AFAD’s and Rumble Strips

Chuck Bergmann - MDOT

Traffic Regulator Killed!

MI – A road crew worker was hit and killed by a driver in a work zone Friday morning.
The Van Buren County Road Commission crew member, 58-year-old Rene Rangel of Dowagiac, was killed by a driver March 3 while working on County Road 681 near 48th Avenue in Lawrence Township, Michigan State Police said.

While the Hartford man was attempting to pass the Chevrolet, he hit and killed the road worker, who was holding a traffic control sign.

Traffic Regulator Killed!

- **Police say 47-year-old Shawn Kelley of Hubbard Lake was a flag operator in a construction zone on U.S. 23 south of Oscoda when he was killed as a semi-truck rammed into stopped vehicles.**

AFADs
Automated Flagger Assistance Devices

AFADs

- Specification is posted online – optional use
- Typicals
  - 115 and 116
  - Two options
  - Removal of traffic regulator sign

AFADs

R10-6b

✳ FOR USE WITH A RED/YELLOW LENS AFAD, ELIMINATE SIGN IF A RED/YELLOW LENS AFAD WITH A R10-6 SIGN MOUNTED TO THE DEVICE IS PROVIDED

R1-7

△ FOR USE WITH A STOP/SLOW AFAD


PILOT CAR
FOLLOW ME

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
AUTOMATED FLAGGER ASSISTANCE DEVICE

a. Description. This work consists of furnishing, installing, operating, maintaining, relocating, and the removal of Automated Flagger Assistance Devices (AFAD) that allows the operator to fully control the device from a safe location, outside of the lane of traffic. Use automated flagger assistance devices to control traffic in one-lane, two-way work zones. Relocate the system as required by the location of work. This system will be used to control traffic during active work only when personnel are on-site.

The Contractor is responsible for coordinating with any work in adjacent work zone projects.

b. Materials. Ensure all hardware components of this system are crashworthy in accordance with the *NCHRP 350* or *MASH*, in addition to the following requirements:

1. Provide a qualified traffic regulator as described in subsection 812.03.G.8 of the Standard Specifications for Construction with the material listed in subsections 922.11.B, 922.11.C, and 922.11.D of the Standard Specifications for Construction and an AFAD system composed of one of the following two options and as noted below:

   A. Furnish an AFAD device meeting the requirements of *MMUTCD Section 6E.05 STOP/SLOW Automated Flagger Assistance Devices*.

   B. Furnish an AFAD device meeting the requirements of *MMUTCD Section 6E.06 Red/Yellow Lens Automated Flagger Assistance Devices*. Furnish the required Stop Here On Red sign (R10-6 or R10-6a) as part of the device or installed on the right-hand side of the approach at the point at which drivers are expected to stop.

2. Delineate the unit with a 2-inch by 36-inch strip, or an equivalent area, of reflectorized red and white conspicuity tape to increase nighttime visibility.

3. Furnish a unit with an intrusion alarm system to alert workers when traffic has improperly entered the work zone. The alarm will sound when the operator activates the intrusion alarm using a wireless controller or when the gate arm is detached from the AFAD.

4. Furnish the AFAD system equipped with a solar power supply and a battery backup with a built-in 110 VAC battery charger. When fully charged, ensure the AFAD and wireless controlled are capable of operating for 24 hours continuously.

5. Ensure the AFAD trailer is painted highway orange.

6. Furnish a gate arm meeting the requirements of the *MMUTCD Section 6E.06* which descends to a down position across the approach lane of traffic when the STOP face or Red Lens is displayed and then ascends to an upright position when the SLOW face or Yellow Lens is displayed. Ensure both configurations employ visible methods of determining the status of each AFAD unit from the backside of the unit. Ensure the indication is legible for a minimum distance of 300 feet from the back of the unit in daylight hours and does not produce false indications to opposing traffic.

c. Construction. Install the AFAD in accordance with the manufacturer's recommendations, the plans, and the following requirements:

1. Furnish up to 1 hour of training for applicable representatives from contractors and MDOT if required by the Engineer. The training includes, at a minimum, installation, removal, and operation of the system and must take place prior to installation if required.

2. Use AFADs in accordance with the *MMUTCD Section 6E.04 Automated Flagger Assistance Devices*.

3. Delineate the AFAD with three channelizing devices. The use of cones is allowed for daytime use only.

4. It is acceptable for one traffic regulator to operate two AFADs from a central location when the distance between the regulator and each AFAD is a maximum of 750 feet with a clear line of sight from the regulator to both AFADs.

5. Furnish a two-way handheld radio system and standby traffic regulator equipment as a backup system for traffic regulators operating the AFAD.

6. Traffic regulators operating the AFADs should stand on or behind the shoulder of the roadway. Ensure positioning allows the regulators to remain safely out of traffic areas while remaining visible to motorists.

7. Furnish AFAD controllers to each traffic regulator located at the AFAD. Ensure the control is simple in nature and consist of buttons that can be pushed while wearing gloves. Controls with electronic screens are prohibited unless approved by the Engineer.

8. Use AFADs to control mainline traffic. Any side street or intersecting location will require an intermediate traffic regulator. Intermediate traffic regulators are required to follow the guidance in subsection 812.03.G.8 of the Standard Specifications for Construction. AFADs may be used at intermediate locations at the Contractor's expense.

9. Remove AFADs from the roadway completely at the end of each work day and store outside of the clear zone, as determined by the Engineer, or in the Contractor's yard.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	**Pay Unit**
Automated Flagger Assistance Device	Each

Automated Flagger Assistance Device includes installing, operating and removing one automated flagger assistance device. No additional payment will be made for relocating the device on the project. The Department will pay for the maximum number of automated flagger

Traffic Regulators

- Temporary Portable Rumble Strips
  - FUSP 812D
    - Use on all trunkline projects with existing speed limits 45mph or higher where traffic regulating will be in place longer than 4 hours. Optional for local agency and all other truckline projects.
    - Paid for each – per strip
  - If moving in field, consider extending spacing

TCD9: RUMBLE STRIPS ARE TO BE PLACED AS SPECIFIED IN THE CONTRACT. IF NOT SPECIFIED IN THE CONTRACT, PLACE RUMBLE STRIPS AS SHOWN, AND IN ACCORDANCE WITH THE RUMBLE STRIP MANUFACTURER'S RECOMMENDATIONS. AN ARRAY OF RUMBLE STRIPS CONTAINS THREE RUMBLE STRIPS. PLACE THE RUMBLE STRIPS IN THE ARRAY AT A CONSISTENT DISTANCE, BETWEEN 10' AND 20' APART.


4X4
Ford
F-150
0028218
STATE GOVT
CRIB


JEROMESVILLE
FIRE
MDOT
MDOT


RAPTOR
Service


ROAD
WORK
AHEAD

QUESTIONS???

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