

CHECKLIST FOR REVIEWER

(Last Updated 08/27/12)

QPL Application for Category 2 Devices - Required Documentation Portable Temporary Sign Supports, Vertical Panels, Barricades (Types 1, 2, Pedestrian LCD, DI & 3), and Non-Trailer Mounted AFAD's

REQUIRED FOR ALL PRODUCTS:

1. QPL Application

- a. Completed, signed and notarized. Form can be found at:
<http://www.dot.state.fl.us/specificationsoffice/ProductEvaluation/QPL/ProductEvaluationApplication.doc>
- b. List Product, with the EXACT product name and model number, per application. Applications that do not clearly identify model/number or applications with multiple model numbers or products will NOT be processed. (See "Product Name" notes on PRODUCT EVALUATION APPLICATION)

2. FHWA Acceptance WZ # letter w/support documentation

- a. Note: Information on the procedure for requesting FHWA's acceptance of crashworthy Category 2 work zone temporary traffic control devices can be found at:
http://safety.fhwa.dot.gov/roadway_dept/road_hardware/1105memo.htm#procedure
 - i. Copy of FHWA Acceptance WZ # letter
 - ii. Copy of submitted test reports signed by accepted crash test laboratory
 - iii. Copy of the Test Data Summary Page(s)
 - iv. CD/DVD copy of the Crash Test Video, if submitted to FHWA.

DEVICES THAT REQUIRE VENDOR DRAWINGS:

3. Vendor Drawings: (when required, see appropriate device checklist below)

- a. For devices requiring field assembly and/or special site preparation, vendor drawings shall include all field assembly details and technical information necessary for proper application and installation. Vendor drawing must be submitted with the package and should be detailed enough to allow an engineer in the field to distinguish between this and other similar temporary traffic control devices. Vendor drawings will be posted on the QPL website once the device is approved.

Notice: This checklist is used by the reviewer as a tool to provide consistent review of applications and may not reflect all the criteria that are considered by the reviewer. Products must meet all current specifications and standards.

FDOT Checklist for Category 2 Devices

(Last Updated 09/18/08)

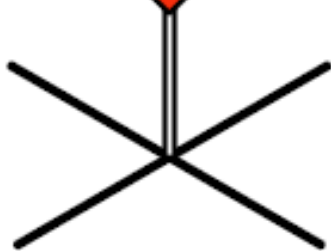
Portable Sign Supports Submittal Documents:

- FHWA WZ # approved letter with support documentation for EACH Model
 - Must be approved for Test Level 3
- Vendor Drawings are required for EACH Model:
 - Must include mounting details for **each size** sign, including height to bottom of the sign, hole spacing dimensions and hardware (nuts, bolts, washers, etc.) details if applicable. This can be shown in drawing or chart form.
 - Must include approved sign substrate material allowed by WZ # approved letter, this can be shown in a drawing or chart form.
 - Must include any requirements for proper assembly in field, such as lift stand to lock legs.
 - Manufactures name
 - Manufactures model number/description
 - FDOT QPL #
- Letter stating the sheeting used is in accordance with 994 and is on our QPL.
- QPL Website Common Notations AFTER 7/1/07:
 - Use in accordance with Vendor Drawing

*See attached "Sample" Vendor Drawing
for temporary sign supports*

**Place YOUR
Vendor
Drawing
Here**

(no photos please)



Temporary Sign Supports Required Information for QPL Submittals in Florida

NCHRP-553 identifies many factors influencing the crashworthiness of temporary sign supports.

Sign panel size, sign panel substrate material and sign panel mounting height can vary with each field installation. Because these variations can dramatically influence the crashworthiness of the device, we require vendor drawings to show approved criteria allowed for field set-up for each sign support model. Vendor drawings will be posted on the Departments web page.

Criteria allowed for field set-up shall be supported and documented by approved FHWA WZ letters.

ABC Company		
Model #	CA 54321	
Sign Size	60" X 60" or smaller Diamond or Square: 48" X 60" or smaller Rectangle	60" X 60" or smaller Diamond or Square: 48" X 60" or smaller Rectangle
Sign Substrate Material	Roll-up	*
Height to Bottom Sign Panel	84" or 60" for Diamond shaped signs, 87" or 63" for Square or Rectangle signs	72" for Diamond shaped signs, 60" for Square or Rectangle signs
WZ Letter(s)	WZ-XXX and WZ-XXX	WZ-XXX
Comments	With or without 48" X 30" or smaller supplementary panel using 10mm CP, or Roll-up with or without flags, light or ballast	With or without 48" X 30" or smaller supplementary panel using 10mm CP, or Roll-up with or without flags, light or ballast

* 3mm and 4mm ACS (aluminum composite substrate/ aluminum laminate); 0.080 to 0.100 Solid Aluminum; 10mm CP (Corrugated Plastic); Up to 6.35 Solid Plastic (ABS); Endurance; HDPE (Hollow core blow molded high density polyethylene) waffle pattern substrate.

Note: Criteria in **RED** is required information for the crash-tested model and each different size panel or each different sign substrate material allowed for each model.

**Place Your
FDOT QPL # and Manufacturer's Name and
Model # Here**

FDOT Checklist for Category 2 Devices

(Last Updated 05/07/09)

Vertical Panel:

- FHWA WZ # approved letter with support documentation
 - (Note: WZ-45, WZ-54 and WZ-85 can be used for Generic designs **IF**: Vendor certifies their barricades substantially conform to the generic design and the device is crashworthy; use Category 1 self certification guidelines for this letter)
 - Tested with light*
 - Letter stating the sheeting used is in accordance with 994 and is on our QPL.
 - Dimensions:
 - 36" Overall Height in Open Position
 - 1 (12" x 36") sheeting on panel
 - 12" max from ground to bottom of panel
 - QPL Website Common Notations:
 - Use in accordance with Vendor Drawing
 - Drawing for QPL Website must show at a min.:
 - Overall dimensions for height and width of device
 - Dimensions for size of panel
 - Material properties of panel (Plastic, composite, wood etc.)
 - Material properties of legs (size gauge, material – 1-1/2" 12 ga steel angle etc.)
 - Manufactures name
 - Manufactures model number/description
 - FDOT QPL #
-

FDOT Checklist for Category 2 Devices

(Last Updated 05/07/09)

Type 1 Barricade:

- FHWA WZ # approved letter with support documentation
 - (Note: WZ-45, WZ-54 and WZ-85 can be used for Generic designs **IF**: Vendor certifies their barricades substantially conform to the generic design and the device is crashworthy; use Category 1 self certification guidelines for this letter)
 - Tested with light
 - Letter stating the sheeting used is in accordance with 994 and is on our QPL.
 - Dimensions:
 - 36" Overall Height in Open Position
 - 1 (12" x 36") sheeting on panel
 - QPL Website Common Notations:
 - Use in accordance with Vendor Drawing
 - Drawing for QPL Website must show at a min.:
 - Overall dimensions for height and width of device
 - Dimensions for size of panel
 - Material properties of panel (Plastic, composite, wood etc.
 - Material properties of legs (size gauge, material – 1-1/2" 12 ga steel angle etc.)
 - Manufactures name
 - Manufactures model number/description
 - FDOT QPL #
-

FDOT Checklist for Category 2 Devices

(Last Updated 05/07/09)

Type 2 Barricade:

- FHWA WZ # approved letter with support documentation
 - (Note: WZ-45, WZ-54 and WZ-85 can be used for Generic designs **IF**: Vendor certifies their barricades substantially conform to the generic design and the device is crashworthy; use Category 1 self certification guidelines for this letter)
 - Tested with light
 - Letter stating the sheeting used is in accordance with 994 and is on our QPL.
 - Dimensions:
 - 36" Overall Height in Open Position – Allow 6" for hinges
 - 2 (8" x 24") sheeting on panels
 - QPL Website Common Notations:
 - Use in accordance with Vendor Drawing
 - Drawing for QPL Website must show at a min:
 - Overall dimensions for height and width of device
 - Dimensions for size of panel
 - Material properties of panel (Plastic, composite, wood etc.
 - Material properties of legs (size gauge, material – 1-1/2" 12 ga steel angle etc.)
 - Manufactures name
 - Manufactures model number/description
 - FDOT QPL #
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(Last Updated 08/27/12)

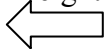
Pedestrian Longitudinal Channelizing Devices (LCD):

- FHWA WZ # approved letter with support documentation
 - (Note: WZ-45, WZ-54 and WZ-85 can be used for Generic designs **IF**: Vendor certifies their barricades substantially conform to the generic design and the device is crashworthy; use Category 1 self certification guidelines for this letter)
 - Tested with light
 - Letter stating the sheeting used is in accordance with 994 and is on our QPL.
 - Pedestrian Longitudinal Devices shall have continuous bottom and top surfaces or wall. connection points shall be smooth
 - The bottom of the bottom portion shall be no higher than 2 inches above the ground.
 - The top of the top portion shall be minimum of 32 inches above the ground.
 - The top edge of the bottom portion shall measure at least 8 inches above the walkway.
 - The top surface shall be smooth to optimize hand trailing.
 - The bottom and the top surface of the device shall be in the same vertical plane
 - A continuous wall maybe used meeting the above criteria.
 - Colors shall be Orange, White, or Yellow.
 - QPL Website Common Notations:
 - Pedestrian Longitudinal Devices
 - Drawing for QPL Website must show at a min:
 - Overall dimensions for height and width of device
 - Dimensions for size of panel or wall
 - Width of the back support
 - Material properties of panel (Plastic, composite, wood etc.
 - Material properties of legs (size gauge, material – 1-1/2” 12 ga steel angle etc.)
 - Manufactures name
 - Manufactures model number/description
 - FDOT QPL #
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FDOT Checklist for Category 2 Devices

(Last Updated 05/07/09)

Type DI Barricade:

- FHWA WZ # approved letter with support documentation
 - (Note: WZ-45, WZ-54 and WZ-85 can be used for Generic designs **IF**: Vendor certifies their barricades substantially conform to the generic design and the device is crashworthy; use Category 1 self certification guidelines for this letter)
 - Tested with light
 - Letter stating the sheeting used is in accordance with 994 and is on our QPL.
 - Dimensions:
 - 36" Overall Height in Open Position – Allow 6" for hinges
 - 1 (12" x 24" ) sheeting on panel
 - 1 (8" x 24") sheeting on panel
 - QPL Website Common Notations:
 - Use in accordance with Vendor Drawing
 - Drawing for QPL Website must show at a min:
 - Overall dimensions for height and width of device
 - Dimensions for size of panel
 - Material properties of panel (Plastic, composite, wood etc.
 - Material properties of legs (size gauge, material – 1-1/2" 12 ga steel angle etc.)
 - Manufactures name
 - Manufactures model number/description
 - FDOT QPL #
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FDOT Checklist for Category 2 Devices

(Last Updated 05/07/09)

Type 3 Barricade:

- FHWA WZ # approved letter with support documentation
 - (Note: WZ-45, WZ-54 and WZ-85 can be used for Generic designs **IF**: Vendor certifies their barricades substantially conform to the generic design and the device is crashworthy; use Category 1 self certification guidelines for this letter)
 - Tested with light
 - Letter stating the sheeting used is in accordance with 994 and is on our QPL.
 - Dimensions:
 - 5 foot min. to top rail
 - 3 (8" x 72") sheeting on panel
 - QPL Website Common Notations:
 - Use in accordance with Vendor Drawing
 - Drawing for QPL Website must show at a min:
 - Overall dimensions for height and width of device
 - Dimensions for size of panel
 - Material properties of panel (Plastic, composite, wood etc.
 - Material properties of legs (size gauge, material – 1-1/2" 12 ga steel angle etc.)
 - Manufactures name
 - Manufactures model number/description
 - FDOT QPL #
 - Note: Sign panel optional, if used it must be mounted in accordance with drawing.
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FDOT Checklist for Category 2 Devices

(Last Updated 09/18/08)

Temporary Lane Separator:

- FHWA WZ # approved letter with support documentation
- Dimensions:
 - Base 12” wide max
 - Base 4” height max
 - w/ Fixed Channelizing Device 28”-36” high:
 - Orange Tubular Marker, O/W Vertical Panel or O/B Opposing Traffic Sign
 - (O= Orange; W = White; B= Black)
- Letter stating the sheeting used is in accordance with 994 and is on our QPL.
- QPL Website Common Notations:
 - Work Zone Only
 - w/ Fixed Channelizing Device 28”-36” high listed below:
 - Orange Tubular Marker 2 ¼” min dia.
 - O/W Vertical Panel min 12 ,, wide panel
 - O/B Opposing Traffic Sign min 12 wide panel

Note: (O= Orange; W = White; B= Black)

2.0 QUESTION: Self Certification of Longitudinal Channellizers (NEW) - Can I self-certify road tubes that are affixed to modular curbs?

ANSWER - No. Road tubes may only be self-certified if they are affixed directly to the pavement. When they are mounted on top of a modular curb they are considered an entirely different system that must be shown to be crash worthy. Because these **longitudinal channellizers** have no pretext of being a barrier that can redirect an errant vehicle, the conventional barrier crash test matrix found in NCHRP Report 350 does not apply. We developed an impact test matrix (in the spirit of Report 350) with one manufacturer that addressed our concerns. Our first concern was that the curb could cause errant vehicles to be redirected or thrown out of control upon impact with the raised separator. Our second concern was that the individual sections of the modular system might be dislodged by an impacting vehicle and become airborne and potentially hazardous to other traffic.

Four tests were performed using an 820C vehicle to address these concerns.

Travel Test 1A-Vaulting while crossing

At an approach angle of approximately 15°, the car is driven, at 65 miles per hour (MPH), over the separator.

Travel Test 1B - Crossing a Vee in front of an Attenuator

The car is driven, at 65 MPH, across a 30-degree Vee of separators. (This is an optional demonstration to show the effect, if any, on the vehicle bumper height as it approaches an impact attenuator.

Travel Test 2 - Vaulting end-treatment

Approaching the end of the separator, at a zero degree angle and at 65 MPH, the left front tire is allowed to ride up onto and along the separator for a distance of 2 meters.

Travel Test 3 - Returning to the proper lane

100 feet of separators are installed in a straight line. The car approaches, at 65 MPH, along the right side of the separator. The angle of approach is approximately 2°.

FDOT Checklist for Category 2 Devices

(Last Updated 09/18/08)

Automated Flagger Assistance Device (Not on Trailer):

- FHWA WZ # approved letter with support documentation

Red/Yellow Lens Automated Flagger Assistance Devices:

- Alternately displays a steadily illuminated circular red lens and a flashing circular yellow lens
- Lenses that are 12 inch in diameter and tinted.
- Signal housings are black and listed on the APL.
- LED modules are from an APL qualified manufacturer.
- Ensure that the AFAD does not have a pre-timed option mode.
- circular red on top and circular yellow below,
- Bottom of the housing (including brackets) is at least 7 feet above the pavement.
- Includes a gate arm that descends to a down position across the approach lane of traffic when the steady circular red lens is illuminated and then ascends to an upright position when the flashing circular yellow lens is illuminated.
- Gate arm is covered with alternating red and white retroreflective stripes at 6 in intervals measured horizontally.
- flag at the end of the gate arm
- The minimum vertical aspect of the arm and sheeting is 2 in.
- The stripes slope downward at an angle of 45 degrees from the upper right to the lower left on the side of the arm facing stopped traffic, and slope downward from the upper left to the lower right on the side of the arm facing moving traffic in the oncoming direction.
- The end of the arm reaches at least to the center of the lane being controlled.
- Install the Stop Here on Red (R10-6 or R10-6a) sign (May be provider by Contractor)
- Incorporate safeguards to prevent the flagger(s) from actuating a simultaneous display of a flashing circular yellow lens at each end of the temporary traffic control zone.
- Provide a change interval as the transition between the display of the flashing circular yellow indication and the display of the steady circular red indication. During the change interval, the circular yellow lens shall be steadily illuminated.
- Ensure that the gate arm remains in the upright position during the display of the steadily illuminated circular yellow change interval.
- Do not provide a change interval between the display of the steady circular red indication and the display of the flashing circular yellow indication.
- Ensure that the steadily illuminated circular yellow change interval has duration of at least 5 seconds.

OPTIONAL

- Intrusion Alarm using road tubes and horn to notify workers when a car penetrates the work area.
- Distance between communicating AFADS

FDOT Checklist for Category II Devices

(Last Updated 5-19-14)

Vehicular Longitudinal Channelizing Devices (LCD):

- FHWA crash certification letter or FHWA WZ # approved letter with support documentation
 - Certified with any attached lights
 - Device segments are interconnected
 - Indicator for internal ballast
 - Maximum 36" height
 - Devices less than 32" in height shall be supplemented with approved fixed (surface mounted) channelizing devices (tubular markers, vertical panels, etc.) in accordance with spacing on Index 600
 - Device shall be available in two colors: Orange and White

 - QPL Website Common Notations:
 - Vehicular Longitudinal Channelizing Devices
 - The contractor shall submit a plan and/or analysis of clear sight distance, signed and sealed by Florida professional engineer for devices greater than 32 inches .
 - Drawing for QPL Website must show at a minimum:
 - Dimensions for size of panel or wall
 - Manufacturer's name
 - Manufacturer's model number/description
 - FDOT QPL #
-