|  |  |  |
| --- | --- | --- |
|  | FDOT Traffic Engineering Research Laboratory (TERL) Sign Beacon Compliance Matrix | By signing this form, the applicant declares that he/she has read and understands the provisions of Section 995 of the FDOT *Standard Specifications for Road and Bridge Construction* and all implemented modifications. The requirements listed on this matrix are derived from Section 995 and are the basis for determining a product’s compliance and its acceptability for use on Florida’s roads. |

|  |  |  |  |
| --- | --- | --- | --- |
| Date: | Click here to enter a date. | Applicant’s Name (print): |  |
| Manufacturer: |       |  |       |
| Item, Model No.: |       | Signature: |       |

| **ID No** | **Section** | **Requirement** | **Item Comply? (Yes/No/NA)** | **Comments(Applicant must provide information as indicated)** | **TERL Evaluation Method** |
| --- | --- | --- | --- | --- | --- |
| The following compliance matrix criteria are for all flashing beacons. |
| 1 | 995-1.1 | Equipment is permanently marked with manufacturer name or trademark, part number, date of manufacture, or serial number. |  | *Applicant may provide comments in this field.* | Physical Inspection |
| TERL Test Cases (Steps): SB002 (Step 1) |       |       | Init.:       |
| 2 | 995-18.1 | Flashing beacon assemblies incorporating a circular traffic signal meet the design and functional requirements set forth in the Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways. |  | *Provide documentation specified in MUTCD line items below.* | Document Review, Physical Inspection and Functional Inspection |
| The following compliance matrix criteria (referencing the MUTCD) are from the MUTCD and are for all flashing beacons. |
| 3 | MUTCD Section 4S.01.03 | Beacon is flashed at a rate of not less than 50 or more than 60 times per minute. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 1), SB003 (Step 4) |       |       | Init.:       |
| 4 |  | The illuminated period of each flash is a minimum of 1/2 and a maximum of 2/3 of the total cycle. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 2), SB003 (Step 5) |       |       | Init.:       |
| The following compliance matrix criteria (referencing the MUTCD) are from the MUTCD and are for Warning Beacons. |
| 5 | MUTCD Section 4S.03.02 | Warning beacon consists of one or more signal sections of a standard traffic signal face with a flashing circular yellow signal indication in each signal section. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 3), SB002 (Step 2) |       |       | Init.:       |
| 6 | MUTCD Section 4S.03.12 | If an audible information device is used in conjunction with a pedestrian-actuated warning beacon at a pedestrian crossing, the audible information device does not use vibrotactile indications or percussive indications. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 4), SB003 (Step 6) |       |       | Init.:       |
| The following compliance matrix criteria (referencing the MUTCD) are from the MUTCD and are for Stop Beacons. |
| 7 | MUTCD Section 4S.05.02 | Stop beacon consists of one or more signal sections of a standard traffic signal face with a flashing circular red signal indication in each signal section. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 5), SB002 (Step 3) |       |       | Init.:       |
| 8 |  | If two horizontally-aligned signal indications are used for a stop beacon, they are flashed simultaneously to avoid being confused with grade crossing flashing-light signals. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 6), SB003 (Step 7) |       |       | Init.:       |
| 9 |  | If two vertically-aligned signal indications are used for a stop beacon, they are flashed alternately. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 7), SB003 (Step 8) |       |       | Init.:       |
| The following compliance matrix criteria are for all flashing beacons. |
| 10 | 995-18.1 | All circular beacons have a minimum nominal diameter of 12 inches and meet the requirements of Section 650. |  | *Provide the following:** *A third party test report that demonstrates compliance with the ITE Standard for Vehicle Traffic Control Signal Heads - LED Circular Signal Supplement.*
* *A completed Testing Laboratory and Report Checklist.*
* *A completed ITE Vehicle Traffic Control Signal Heads - LED Circular Signal Supplement 6.4.2-6.4.8 Checklist.*
 | Document Review |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 8) |       |       | Init.:       |
| 11 |  | Beacon uses an LED light source. |  | *Applicant may provide comments in this field.* | Physical Inspection |
| TERL Test Cases (Steps): SB002 (Step 4) |       |       | Init.:       |
| The following compliance matrix criteria are for School Zone Flashing Beacons. |
| 12 | 995-18.1.1 | Beacon designed for use with school zone signing includes a means of calendar scheduling to program days and times of operation.  |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.*  | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 9), SB004 (Steps 2,3) |       |       | Init.:       |
| The following compliance matrix criteria are for Vehicle Activated Flashing Beacons. |
| 13 | 995-18.1.2 | Beacon utilizes a vehicle detection system listed on the APL. |  | *Indicate Approved Product List number(s) in this field.* | Compliance Matrix Review |
| TERL Test Cases (Steps): SB001 (Step 10) |       |       | Init.:       |
| The following compliance matrix criteria are for Pedestrian Activated Flashing Beacons. |
| 14 | 995-18.1.3 | Beacon utilizes a pedestrian detector currently listed on FDOT’s APL. |  | *Indicate Approved Product List number(s) in this field.* | Compliance Matrix Review |
| TERL Test Cases (Steps): SB001 (Step 11) |       |       | Init.:       |
| The following compliance matrix criteria are for all flashing beacons. |
| 15 | 995-18.2 | Flashing beacon cabinet is currently listed on FDOT’s APL or meets the applicable criteria of Section 676. |  | *Provide the applicable compliance matrix from Specification 676 along with all supporting documentation that demonstrates this product meets this requirement, based on cabinet type. Alternately, provide the Approved Product List (APL) number if the cabinet is APL listed.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 12), SB002 (Step 5) |       |       | Init.:       |
| 16 |  | All housings other than pole-mounted cabinets are powder coat painted dull black (Federal Standard 595A-37038) with a reflectance value not exceeding 25 percent as measured by ASTM E1347. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 13), SB002 (Step 6) |       |       | Init.:       |
| 17 |  | Cabinet and housing prevent unauthorized access. |  | *Applicant may provide comments in this field.* | Physical Inspection |
| TERL Test Cases (Steps): SB002 (Step 7) |       |       | Init.:       |
| 18 |  | Flashing beacon assembly can be installed on 4-1/2 inch outer diameter posts. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 14), SB002 (Step 8) |       |       | Init.:       |
| 19 |  | All exposed assembly hardware including nuts, bolts, screws, and locking washers less than 5/8 inch in diameter, is Type 304 or 316 passivated stainless steel and meets the requirements of ASTM F593 and ASTM F594. |  | *Provide statement of conformance from hardware supplier that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 15) |       |       | Init.:       |
| 20 |  | All assembly hardware greater than or equal to 5/8 inch in diameter is galvanized and meets the requirements of ASTM A307. |  | *Provide a statement of conformance in this field.* | Compliance Matrix Review |
| TERL Test Cases (Steps): SB001 (Step 16) |       |       | Init.:       |
| 21 | 995-18.3 | Equipment operates on solar power or a nominal voltage of 120 volts alternating current (VAC). |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 17), SB003 (Step 1) |       |       | Init.:       |
| The following compliance matrix criteria are for AC Powered Flashing Beacons. |
| 22 |  | If the device requires operating voltages of less than 120 VAC, the appropriate voltage converter is supplied. |  |  *Applicant may provide comments in this field.* | Functional Inspection  |
| TERL Test Cases (Steps): SB003 (Steps 2,3) |       |       | Init.:       |
| The following compliance matrix criteria are for Solar Powered Flashing Beacons. |
| 23 |  | Solar powered beacon system is designed to provide 10 days of continuous operation without sunlight. |  | *Applicant may provide comments in this field.* | Functional Inspection |
| TERL Test Cases (Steps): SB005 (Steps 4,5) |       |       | Init.:       |
| 24 |  | Solar powered system automatically charges batteries and prevents overcharging and over-discharging. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Functional Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 18), SB005 (Steps 6,7) |       |       | Init.:       |
| 25 |  | Solar powered system includes a charge indicator. |  | *Applicant may provide comments in this field.* | Physical Inspection |
| TERL Test Cases (Steps): SB002 (Step 9) |       |       | Init.:       |
| The following compliance matrix criteria are for all flashing beacons. |
| 26 | 995-18.4 | Electronic assembly operates as specified during and after being subjected to the transients, temperature, voltage, humidity, vibration, and shock tests described in National Electrical Manufacturers Association (NEMA) TS4, Section 2. |  | *Provide the following:** *A third party test report that demonstrates compliance with this requirement.*
* *A completed Testing Laboratory and Report Checklist.*
* *A completed NEMA TS4 2.2.3-2.2.6, 3.1.1 & 5.4 Checklist.*
 | Document Review |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 19) |       |       | Init.:       |
| 27 |  | All electronic equipment complies with Federal Communications Commission, Title 47 Subpart B Section 15. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 20) |       |       | Init.:       |
| 28 | 995-18.5 | Beacon has a manufacturer’s warranty covering defects for a minimum of 3 years from the date of final acceptance.  |  | *Provide product warranty documentation that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): SB001 (Step 21) |       |       | Init.:       |
| 29 |  | The manufacturer will furnish replacements for any part or equipment found to be defective during the warranty period at no cost to the Department or maintaining agency within 30 calendar days of notification. |  | *Provide a statement of conformance in this field.* | Compliance Matrix Review |
| TERL Test Cases (Steps): SB001 (Step 22) |       |       | Init.:       |

**Document History for:**

**Sign Beacon Compliance Matrix**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Rev | Description | Authored and Checked | Reviewed | Approved | Approval Date | Rev More Stringent? |
| 1.0 | Initial compliance matrix after development of A652 | D. Bremer | J. Morgan | J. Morgan | 01/24/2013 | N/A |
| 2.0 | Replaced FDOT logo with latest approved one and added CM ID # to header. | A. Burleson | J. Morgan | J. Morgan | 01/17/2014 | No |
| 3.0 | Updated to reflect consolidation of old A652 content into new sub-article in SSRBC Section 700 (scheduled for 7/14 implementation). Revised document approver title. | R. MeyerK. Moser | J. Morgan | J. Morgan | 02/25/2014 | No |
| 4.0 | Updated to match FA 7-27-15. | R. Meyer | J. Morgan | J. Morgan | 09/08/2015 | No |
| 5.0 | Updated to reflect the latest FA approval date of 8-15-18. Updated NEMA requirements. | R. Brooks | J. Morgan | J. Morgan | 12/13/2018 | Yes |
| 6.0 | Minor Revision to reflect current FA Date 8-6-20. | W. Geitz | C. RaimerM. DeWitt | D. Vollmer | 12/28/2020 | No |
| 7.0 | Update FA Date to 2-12-2021. No changes to the CM. | W. Geitz | C. RaimerM. DeWitt | D. Vollmer | 10/12/2021 | No |
| 8.0 | Added warranty information. Updated to latest FA date of 8-5-21. | A. Burleson | W. Geitz | M. DeWitt | 02/01/2021 | No |
| 9.0 | Moved spec to Section 995-18. Added new FA Date of 10-24-22. | W. Geitz | R. Washington M. DeWitt | D. Vollmer | 01/24/2023 | No |
| 10.0 | Updated to latest FA date of 10-6-23 for spec 995. | W. Geitz | R. Washington | D. Vollmer | 11/28/2023 | No |
| 11.0 | Updated to latest FA date of 8-7-24 for spec 995. | W. Geitz | D. Bremer | M. DeWitt | 04/15/2025 | No |
| 12.0 | Added test cases/steps and made corrections. | A. Cramer | P. BlaiklockW. Geitz | M. DeWitt | 08/12/2025 | No |