



# Standard Drawing Report

**Date:** November 8, 2017

**Technical Owner:** Civil - Brett I. Kesterson, P.E.

**Standard Drawing No.** P-441      **Calculation Book No.** 441

**Drawing Title:** 22' Asphalt Arterial Speed Bump



Expires 06/30/2019

## Background Information, Including Reference Material:

January 1998 report by Kathy Mulder, P.E., City of Portland, for Traffic Calming Program

March 2004 presentation at ITE Technical Conference in Irvine California by Scott Batson, P.E., City of Portland

## Assumption Made:

The 22' speed bump with 10' table is design to reduce traffic speeds on city streets and assumes that transit vehicles use the street and the street is a primary emergency response route.

## Design Narrative:

In 1991 the City of Portland embarked on a program to reduce vehicles speeds on certain streets due to vehicle diversion from congested streets. The 22" bump was developed for traffic on busy streets. Various shapes and lengths were paved on streets. Vehicles were then observed traveling over the bumps. The 22' long bump that is 3 inches high in the middle 10' produced an 85<sup>th</sup> percentile speed for passenger cars and light vans of between 29 and 34 mph. Collector and arterial streets typically have posted speed limits of 30-35 mph unless otherwise indicated. The City of Portland Fire Bureau tested the 22' bump and said the maximum comfortable speed for their vehicles over the bump was 25 mph. The 12-18-inch space between the bump and curb is designed so that bicycles can travel along the street without going over the bump.

While this report deals with the bump itself, it is critical that the engineer takes care in the placement of the bumps along the roadway. The reports in the calculation book goes into detail about issues to consider when placing more than one bump near each other.