

**Delaware Department of Transportation
Division of Transportation Solutions
Design Guidance Memorandum**

Memorandum Number 1-22

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|-----------------------|----------------------------|----------------------------------|
| 1. Road Design Manual | 2. Bridge Design Manual | 3. Utilities Design Manual |
| 4. Real Estate Manual | 5. Standard Specifications | 6. Standard Construction Details |

Title: Triangular Channelizing Islands Effective date: : August 1, 2009

Sections to Implement:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Project Development | <input checked="" type="checkbox"/> Planning | <input checked="" type="checkbox"/> DTC |
| <input checked="" type="checkbox"/> Bridge | <input checked="" type="checkbox"/> Quality | <input checked="" type="checkbox"/> Traffic |
| <input checked="" type="checkbox"/> Team Support | <input checked="" type="checkbox"/> Maintenance & | <input type="checkbox"/> Other _____ |
| <input checked="" type="checkbox"/> Utilities | Operations | |

I. Purpose

To give guidance on the configuration of triangular channelizing islands in relation to the traveled way and shoulder.

II. Design Guidance

Triangular channelizing islands are used for roadways, subdivision street entrances or commercial driveway entrances. These islands serve three primary functions:

1. Channelization to control and direct traffic movement
2. Dividing opposing or same direction traffic streams
3. Pedestrian refuge

Typically, the island is offset from the traveled way the full width of the shoulder or turn lane. This offset may be reduced to only five feet to accommodate bicycles (as shown in Figure 1) under the following conditions:

- Urban, suburban and developing areas where, due to queue lengths and congestion, there is a need to discourage traffic from using the shoulder to pass on the right.
- Commercial driveway entrances or streets leading up to an urban, suburban or developing intersection to prevent illegal shoulder traffic prior to the deceleration lane. Here, the island also offers protection to the vehicle entering the highway and prevents a car crossing the highway entering the business or side street from being involved in an angle crash.
- Crosswalks where pedestrian refuge and shortening the length of the crossing is needed, particularly where there is signalization.

As stated in the AASHTO *Green Book*, “islands used for channelization should not interfere with or obstruct bicycle lanes at intersections.” The offset for bicycles may be reduced to 4 ft. [1.2 m] at locations of high pedestrian use to minimize crossing time.

No matter what the island configuration:

- Positive drainage must be provided for the safety of vehicles and pedestrians.

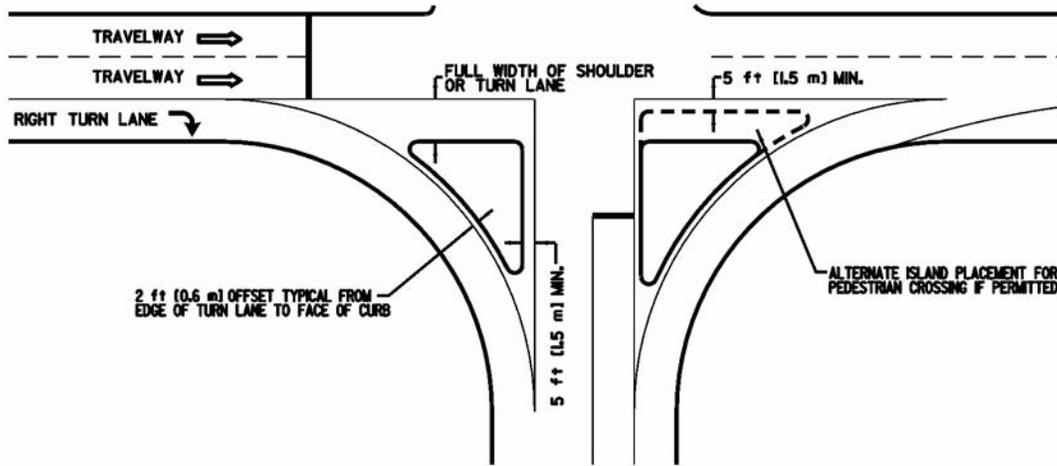


Figure 1 – Pork Chop Island Offset

- The corners of the island shall be flush with the pavement as per the *Standard Specifications* for snow plowing operations.
- The corners of islands not offset the full width of the shoulder adjacent to the roadway shall be delineated with flexible delineators as per the *Standard Specifications*.

See chapter 7 of the *Road Design Manual* for additional information.

III. Justification

To reduce the likelihood of accidents, and damage during maintenance by snowplows from the configuration of pork chop islands while maintaining pedestrian and bicycle use.

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6/22/09
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