GENERAL NOTES

1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WCBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)

2. 3" CHAMFER TO PREVENT SPALLING.

3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

DETAIL "B" LIFTING SLOT DETAIL

SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END.

SIDE ELEVATION
(For connection to left end of barrier)

Voids area for lifting

PLAN VIEW

CENTER OF GRAVITY

CHAMFER DETAIL

END SECTION

BARRIER ON CURVE

FLARE AT BARRIER END

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CENTER OF GRAVITY

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GENERAL NOTES

See Sheet E for when to anchor, other parts of the plan may show additional locations requiring anchoring.

Remove all anchors when no longer needed. Pull concrete pavements, decks and approach slabs with non-shrink commercial grout from the approved product list. Pull asphalt pavements with ASTM D6690 Type II rubberized crack filler.

1. 5/8" threaded rod 1/2" x 3" x 3" square plate washer with ASTM A36 steel, ASTM A563A heavy hex nut.
2. Adhesive anchors with a minimum bond strength of 1,800 psi and 5/8" embedment, size H02 and comply with the Wisconsin Standard Specifications for more information on adhesive anchors.
3. As a surface backing, contractor may drill through concrete pavement and pull off asphalt anchor pin.

REMovable Adhesive Anchor Installation On Concrete Bridge Deck, Concrete Approach Slab, or Concrete Pavement

(Do not use on concrete with an asphalt overlay)

THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(Do not use on concrete bridge deck with asphalt overlay)

TREATMENT AT BRIDGE DECK EXPANSION JOINTS

No single concrete barrier section shall be anchored to both the bridge deck and the approach slab. All anchor bolt locations shall be anchored to the deck in accordance with the details. No more than one anchor bolt shall be eliminated from a barrier section when spanning an expansion joint.

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

Place transition in a tangent section of barrier parallel to the roadway. Transfer occurs on structural slab, anchor as shown.

CONCRETE BARiER TEMPORARY PRECAST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
GENERAL NOTES

1. When objects extend above the grade, a minimum of 1 foot is required from back of barrier to object. See other details for the minimum offset from back of barrier to slopes or vertical drops.

2. Objects are not to be placed on, mounted to, or leaned against the barrier without permission of the project engineer.

3. See other details on sheet "D" for space requirements.

4. See bolt through deck, removable adhesive anchor, or a stake down for asphaltic surface treatment details. Asphaltic anchor shown.

5. Depth of 3 feet or more.

6. \( y = 6'-6" \).

FREE STANDING BARRIER SPACE REQUIREMENTS

Anchored Barrier Space Requirements

For Hazards Extended Above the Grade Line

Anchorered Barrier Space Requirements

On Vertical Drop Offs

Anchored Barrier Space Requirements

On Slopes

Concrete Barrier
Temporary Precast, 12'-6"

State of Wisconsin
Department of Transportation
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

NOTES
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. TEMPORARY BARRIER TO PERMANENT BARRIER TRAFFIC FROM TEMPORARY BARRIER TO TEMPORARY BARRIER

TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

NOTES
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.5 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14b7-f Concrete Barrier Temporary Precast

Concrete Barrier Temporary Precast, 12'-6"
GUSSETS

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATE

TOP PLATE

END PLATE

SECTION C-C

DEPARTMENT OF TRANSPORTATION
STATE OF WISCONSIN

SDD 14b7-g Concrete Barrier Temporary Precast

S.D.D. 14b7-g  Concrete Barrier Temporary Precast
ISOMETRIC SHOWING GUSSETS

GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

GUSSET DIMENSIONS

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SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER
References:
- Standard Spec 603
- Standard Spec 614
- FDM 11-45-1
- FDM 11-45-2
- AASHTO Roadside Design Guide
- Midwest Roadside Safety Facility (MwRSF) Report No. 06-1276
- MwRSF Report No. TRP-03-208-10
- TRP-03-291-14

Bid items associated with this drawing:

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<td>614.0700</td>
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<td>Crash Cushion/Sand Barrel Array and Other Temporary Barrier Layout Details (Required)</td>
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<td>SDD 15d3</td>
<td>Traffic Control, Lane Closure, Speeds Greater than 40 M.P.H. with Barrier</td>
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<td>SDD 15d5</td>
<td>Traffic Control, Single Lane Crossover Entrance with Barrier</td>
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<tr>
<td>SDD 15d10</td>
<td>Traffic Control, Single Lane Crossover Exit with Barrier</td>
</tr>
<tr>
<td>SDD 15d32</td>
<td>Traffic Control, One Lane Road Stop Condition</td>
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<tr>
<td>SDD 15d33</td>
<td>Traffic Control, One Lane Road with Temporary Signals</td>
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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 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 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.

Place temporary barrier on paved surface that is no steeper than 10:1. Provide approach grades to the temporary barrier that are 10:1 or flatter. Barrier may not operate as intended or errant vehicle may not engage barrier correctly if grading is not provided.

Use the following methods to treat the blunt end(s) of the barrier:

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

b) Use an approved crash cushion or sand barrel array to terminate the temporary barrier installation.
c) Overlap barriers (see SDD 14B8)

d) Connect temporary barrier to permanent barrier (see SDD 14B8)

When posted speed is over 30 mph, use temporary crash cushion or sand barrier array (see Approved Products List, FDM 11-45-1 and FDM 11-45-2). Provide individual construction drawing detailing the installation crash cushions and sand barrel arrays.

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. SDD has been updated to reflect this change.

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.

Anchoring temporary barrier on bridge decks may require bolting completely through the deck. Avoid placing anchored temporary barrier over girder and beams on bridge decks. Review epoxy anchoring requirements and barrier locations on structures during the initial design of the traffic control plan with structural engineer.

No other methods to anchor temporary barrier are to be used without preapproved by BPD. No other bid items, special provisions, or detail drawings are to be use for temporary barrier without preapproval of BPD. Review payment of concrete barrier bid items after traffic control plans are developed. Staging of the plan, location of barrier and other factors can influence how temporary barrier is paid for. Some general considerations on payment items are:

- Pay Concrete Barrier Temporary Precast Delivered and Concrete Barrier Temporary Precast Installed when barrier is initially installed on a project
- Barrier is a hazard. Remove temporary barrier from the right of way that is no longer needed to shield hazards or being used to delineate between phases (e.g. over a winter shut down the barrier is not needed to shield hazards or delineate traffic). If temporary barrier is to remain within right of way when not shielding hazards or providing delineation, provide documentation in DSR.
- Pay Concrete Barrier Temporary Precast Delivered and Concrete Barrier Temporary Precast Installed if barriers are required to move across a live lane of travel in the next traffic control phase (e.g. Don’t swing barrier over live lanes. Have contractor load barrier on to a truck).
- Pay Concrete Barrier Temporary Precast Installed when shifting a barrier laterally. Do not pay for a delivery unless the lateral shift is a significant distance (e.g. if it needs to be loaded into a truck).
- Pay Concrete Barrier Temporary Precast Delivered and Concrete Barrier Temporary Precast Installed if barrier is moved longitudinally (e.g. up or down station by putting it on a truck).

Temporary barrier is not intended for permanent applications. Contact BPD if intending on using temporary barrier for permanent applications.

Contact Person:

Erik Emerson (608) 266-2842