



Standard Drawing Report

Date: December 1, 2017

Technical Owner: Traffic – Lewis H. Wardrip, P.E.

Standard Drawing No. P-406 **Calculation Book No.** n/a

Drawing Title: Breakaway Dome Traffic Sign Supports



Expires 06/30/18

Background Information, Including Reference Material:

In 2003 the Portland Transportation Maintenance Operations group began test installations of the breakaway dome traffic sign support in areas where signs are at highest risk for knock-downs (i.e. islands, curb extensions, and roadways without curbs). The breakaway dome traffic sign support allows damaged/knocked down signs to be repaired in minutes because the break out feature breaks cleanly when impacted without damage to the dome surface base.

In 2006 the City began using breakaway dome traffic sign supports as a standard sign installation method for capital improvement projects.

Assumption Made:

PBOT Maintenance Operations determined in 2008, based on wind loading, that the breakaway sign coupler can support approximately 12 square feet of sign area (on the same plane), with the centroid of the sign assembly located at a height of 8 feet above the ground. More than one post and breakaway support should be used if sign area exceeds 12 square feet, or a different type of sign post/support should be considered.

Design Narrative:

P-406 is based on the "Break-Out" product line by Sign Support Systems. The breakaway dome traffic sign support has received an acceptance letter from FHWA finding the system acceptable for use as a Test Level 3 device per NCHRP Report 350 for use on the National Highway System.

The breakaway dome sign supports are used for sign installations on concrete. For sign installations in soil see P-405.