Submittal Description

Addendum No. 1

Project Name: Speed Cushion Installation	**Project No.:**	**ITB#24-25-08**
Prepared By: Stacey Pigford	**Date:**	09-03-2024

General Questions, Clarifications & Requirements:

Acknowledgement of all addenda received must be noted on the bid submittal form. Any and all addenda shall Become part of the specifications and the bid package for this project. Refer to the addendum for more information.

Attachments:

TL Modular Calming Installation

Traffic Control and Spec Sheet

End of Addendum No. 1

Installing Modular Traffic Calming Systems - Speed Cushions, Speed Humps, or Speed Tables

AS DETAILED IN THE LIMITED WARRANTY PROVIDED IN CONNECTION WITH YOUR PURCHASE OF THIS PRODUCT, THE TRAFFIC LOGIX LIMITED WARRANTY ONLY APPLIES TO TRAFFIC CALMING PRODUCTS THAT ARE CORRECTLY INSTALLED AND MAINTAINED.

FOR ADDITIONAL DETAILS ON SAFE USAGE OF TRAFFIC CALMING PRODUCTS, PLEASE REFER TO THE CONDITIONAL TERMS OF USE PROVIDED TO YOU.

TRAFFICLOGIX™
Rubber Products Group
A Division of Logix ITS

Precautions

WARNING: RISK OF INJURY From a safety point of view, steel-toed boots, safety gloves, and standard safety precautions are required.

WARNING: RISK OF ROAD HAZARD AND INJURY Quarterly inspections must be made of each traffic calming device; if the Product has been damaged in any way, it must be replaced.

CAUTION: Traffic Calming Products must be installed in such a way that they are visible from at least 200 feet (60 m). For safe usage, Traffic Logix products must be installed with appropriate signage in accordance with the ITE *State of the Practice on Traffic Calming* guide and the *Manual on Uniform Traffic Control Devices* (MUTCD), or in Canada in accordance with the standards put in place by the Transport Association of Canada (TAC), Canadian Institute of Transportation Engineers (CITE), and the Quebec Ministère des Transports (MTQ).

Additional precautions:

- Make sure that the units are tight and well aligned before moving from one step to another.
- Make sure the holes are clear of dust and debris before installing the anchors.
- Make sure to install the appropriate Rubber Traffic Calming Device for the speed limit of the roadway. Refer to the Traffic Logix Rubber Overview Web page and Traffic Logix Sales for details.
- Traffic Calming Products must be removed in the fall prior to the arrival of snow and reinstalled in the spring after the last snow storm.

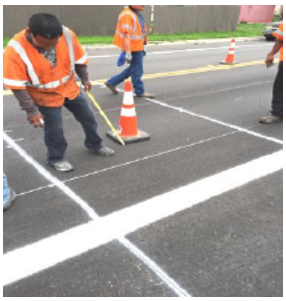
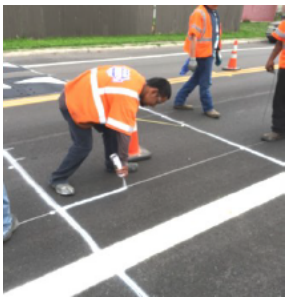
IMPORTANT: Before you begin, refer to the *Rubber Conditional Use Warranty* document for additional safety guidelines and installation standards.

Supplied hardware	Tools and hardware you'll need
Lag bolts, washers and nylon anchors	Chalk, plumb line, street broom, measuring tape, utility knife or hack saw (used for trimming the rubber as needed), crow bars, gooseneck wrecking bars, 3-lb (1.4 kg) hammer, 10-lb (4.5 kg) sledge hammer (for final adjustment)
Traffic Logix anchor adhesive	High-speed heavy duty impact or hammer drills (preferably spline drills)
Traffic Logix anchor T-bar tool	Drill bits: carbide tip, 9/16-in. (14 mm) dia., x 12-in. (30 cm) or 18-in. (46 cm) L
Available for purchase from Traffic Logix:	11/16-in. (17 mm) drive socket with a 12-in. (30 cm) extension
• Carbide drill bit 9/16" x 18" (14 mm x 46 cm): $65.00 each	Air compressor to maintain 120 PSI (8.3 Bar, used to blow out debris after the holes are drilled)
• Adhesive tubes (12-18 holes): $15.00 per tube	Heavy duty generator and extension cords
• Adhesive dispenser gun: $65.00 each	General purpose hammer - Hand held sledge hammer

Installing the traffic calming modules

CAUTION: **Moisture must not be present in or around the product during installation for the anchor adhesive to be effective.**

1. Clean the surrounding installation area with the street broom. Free area from pebbles and all debris.
2. Using the chalk, mark a line parallel to the curb and one that is perpendicular to the road. Use these lines to square up your Traffic Calming Product. Leave the chalk lines in view, allowing the module edges to touch the lines.


3. Identify and separate the pieces that run parallel to the curb for both sides of the Traffic Calming Product.



4. Assemble and position the first row of outside units. Make sure that all of the tongues are facing out towards the center of the Traffic Calming Product. Use the tongue and groove system to ensure the units interlock snugly, as shown. Use a hammer if necessary to align the modules.

Snugness of the modules is critical at all times as is utilizing the chalk line as a guide for straightness.

Important The first row of modules must be secured with bolts and anchors before proceeding to the next row.

NOTE: **If you are installing an odd number of speed cushions based upon roadway width, start with the center cushion and work outward toward the roadway edge. Once installed, then remeasure the cushion gap spacing for the adjacent cushions. Mark the locations with chalk or painted lines as in STEP 2.**

If you are installing speed humps or tables, start with the roadway pavement edge and proceed to install from the outer road edge toward the center line. Then from that center line to the outer road edge opening completed lane for traffic to proceed.

Each module has the part number on the surface module edge.

5. **Pre-mark the drill bit to 8-in. (20 cm) deep, with tape or paint.** Standing on the first corner module, use the hammer drill and a 9/16-in. (14 mm) diameter x 12-in. or 18-in. (30 cm or 46 cm) or longer drill bit to drill through the existing module holes of the first row. To install standard 7-in. (18 cm) anchors, drill 8- to 9-in. (20 to 23 cm) deep into the asphalt. To install 4-in. (10 cm) anchors, drill 5- to 6-in. (13 to 15 cm) deep. Four-inch (10 cm) anchors are best for use in concrete surfaces or in snowbelt areas.

   Standing on the module being drilled greatly reduces module movement while drilling as well as when removing drill bit. Once all 6 holes are drilled, move on and repeat.

6. **IMPORTANT**. Using a high performance air compressor, make sure all the holes are clear of all dust and debris before installing the anchors. Remeasure the depth of the holes. You can use a bolt as a depth gauge. The compressor must be able to maintain 90 PSI (6.2 Bar).
7. Once the above is done, wearing protective glasses, insert 2-3 squirts of adhesive into each hole. Then, using the T-bar anchor tool and hand-held sledge hammer, insert the plastic anchors into each hole until flush. Then, quickly insert a bolt and washer assembly and install them using the high speed drill and an 11/16-in. (6 mm) socket. Ensure that the bolts are snug, but do not over-tighten them. The bolt head should always sit below the rubber surface. If the high speed socket keeps spinning, take a hammer and hit the bolt head until it moves below the surface of the rubber. Using the hammer will not damage the bolt or anchor.

   NOTE: **There may be times when the anchor or bolt will not go deep enough into the drilled hole. Should this occur, remove the combo and re-clean for debris. Remeasure for depth using a bolt. If needed, re-drill as either the hole was not deep enough or the adhesive hardened.**

   Do not over-drill depth as this would require additional adhesive mixture. Reaming the drilled hole is not advisable, but may be needed to assist in easing any resistance with anchor insertion.

   NOTE: **APPLY THE ADHESIVE IN ALL SIX HOLES OF THE PERIMETER MODULES ONLY. Interior modules DO NOT require adhesive, as they will be held in place not only by the tongue and groove system, but also by the perimeter modules, which include adhesive.**

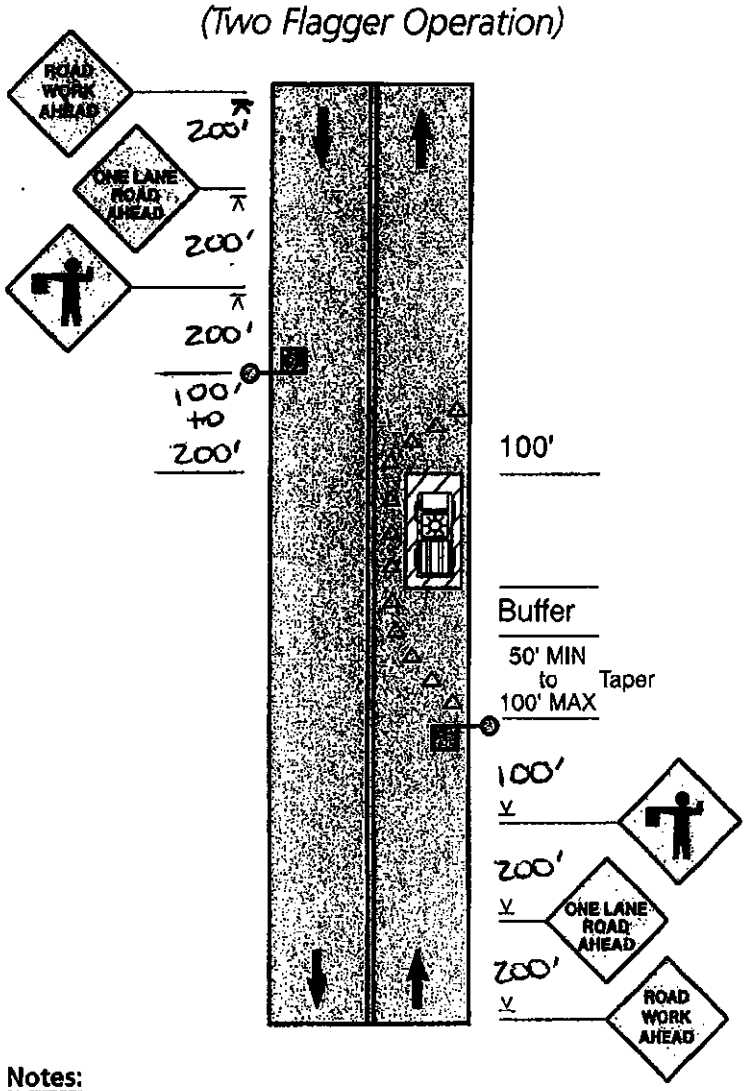
   For example, for any product that is 7-ft. (2.1 m) long, no matter the width, all six holes in every module would require adhesive. For speed cushions, speed humps, and speed tables of 10.5 ft., 14 ft., 17.5 ft., 21 ft., 24 ft. (3.2 m, 4.3 m, 5.3 m, 6.5 m, 7.3 m) or longer, no matter the width, only the perimeter module holes require adhesive.

   Each speed cushion, speed hump, and speed table includes the appropriate amount of anchor adhesive in addition to lag bolts, washers, and anchor installation hardware.

8. Once you have bolted the first row to the ground, you can begin assembling the next row of modules. Using a 10-lb (4.5 kg) sledge hammer, knock the row snug to the first row. Continue to assemble and connect the additional rows, while at the same time drilling out the holes for the rows that have been completed. Continue installing the rows until half the width of the street is completed. Then, proceed to the other half. This sequence allows traffic to flow through half the street at any given time. If you're installing speed cushions, complete the entire product before moving on to next.

Lane Closure on a Two-Lane Road

(Two Flagger Operation)



Notes:

1. For low-speed (35 MPH or less) conditions, a 200-foot sign spacing may be used. For speeds of 40 to 50 MPH a 350-foot sign spacing may be used.
2. For operations of 60 minutes or less, the "Road Work Ahead" sign may be omitted.
3. Generally, the use of "End Road Work" signs is optional for short duration work sites. However, if the work site, itself, is long, or the beginning and end of the work site are not visible to a driver passing through it, then "End Road Work" signs should be used.

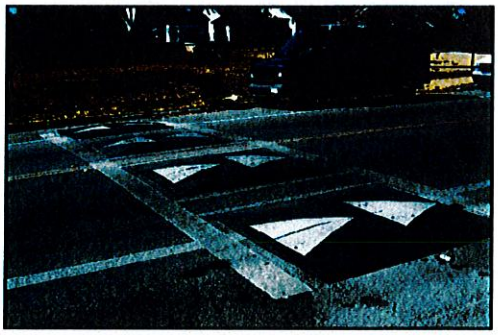
Speed Cushions

V3 Series Style

All modules have patented interlocking tongue and grooves. Assists with installed cushion impact stability. Reduces installation time.

All cushions include installation hardware and anchor adhesive.

V3 Speed Cushion



SPECIFICATIONS

Dimensions of the tongue and groove modules:
Width: 18" (+/- 1/16")
Length: 42" (+/- 1/8")
Thickness: 3" (+/- 1/8")

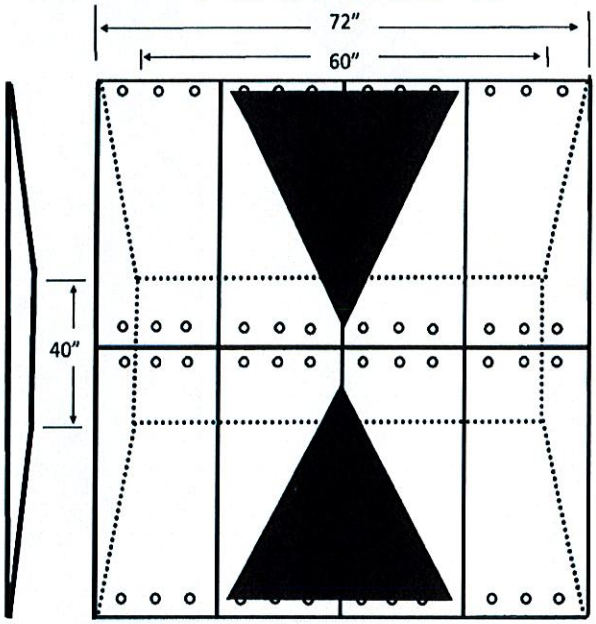
Dimensions of the Cushions are changeable by
Width: 18" increments

Standard Dimensions of Speed Cushions
7' L x 6' W x 3" H • 8 modules
Entrance and exit gradient: 1:15 (7%) Lip: .25"
Side gradient: 1:3 (35%) Lip: .25"

Physical properties:
Material: Compression molded 100% recycled synthetic and natural rubber composite
Tensile strength: minimum 500 psi
Shore hardness: minimum 70A
Specific gravity: 1.1
Deformation Rate: None; 100% recovery
Skid Resistance: 89 (Dry)

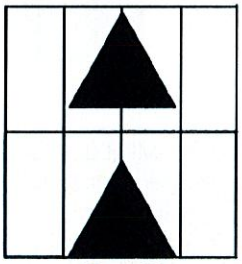
Markings: V3 Series
Rubber modules are available in all black, black with large white reflective arrows. Markings are embedded into rubber during manufacturing.

6' W x 7' L x 3" H



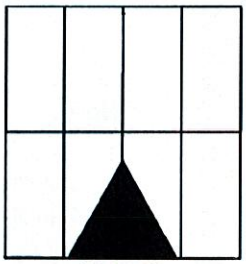
SCV3-070603-TA (Type A)

SCV3-070603-TB



(Type B)

SCV3-070603-TC



(Type C)

Not Shown: SCV3-070603-TD (Type D) - No Arrows; All Black

SC-V3 - 040816-R1