



September 24, 2018

To whom it may concern:

This letter is to certify that the subject barrier, the Shallow Mount Bollard, Single Stand-Alone (model SMB-1200-SA) provided by Barrier1 Systems, Inc., was tested to the requirements of the ASTM standard F-2656-07, Standard Test Method for Vehicle Crash Testing of Perimeter Barriers, in place when the test was performed.

The test was performed at Calspan Corporation on September 22, 2018. The Single Shallow Mount Bollard was impacted by a truck weighing 6872 kg (15,150 lbs.) travelling at 78.20kph (48.60 mph). Post-test measurements of the dynamic movement of the test vehicle's payload (truck bed) show that the left and right leading edge of the truck bed was stopped at 772mm and 841mm respectively before the trailing edge of the impacted bollard. There was effectively "0" penetration of the vehicle payload. As such, based on the truck mass, impact velocity and penetration into the protected zone, the barrier rating per the ASTM standard F-2656-07 is M50-P1.

Calspan is accredited to ISO 17025 to perform ASTM F2656-07 testing by Perry Johnson Laboratories Accreditation, Inc. (PJLA) under Certificate Number L13-137 and Accreditation Number 76654.

Respectfully,

A handwritten signature in blue ink that reads "Edward Dutton". The signature is fluid and cursive.

Edward Dutton
Test Director

Safer Highways... Safer Skies