

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**PORTABLE WATER FILLED BARRIER (NATIONAL COOPERATIVE HIGHWAY
RESEARCH PROGRAM REPORT 350/MANUAL FOR ASSESSING SAFETY
HARDWARE, TEST LEVEL 3)**

GCB:CT

1 of 2

APPR:CRB:CAL:04-02-20
FHWA:APPR:04-03-20

a. Description. This work consists of furnishing, installing, maintaining, and removing water filled barriers in accordance with the plans. The barriers, end terminals, and end treatments if required, must be *National Cooperative Highway Research Program Report 350 (NCHRP 350)* or *Manual for Assessing Safety Hardware (MASH), Test Level 3 (TL-3)* compliant and have FHWA acceptance. Furnish FHWA acceptance letters to the Engineer indicating the barrier, and end treatments if required, meet *NCHRP 350, TL-3* or *MASH, TL-3*.

b. Materials. Provide barrier sections in accordance with the following:

1. Generally constructed of a lightweight, recyclable, linear low density, polyethylene plastic shell, with UV stabilizers and anti-oxidants, designed to accept water ballast;
2. Constructed to enable movement by mechanical means when the units are filled;
3. Constructed in white and work zone safety orange for high visibility and be assembled by alternating the colored sections to provide visual impact for the motorist; and
4. Tested and meets all requirements *NCHRP 350* or *MASH TL-3* when properly installed in accordance with the manufacturer's recommendations.

Either install the barrier with a crashworthy end treatment, compatible with the barrier, meeting *NCHRP 350 TL-3* or *MASH TL-3*, or extend the barrier to outside the clear zone.

If no reflectorized fill level indicator is provided in the top of each section to allow visual verification that the section is adequately full of water ballast, conduct and record a visual inspection twice daily to ensure the barrier is maintaining a proper water level. Refill barrier sections as necessary.

c. Construction. Complete this work in accordance with section 812 of the Standard Specifications for Construction and this special provision. Provide barrier in operable condition and install in accordance with manufacturer's recommendations, the contract, and as directed by the Engineer. Properly install and fill the barrier with water prior to beginning work in the area protected.

Follow the manufacturer's recommendations for minimum lengths to provide for acceptable impact performance, unless stated otherwise in the contract or directed by the Engineer.

Ensure the water inside the barrier does not freeze at any time during operation. If an anti-freezing agent is used in the water, ensure that it is environmentally safe and is recovered when

the barrier is drained.

Install barrier end terminals in accordance with manufacturer's specifications. If the contract requires that the barrier be terminated inside the clear zone, install an *NCHRP 350 TL-3* or *MASH TL-3* compliant end treatment. At the Contractor's option, the barrier may be extended to outside the clear zone, at no additional cost to the Department.

Replace or repair damaged barrier within 24 hours of notification that damage has occurred. Damage compensation will be in accordance with subsection 812.04.A of the Standard Specifications for Construction.

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

Pay Item	Pay Unit
Portable Water Filled Barrier, Furn.....	Foot
Portable Water Filled Barrier, Oper.....	Foot

1. **Portable Water Filled Barrier, Furn** will be measured along the centerline of the barrier. **Portable Water Filled Barrier, Furn** includes furnishing and installing water-filled barrier (including miscellaneous hardware) and end treatments.

2. **Portable Water Filled Barrier, Oper** will be measured along the centerline of the barrier. **Portable Water Filled Barrier, Oper** includes operating, inspecting, maintaining, cleaning, relocating and removing the barrier (including miscellaneous hardware) and end treatments.

No additional payment will be made for relocations, spare parts, manuals, water, equipment for dispensing and removing water, vehicles and equipment for conveying water, anti-freeze, or miscellaneous hardware, including separate end treatments if required on the project.