New Jersey Turnpike Authority

P.O. Box 5042, Woodbridge, NJ 07095

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Document Change Announcement

2016 Standard Supplementary Specifications

Cone Truck

DCA2023SS-07

Subject: Revisions to

Section 801 Traffic Control on Authority Roadways, Subsection 801.02 Materials
Section 801 Traffic Control on Authority Roadways, Subsection 801.03 Methods of Construction
Section 920 Traffic Control Devices, Subsection 920.18 Truck Mounted Attenuator
Section 920 Traffic Control Devices, Subsection 920.21 Cone Truck

Description of Change:

This DCA updates standards for use of cone trucks during lane, shoulder, and ramp closing operations to better align Authority requirements with current industry practice.

Notice to New Jersey Turnpike Authority Staff and Design Consultants

Effective immediately, all contracts currently in the design phase shall incorporate the revisions herein. For advertised contracts awaiting the opening of bids this revision shall be incorporated via addendum. Contact your New Jersey Turnpike Authority Project Manager for instruction.

The revisions may be accessed on the Authority's webpage: https://www.njta.com/doing-business/professional-services

Recommended By:

Lamis T. Malak, P.E.
Deputy Chief Engineer - Design

Daniel L. Hesslein, P.E.
Deputy Chief Engineer - Construction

Approved By:

Michael Garofalo, P.E.
Chief Engineer

Distribution: Senior Staff Engineering, Law, Maintenance and Operations Depts., UTCA, AGC, All Prequalified Consultant Firms, File

NOTE: The following tracked changes indicate REVISIONS to the latest version of the 2016 Standard Supplementary Specifications.

SECTION 801 – TRAFFIC CONTROL ON AUTHORITY ROADWAYS

801.02 Materials

Delete the following:

IMPACT ATTENUATOR (QUADGUARD).....524

Add the following:

CONCRETE MOUNTED DELINEATORS .....923.18(A)

RE-DIRECTIVE IMPACT ATTENUATOR.....920.20

CONE TRUCK.....920.21

801.03 Methods of Construction

(B) Closings, Slowdowns, and Escorts

Delete the ninth paragraph and replace it with the following:

The traffic protection devices for closing of a lane, shoulder, or ramp shall always be set up progressively in the direction of traffic from the Cone Truck and TMA traveling in the lane or shoulder being closed. The protection devices shall always be removed in the reverse order by the truck backing up on the closed lane, shoulder, or ramp. Proper flashing amber lights shall be installed on all construction vehicles in accordance with Subsection 920.13. Closing or opening operations along lane, shoulder, or ramps require at least a six (6) person team consisting of a TMA and Cone Truck with a four (4) person crew, and additional construction vehicles and workers as required for installing signs and arrow boards. The Engineer will coordinate the procedures for closing or opening a lane, shoulder, or ramp.

(C) Traffic Control Devices

(6) Truck with Mounted Attenuator (TMA)

Delete this Subparagraph in its entirety and replace it with the following:

This item shall also include placing, moving, and removing the TMA unit as necessary when the Contractor is working within a closed shoulder or lane. The TMA shall be removed from the closed shoulder or lane when no work is in progress or they shall be stored behind precast concrete construction barrier.

The Contractor shall provide a TMA as a barrier vehicle in the closed lane or closed shoulder preceding each work location where personnel are engaged in construction activities and no concrete barrier is called for.

The appropriate number of TMAs, as shown on the Plans, are to be provided for work on this Contract. The TMAs shall remain the Contractor's property upon Contract completion. If the Contractor elects to work at more than one location requiring a TMA, he shall furnish additional TMAs at no additional cost to the Authority.

The TMA layout (positioning) shall conform to the requirements set forth in the section on Truck Mounted Attenuators in the most recent Edition of the AASHTO Roadside Design Guide.

Any units or parts of the truck mounted attenuator which are damaged or become inoperable during construction shall be repaired or replaced. A complete replacement module and the required components for restoration shall be available at all times on the project without additional compensation.

The vehicle lights shall run continuously whenever the truck is performing closing and opening operations.

In the event that the TMA is hit during the process of the work and the crash cushions become damaged or inoperable, the Contractor shall have a replacement cartridge on the site at all times and shall immediately repair the truck mounted crash cushions. The replacement cartridge shall be compatible with the original unit so that the repair can be accomplished in a minimal amount of time.

The Contractor shall have a truck mounted attenuator with a driver available at the request of the Engineer for the purpose of inspection, condition assessment, layout of "If and Where Directed" work, "Change Order", and/or "Emergency Work" and for the Final Inspection. It is anticipated that the truck mounted attenuator with the driver will be needed a minimum of four (4) hours and no more than eight (8) hours per request with a twelve (12) hour advance notice by the Engineer. Payment for costs associated with this work shall be in accordance with "Furnishing Truck Mounted Attenuator for Engineer's Use", or shall be included in the unit costs of the various pay items within Division 800.

(7) Cone Trucks

Delete this Subparagraph in its entirety and replace it with the following:

All lane, shoulder, and ramp closing operations shall be performed with a minimum of three (3) vehicles consisting of a cone truck, a truck with mounted attenuator (TMA) in accordance with 801.03(C)(6), and auxiliary vehicle(s) for sign(s) and arrow board(s).

The cone truck shall be equipped with vehicle lights per Subsection 920.13. The vehicle lights shall run continuously whenever the cone truck is performing closing or opening operations.

The cone truck when actively installing or removing taper shall only be responsible for cones and shall not stop for signs or arrow boards. The installation or removal of signs or arrow boards located within a taper shall require an additional vehicle. The TMA shall not be used to store signs or other devices.

The crew of the cone truck includes three workers on the back of the cone truck, and the driver for a minimum four (4) person crew. One of the workers on the back of the cone truck is the traffic observer. The second worker on the back of the cone truck retrieves and delivers the devices to and from the worker basket and the third worker on the back of the cone truck deploys or retrieves the devices from the roadway.

The traffic observer shall be positioned on the cone truck in a location that allows unobstructed view and in the immediate vicinity of an emergency air horn, whistle, intercom or other audible device in case of an emergency. The sole responsibility of the traffic observer shall be to observe traffic and the crew, and this person shall activate the emergency audible device as a warning to indicate a threat to the crew or operation.

The use of the cone truck, and traffic observer during closing and opening operations is mandatory and no exception shall be made. At all times the cone truck shall operate in conjunction with a TMA and sufficient additional construction vehicles to ensure the closing and opening operation are performed in a continuous manner without stopping of the TMA or cone truck.

Under no circumstance shall a cone truck remain in a closed lane, shoulder, or ramp during non-working hours or a period of inactivity.

920.18 Truck Mounted Attenuator

Delete the Subsection and replace it with the following:

The truck mounted attenuator (TMA) shall be a MASH compliant system from the QPL. All materials shall be as specified by the device manufacturer in compliance with the MASH conforming configuration.

The truck shall be in excellent operating condition and have a minimum gross weight in accordance with the TMA manufacturer's recommendation. The truck shall be equipped with vehicle lights in accordance with Subsection 920.13 and the appropriate generator to power the truck and attenuator lights. The truck lights shall be mounted so that they are visible when the attenuator is in a raised position. The truck shall be equipped with a rear-mounted attenuator, including a crushable energy absorption module, cartridge support cables, lightweight steel backup plate, corner jacks, hydraulic tilting system and the hardware necessary for attachment.

The truck mounted attenuator shall conform to MASH Test Level 3 (TL-3). MASH compliance shall include a FHWA Federal Aid eligibility letter, if issued by the FHWA, and documentation of MASH compliance including crash test videos, crash test results and/or analysis. Setup and materials shall conform to the manufacturer's detailed drawings and instructions used to determine MASH compliance.

The attenuator shall have a minimum of 72 square inches of high intensity orange retroreflective sheeting toward the extremities on each side of the equipment. A minimum of 144 square inches of the sheeting shall be visible from each direction. The rear facing of the attenuator shall have ~~4 inch wide~~4-inch-wide black stripes on high intensity retroreflective yellow sheeting in an inverted chevron pattern. All retroreflective sheeting shall meet the requirements of ASTM D-4956, Type III. The attenuator shall have a standard trailer lighting system, including brake lights, taillights, turn signals and ICC bar lights. The truck mounted attenuator shall be attached to the truck in accordance with the manufacturer's instructions, including hydraulic tilting system and backup structures.

Components from multiple attenuator systems shall not be intermixed.

The following Subsection is added:

920.21 Cone Truck.

The cone truck shall be in excellent operating condition and be a FHWA rated Class 5 (or greater) vehicle (minimum vehicle weight of 17,600 lbs.) from the QPL or approved equal.

(A) Truck Requirements.

The truck shall be equipped with:

1. A minimum eight (8) foot wide by minimum sixteen (16) foot long steel or aluminum bed for the storage of cones, signs and other traffic control devices as warranted. The perimeter of the bed shall be defined by stakes with a top rail that is a minimum of 32 inches above the bed.
2. Spotlighting that to the extent practicable, the spotlighting illuminance shall be contained to the steel or aluminum body so that this lighting is not exposed or directed to traffic.
3. A rear-mounted basket for workers that allows for the deployment of traffic control devices to both the left- and right-side of the cone truck. The rear mounted worker basket shall not interfere with or obstruct the vehicle brake lights, taillights, or turning lights.
4. A communication system that facilitates direct communication between the workers, observer, and driver.
5. Storage and restraint systems for 48-inch by 48-inch signs and portable sign stands.
6. Conspicuity retroreflective sheeting or tape that is in a red and white alternating pattern. The conspicuity treatment system shall be positioned as horizontally as practicable, beginning, and ending as close to the front and rear of the cone truck as practicable and observable by approaching traffic. The conspicuity treatment system is not required to be continuous. However, the sum of the length of all visible segments must be at least half of the length of the overall steel or aluminum body and, if applicable, any spaces between the segments of the retroreflective sheeting or tape must be distributed as evenly as practicable.

(B) Worker Basket Requirements.

The worker basket shall allow for the deployment of traffic control devices to both the left- and right-side of the cone truck. The worker basket shall include:

1. A rail system that is a minimum height of 32 inches (from floor of the basket) and the rail shall be capable of withstanding, without failure, a force of at least 200 pounds applied in any downward or outward direction.
2. Non-slip flooring or other system of traction control for standing workers.
3. Conspicuity treatment system of retroreflective sheeting or tape. The conspicuity treatment system is not required to be continuous. However, if applicable, any spaces between the segments of the retroreflective sheeting or tape must be distributed as evenly as practicable.

The conspicuity treatment system for the framing of the worker basket viewed by oncoming traffic is in addition to alternating red and white conspicuity markings that are required to the rear or lower rear of the vehicle in accordance with conspicuity requirements for commercial motor vehicles established by the Federal Motor Carrier Safety Administration.