<table>
<thead>
<tr>
<th>Standard</th>
<th>Modification Summary</th>
<th>Effective 11/1/2012</th>
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<tbody>
<tr>
<td>C1</td>
<td><strong>Galvanized Steel Plate Beam Guardrail</strong></td>
<td></td>
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<tr>
<td></td>
<td>Sheet 1 Modified Aggregate Shoulder Special Type C Depth from 3&quot; to 6&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sheet 2 Added 9’ post identification stamp</td>
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<tr>
<td>C3</td>
<td><strong>Single Face Reinforced Barrier Wall</strong></td>
<td></td>
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<tr>
<td></td>
<td>Added gutter transition taper detail for frame and grate.</td>
<td></td>
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<tr>
<td></td>
<td>Added new construction joint and expansion joint details</td>
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<tr>
<td></td>
<td>Revised Note 3</td>
<td></td>
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<tr>
<td>C4</td>
<td><strong>Concrete Shoulder Barrier Transition</strong></td>
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<tr>
<td></td>
<td>Modified barrier height at crash wall from 4'-6&quot; to 5'-0&quot;.</td>
<td></td>
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<tr>
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<td>Added new construction joint and expansion joint details</td>
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<tr>
<td>C5</td>
<td><strong>Concrete Barrier 42”</strong></td>
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<td>Added gutter transition taper detail for frame and grate.</td>
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<td>Revised Notes 1, 2</td>
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<td><strong>Traffic Barrier Terminal Type T1 (Special)</strong></td>
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<td>C7</td>
<td><strong>Traffic Barrier Terminal Type T2</strong></td>
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<td>Modified Aggregate Shoulder Special Type C Depth from 3&quot; to 6&quot;</td>
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<td>Modified wood post dimensions.</td>
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<td>Modified Aggregate Shoulder Special Type C Depth from 3&quot; to 6&quot;</td>
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<td>Modified Aggregate Shoulder Special Type C Depth from 3&quot; to 6&quot;</td>
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<td><strong>Traffic Barrier Terminal Type T1-A (Special)</strong></td>
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<td>C13</td>
<td><strong>Concrete Median Barrier Transition at Bridge Piers</strong></td>
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<td></td>
<td>Modified barrier height at crash wall from 4'-6&quot; to 5'-0&quot;.</td>
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<tr>
<td></td>
<td>Extended transition taper length from 28' to 30'.</td>
<td></td>
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</tbody>
</table>

New Sheet
GUARDRAIL INSTALLATION DETAILS

NOTES:

1. "OFFSET FROM EDGE OF PAVED SHOULDER TO FACE OF RAIL IS TYPICAL FOR ALL INSTALLATIONS EXCEPT AS OTHERWISE NOTED IN THE PLAN DRAWINGS.

2. WHERE GUTTERS SUCH AS TYPE C-2, C-3, C-4 ARE REQUIRED IN FRONT OF THE GUARDRAIL, THE POSTS SHALL BE LOCATED 1" BEHIND THE GUTTER, OR AS OTHERWISE NOTED IN THE PLAN. THE OFFSET FROM THE EDGE OF SHOULDER TO THE FACE OF THE GUARDRAIL SHALL BE AS SHOWN ON STANDARD DRAWING SET.

3. THE 24" TYPICAL RAIL HEIGHT IS MEASURED FROM EXISTING SURFACE TO TOP OF RAIL, OR FROM EDGE OF SHOULDER/EDGE OF GUTTER WHEN EDGE IS MORE THAN 1" IN FRONT OF RAIL TO CENTER OF RAIL.

4. ACCUMULATIVE SHOULDERS SPECIAL TYPE C SHALL COMPLY WITH THE REQUIREMENTS OF THE TOLLWAY REGULATORY SPECIAL PROVISIONS. WHERE GUARDRAIL IS PROVIDED WITH GUARDRAIL, A 3'-MINIMUM THICKNESS OF ACCUMULATIVE SHOULDERS SPECIAL TYPE C SHALL BE PLACED BEHIND CURB. FOR GUARDRAIL WITHOUT CURB & GUTTER, ACCUMULATIVE SHOULDERS OF THE SAME THICKNESS SHALL BE PLACED FROM THE EDGE OF PAVED SHOULDER SLOPING AWAY TO A 3'-MIN. THICKNESS.

5. ACCUMULATIVE SHOULDERS SPECIAL TYPE C SHALL EXTEND A MINIMUM OF 1' BEHIND POST ON GUARDRAIL; WHEREVER IN TYPICAL, EXCEPT AS NOTED ELSEWHERE IN THE PLANS.

6. PLASTIC BLOCK-OUTS SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR WOOD BLOCK-OUTS ON NEW INSTALLATIONS.

7. WHEN SCS AND 3'-MIN. ACUMULATIVE SHOULDER CANNOT BE USED, THE POST LENGTH SHALL BE 9'-0" AND THE MIN. ACUMULATIVE SHOULDER SHALL BE 2-1/2" MEASURED DISTANCE BEHIND POST TO THE SHOULDER POINT.

8. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DEFORMATION UNITS OF HORIZONTAL DEFORMATION FROM ORIGINAL.

9. UNDER NO CIRCUMSTANCES SHALL AN EXISTING GUARDRAIL THAT WAS DESIGNED USING A PREVIOUS STANDARD BE EXTENDED, ATTACHED TO OR WORKED IN ALONG FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIERS WARRANTY HAS BEEN COMPLETED, THE ENTIRE BARRIERS INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFERS TO THE CURRENT STANDARD.

10. WHEN SCS, THE POST LENGTH SHALL BE 9'-0" AND 4'-MIN ACUMULATIVE SHOULDER WIDTH MAINTAINED.

11. THE GUARDRAIL SYSTEM HAS BEEN PERFORMANCE-TESTED FOR OVERLOADS UNDER PROCEDURES DEFINED IN THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350. NO MODIFICATION TO THIS STANDARD DRAWING SHALL BE PERMITTED.

12. GUARDRAIL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR ASPHALT PAVEMENT, WHEN NECESSARY USE LEAVE-OUT DETAIL ON SHEET 4 OF 4 OF THIS SERIES.

13. GUARDRAIL POSTS SHALL NOT BE ATTACHED TO ANY STRUCTURE.
TABLE 1

<table>
<thead>
<tr>
<th>V</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 » 1/4&quot;</td>
<td>24&quot;</td>
</tr>
<tr>
<td>&gt; 1/4&quot; » 2/4&quot;</td>
<td>12&quot;</td>
</tr>
<tr>
<td>&gt; 2/4&quot; » 4/4&quot;</td>
<td>12&quot;</td>
</tr>
</tbody>
</table>

* V = V = 1/3 V

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED

ELEVATION

NOTES:
1. CAP SHALL BE INSTALLED TO MATCH THE EXISTING CROSS SLOPE.
2. THE LEAVE-OUTS SHALL BE DEFINED AS THE AREA AROUND THE POST THAT IS EITHER DISTURBED FROM THE NEW CONSTRUCTION OR REMOVED FROM THE EXISTING CONCRETE OR ASPHALT.
### Table 2

<table>
<thead>
<tr>
<th>GUARDRAIL SYSTEM</th>
<th>POST SPACING</th>
<th>DESIRABLE BARRIER CLEARANCE DISTANCE</th>
<th>MINIMUM BARRIER CLEARANCE DISTANCE</th>
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</thead>
<tbody>
<tr>
<td>TYPE A</td>
<td>6' 3&quot;</td>
<td>42&quot;</td>
<td>28&quot;</td>
</tr>
<tr>
<td>1/2 POST SPACING</td>
<td>3' 6&quot; 1/2&quot;</td>
<td>30&quot;</td>
<td>23&quot;</td>
</tr>
<tr>
<td>TYPE C</td>
<td>1' 6&quot; 1/4&quot;</td>
<td>24&quot;</td>
<td>14&quot;</td>
</tr>
</tbody>
</table>

#### Notes:
1. Desirable barrier clearance distances shall be used for all new installations.
2. Minimum barrier clearance distances are only to be used for existing obstacles.
3. When length of obstacles is 1' 3" or less, the downstream transition shall be omitted.
NOTES:
1. Platted rate of taper may be used where required to avoid damage to existing storm sewer.
2. Pipe underdrain required in area vertical curve or where first-year flow is expected.
3. An inlet is to be provided when required. The inlet shall be a connected to the nearest downstream inlet or culvert.
4. Maximum cross slope from the edge of the earth shoulder to the face of the wall shall be 1:10.
5. Bridge pier or overcross sign pier.
6. Single #4 or #5 steel post with blockouts may be used for this post.

1. Pipe height shall be measured from existing surface 1'-0" in front of rail.
2. Slope ratios are expressed as units of vertical displacement to units of horizontal displacement.
3. Traffic barrier terminal shall be in accordance with the manufacturer's details and specifications.
4. See plan for limits.
5. The guardrail system has been performance-tested for 30 mph vehicle under procedures defined in the National Cooperative Research Program Impact Report. No modification of any kind to this standard drawing shall be permitted.
MEDIAN PIER PROTECTION-TERMINAL SECTION

1. All holes in posts and blocks shall be 3/4" unless otherwise noted.
2. In the event of an obstruction preventing post installation, up to 12 consecutive posts may be omitted if 2-ply Corrugated panels are used from that location.
3. Rail element shall be furnished in normal lengths of 20' to 24' an alternate 25' nominal length may be furnished at the option of the Contractor.
4. All rail elements and accessories shall conform to standard specifications unless otherwise noted.
5. The Contractor shall load test 20% of all expansion Anchor Rods in the installation of this project. As per the Illinois Department of Transportation, the test load shall be equal to the weight of the corroders on the road plus 200 pounds for 1/4" bolts in the direct path for each anchor that fails the test requirement. This test shall be performed on each anchor bolt that fails to meet the test requirement. The test shall be performed on each anchor bolt that fails to meet the test requirement. The maximum test requirement shall be 3000 lbs.

SOIL PLATE FOR POST REINFORCEMENT

MEDIAN PIER PROTECTION-SINGLE RAIL SECTION

Illinois Tollway
Open Roads for a Rapid Future

MEDIAN PIER PROTECTION

STANDARD C2-02

DATE: 3/3/2010
8:59:55 AM
NOTES:
1. TOP SURFACE EDGE OF BARRIER BASE CASTER SHALL HANG IN THE TOP OF BARRIER:" ELEVATION.
2. 3" DEEP CONSTRUCTION JOINTS SHALL BE CONSTRUCTED AT BOTH THE TOP AND BOTTOM OF THE REINFORCED CONCRETE BARRIER WALL AND BASE. CONSTRUCTION JOINTS SHALL ALSO BE CONSTRUCTED AT BORDERS OF DRAINAGE STRUCTURES. MAXIMUM JOINT SPACING SHALL BE 50 FT.
3. THE FORMING OF CONSTRUCTION JOINTS SHALL BE Done WITH AN APPROVED FORMING TOOL OR BY USING A SAW AT THE DISCRETION OF THE PROJECT WHOSE REINFORCEMENT. CONSULT WITH THE SAW TO THE SAW TO THE SAW.
4. REINFORCING BAR DURABLE COLONIAL METER SHALL BE EMBLEM COATED.
5. REINFORCEMENT BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCEMENT.
6. REINFORCEMENT BENDING DIMENSIONS ARE OUT TO OUT.
7. BARRIER BASE SHALL BE USED WITH ALL NEW CONSTRUCTION OR RECONSTRUCTION OF EXISTING BARRIERS.
8. EXPANSION JOINTS SHALL BE CONSTRUCTED AT DRAINAGE STRUCTURES AS SHOWN AND PLACED ALONG BARRIER WALL AT MAXIMUM JOINT SPACING OF 50 FT.

TYPE F BARRIER
SECTION A-A

TYPE F BARRIER
SECTION B-B

EXPANSION JOINT

#6d(3) BAR
#4d(3) BAR

BENDING DIAGRAMS
CONCRETE BARRIER, DOUBLE FACE, 42"  
CONCRETE BARRIER BASE  
SECTION A-A

CONCRETE BARRIER, DOUBLE FACE, 42"  
CONCRETE BARRIER BASE  
SECTION B-B

CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT  
HEIGHT CONCRETE BARRIER BASE, VARIABLE HEIGHT

NOTE:

1. The concrete construction joints shall be constructed in the concrete barrier wall and in the concrete barrier base. The construction joints shall also be constructed at both ends of all permanent structures, maximum joint spacing shall be 10 ft.

2. The surfaces of construction joints shall be chiseled or otherwise prepared for an approved finishing tool, or is sawn at the construction of the barrier, subject to the satisfaction of the contractor, orgrading.

3. Concrete profile in the vicinity of 90° vertical curve, along play areas and at the meeting of proposed and existing surface shall be carefully controlled and field adjusted for proper traffic shape and drainage.

4. In areas of relatively flat longitudinal profile, the 45° vertical condition at the bottom of the barrier can vary from 0° to 2° away to create an acceptable condition.

5. The bars are embedded in the variable height section and shall be oriented correctly.

6. The Concrete shall be installed in the barrier base and fill the elements on site elements are included for future use.

7. The variable height vertical expansion joint are included in construction plans for details.

Illinois Tollway  
Open Roads for a Great Future

STANDARD CS-02
SHOULDER WIDENING TRANSITION-WITHOUT GUTTER
FOR TRAFFIC BARRIER TERMINAL TYPE TI (SPECIAL)

GENERAL NOTES:
1. ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V/H).
2. THE TYPE TI (SPECIAL) TERMINAL IS THE UPSTREAM END SECTION OF A GALVANIZED STEEL PLATE BEAM GUARDRAIL BARRIER SYSTEM.
3. REFERENCE STANDARD B28 FOR GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE TI (SPECIAL).
4. UNDER NO CIRCUMSTANCES SHALL AN EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANY WAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANTY HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
5. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS AND SPECIFICATIONS.
6. NO ROADSIDE OBSTRUCTION OR TYPE-FIXED OR BREAKAWAY, EITHER TEMPORARY OR PERMANENT SHALL BE ALLOWED WITHIN THIS RECOVERY AREA.
7. NO CURVED BEAM SECTIONS ARE PERMITTED WITHIN THE TERMINAL PAY LIMITS. THE TRAFFIC BARRIER TERMINAL TYPE TI (SPECIAL) SHALL BE LAID OUT IN A STRAIGHT LINE.
8. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR PMA. WHEN NECESSARY USE LEAVE-OUT DETAIL SHOWN ON STANDARD CI.
9. THE TERMINAL SYSTEM HAS BEEN PERFORMANCE-TESTED FOR CRASHWORTHINESS UNDER PROCEDURES DEFINED IN THE NATIONAL COOPERATIVE HIGHWAY RESEARCH REPORT (NCHPP) REPORT 350. NO MODIFICATION TO THIS STANDARD DRAWING SHALL BE PERMITTED.

NOTE FOR INSTALLATION ON TANGENT ROADWAY:
TRAFFIC BARRIER TERMINAL SHALL BE INSTALLED AT A 50'-0" TAPER MEASURED FROM EDGE OF TRaveled WAY.

NOTE FOR INSTALLATION ON CURVED ROADWAY:
The edge of the terminal Extruder head shall be offset a distance from a point on the back of the curved edge of paved shoulder as shown in Table I.
**SHOULDER WIDENING TRANSITION—WITH GUTTER, TYPE G-3**

**FOR TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL)**

---

**CURVED ROADWAY**

**TRAFFIC BARRIER TERMINAL PLACEMENT**

---

**TABLE 1**

<table>
<thead>
<tr>
<th>Lateral Offset Dimension to Edge of Terminal Extruder Head</th>
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<td>INSIDE RADIUS OF CURVE</td>
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<td>TYPE G-3 GUTTER</td>
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**SECTION A-A**

**IMPACT HEAD OMITTED FOR CLARITY**

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**NOTE:**

SEE SHEET 1 OF THIS SERIES FOR NOTES.

---

**SHOULDERS WIDENING FOR TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL)**

**STANDARD C6-04**
SHOULDER WIDENING TRANSITION WITH CUTTER, TYPE G-2 FOR TRAFFIC BARRIER TERMINAL TYPE T1 (SPECIAL)

SECTION A-A
(INCLUDE SHOULDERS G-2).
NOTES:
1. SEE STANDARD C1 FOR DETAILS OF GUARDRAIL, NOT SHOWN.
2. THE BEARING PLATE K SHALL BE HELD IN POSITION BY TWO 8D NAILS DRIVEN INTO THE POST AND BENT OVER THE TOP OF THE PLATE.
3. THE TYPE T2 TERMINAL IS TYPICALLY UTILIZED FOR THE DEPARTING END SECTION OF A GALVANIZED STEEL PLATE BEAM GUARDRAIL SYSTEM.
4. UNDER NO CIRCUMSTANCES SHALL AN EXISTING TERMINAL THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANY WAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT COMPLIES WITH THE CURRENT STANDARD.
5. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS AND SPECIFICATIONS.
6. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR HMA PAVEMENT, WHEN NEEDED USE LEAVE-OUT DETAIL PER STANDARD C1.
TYPE T5 - CONCRETE BRIDGE PARAPET

SECTION WITH GUTTER

SECTION WITHOUT GUTTER

SECTION A-A
NOTE:

SEE SHEET 1 OF THIS SERIES FOR NOTES.
NOTES:

1. SEE STANDARD C) FOR DETAILS OF GUARDRAIL NOT SHOWN.
2. GRADE BEAM WILL BE BOLTED TO DISSO-GUT AT ALL POSTS.
3. ALL SHEAR PLATES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT.
4. ALL ADJUSTABLE STANDARDS ARE ATTACHED TO THE SYSTEM AS SHOWN.
5. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A).
6. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
7. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
8. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
9. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
10. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
11. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
12. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
13. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
14. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
15. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
16. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
17. GUARD TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE A.
NOTES:

1. SEE STANDARD C1 FOR DETAILS OF GUARDRAIL NOT SHOWN.
2. THRESH BEAM RAIL SHALL BE BOLTED TO BLOCKOUT AT ALL POSTS.
3. ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V/H).
4. THE TYPE TGB TERMINAL IS TYPICALLY UTILIZED TO ATTACH GALVANIZED STEEL HEAVY BEAM GUARDRAIL AT THE UPSIDE END OF THE BRIDGE CONCRETE PARRAPET, WHERE A ROADSIDE GUTTER IS NOT TO BE INSTALLED.
5. UNLESS NO CIRCUMSTANCES SHALL EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANY WAY FROM ITS ORIGINAL DESIGN, IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
6. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS AND SPECIFICATIONS.
7. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR PAVEMENTS, WHEN NECESSARY USE LEAF-OUT DETAIL PER STANDARD C1, SHEET 4 OF 4.
8. TERMINAL BARRIER CLEARANCE DISTANCE SHALL CONFORM WITH TABLE 2 ON STANDARD C1.
9. LEAF-OUT DIMENSION BEHIND POSTS 1-6, SHALL BE MINIMUM OF 4".

ELEVATION

PLAN

TRANSITION SECTION (NO GUARD RAIL ELEMENT)
ELEVATION

CURVED WING

PLAN

TANGENT WING

GENERAL NOTES:

* OR TO BE DETERMINED IN THE FIELD.
** HEAD OF BOLT TO BE ON TRAFFIC SIDE.
SEE DETAIL "A"

DETAIL "A"

END SHOE

NOTES:

1. SEE STANDARD CI FOR DETAILS OF GUARDRAIL NOT SHOWN.
2. THE TYPE TIO TERMINAL IS TYPICALLY UTILIZED TO CONNECT SLOTTED STEEL PLATE FROM GUARDRAIL TO THE TERMINAL END OF AN EXISTING BRIDGE CONCRETE WING WALL OR PARAPET.
3. UNDER NO CIRCUMSTANCES SHALL AN EXISTING TERMINAL THAT WAS DESIGNED USING A PREVIOUS STANDARD BE ATTACHED TO OR MODIFIED IN ANY WAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER Warrant HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A SYSTEM THAT COMPLIES TO THE CURRENT STANDARD.
4. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS AND SPECIFICATIONS.
5. ANCHOR END SHOE IS ATTACHED TO A BRIDGE PARAPET WHICH HAS AN EXPANSION JOINT. THE BOLTS SHALL BE PROVIDED WITH A LOCKNUT OR DOUBLE NUT AND SHALL BE TIGHTENED ONLY TO A POINT THAT WILL ALLOW CUT-WINN MOVEMENT.
6. THE ANCHOR CONE SHALL BE SET FLUSH WITH THE SURFACE OF THE CONCRETE.
7. EXTERNALLY THREADED STUBS PROJECTING FROM THE SURFACE OF THE CONCRETE SHALL NOT BE TREATED.
SHOULDER WIDENING TRANSITION-WITHOUT GUTTER
FOR TRAFFIC BARRIER TERMINAL TYPE T1-A (SPECIAL)

GENERAL NOTES:
1. ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT X100.
2. THE TYPE T1-A (SPECIAL) IS THE UPSTREAM END SECTION OF A GALVANIZED STEEL PLATE BEAM GUARDRAIL BARRIER SYSTEM, FOR RAMP INSTALLATION WITH POSTED SPEED LIMIT OF 40 MPH OR LESS, NCHRP 350, TEST LEVEL II (2).
3. REFERENCE STANDARD 229 FOR GUTTER TRANSITION AT TRAFFIC BARRIER TERMINAL TYPE T1-A (SPECIAL).
4. UNDER NO CIRCUMSTANCES IS AN EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANY WAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PREVIOUS BARRIER SYSTEM HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMpletely REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
5. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER’S DETAILS AND SPECIFICATIONS.
6. NO ROADSIDE OBSTRUCTION OF ANY TYPE FIXED OR BREATHERY, EITHER TEMPORARY OR PERMANENT SHALL BE ALLOWED WITHIN THIS RECOVERY AREA.
7. NO CURVED-FLAT SECTIONS ARE PERMITTED WITHIN THE TERMINAL PAY LIMITS. THE TRAFFIC BARRIER TERMINAL TYPE T1-A (SPECIAL) SHALL BE LAID OUT IN A STRAIGHT LINE.
8. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR HMA. WHEN NECESSARY USE LEAVE-OUT DETAIL SHOWN ON STANDARD CI.
9. THE TERMINAL SYSTEM HAS BEEN PERFORMANCE-TESTED FOR CRASHWORTHINESS UNDER PROCEDURES DEFINED IN THE NATIONAL COOPERATIVE HIGHWAY RESEARCH REPORT. NCHRP REPORT 350. NO MODIFICATION TO THIS STANDARD DRAWING SHALL BE PERMITTED.

SHEET 1 OF 2

NOTES FOR INSTALLATION ON TANGENT ROADWAY
TRAFFIC BARRIER TERMINAL SHALL BE INSTALLED AT 2% TAPER MEASURED FROM EDGE OF TRAVELED WAY.

NOTES FOR INSTALLATION ON CURVED ROADWAY

Illinois Tollway
Open Roads for a Prosperous Illinois

TRAFFIC BARRIER TERMINAL
TYPE T1-A (SPECIAL)

REV 08.01.08
DO NOT REPRODUCE

STANDARD C12-02

C12-02.dgn 10/24/2012 2:46:38 PM
SHOULDER WIDENING TRANSITION-WITH GUTTER, TYPE C-2
FOR TRAFFIC BARRIER TERMINAL TYPE T-1-A (SPECIAL)

SECTION A-A
IMPACT HEAD OMITTED FOR CLARITY.

CURVED ROADWAY
TRAFFIC BARRIER TERMINAL PLACEMENT

<table>
<thead>
<tr>
<th>LATERAL OFFSET DIMENSION TO EDGE OF TERMINAL EXTENDER HEAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSIDE RADIUS OF CURVE</td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td>NO GUTTER</td>
</tr>
<tr>
<td>TYPE C-2 GUTTER</td>
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<td>TYPE C-3 GUTTER</td>
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NOTE: SEE SHEET 1 OF THIS SERIES FOR NOTES.

ILLINOIS TOLLWAY
Open Roads for a Great Place
NOTES:

1. 1" deep contraction joints shall be constructed in the concrete barrier wall and in the concrete barrier base. Contraction joints shall also be constructed at both sides of all drainage structures. Maximum joint spacing shall be 20'.

2. The forming of contraction joints shall be done with an approved finishing tool at the discretion of the engineer subject to the satisfactory control of cracking. The sawing of contraction joints in the barrier wall shall not be permitted.

3. Taper length required for the width transition will be 20'-0" minimum.

4. Top shoulder edge of gutter slab shall match the top of shoulder elevation.

5. Gutter profile in the vicinity of sag vertical curves, along flat grades and at the meeting of proposed and existing gutters shall be carefully controlled and field adjusted if necessary to ensure positive drainage and avoid ponding.