



**Traffic Operations**

**APPROVED PRODUCTS LIST**

**TRAFFIC SIGNALS, HIGHWAY LIGHTING,  
AND HIGHWAY SIGNING EQUIPMENT**

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## TRAFFIC SIGNALS AND HIGHWAY LIGHTING EQUIPMENT

### I. GENERAL

This Approved Products List (APL) is based on equipment meeting department specifications and being tested for the specified test period with satisfactory performance. All models shall conform to the latest revision of the Missouri Standard Specifications for Highway Construction unless otherwise indicated. The models indicated on the list are approved, but are subject to final field inspection before acceptance.

The department frequently tests new products and equipment for traffic signals and highway lighting. These new products may be installed on a construction project, purchased on parts orders or with controller orders. Vendors may also submit items, at no cost to the department, for the test period. Only a limited number of units will be accepted for test statewide until an item is added to the Approved Products List. A vendor wishing to initiate a test on a new product shall submit a Product Evaluation Request Form - Signal and Lighting Equipment. Copies of this form can be obtained from our website at [www.modot.state.mo.us](http://www.modot.state.mo.us) or contact MoDOT Traffic Operations. Minor model changes do not require an evaluation period, although the vendor shall submit specification sheets and a sample of the product for the Department to inspect.

All equipment evaluations are coordinated through MoDOT Traffic Operations. The vendor supplying the equipment shall provide equipment specifications and a certification that the equipment meets department specifications before the test is performed. The equipment is tested for the period specified on the APL. Products that are not performing satisfactorily will be replaced with an approved product if the vendor cannot provide timely correction of the problem or if unsatisfactory operation of the intersection results.

If a vendor is proposing a product that does not meet department specifications, an explanation of why the product meets or exceeds the current specifications must be provided by the vendor in writing to Traffic Operations. If approved, the product may be tested for the specified period as described above. If the product is satisfactory, the Department will consider a revision to the applicable specifications. Products will not be added to the Approved Products List that do not meet department specifications.

Products on the APL shall continue to perform satisfactorily. In addition, the vendors shall support the products. Products not performing as required or not supported are subject to removal from the APL.

Grounds for removal of products include but are not limited to:

- Significant change in product specifications or design without notification to the department.

- Failure to correct or replace products that are defective in manufacturing or workmanship.

- Repeated patterns of malfunctions of a product not adequately corrected by the vendor.

- Unreasonable pricing of repair parts or repair work. Repair work not completed in a reasonable time frame.

- Excessive delivery times for new purchases or replacement parts.

Changes in standard specifications may also necessitate removal of specific products from the APL. If this occurs, there will be a grace period where the product will be retained on the list after the specifications are changed. However the product will be removed from the list if it is not revised to meet specifications.

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## II. TRAFFIC SIGNAL EQUIPMENT

All traffic signal equipment requires a one-year evaluation period.

### CONTROLLERS

#### **NEMA TS1 CONTROLLERS**

#### **MODEL**

|  |                  |
|--|------------------|
| Econolite .....                          | ASC/2-2100       |
| Econolite .....                          | ASC/2S-2100      |
| Econolite .....                          | ASC/3-2100       |
| Naztec.....                              | 980              |
| Peek.....                                | 3000             |
| Siemens .....                            | EPAC Genesis M40 |
| Siemens .....                            | EPAC M42         |
| Siemens .....                            | EPAC M52         |
| Traffic Control Technologies (TCT) ..... | LMD-8000         |

#### **NEMA ON-STREET MASTER CONTROLLER**

#### **MODEL**

|                 |            |
|-----------------|------------|
| Econolite ..... | KMC-10,000 |
| Econolite ..... | ASC/2M     |
| Siemens .....   | MARC 360   |

#### **SOLID STATE PRETIMED CONTROLLERS (ALL TYPES)**

#### **MODEL**

|  |               |
|--|---------------|
| Siemens .....                            | EPIC Series   |
| Traffic Control Technologies (TCT) ..... | LMD 40 Series |

#### **170 CONTROLLERS**

#### **MODEL**

|                                       |      |
|---------------------------------------|------|
| McCain.....                           | 170E |
| Phillips/Sisson Industries, Inc. .... | 170E |
| Safetran .....                        | 170E |
| Siemens .....                         | 170E |

### CABINETS AND BACK PANELS (NEMA & S.S. PRETIMED)

***NOTE: Cabinets and Back panels that meet MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide a model that meets specifications and complete a satisfactory one-year evaluation as described above to be added to the list.***

#### **NEMA CABINET AND BACK PANEL ASSEMBLIES**

- Control Technology
- Econolite
- Henke/Bison
- IDC/Gibbons
- Naztec P-44
- Siemens

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## SOLID STATE PRETIMED CABINET AND BACK PANEL ASSEMBLIES

Siemens

## CABINETS AND RACKS (TYPE 170 CONTROLLERS)

**NOTE: Cabinets and Racks that meet MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide a model that meets specifications and complete a satisfactory one-year evaluation as described above to be added to the list.**

### 332 AND 336S CABINET AND RACK ASSEMBLIES

McCain  
Phillips/Sisson Industries, Inc.  
Safetran

## CONFLICT MONITORS

### NEMA CONFLICT MONITORS

### MODEL

|  |                 |
|--|-----------------|
| Eberle Design Incorporated (EDI).....    | NSM-6           |
| Eberle Design Incorporated (EDI).....    | NSM-12          |
| Eberle Design Incorporated (EDI).....    | SSM-12LE        |
| Eberle Design Incorporated (EDI).....    | MMU-16E         |
| Eberle Design Incorporated (EDI).....    | MMU-16LE        |
| Naztec, Incorporated .....               | NM512           |
| Peek/Transyt.....                        | 1200            |
| Power Distribution & Control (PDC).....  | CM82-03         |
| Power Distribution & Control (PDC).....  | CM82-06         |
| Power Distribution & Control (PDC).....  | CM82-12         |
| Reno A&E .....                           | MMU-1600 Series |
| Solid State Devices.....                 | NM-6            |
| Solid State Devices.....                 | NM-12           |
| Solid State Devices.....                 | LCD-6P          |
| Solid State Devices.....                 | LCD-12P         |
| Traffic Control Technologies (TCT) ..... | LNM Series      |

### 170 CONFLICT MONITORS

### MODEL

|                                       |      |
|---------------------------------------|------|
| Eberle Design Incorporated (EDI)..... | 210E |
| Reno A & E .....                      | 2018 |
| Solid State Devices.....              | 210P |

## CABINET ACCESSORIES

### AUXILIARY TIME CLOCK

### MODEL

|             |         |
|-------------|---------|
| Eltec ..... | NTC-17E |
| Eltec ..... | TC-14   |
| RTC.....    | AP41    |

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

**EXTERNAL T.B.C. COORDINATORS** **MODEL**

Eltec .....TC-14

**FLASHERS** **MODEL**  
**(NEMA & 170)**

Eberle Design Incorporated (EDI).....810  
 Power Distribution & Control (PDC).....SSF-86  
 Power Distribution & Control (PDC).....SSF-88  
 Reno A & E .....FL-200  
 Traffic Sensor Corp.....204  
 Traffic Sensor Corp.....204-15  
 Traffic Sensor Corp.....304  
 Traffic Sensor Corp.....304-15

**FLASH TRANSFER RELAYS** **MODEL**

AMECO .....136-4962  
 Struthers-Dunn.....21ACPX-2/21ACPXD-5  
 Mid-Tex .....136-62T-3A1  
 Power Distribution & Control (PDC).....FTR 91  
 Reno .....TR-200

**LOAD SWITCHES** **MODEL**  
**(NEMA & 170)**

Eberle Design Incorporated (EDI).....510  
 Power Distribution & Control (PDC).....SSS-86  
 Power Distribution & Control (PDC).....SSS-88  
 Reno A & E .....LS-200  
 Traffic Control Technologies (TCT) .....SSS-86  
 Traffic Sensor Corp.....200  
 Traffic Sensor Corp.....200-15  
 Traffic Sensor Corp.....300  
 Traffic Sensor Corp.....300-15

**ISOLATORS (170 only)** **MODEL**  
**(242=DC, 252=AC)**

Eberle Design Incorporated .....242  
 GDI.....242  
 GDI.....252  
 Power Distribution & Control (PDC).....242  
 Power Distribution & Control (PDC).....252  
 Safetran .....242  
 Safetran .....252

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

**SURGE PROTECTORS**

**MODEL**

Edco.....SHA 1210  
Edco.....SHA-1250

**TONE RECEIVERS**

**MODEL**

Iniven .....IR30M-05-30

**TONE TRANSMITTERS**

**MODEL**

Iniven .....IT30

**DETECTORS**

**MICROWAVE DETECTORS**

**MODEL**

Microwave Sensors.....TC-26B  
Electronic Integrated Systems, Inc. (EIS) .....RTMS X-2

**MICROLOOP, PROBE**

**MODEL**

3M .....Canoga 701

**PEDESTRIAN PUSH BUTTONS**

**MODEL**

Campbell.....4 EVR 120  
Polara Engineering, Inc. ....BDSP-010-B

**POWER SUPPLY FOR CARD RACK DETECTORS - NEMA**

**MODEL**

ICC.....PS24  
PGK .....PS-1.2

**SINGLE CHANNEL SHELF MOUNT DETECTORS, STANDARD**

**MODEL**

Eberle Design Incorporated (EDI).....LMD301S  
Sarasota.....535B/MS

**SINGLE CHANNEL SHELF MOUNT DETECTORS, TIME DELAY**

**MODEL**

Eberle Design Incorporated (EDI).....LMD301T  
Sarasota.....535T/MS

**ULTRASONIC DETECTORS**

**MODEL**

Microwave Sensors.....TC-30

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## 2-CHANNEL CARD RACK COUNTING DETECTORS, DUAL OUTPUT

Eberle Design Incorporated (EDI).....LMD632

## 2-CHANNEL CARD RACK COUNTING DETECTORS, SINGLE OUTPUT PULSE MODE (NEMA)

### MODEL

Eberle Design Incorporated (EDI).....LMD632T  
ICC.....S27B  
Reno A & E .....C

## 2-CHANNEL CARD RACK DETECTORS, STANDARD (170)

### MODEL

Eberle Design Incorporated (EDI).....LM222  
Eberle Design Incorporated (EDI).....LMD222  
Reno A & E .....222  
Sarasota.....222-GP5  
Sarasota.....222 GP6

## 2-CHANNEL CARD RACK DETECTORS, STANDARD (NEMA)

### MODEL

Eberle Design Incorporated (EDI).....LMD602R  
ICC.....S27B  
Reno A & E .....C  
Reno A & E .....G

## 2-CHANNEL CARD RACK DETECTORS, TIME DELAY (NEMA)

### MODEL

3M.....Canoga C800 Series  
Eberle Design Incorporated (EDI).....LMD602TR  
Reno A & E .....C  
Reno A & E .....GT

## SIGNAL HEADS

### BACKPLATES

### MODEL

Chapel Hill .....44xx Series  
Intelight .....BP INTLIT Series  
Pelco.....BK-100x Series  
Neodesia Plastics .....BP Series

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## HARDWARE

**NOTE:** Hardware that meets MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide equipment that meets specifications and complete a satisfactory six-month evaluation as described above to be added to the list.

|                                |      |
|--------------------------------|------|
| Pelco                          |      |
| Reliable 3/8" Strandvise ..... | 5202 |
| Reliable 1/4" Strandvise ..... | 5200 |

|                |              |
|----------------|--------------|
| <b>LOUVERS</b> | <b>MODEL</b> |
|----------------|--------------|

|             |     |
|-------------|-----|
| Pelco ..... | GPL |
|-------------|-----|

|  |              |
|--|--------------|
| <b>POLYCARBONATE SIDE-MOUNT BRACKETS<br/>WITH RELATED HARDWARE</b> | <b>MODEL</b> |
|--|--------------|

|                          |           |
|--------------------------|-----------|
| Component Products ..... | Any       |
| Eagle .....              | UKS1452AB |

|   |              |
|---|--------------|
| <b>SIGNAL HEADS - OPTICALLY LIMITED</b> | <b>MODEL</b> |
|---|--------------|

|                      |             |
|----------------------|-------------|
| Intelight, Inc. .... | ESB Series  |
| McCain .....         | HPTS Series |

|   |              |
|---|--------------|
| <b>SIGNAL HEADS - POLY CONVENTIONAL</b> | <b>MODEL</b> |
|---|--------------|

|   |                                    |
|---|------------------------------------|
| Chapel Hill .....                       | SIG-TPB-305-CTN-NVN-0N (3 section) |
| Chapel Hill .....                       | SIG-TPB-586-CTN-NVN-0N (5 section) |
| Eagle .....                             | SA Series                          |
| General Traffic Equipment Corp.....     | T-30 POLY                          |
| IDC/Safetrans .....                     | LT Series                          |
| McCain .....                            | MTSTP Series                       |
| Traffic Control Technologies (TCT)..... | PSS Series                         |

|   |              |
|---|--------------|
| <b>PEDESTRIAN HEAD – POLY 1-SECTION</b> | <b>MODEL</b> |
|---|--------------|

|              |        |
|--------------|--------|
| McCain ..... | M32258 |
|--------------|--------|

|   |              |
|---|--------------|
| <b>PEDESTRIAN LED SIGNAL INDICATION</b> | <b>MODEL</b> |
|---|--------------|

Pedestrian LED signal indications must be ETL verified. The ETL verified listing is located at [Intertek ETL Verified Listing - Link](#)



# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## POSTS AND MAST ARMS

*Note: Posts and Mast Arms do not require an evaluation period. Posts and Mast Arms shall be fabricated in accordance with MoDOT specifications and standards. Posts and Mast Arms shall be pre-approved as required by the MoDOT standards and specifications to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Posts and Mast Arms are subject to field inspection before acceptance.*

### STEEL POSTS AND MAST ARMS

### DRAWING NUMBER

|   |  |
|---|--|
| Ameron International .....              | MO9811 - Rev. 9 (Type C)                   |
| Ameron International .....              | MO9812 - Rev. 10 (Type CL)                 |
| JEM Engineering & Manufacturing.....    | MODOT1-4 Rev. 2 (Types C, CL, B & BL)      |
| Maico Industries, Inc. ....             | MOMAST 1-5A Rev. 1-6 (Types C, CL, B & BL) |
| Millerbernd Manufacturing Company ..... | 780C388 (Type B)                           |
| Millerbernd Manufacturing Company ..... | 780C389 (Type BL)                          |
| Millerbernd Manufacturing Company ..... | 780C49 (Type C)                            |
| Millerbernd Manufacturing Company ..... | 780C51 (Type CL)                           |
| Millerbernd Manufacturing Company ..... | 500A971                                    |
| Pelco Structural, LLC .....             | MODMA1001 & 1002 (Type B)                  |
| Pelco Structural, LLC .....             | MODMAL1001 & 1002 (Type BL)                |
| Pelco Structural, LLC .....             | MOSMA1001 & 1002 (Type C)                  |
| Pelco Structural, LLC .....             | MOSMAL1001 & 1002 (Type CL)                |
| Union Metals.....                       | 30443-B202 - Rev. 19 (Types C, CL, B & BL) |
| Valmont .....                           | DB00408 - Rev. C (Types C, CL, B & BL)     |

## MISCELLANEOUS

### LOOP SEALANTS

### MODEL

(Loop sealants do not require material certification)

|                    |                      |
|--------------------|----------------------|
| 3M.....            | 5000                 |
| Bondo .....        | 560                  |
| Bondo .....        | 575                  |
| Bondo .....        | P606                 |
| Chemque .....      | 290S                 |
| Chemque .....      | 296-06               |
| Durant Paints..... | Stat-A-Flex Polyseal |
| RAI Products ..... | Pro-Seal 6006        |

### PEDESTAL BASES

### MODEL

|                         |              |
|-------------------------|--------------|
| Akron Foundry .....     | TS-1000-L-P  |
| Akron Foundry .....     | TS-1000-L-WP |
| Component Products..... | CPI-BAS-1    |
| Pelco.....              | PB5336       |
| Pelco.....              | PB5337       |
| Pelco.....              | PB5340       |
| Pelco.....              | PB5341       |
| Traffic Parts .....     | TP 289 X     |

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## SPLICE KITS (DETECTOR LEAD-IN)

## MODEL

|                            |                |
|----------------------------|----------------|
| 3M.....                    | DBY Series     |
| HOMAC HMC Industries ..... | RAB 1/0 Series |

## METER SERVICE PEDESTAL (SIGNALS/SIGNALS & LIGHTING) MODEL

|   |                            |
|---|----------------------------|
| Milbank 120V Signal Only .....  | CP3B51C1PAAOMO1            |
| Milbank 120V Signal with 2 –Circuit 240V Lighting.....                  | CP3B51C1PBAOMO2            |
| Milbank 120V Signal with 2-Circuit 240V Lighting Dual Meter.....        | CP3B62C2NBAOMO1            |
| Myers 120V Signal with 2-Circuit 240V Lighting .....                    | MEUGLA-M100-MDOT           |
| Myers 120V Signal with 2-Circuit 240V Lighting .....                    | MEUG 20                    |
| Pacific Utility Products 120V Signal Only.....                          | USP16-M2100-112C-MODOT6-TS |
| Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting ..... | USPA-100-100-MODOT         |
| Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting ..... | USP16-M2100-112C-MODOT     |
| Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting ..... | USP24-M2100-100-MODOT6-TSL |
| Pacific Utility Products 120V Sgnl w/2-Circuit 240V Lighting Dual Mtr   | USPD-2M2100-100-MODOT6     |
| Tesco 120V Signal with 2-Circuit 240V Lighting .....                    | 28-105 Type III BF         |
| Tesco 120V Signal with 2-Circuit 240V Lighting .....                    | 28-102F                    |

## LIGHT EMITTING DIODES (LED)

LED's (circular and arrow) must be ETL verified. The ETL verified listing is located at [Intertek ETL Verified Listing - Link](#)

## PROGRAMMABLE VIEW

## MODEL

|               |                            |
|---------------|----------------------------|
| Dialight..... | P463R33003 (Red Ball)      |
| Dialight..... | P463Y33003 (Yellow Ball)   |
| Dialight..... | P463G33003 (Green Ball)    |
| GELcore ..... | DR3-RCFB-01A (Red Ball)    |
| GELcore ..... | DR3-YCFB-01A (Yellow Ball) |
| GELcore ..... | DR3-GCFB-01A (Green Ball)  |

## VIDEO DETECTION SYSTEMS

## VIDEO DETECTOR

## MODEL

|                |                            |
|----------------|----------------------------|
| Econolite..... | Autoscope 2020             |
| Econolite..... | Autoscope RackVision       |
| Econolite..... | Autoscope RackVision Terra |
| Econolite..... | Autoscope Solo Terra       |
| Iteris.....    | Vantage Edge2              |
| Traficon.....  | VIP 3D.1                   |
| Traficon.....  | VIP 3D.2                   |

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## III. HIGHWAY LIGHTING

All highway lighting equipment require a one-year evaluation period except for items noted requiring a six-month evaluation.

### LIGHTING POLES

**Note: Poles do not require an evaluation period. Poles shall be fabricated in accordance with MoDOT specifications and standards. They shall be pre-approved as required by the MoDOT standards and specifications in order to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Lighting poles are subject to field inspection before acceptance.**

| STEEL POLES                             | DRAWING NUMBER                               |
|---|--|
| Ameron International .....              | MO98AT3 – Rev. 4 (Type AT45) Design 1 & 2    |
| Ameron International .....              | MO98AT2 – Rev. 4 (Type AT45) Design 3, 4 & 5 |
| Ameron International .....              | MO98AT4 – Rev. 3 (Type AT30)                 |
| Ameron International .....              | MO98B2 – Rev. 3 (Type B45 & MB45)            |
| Ameron International .....              | MO98B4 – Rev. 2 (Type B30)                   |
| JEM Engineering and Manufacturing ..... | MO-AT30 – Rev. 3 (Type AT30)                 |
| JEM Engineering and Manufacturing ..... | MO-AT45 – Rev. 3 (Type AT45)                 |
| Millerbernd Manufacturing Co. ....      | 730B907 (Type AT30)                          |
| Millerbernd Manufacturing Co. ....      | 730B653 (Type AT45)                          |
| Millerbernd Manufacturing Co. ....      | 730B908 (Type B30)                           |
| Millerbernd Manufacturing Co. ....      | 730B909 (Type B45)                           |
| Millerbernd Manufacturing Co. ....      | 730B910 (Type MB45)                          |
| Union Metals.....                       | 71020-B2 - Rev. 5 (Type AT30)                |
| Union Metals.....                       | 71020-B3 - Rev. 4 (Type B30)                 |
| Union Metals.....                       | 71019-B6 - Rev. 7 (Type AT45)                |
| Union Metals.....                       | 71019-B7 - Rev. 4 (Types B45 & MB45)         |
| Union Metals.....                       | 71019-B8 – Rev. 3 (Type B30)                 |
| Union Metals.....                       | 71019-B9 – Rev. 3 (Type B45)                 |
| Union Metals.....                       | 71019-B10 – Rev. 3 (Type MB45)               |
| Union Metals.....                       | 71020-B103 – Rev. 3 (Type AT30)              |
| Union Metals.....                       | 71020-B104 – Rev. 4 (Type AT45)              |
| Valmont .....                           | DB00019 – Rev. N (Types AT30 & B30)          |
| Valmont .....                           | DB00020 – Rev. N (Types AT45, B45 & MB45)    |
| Valmont .....                           | MO-051707 (Type AT-30)                       |

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## FOUNDATIONS

**Note: Screw anchor foundations do not require an evaluation period. Screw anchor foundations shall be fabricated in accordance with MoDOT specifications and standards. They shall be pre-approved as required by the MoDOT standards and specifications in order to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Screw anchor foundations are subject to field inspection before acceptance.**

| SCREW ANCHOR FOUNDATIONS                | DRAWING NUMBER                  |
|---|---------------------------------|
| Component Products, Inc. ....           | SLSF 8-5 (Type AT30)            |
| Component Products, Inc. ....           | SLSF 10-7 (Type AT45)           |
| Hubbell Chance .....                    | SA112-0696 – Rev. G (Type AT30) |
| Hubbell Chance .....                    | SA112-0786 – Rev. D (Type AT45) |
| Integrated Traffic Solutions, Inc. .... | ITS AT30 (Type AT30)            |
| Integrated Traffic Solutions, Inc. .... | ITS AT45 (Type AT45)            |
| J. H. Botts .....                       | JHB MOH 30 – Rev. C (Type AT30) |
| J. H. Botts .....                       | JHB MOH 45 – Rev. D (Type AT45) |

## LUMINAIRES

**NOTE: Luminaires will not be furnished with photoelectric cells. Receptacles will have a shorting plug in place of cell. Multi-tap ballast for 120 Volt and 240 Volt fixtures is permissible.**

| BRACKET ARM MOUNT - 150 WATT     | MODEL                    |
|----------------------------------|--------------------------|
| American Electric Lighting ..... | 115 Series               |
| American Electric Lighting ..... | Durastar 2000, Series 30 |
| Crouse-Hinds/Cooper .....        | OVZ Series               |
| Crouse-Hinds/Cooper .....        | OVX Series               |
| General Electric (GE).....       | M2RR Series              |
| Holophane.....                   | Mongoose Series          |

| BRACKET ARM MOUNT - 250 WATT     | MODEL                    |
|----------------------------------|--------------------------|
| American Electric Lighting ..... | 115 Series               |
| American Electric Lighting ..... | Durastar 2000, Series 30 |
| Crouse-Hinds/Cooper .....        | OVZ Series               |
| Crouse-Hinds/Cooper .....        | OVX Series               |
| General Electric (GE).....       | MSRL Series              |
| Holophane.....                   | Mongoose Series          |

| BRACKET ARM MOUNT - 400 WATT     | MODEL                    |
|----------------------------------|--------------------------|
| American Electric Lighting ..... | 125 Series               |
| American Electric Lighting ..... | Durastar 2000, Series 30 |
| Crouse-Hinds/Cooper .....        | OVX Series               |
| General Electric (GE).....       | MSRL Series              |
| Holophane.....                   | Mongoose Series          |

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## HIGH MAST LIGHTING

## MODEL

**NOTE:** *High mast lighting is custom designed for the location. Fixtures from the following manufacturer's series are considered pre-approved.*

|                            |             |
|----------------------------|-------------|
| Cooper .....               | HMC Series  |
| General Electric (GE)..... | HMA Series  |
| Holophane.....             | HMAO Series |
| Holophane.....             | HMS Series  |
| Metrolux .....             | VA Series   |

## POLE TOP MOUNTING

## MODEL

|                |                 |
|----------------|-----------------|
| Holophane..... | HL2A Series     |
| Holophane..... | Mongoose Series |

## SIGN LIGHTING - 250 WATT

## MODEL

|                            |               |
|----------------------------|---------------|
| General Electric (GE)..... | V2FN Series   |
| Guth .....                 | B17632 Series |
| Holophane.....             | PANL Series   |
| Holophane.....             | SNVW Series   |

## SIGN LIGHTING - 400 WATT

## MODEL

|                |             |
|----------------|-------------|
| Holophane..... | PANL Series |
| Holophane..... | SNVW Series |

## UNDERPASS (WALLPACKS)

## MODEL

|                                  |                 |
|----------------------------------|-----------------|
| American Electric Lighting ..... | .582 Series     |
| Cooper .....                     | WPK Series      |
| General Electric (GE).....       | WAL Series      |
| Holophane.....                   | MDWP Series     |
| Holophane.....                   | WL2K Series     |
| Hubbell .....                    | PGM-150S Series |

## CONTROL EQUIPMENT

### CONTACTORS-ELECTROMECHANICAL

### MODEL

|                                  |             |
|----------------------------------|-------------|
| Square D.....                    | Type S      |
| Westinghouse/Cutler-Hammer ..... | A202 Series |

### CONTACTORS-MERCURY

### MODEL

|                       |              |
|-----------------------|--------------|
| Dayton/Duracool ..... | 6A/6X Series |
| Magnecraft.....       | WM Series    |

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## BASE MOUNTED CONTROL CABINETS

**NOTE: Cabinets that meet MoDOT specifications from the following manufacturers will be accepted. All other manufacturers must provide a model that meets specifications and complete a satisfactory six-month evaluation as described above to be added to the list.**

Cleveland Switchboard  
Coxline  
Hoffman  
Shallbetter  
Inland Technologies

| <b>LIGHTNING ARRESTER</b>        | <b>MODEL</b>  |
|----------------------------------|---------------|
| Delta .....                      | LA 600 Series |
| General Electric Tranquell ..... | 9L15ECB001    |

## MOUNTING SOCKET FOR PHOTOELECTRIC CONTROL.....MODEL

**NOTE: Mounting sockets require a six-month evaluation.**

|                                  |          |
|----------------------------------|----------|
| American Electric Lighting ..... | PBC      |
| Fischer-Pierce.....              | S476-71  |
| General Electric (GE).....       | MB-PECTL |

| <b>PHOTOELECTRIC CONTROL</b>     | <b>MODEL</b>                            |
|----------------------------------|---|
| Area Lighting Research .....     | SST-120 (120 volt)                      |
| Area Lighting Research .....     | SST-240 (240 volt)                      |
| Area Lighting Research .....     | SST-PV (120/240 volt)                   |
| American Electric Lighting ..... | D120-1.0-STJ (Dark to Light) (120 volt) |
| American Electric Lighting ..... | D124-1.0-STJ (120/240 volt)             |
| American Electric Lighting ..... | D240-1.0-STJ (240 volt)                 |
| American Electric Lighting ..... | DE480-1.0-TJ (480 volt)                 |
| Fischer-Pierce.....              | FPN7790B (105 – 285 volt)               |
| Fischer-Pierce.....              | FPN7772 (195 – 305 volt)                |
| Fischer-Pierce.....              | FPN7794 (480 volt)                      |
| Fischer-Pierce.....              | FPN7760 (120 volt)                      |
| General Electric (GE).....       | PEC01TL (>120v/< 305v w/ time delay)    |
| General Electric (GE).....       | PEC1TL (120v)                           |
| General Electric (GE).....       | PEC5TL (480v)                           |
| ITT .....                        | SAT-15                                  |
| Tyco .....                       | 6190 VPS                                |

| <b>TYPE A CIRCUIT BREAKERS</b>   | <b>MODEL</b>        |
|----------------------------------|---------------------|
| Square D.....                    | FAL Series          |
| Westinghouse/Cutler-Hammer ..... | EHD Series (1-Pole) |
| Westinghouse/Cutler-Hammer ..... | FDB Series (2-Pole) |

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## MISCELLANEOUS

### AVIATION LIGHTING

### MODEL

Hughey & Philips.....KG114

### FUSED SLIP CONNECTORS

### MODEL

**NOTE: Slip connectors require a six-month evaluation.**

Buss .....HEB-JWRYC

### METER SERVICE PEDESTAL (LIGHTING)

### MODEL

Milbank 4-Circuit 240V Lighting .....CP3B51C1PBAOMO3  
 Milbank 4-Circuit 480V Lighting .....CP3B51D1PBAOMO1  
 Milbank 4-Circuit 480V Lighting (used for Ameren cold sequence) .....CP3B51D1PBAOMOCS1  
 Pacific Utility Products 4-Circuit 240V Lighting.....USP24-M2100-100-MODOT6  
 Pacific Utility Products 4-Circuit 480V Lighting.....USP16-M2100-112C-MODOT  
 Pacific Utility Products 4-Circuit 480V Lighting.....USP24-M2100-100-MODOT6-480

### NAVIGATION LIGHTING

### MODEL

Tideland .....ML-140 with TF-3AC Lamp Changer  
 Automatic Power, Inc. ....FA-143

### SPLICE KITS

### MODEL

3M .....82A1 (Single)  
 3M .....82A2 (Single)  
 3M .....82B1 (Three Way)  
 3M .....82B2 (Three Way)  
 HOMAC HMC Industries.....RAB 1/0 Series

### TRANSFORMER BASES

### MODEL

Akron Foundry .....TB1-17H (for AT30)  
 Akron Foundry .....TB3-17H (for AT45)

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## IV. POWER SUPPLY EQUIPMENT AND PULL BOXES

All items require a six-month evaluation period.

### MAIN SERVICE DISCONNECT ENCLOSURE WITH SAFETY SWITCH (NEMA 4)

|                            | <b>MODEL</b>        |
|----------------------------|---------------------|
| General Electric (GE)..... | TE 100 CS           |
| Square D.....              | FA-100-DS Series E2 |
| Westinghouse .....         | WFDN 100            |

### PREFORMED PULL BOX-CLASS 1 Straight

|                                 | <b>MODEL</b>                    |
|---------------------------------|---------------------------------|
| Armorcast Products Company..... | A6001640TAPCX22 (Box & Lid)     |
| Carson Industries .....         | H1730-24 (Box)                  |
| CDR .....                       | A14-1730 series-22" (Box & Lid) |
| Composite Industries .....      | CI183024PB1P                    |
| Highline .....                  | PHA173024HO1R                   |
| .....                           | H1730-PI (Lid)                  |
| Martin Enterprises.....         | 173022PC                        |
| Strongwell/Quazite.....         | PG1730B532 (Box)                |
|                                 | PG1730H511 (Lid)                |
|                                 | PG1730BA Series                 |
| Synertech.....                  | S1730B24AA (Box)                |
|                                 | S1730HBB0A (Lid)                |

### Flared

|                                 |                                 |
|---------------------------------|---------------------------------|
| Armorcast Products Company..... | A6001640TAX24 (Box & Lid)       |
| CDR .....                       | A12-1730 series-22" (Box & Lid) |
| Highline .....                  | CHA173024HO1R                   |
| NewBasis .....                  | FCA173022CC4126-62 (Box & Lid)  |
| NewBasis .....                  | FCA173022CC4749-61 (Box & Lid)  |
| NewBasis .....                  | FCA173024CC40303 (Box & Lid)    |
| Pencell Plastics.....           | PEM-1830-PCX (Box & Lid)        |

### PREFORMED PULL BOX-CLASS 2 Straight

|                                 | <b>MODEL</b>                    |
|---------------------------------|---------------------------------|
| Armorcast Products Company..... | A6001974TAPCX26 (Box & Lid)     |
| Armorcast Products Company..... | A6001974TAPCX24                 |
| Carson Industries.....          | H2436-24 (Box)                  |
| .....                           | H2436-PI (Lid)                  |
| CDR .....                       | A14-2436 series-24" (Box & Lid) |
| Composite Industries .....      | CI243624PB1P                    |
| Highline .....                  | PHA243624HO1R                   |
| Martin Enterprises.....         | 243624PC                        |
| Strongwell/Quazite.....         | PG2436B539 (Box)                |
|                                 | PG2436H508 (Lid)                |
|                                 | PG2436BA Series                 |
| Synertech.....                  | S2436B26AA (Box)                |
|                                 | S2436HCB0A (Lid)                |



# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

**Flared**

|                                 |                                 |
|---------------------------------|---------------------------------|
| Armorcast Products Company..... | A6001974TAX26 (Box & Lid)       |
| Armorcast Products Company..... | A6001974TAX24                   |
| CDR .....                       | A12-2436 series-24" (Box & Lid) |
| Highline .....                  | CHA243624HO1R                   |
| NewBasis .....                  | FCA243630CC4126-61 (Box & Lid)  |
| NewBasis .....                  | FCA243630CC4749-61 (Box & Lid)  |
| NewBasis .....                  | FCA243624CC40716 (Box & Lid)    |
| Pencell Plastics.....           | PEM-2436-36 (Box & Lid)         |
| Pencell Plastics.....           | PEM-2436-PCX-24 (Box & Lid)     |
| Synertech.....                  | S2436B24AA (Box)                |
| .....                           | S2436HCB0A (Lid)                |

**PREFORMED PULL BOX-CLASS 3**

**Straight**

|                                 |                                 |
|---------------------------------|---------------------------------|
| Armorcast Products Company..... | A6001430TAPCX36 (Box & Lid)     |
| Carson Industries.....          | H3048-36 (Box)                  |
| .....                           | H3048-P1 (Lid)                  |
| CDR .....                       | A14-3048 series-36" (Box & Lid) |
| Composite Industries .....      | CI304836PB1P                    |
| Highline .....                  | PHA304836HO1R                   |
| Martin Enterprises.....         | 304836PC                        |
| Strongwell/Quazite.....         | PG3048B560 (Box)                |
|                                 | PG3048H517 (Lid)                |
|                                 | PG3048BA Series                 |
| Synertech.....                  | S3048B36AA (Box)                |
|                                 | S3048HCB0A (Lid)                |

**MODEL**

**Flared**

|                                 |                                   |
|---------------------------------|-----------------------------------|
| Armorcast Products Company..... | A6001550TAX36 (Box & Lid)         |
| CDR .....                       | A12-3048-series 36" (Box & Lid)   |
| Highline .....                  | CHA304836HO1R                     |
| NewBasis .....                  | FCA304836EE4749-61 (Box & Lid)    |
| NewBasis .....                  | FCA304836EE40304 (Box & Lid)      |
| Pencell Plastics.....           | PEM-3048-36-PCX-SPLIT (Box & Lid) |

**PREFORMED PULL BOX-CLASS 5**

**Flared**

|                                 |                                 |
|---------------------------------|---------------------------------|
| Armorcast Products Company..... | A6001466TA (Box & Lid)          |
| Armorcast Products Company..... | A6000172TAX36 (Box & Lid)       |
| CDR .....                       | A12-3200 series-36" (Box & Lid) |
| NewBasis .....                  | FCA320036T-90003                |
| NewBasis .....                  | FCA540036C4800 (Box & Lid)      |
| NewBasis .....                  | FCA540036C40336 (Box & Lid)     |
| NewBasis .....                  | FCA540036-MODOT                 |
| Quazite.....                    | PR3944Z504                      |

**MODEL**

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## HIGHWAY SIGNING EQUIPMENT

### V. GENERAL

This Approved Products List (APL) for highway signing equipment contains current pre-approved products for highway signing. This list is applicable to department purchases and construction contracts. The list includes products that have been approved for use based on satisfactory performance during a specified test period. Products listed have undergone sufficient field testing to be considered acceptable for use at any time. All field tests of new products or pending products should be arranged with Central Office Traffic.

The department frequently tests new products and equipment for highway signing. These new products may be installed on a construction project or used for normal department installations and maintenance. Vendors may also submit items, at no cost to the department, for the test period. Only a limited number of units will be accepted for test statewide until the product is added to the Approved Products List. A vendor wishing to initiate a test on a new product shall submit a Product Evaluation Request Form. Copies of this form can be obtained from our website at [www.modot.state.mo.us](http://www.modot.state.mo.us) or contact MoDOT Central Office Traffic. Minor model changes of previously approved products do not require a new evaluation period, although the vendor shall submit specification sheets and a sample of the product for the Department to inspect. Any modifications determined to potentially alter the performance of the product may require the product to undergo additional field testing and evaluation.

All product evaluations are coordinated through MoDOT Central Office Traffic. The vendor supplying the equipment shall provide equipment specifications and a certification that the equipment meets department specifications before the test is performed. The equipment is tested for the period specified by Central Office Traffic (typically one year). Products that are not performing satisfactorily will be left off of the list. Products that were previously approved that begin to perform unsatisfactorily will be removed or replaced with an approved product if the vendor cannot provide timely correction of the problem.

If a vendor is proposing a product that does not meet department specifications, an explanation of why the product meets or exceeds the current specifications must be provided by the vendor in writing to Central Office Traffic. If approved, the product may be tested for the specified period as described above. If the product is satisfactory, the Department will consider a revision to the applicable specifications. Products will not be added to the Approved Products List that does not meet department specifications.

Products on the APL shall continue to perform satisfactorily. In addition, the vendors shall support the products. Products not performing as required or not supported are subject to removal from the APL.

Grounds for removal of products include but are not limited to:

- Significant change in product specifications or design without notification to the department.
- Failure to correct or replace products that are defective in manufacturing or workmanship.
- Repeated patterns of malfunctions of a product not adequately corrected by the vendor.
- Unreasonable pricing of repair parts or repair work. Repair work not completed in a reasonable time frame.
- Excessive delivery times for new purchases or replacement parts.

Changes in standard specifications may also necessitate removal of specific products from the APL. If this occurs, there will be a grace period where the product will be retained on the list after the specifications are changed. However the product will eventually be removed from the list if it is not revised to meet specifications.

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## VI. HIGHWAY SIGNING EQUIPMENT

### BREAKAWAY DEVICES

| MANUFACTURER                         | DESCRIPTION, MODEL                            |
|--------------------------------------|---|
| Ultimate Highway Products .....      | Triangular Slip Base for 2.5" PSST, Slip-Mate |
| Xcessories Squared .....             | Kleen Break 425 for 2" PSST, XKB42520-G       |
| Xcessories Squared.....              | Redi-Torque 280 for 2.5" PSST, SB8C-250A-G    |
| Xcessories Squared.....              | Redi-Torque Bolt Kit, RTSB-MPHDW              |
| Northwest Pipe Company .....         | S-Q 8" Square Slipbase for 2.5" PSST, 31209   |
| Designovations, Inc.....             | Snap n Safe S250 and S250 S                   |
| Dent Breakaway Industries, Inc ..... | 3/4" Dent Bolt, #6882                         |
| Dent Breakaway Industries, Inc ..... | 5/8" Dent Bolt, #6878                         |
| Dent Breakaway Industries, Inc ..... | 1/2" Dent Bolt, #6874                         |
| Dent Breakaway Industries, Inc ..... | 5/8" Ground Anchors (Galvanized)              |
| Dent Breakaway Industries, Inc ..... | 5/8" Modified Dent Bolt, #6220                |
| Dent Breakaway Industries, Inc ..... | 3/4" Modified Dent Bolt, #6882                |

### FOUNDATIONS/ANCHORS

| MANUFACTURER | DESCRIPTION, MODEL |
|--------------|--------------------|
| None .....   | None               |

### SIGN HARDWARE

| MANUFACTURER            | DESCRIPTION, MODEL                             |
|-------------------------|--|
| Xcessories Squared..... | Aluminum Post Clamp for 2.5" Pipe, XAPC278RD   |
| Xcessories Squared..... | Aluminum Post Clamp for 3" Pipe, XAPC350RD     |
| Xcessories Squared..... | Aluminum Post Clamp for 4" Pipe, XAPC450RD     |
| Xcessories Squared..... | Aluminum Bar for Post Clamps, XAB750           |
| Xcessories Squared..... | Aluminum Sign Backer Bar, ASB200P1             |
| Xcessories Squared..... | Extruded Panel Clamp for 2" PSST, EPPCS200SQ   |
| Xcessories Squared..... | Extruded Panel Clamp for 2.5" PSST, EPPCS250SQ |
| Xcessories Squared..... | Extruded Panel Clamp for 2.5" Pipe, EPPCS250RD |
| Xcessories Squared..... | Extruded Panel Clamp for 3" Pipe, EPPCS300RD   |
| Xcessories Squared..... | Extruded Panel Clamp for 4" Pipe, EPPCS400RD   |
| Xcessories Squared..... | Extruded Panel Clamp for 4x4 Wood, EPPCS44W    |
| Xcessories Squared..... | Extruded Panel Clamp for 4x6 Wood, EPPCS46W    |
| Xcessories Squared..... | Extruded Panel Clamp for 6x6 Wood, EPPCS66W    |

### SIGNS

| MANUFACTURER | DESCRIPTION, MODEL |
|--------------|--------------------|
| Tapco .....  | Blinkersigns       |

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

**ADDED:**

| <b>ISOLATORS (170 only)<br/>(242=DC, 252=AC)</b> | <b>MODEL</b> |
|--|--------------|
| Eberle Design Incorporated.....                  | 242          |

| <b>STEEL POLES</b> | <b>DRAWING NUMBER</b>  |
|--------------------|------------------------|
| Valmont.....       | MO-051707 (Type AT-30) |

**VIDEO DETECTION SYSTEMS**

| <b>VIDEO DETECTOR</b> | <b>MODEL</b> |
|-----------------------|--------------|
| Aldis.....            | GridSmart    |

**BREAKAWAY DEVICES**

| <b>MANUFACTURER</b>                 | <b>DESCRIPTION, MODEL</b>        |
|-------------------------------------|----------------------------------|
| Dent Breakaway Industries, Inc..... | 3/4" Dent Bolt, #6882            |
| Dent Breakaway Industries, Inc..... | 5/8" Dent Bolt, #6878            |
| Dent Breakaway Industries, Inc..... | 1/2" Dent Bolt, #6874            |
| Dent Breakaway Industries, Inc..... | 5/8" Ground Anchors (Galvanized) |
| Dent Breakaway Industries, Inc..... | 5/8" Modified Dent Bolt, #6220   |
| Dent Breakaway Industries, Inc..... | 3/4" Modified Dent Bolt, #6882   |

**DELETED:**

**SIGN HARDWARE**

| <b>MANUFACTURER</b>                 | <b>DESCRIPTION, MODEL</b>        |
|-------------------------------------|----------------------------------|
| Xcessories Squared.....             | Redi-Torque Bolt Kit, RTSB-MPHDW |
| Dent Breakaway Industries, Inc..... | 3/4" Dent Bolt, #6874            |
| Dent Breakaway Industries, Inc..... | 5/8" Dent Bolt, #6874            |
| Dent Breakaway Industries, Inc..... | 1/2" Dent Bolt, #6874            |

These products are listed under BREAKAWAY DEVICES

**REVISED:**

| <b>METER SERVICE PEDESTAL (LIGHTING)</b> | <b>MODEL PEDESTRIAN PUSH</b> |
|--|------------------------------|
| Changed                                  |                              |
| Milbank 2-Circuit 240V Lighting.....     | CP3B51C1PBAOMO3              |
| To                                       |                              |
| Milbank 4-Circuit 240V Lighting.....     | CP3B51C1PBAOMO3              |

| <b>PEDESTRIAN PUSH BUTTONS</b> | <b>MODEL</b>       |
|--------------------------------|--------------------|
| Changed                        |                    |
| Polara Engineering, Inc. ....  | BDSP-003-B Bulldog |
| To                             |                    |
| Polara Engineering, Inc.....   | BDSP-010-B         |