STONE MASONRY GUARDWALL

TL-2 CONNECTION TO
STEEL-BACKED TIMBER GUARDRAIL

" x 9'-9"
8
3
6" x
9'-9"
8
3
2 - 6" x 3/4" x 9'-9"
steel terminal section rail
6" x 3/4" x 9'-9"
steel transition rail
6" x 3/4" x 12-41/2"
steel transition splice rail

NOTE:
1. See the following sheets for Sections A-A through D-D, steel rail layouts, and other details.
2. Use weathering steel for all structural steel and fastener hardware.
3. For posts 1, 3, and 4, use an 8" x 9" x 12" block for the blockout, and a 5/8" x 2-1/2" carriage bolt with hex nut and plate washer.

See Detail C617-60 for timber guardrail details.

For posts 1, 3, and 4, use an 8" x 9" x 12" block for the blockout, and a 5/8" x 2-1/2" carriage bolt with hex nut and plate washer.

See Rub-Rail Connection Detail.

rough sawn timber rub-rail. See Rub Rail Connection Detail.

rough sawn timber post

rough sawn timber post

rough sawn timber rub-rail. See Rub Rail Connection Detail.

rough sawn timber rub-rail. See Rub Rail Connection Detail.

rough sawn timber rub-rail. See Rub Rail Connection Detail.

U.S. CUSTOMARY DETAIL
STEEL-BACKED TIMBER GUARDRAIL
TL-2 CONNECTION TO
STONE MASONRY GUARDWALL

POST CONNECTION

DETAIL A

DETAIL B

See Rub-Rail Connection Detail.

See Rub-Rail Connection Detail.

See Rub-Rail Connection Detail.

See Rub-Rail Connection Detail.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CENTRAL FEDERAL LANDS HIGHWAY DIVISION
FEDERAL HIGHWAY ADMINISTRATION
U.S. DEPARTMENT OF TRANSPORTATION

REVISED:
DETAIL
U.S. CUSTOMARY DETAIL
DETAIL APPROVED FOR USE

STATE
PROJECT
NUMBER
SHEET
NOTE:
1. Pre-drill \( \frac{3}{8} \)" holes in blocks outs and posts.
NOTE:
1. CONCRETE: Structural concrete Class A(AE), with a specified minimum 28-day compressive strength PC=4350 psi. Vibrate all concretes. Chamfer exposed edges 1/4 unless otherwise shown. Do not use calcium chloride additives in the concrete.

2. REINFORCING STEEL: Reinforcing steel Grade 420 (ASTM A615M-96a, Grade 420) deformed billet steel bars conforming to AASHTO M31M. The minimum concrete covering to the face of any bar is 2" unless otherwise shown. All bars are US Customary size #5.

3. Construct footing against undisturbed material or backfill with well compacted granular material.

CONCRETE: Structural concrete Class A(AE), with a specified minimum 28-day compressive strength PC=4350 psi. Vibrate all concretes. Chamfer exposed edges 1/4 unless otherwise shown. Do not use calcium chloride additives in the concrete.

REINFORCING STEEL: Reinforcing steel Grade 420 (ASTM A615M-96a, Grade 420) deformed billet steel bars conforming to AASHTO M31M. The minimum concrete covering to the face of any bar is 2" unless otherwise shown. All bars are US Customary size #5.

Construct footing against undisturbed material or backfill with well compacted granular material.

SECTION D-D
PARAPET END BLOCK

SECTION C-C
BAR DETAILS

NOTE:
1. CONCRETE: Structural concrete Class A(AE), with a specified minimum 28-day compressive strength PC=4350 psi. Vibrate all concretes. Chamfer exposed edges 1/4 unless otherwise shown. Do not use calcium chloride additives in the concrete.

2. REINFORCING STEEL: Reinforcing steel Grade 420 (ASTM A615M-96a, Grade 420) deformed billet steel bars conforming to AASHTO M31M. The minimum concrete covering to the face of any bar is 2" unless otherwise shown. All bars are US Customary size #5.

3. Construct footing against undisturbed material or backfill with well compacted granular material.
Steel-Backed Timber Guardrail TL-2 Connection to Stone Masonry Guardwall

General Information

**Appropriate Applications.**
- Steel-backed timber (SBT) guardrail is an aesthetic roadside barrier. This drawing provides a low-speed (TL-2) connection to stone masonry guardwalls.

<table>
<thead>
<tr>
<th>Crash Test Criteria</th>
<th>NCHRP 350</th>
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<tbody>
<tr>
<td>Test Level</td>
<td>TL-2</td>
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<td>FHWA Eligibility Letter</td>
<td>B-64D2</td>
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<td>TF 13 Designator</td>
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<tr>
<td>Crash Test Report</td>
<td>TTI Report No. 405181</td>
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**Limitations.** This connection is for low-speed roadways.

**Layout Guidance.**

**Applicable SCRs**
None

**Typical Pay Item Used**
- 61707-2000 Structure transition railing, SBT system [LNFT]

**Updates**
February 2019
- New Detail drawing