



#### GENERAL NOTES







Sheet d



Contact Person	
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References Standard Spec 614 FDM 11-45-2 FDM 11-45-1 AASHTO Roadside Design Guide MSRF Report No. TRP-03-134-03, dated Aug. 22, 2003 MwSRF Report No. 06-1276,

### **Design Notes:**

Each section of the barrier weighs approximately 2.7 tons. The mass of the barrier and the friction between the barrier and the underlying surface tend to limit lateral and overturning movements of the barrier when struck by an errant vehicle.

Freestanding temporary concrete barriers are often placed adjacent to drop-offs, e.g. the edge of a bridge deck during deck replacement, repair, maintenance or reconstruction. When temporary concrete barriers are used on the edge of a bridge deck, or other drop-offs greater than 2 feet, the risk of the entire line of barriers falling off of the deck or drop-off, requires that deflection of the barrier be limited to the gap between the backside of the barrier and the edge of the bridge deck or drop-off. Anchor the traffic side of the concrete barrier temporary if the distance to a 2-foot or greater drop-off that is steeper than 3 H : 1 V, for example the edge of a bridge deck or a drop-off at the edge of pavement, is less than 4 feet from the side of the barrier closest to the drop-off and the posted speed is 45 mph or greater, or if the distance to a 2-foot or greater drop-off at the edge of a bridge deck or a drop-off at the edge of a bridge deck or a drop-off at the edge of a bridge deck or a drop-off at the edge of a bridge deck or a drop-off at the edge of a bridge deck or a drop-off at the edge of pavement, is less than 3 H : 1 V, for example the edge of a bridge deck or a drop-off at the edge of pavement, is less than 2 feet from the side of the barrier closest to the drop-off and the posted speed is 40 mph or less. Locate the line of anchored barrier on the deck such that the gap between the backside of the barrier and the bridge deck is at least 6-inches.

Delineators must be installed according to MUTCD.

Place temporary barrier on paved surface that is no steeper than 10%.

Show the End Section of the barrier on the plan. If the barrier terminates within the clear zone, protect the barrier end with an approved crash cushion. Use the following methods to treat the end(s) of the barrier:

a) Flare approach end of the barrier away from the traffic lane.

b) Use an approved crash cushion or an impact attenuator to terminate the temporary barrier installation.

When posted speed is over 30 mph, use an approved crash cushion or sand barrier array from the Department's Approved Products list to protect the end of the barrier installation.

Crash cushions need to be detailed and paid for separately. They are not incidental to "Concrete Barrier Temporary Precast" bid items.

If a freestanding temporary concrete barrier system is connected to a rigid barrier, such as a concrete bridge parapet, there needs to be a transition in the relative stiffness and deflection of the systems. Otherwise, there is a serious potential for pocketing of the barrier, snagging of the wheels or other vehicle components on the rigid barrier, as well as problems with vehicle stability. Coordinate with BPD.

The tie-down system is not recommended for use on bridge decks with an asphalt overlay. The asphalt overlay may induce high bending moments in the anchor bolts at the interface between the asphalt layer and the concrete surface, causing failure at much lower dynamic loads. Coordinate with BPD.

Where an expansion joint falls between two anchor bolts of a single barrier, one anchor bolt adjacent to the joint may be omitted to allow for free movement of the slab underneath. Provide a transition section whenever a freestanding section is connected to an anchored section of barriers.

## Standardized Special Provisions associated with this drawing:

STSP NUMBER	<u>TITLE</u>
(none)	

# Other SDDs associated with this drawing:

<u>15D3-1</u> Traffic Control, Lane Closure, Speeds Greater than 40 M.P.H.with Barrier
15D5-2
15D10-2 Traffic Control, Single Lane Crossover Exit with Barrier
15D32-2 Traffic Control, One Lane Road Stop Condition
15D33-2 Traffic Control, One Lane Road with Temporary Signals

# Bid items associated with this drawing:

ITEM NUMBER	DESCRIPTION	<u>l</u>	JNIT
603.8000	Concrete Barrier Temporary Precast Delivered	LF	
603.8125	Concrete Barrier Temporary Precast Installed	LF	
614.0700	Sand Barrel Array	EACH	
614.0905	Crash Cushions Temporary	EACH	