL No.	Approval	Manufacturer	Device Description & Model Number
66013721212051	03/10/03	Iteris, Inc. (Odetic)	Vantage Edge2-2N +/-Ext Modules
66013721212041	03/10/03	Iteris, Inc. (Odetic)	Vantage Edge2-1N +/-Ext Modules
66013722709021	05/24/05	Traficon USA LLC	Model VIP3.1 evaluated w/ optional VIP 4 I/O x-Bd. and Viewcom Ethernet-Edge

Iteris, Inc. (Odetic) www.iteris.com
 Traficon USA LLC www.traficon.com

660- VEHICLE DETECTOR (Cont'd) ([Back to Table of Contents](#))

D) Current Switch: ([Refer to Notes](#))

For detection of Red and Yellow traffic signal phases for use with Traffic Infraction Detectors (T I D) and any other applications that require an on/off indication of AC current flow; Operating conditions: 112 VAC within +/- 32 VAC; Off-state leakage current maximum 50 ua; On-state continuous maximum 1.0 Amps AC RMS max.; Operating Temperature: -30° C to +60° C; Six (6) turns installation conformance required with device usage; (Conformance with IACP "Performance Specifications: Red Light Camera System Module", RLCS Performance Standards, Volume 1 dated 11/29/07)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number
N/A	11/24/10	CR Magnetics, Inc.	CR9350-ACA

CR Magnetics, Inc. www.crmagnetics.com

E) Wireless Magnetometer Assembly: ([Refer to Notes](#))

Approved for use for detection of vehicles during Red and Yellow traffic signal phases with Traffic Infraction Detectors (T I D) only; *not* approved for Intersection Stop Bar Vehicle Detection; 8 -11 year lifetime battery powered; Temperature: - 40° F to + 185° F (- 40° C to + 85° C); (IEEE 802.15.4 Standard Compliant; NEMA 6P / IP 68)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part No. / Description
N/A	11/24/10	Sensys Networks, Inc.	Model VSN240-f / Wireless Vehicle Detector

Sensys Networks, Inc. www.sensysnetworks.com

NOTES:

**FDOT Traffic Infraction Detectors (T I D) a.k.a. Red Light Running Camera System (RLRC)
EQUIPMENT and MATERIALS FOR USE & OPERATION OF TRAFFIC INFRACTION DETECTOR EQUIPMENT
QPL APPROVAL REQUIRED FOR DEVICES WHEN INSTALLED WITH PWWM TRAFFIC SIGNAL EQUIPMENT
(Equipment Owned, Operated and Maintained by the Traffic Infraction Detector Company)**

HISTORY:

- Addition of Durant Performance Coatings to QPL (10-28-10)
- Addition of Current Switch and Wireless Magnetometer Assembly for use w/TID equipment to QPL (12-01-10)
- Addition of LMD222 Loop Amplifier to QPL (10-26-11)

665 - PEDESTRIAN DETECTOR ([Back to Table of Contents](#))

A) ADA Compliant 2-inch button, Standard:

Cast Aluminum Housing; Color: Black; Assemblies shall meet Americans with Disabilities Act (ADA) requirements: Control Buttons Raised or Flush mounted w/housing; button force no greater than 5 lbf (22.2 N)

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number
66513902011101	03/09/10	Pelco Products, Inc.	SP-1090-FL (PPI 04-29-10)

B) ADA Compliant 2-inch button with Audible/Tactile for Accessible Pedestrian Signal (APS):

Cast Aluminum Housing; Color: Black; Assemblies shall meet Americans with Disabilities Act (ADA) requirements: Button Raised or Flush mounted w/housing; button force no greater than 5 lbf (22.2 N); Vibrating arrow button; Audible sounds during WALK interval; PB Locating tone during PED Clearance and DW Intervals; 2-Wire models require Ped Station Monitor (PSM)

FDOT APL No.	Approval	Manufacturer	Device Description
66513952018041	06/02/11	Polara Engineering, Inc.	2-Wire Navigator EZ Comm.; EN25ANO-B; w/CCU2EN & PSM2

C) ADA Compliant 2-inch button with Audio and Visual Confirmation:

Cast Aluminum Housing; Color: Black; Assemblies shall meet Americans with Disabilities Act (ADA) requirements: Button Raised or Flush mounted w/housing; Piezo driven solid state switch with a button force no greater than 3 lbf (13.3 N); when activated, shall give a momentary audible indication of actuation (i.e., beep) and shall simultaneously display a momentary visual indication with the illumination of a Red LED.

FDOT APL No.	Approval	Manufacturer	Manufacturer Part Number
66513902018041	04/21/04	Polara Engineering, Inc.	Bulldog Series

Pelco Products, Inc. www.pelcoinc.com
 Polara Engineering, Inc. www.polara.com

HISTORY:

Pelco SE-2061-08 replaced w/ SP-1090-FL on FDOT APL (03/09/10)
 Polara 2wAPS Suspended by FDOT 04/13/10; FDOT added 2WPSM-001 requirement; Reinstated on APL (07/27-10)
 Polara 2wAPS QPL Suspension 04/13/10; Reinstated on QPL (12-01-10)
 Addition of Polara 2wAPS Navigator EZ Comm.; EN25ANO-B; w/CCU2EN & PSM2 to FDOT APL; Replaces 2-Wire Navigator APS on QPL (07-20-11)
 Addition of ADA Compliant 2-inch button with Audio and Visual Confirmation (Pelco) to QPL (09-21-11)

670 - TRAFFIC CONTROLLER ASSEMBLY (FLASHERS) [\(Back to Table of Contents\)](#)

A) Solar Powered Warning Beacon:

Dual forward facing beacons with 12-inch Yellow LED modules and Tunnel visors; Color: Flat (Dull) Black flasher and solar panel housing furnished with Stainless Steel hardware; Alternate flash pattern; 24 hour continuous operation

FDOT APL No.	Approval	Manufacturer	Model Number / Device Description
67014370427011	05/04/06	Carmanah Technologies, Inc.	R247 24 hr w/Eagle Housing; Dialight 4V LED
67014372608011	02/07/07	Transportation Control Systems	FL1412 / 24hr w/Econ.Housing & 12V LED

B) Solar Powered School Zone Flashing Beacon:

Dual forward facing beacons with 12-inch Yellow LED modules and Tunnel visors; Color: Flat (Dull) Black flasher and solar panel housing furnished with Stainless Steel hardware; Alternate flash pattern; Flash operation during selected time periods

FDOT APL No.	Approval	Manufacturer	Model Number / Device Description
67014360427011	07/31/06	Carmanah Technologies, Inc.	R829 / Wired Cab. Assembly for SSZ

C) Solar Powered Wired Cabinet Assembly for School Zone:

(Coming Soon)

D) Rectangular Rapid Flashing Beacon:

Dual forward and rear facing rectangular shaped Yellow LED modules; Color: Black flasher and solar panel housing furnished with Stainless Steel hardware; Dual alternating rapid flash pattern when activated; Flash operation commences upon pedestrian actuation; equipped with pedestrian push button with verbal message center and rectangular shaped LED modules to audibly and visually advise pedestrian that rapid flash beacons are activated to the motorists of pedestrian; complete with MUTCD fluorescent yellow/green compliant dual sided pedestrian crossing symbol signage

FDOT APL No.	Approval	Manufacturer	Device Description
67014352453011	07/28/10	Stop Experts, Inc.	Enhancer Series

Carmanah Technologies, Inc. www.carmanah.com
 Stop Experts, Inc. www.stopexperts.com
 Transportation Control Systems www.tcstraffic.com

HISTORY:
 Addition of Rectangular Rapid Flashing Beacon to QPL (12-01-10)

671 - TRAFFIC CONTROLLER ([Back to Table of Contents](#))

(Located under Section 672 - Controller; item "C")



HISTORY:

672 - TRAFFIC CONTROLLER ASSEMBLY (Type 170) ([Back to Table of Contents](#))

A) Controller Cabinets:

Color: Beige; Aluminum traffic controller cabinet; MD-552 and MD-660 series; Compliance with PWWM Traffic Signals & Signs Division technical specification: Traffic Controller Assemblies Specifications, 2007 Edition.

FDOT APL No.	Approval	Manufacturer /Supplier	Cabinet Type / Device Description
67221760407011	12/08/93	Control Technologies	MD-552A / 170 Wired Cabinet
67221760407021	04/14/95	Control Technologies	MD-660A / 170 Wired Cabinet
67221630407011	04/20/09	Control Technologies	MD-552X / 170 Wired Cabinet
67221640407011	04/20/09	Control Technologies	MD-660X / 170 Wired Cabinet

Control Technologies www.cttraffic.com

B) Conflict-Voltage Monitor:

Type 170/179/2070 for use in MD-552 and MD-660 series cabinets; Compliance with PWWM Traffic Signals & Signs Division technical specification: Traffic Controller Assemblies Specifications, 2007 Edition.

FDOT APL No.	Approval	Manufacturer	Model
67216070802021	11/04/04	Eberle Design Inc.	2010ECL

Eberle Design Inc. www.edittraffic.com

C) Controller:

Type 170 for use in MD-552 and MD-660 series cabinets; Compliance with PWWM Traffic Signals & Signs Division technical specification: Traffic Controller Assemblies Specifications, 2007 Edition.

FDOT APL No.	Approval	Manufacturer	Model
67221711618011	04/25/95	McCain Traffic Supply	D170E

McCain Traffic Supply www.mccaintraffic.com

D) Cabinet Base Adapter:

Color: Beige; 12-inch high aluminum controller cabinet mounting base extender for use with all MD-552 and MD-660 series cabinets; 38" W x 24" D base footprint for DC-4T foundation mount with 28" W x 20-5/8" D top cabinet mount; complete with all necessary mounting holes and slots; Compliance with PWWM TSS Division technical specification: Traffic Controller Assemblies Specifications, 2007 Edition.

FDOT APL No.	Approval	Manufacturer	Device Description
N/A	09/30/09	B & B Welding/Machine Services, Inc.	Cabinet extender base
N/A	09/30/09	Control Technologies	Cabinet extender base
N/A	09/30/09	General Welding Service Enterprise, Inc.	Cabinet extender base
N/A	09/30/09	J C Industrial Mfg. Corp.	Cabinet extender base
N/A	09/30/09	LR Alliance Manufacturing, Inc.	Cabinet extender base

B & B Welding/Machine Services www.weldingquest.com/miami-florida

Control Technologies www.cttraffic.com

General Welding Service Enterprise, Inc. www.yellowpages.com/name/Miami-FL/general-weldings

J C Industrial Mfg. Corp. www.mfg.com/profiles/JCIndustrialManufacturingCorp

LR Alliance Manufacturing, Inc. www.lralliance.com

HISTORY:

676 - CONTROLLER CABINET ([Back to Table of Contents](#))

A) Pole/Pedestal Mounted (Type 1- Unwired):

Aluminum cabinet for use with flashing beacons, speed feedback signage and various other electronic devices; Constructed of domestic sheet aluminum alloy 5052-H32 with min. thickness of 0.125 inches; Natural aluminum finish; Two (2) ventilation slots; Keyed w/PPB-1 Corbin type lock; w/Continuous Stainless Steel (SS) Hinge; Continuous Neoprene Gasket all around door; complete w/Two (2) continuous aluminum vertical mounting rails minimum 5/8-inch offset or four (4) corner standoffs; w/0.125 inch aluminum back panel; w/Stainless Steel hardware (Conformance with NEMA 250-2003 3R Rating)

FDOT APL No.	Approval	Manufacturer	Approved Cabinet / Device Description
67614102608013	05/04/05	Transportation Control Systems	Model TCS-1 / TYPE 1 (+/- 13"H x 10"W x 11"D)
67614102411013	05//14/82	Southern Manufacturing Co.	Flasher Unwired (+/- 16"H x 14"W x 11"D)

B) Solar Powered Wired Cabinet Assembly for School Zone:

(Coming Soon under Section 670)

C) Base Mounted:

Aluminum cabinet w/ pullout rotatable rack assembly; Color: Beige (Shell only); Compliance with PWWM Traffic Signals & Signs Division technical specification: Traffic Controller Assemblies Specifications, 2007 Edition.

FDOT APL No.	Approval	Manufacturer	Approved Cabinet / Device Description
67621531618011	04/20/09	McCain Traffic Supply	MD-552 / Unwired Cabinet - ONLY

McCain Traffic Supply www.mccaintraffic.com
 Southern Manufacturing Co. www.accordindustries.com/southern
 Transportation Control Systems www.tcstraffic.com

HISTORY:
 Addition of Pole/Pedestal Mounted (Type 1- Unwired) to QPL (09-14-10)

678 - CONTROLLER ACCESSORIES [\(Back to Table of Contents\)](#)

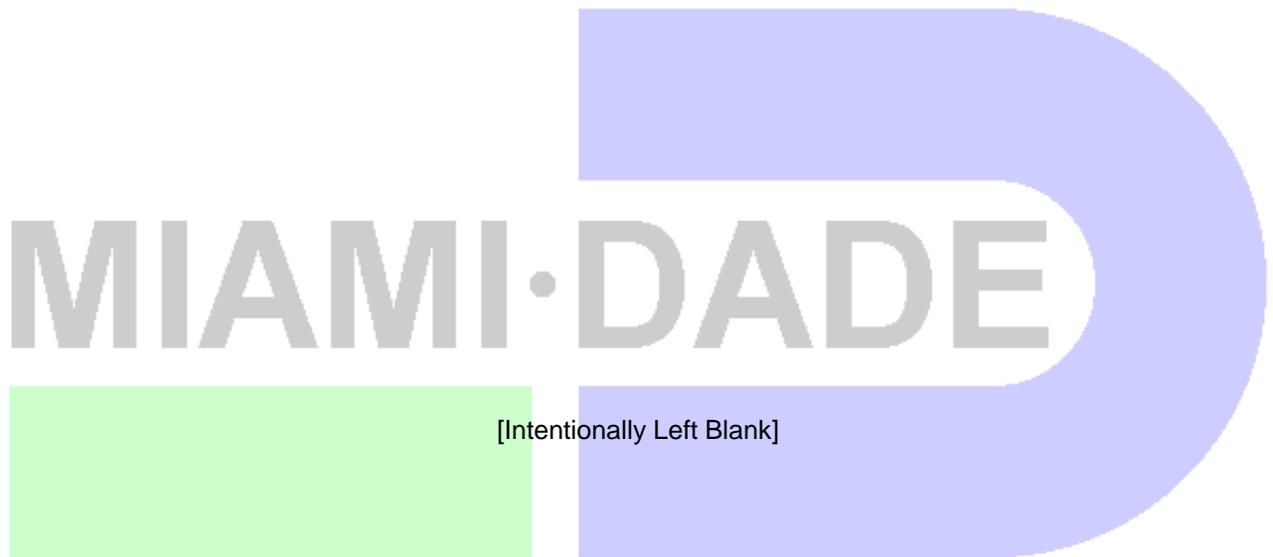
A) Time Switch, Type 1:

Pager-Time Switch unit complete with antenna; 16-pin CPC connector and harness.

FDOT APL No.	Approval	Manufacturer	Model Number / Device Description
67816402209021	04/21/08	RTC Manufacturing, Inc.	CPR-2102 PAGER**

** FDOT: (Pager Reviewed w/CPR Display Terminal DT-2100)

RTC Manufacturing, Inc. www.rtc-traffic.com



HISTORY:

685 - SYSTEM AUXILIARIES ([Back to Table of Contents](#))

Note: As of 03-02-11 no system auxiliaries are used in Miami-Dade County, FL.

**HISTORY:**

Communications Unit (CTCS) DELETED from QPL - Not required with ATMS Controller Cabinets/System (02-02-11)
Peek/Quixote Traffic Corp. LS-3800 (CTCS) listing deleted; permanently removed (03-02-11)

699 - INTERNALLY ILLUMINATED SIGNS ([Back to Table of Contents](#))

A) Internally Illuminated Street Name Signs (IISNS):

Aluminum Housing; Housing Color: Flat Black; (Compliance with PWWM TSS Division Interim Specification titled: "Internally Illuminated Street Name and Specialty Signage", dated 11/24/2010)

NOTE:

Sign face legends, layouts and borders require separate PWWM TS&S submittal approval per technical specification.

FDOT APL No.	Approval	Manufacturer	Approved IISNS Model / Type
69938912411051	04/12/05	Southern Manufacturing Co.	Model SSLED Series*
69938892608061	11/09/07	Transportation Control Systems	TCSSIGNLED Series
69938882608051	05/04/05	Transportation Control Systems	TCSSIGNFLO***

*** Approved for use under special condition, requires PWWM and Municipal Government Agreement: Village of Key Biscayne

B) Internally Illuminated Specialty Signs (IISS):

Aluminum Housing; Color: Flat Black; (Compliance with PWWM TSS Division Interim Specification titled: "Internally Illuminated Street Name and Specialty Signage", dated 11/24/2010)

NOTE:

Specialty Signs are approved under FDOT APL 699 for IISNS (Used for sign legends i.e.: "PEDESTRIAN CROSSWALK", "EMERGENCY SIGNAL", etc.)

Sign face legends, colors, layouts and borders require separate PWWM TS&S submittal approval per technical specification.

FDOT APL No.	Approval	Manufacturer	Approved IISNS Model / Type
69938912411051	04/12/05	Southern Manufacturing Co.	Model SSLED Series*
69938892608061	11/09/07	Transportation Control Systems	TCSSIGNLED Series
69938882608051	05/04/05	Transportation Control Systems	TCSSIGNFLO***

*** Approved for use under special condition, requires PWWM and Municipal Government Agreement: Village of Key Biscayne

Southern Manufacturing Co. www.accordindustries.com/southern/main.html

Transportation Control Systems www.tcstraffic.com

C) Photo Control:

For use with Internally Illuminated signs; 120V 15Amp; Rated: 1800 Watt Tungsten; Ballast 1000 VA; 15 Amp Tungsten; 8.3 Amp VAC; Temperature range: - 40°F to +158°F; Compliance with PWWM TSS Division technical specification: Internally Illuminated Street Name and Specialty Signs Specification, Revised October 2009; (UL Listed)

FDOT APL No.	Approval	Manufacturer	Model / Type
N/A	08/01/09	Intermatic, Inc.	K4221C / 1/2"-14 threaded stem; swivel

Intermatic, Inc. www.intermatc.com

D) IISNS and IISS Mast Arm Hanger:

Aluminum; Compliance with PWWM Traffic Signals & Signs Division technical specification: Internally Illuminated Street Name and Specialty Signs Specification, Revised October 2009.

(Located under Section 659 - SIGNAL HEAD AUXILIARIES)

HISTORY:

FDOT Reevaluated Quantum Lite power supply improvements (02/27/07)

FDOT Reevaluated Model SSLED Series design & operational improvements (02/21/08)

Interim Specification: Quantum Lite QSN Series DELETED from QPL (12-01-10)

Quantum Lite QSN Series deleted listing permanently removed from QPL (03-01-11)

700 - ELECTRONIC DISPLAY SIGNS ([Back to Table of Contents](#))

A) Electronic Speed Feedback Signage (ESFS) - School Zones:

For use with School Speed Zones static signage; background shall be *Fluorescent Yellow/Green* reflective sheeting; sign operation (feedback display) operates only during school zone hours/days; radar operation data collection can operate continuously or variable selected hours/days; feedback display - Yellow LED's Alpha/Numeric only; Solar powered or 120 Volt AC.

FDOT APL No.	Approval	Manufacturer	Model / Type
70030101213011	08/03/07	Information Display Co. (SpeedCheck)	VSC-1520F Series
70030101213021	09/13/07	Information Display Co. (SpeedCheck)	VSC-1820F Series

B) Electronic Speed Feedback Signage (ESFS) - Non-School Warning Signs:

For use with various non-school related static warning signage (i.e.: hazardous curves, crossings and visibility) background shall be *Yellow* High Intensity reflective sheeting; sign operation (feedback display) operates 24/7; radar operation data collection operate continuously; feedback display - Yellow LED's Alpha/Numeric only; Solar Powered or 120 Volt AC.

FDOT APL No.	Approval	Manufacturer	Model / Type
70030101213011	08/03/07	Information Display Co. (SpeedCheck)	VSC-1520F Series
70030101213021	09/13/07	Information Display Co. (SpeedCheck)	VSC-1820F Series

Information Display Co. (SpeedCheck) www.informationdisplay.com/

C) Solar Batteries for use with ESFS:

For use with all Solar Powered Electronic Speed Feedback Signage (ESFS); Battery shall be deep cycle solar rated, sealed valve regulated, Absorbent Glass Mat (AGM) sealed lead acid or Gelled-Electrolyte (Gel); Spill proof construction; Nominal Voltage: 12V 55 Amp Hrs.; Minimum Operating Temperature Range between: -4°F (-20°C) - 122°F (50°C);

FDOT APL No.	Approval	Manufacturer	Model / Type
N/A	03/02/11	MK Battery/DEKA	8G22NF-DEKA / (55 Ah GEL)
N/A	03/02/11	PowerSonic	PS-12550 / (55 Ah AGM)

MK Battery/DEKA www.mkbattery.com or www.dekabatteries.com
 PowerSonic www.powersonic.com

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700 - ELECTRONIC DISPLAY SIGNS (Cont'd) ([Back to Table of Contents](#))

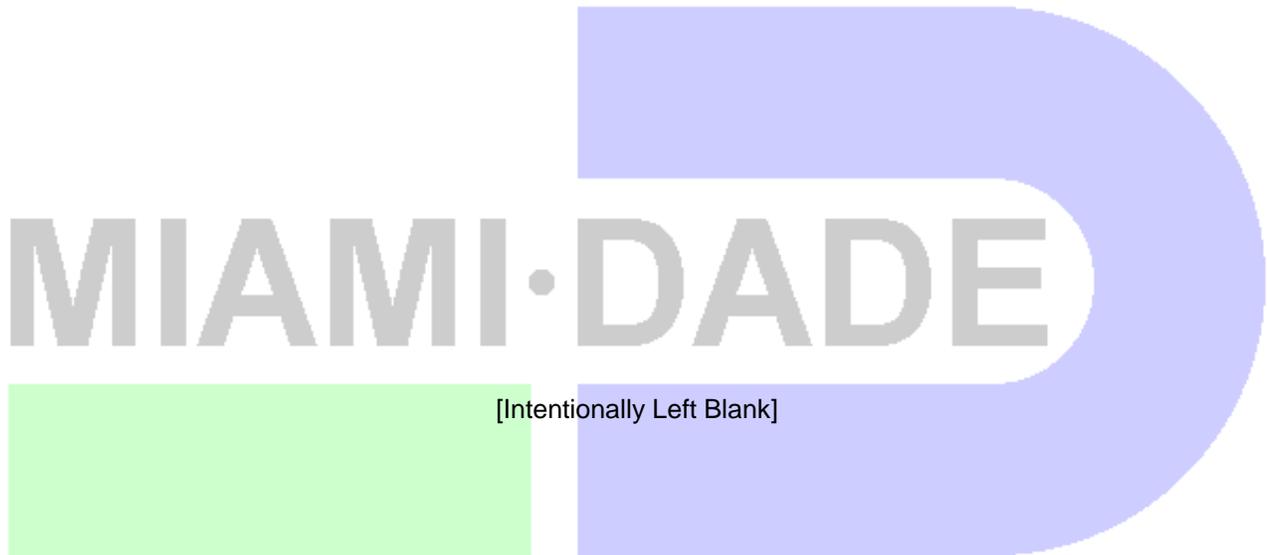
D) Blank-Out Signs:

Aluminum Housing; Color: Flat Black; Various LED light source for display Symbol/Message conformance with MUTCD; For aerial attachment to mast arms, sign gantries, span wire and overpasses; (PWWM Interim Compliance with FDOT MSTCD Section A700 Electronic Display Signs for Blank-Out Signs [BOS]).

FDOT APL No.	Approval	Manufacturer	Model / Type
70030012411011	05/20/05	Southern Manufacturing Co.	Model LED Blankout Series*
70030012608011	08/24/06	Transportation Control Systems	Models TCSLEDBO Series*

*QPL Approved for Product Evaluation and Testing

Southern Manufacturing Co. www.southernmfg.com
 Transportation Control Systems www.tcstraffic.com



HISTORY:

MOR Manufacturing (3M) Urban DFB Series APL # 70030101603021(02/18/10) 3M stops production 01/2011; DELETED from QPL (12-01-10)
 MOR Manufacturing (3M) deleted listing permanently removed (03-01-11)
 Addition of Solar Batteries for ESFS to QPL (03-02-11)
 Addition of Blank-Out Signs for EDS-BOS to QPL (12-22-11)