

WHITMAN COUNTY PUBLIC WORKS SMALL WORKS WORKSHEET

PROJECT NAME: **Guardrail, Non-Flared Terminals, Transitions and Posts.**

Farmington Road #1000 Bridge @ m.p. 0.68

DESCRIPTION: Furnish and install transitions, approach rails, terminals, and posts to retrofitted Thrie Beam and existing concrete rail on the McLead Bridge #1000-00.68.

See Complete Detail Attachments.

All materials, equipment, labor and tax costs should be included in the quote. All contractors shall be bonded and must pay State Prevailing Wage Rate for labor except for fabrication. A contract bond will be required. (Please initial your acknowledgement of these requirements: _____).

All work must be completed by: **November 30th, 2018**

QUOTES MUST BE RETURNED BY: **November 1st, 2018 at 5:00 p.m.**

Contact: **Brandon Kruger – Ext. 5203**
Brandon.Kruger@co.whitman.wa.us

Whitman County Public Works: (509) 397-4622 FAX (509) 397-6210.

(Anticipated award date: November 2nd, 2018.)

BASIS OF AWARD: \$ _____

Tax \$ _____

Total: \$ _____

Company Name: _____

Signature: _____

Printed Name: _____

Address: _____

Phone: _____ FAX: _____

Email: _____

Bid Item

Unit

Notes

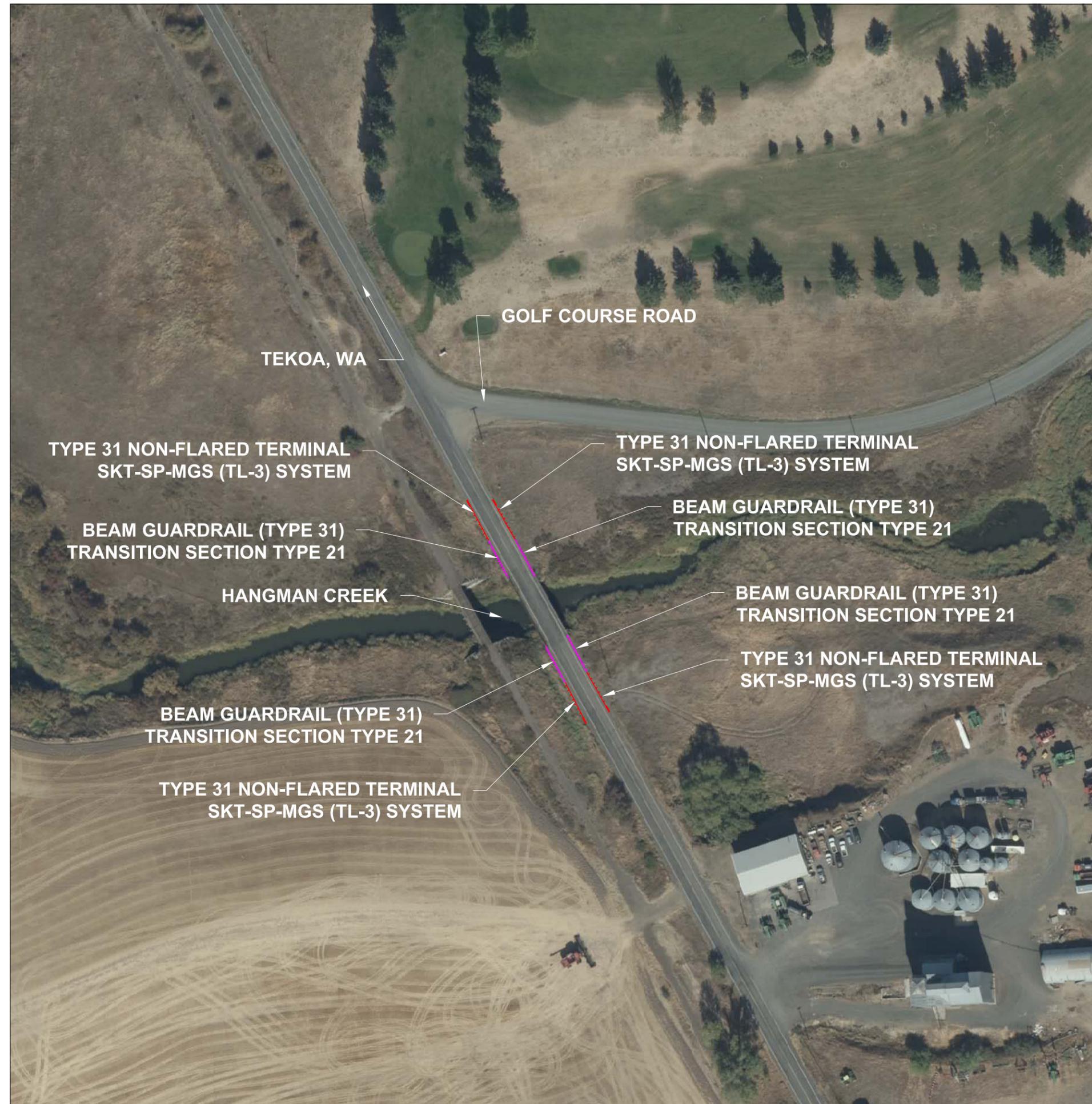
Furnish & Install Beam Guardrail Transition Section Type 21 Standard Plans C-25.20-06	Each	4	2 Reducer Element Type C will not be needed
Furnish & Install SKT-SP-MGS (TL-3) Beam Guardrail Non-Flared Terminals Standard Plan C-22.40-05	Each	4	
End Section Design F Thrie Beam E Connection Standard Plan C-24.10-01	Each	2	

DESCRIPTION OF WORK

THIS LOCATION CONSISTS OF FOUR SEPARATE RUNS ATTACHED TO THE CORNERS OF MCLEAD BRIDGE NO. 1000-00.68,

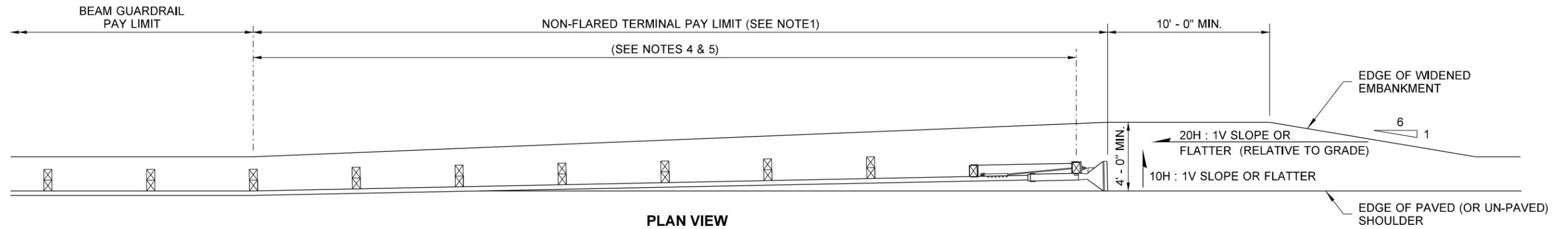
TWO OF THE RUNS WILL BE ATTACHED TO EXISTING CONCRETE BRIDGE RAIL USING GUARDRAIL TO CONCRETE BARRIER E CONNECTION WITH A DESIGN F THRIE BEAM END SECTION AND A BEAM GUARDRAIL TYPE 31 TRANSITION SECTION TYPE 21 AND CORNERS WILL TERMINATE WITH A TYPE 31 SKT-SP-MGS NON-FLARED TERMINAL.

TWO OF THE CORNERS WILL BE A BEAM GUARDRAIL TYPE 31 TRANSITION SECTION TYPE 21 AND CORNERS WILL TERMINATE WITH A TYPE 31 SKT-SP-MGS NON-FLARED TERMINAL.

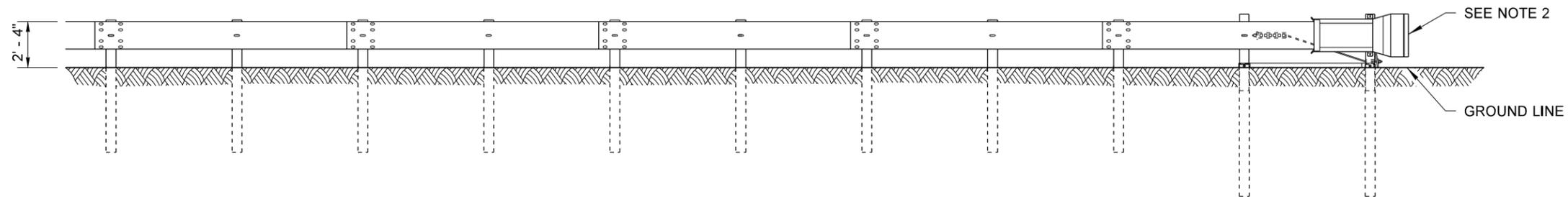


NOTES

1. An SKT-350 as manufactured by Road Systems, Inc. shall be installed according to manufacturer's recommendations. When a TL2 terminal is specified in the Contract an SKT-TL2 as manufactured by Road Systems, Inc. shall be installed according to the manufacturer's recommendations.
2. A reflectorized object marker shall be installed according to manufacturer's recommendations.
3. When snow load post washers and snow load rail washers are required by the Contract, the snow load rail washers must not be installed within the terminal limits.
4. Terminal shall be installed at a taper, ensuring that end piece is entirely off the shoulder.
5. Length for SKT-350 is 50' (ft). Length for SKT-TL2 is 25' (ft).



PLAN VIEW



ELEVATION VIEW

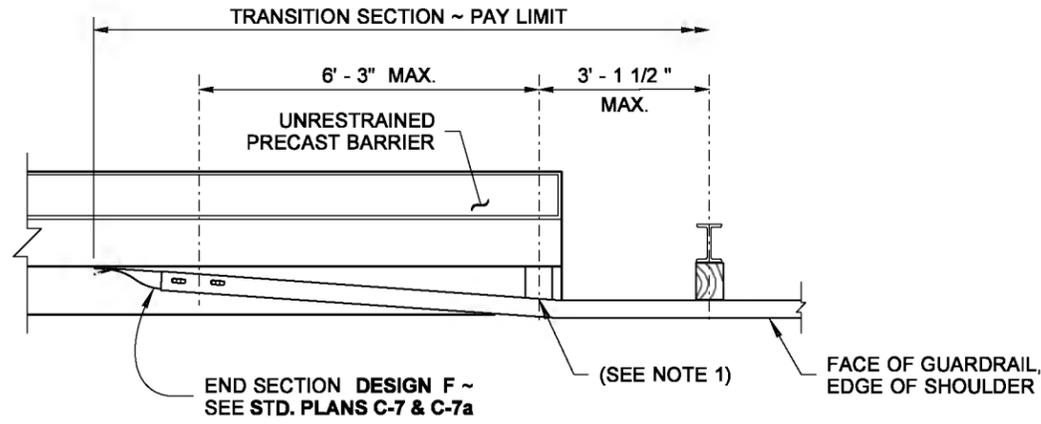


**BEAM GUARDRAIL
NON-FLARED TERMINAL
STANDARD PLAN C-4e**

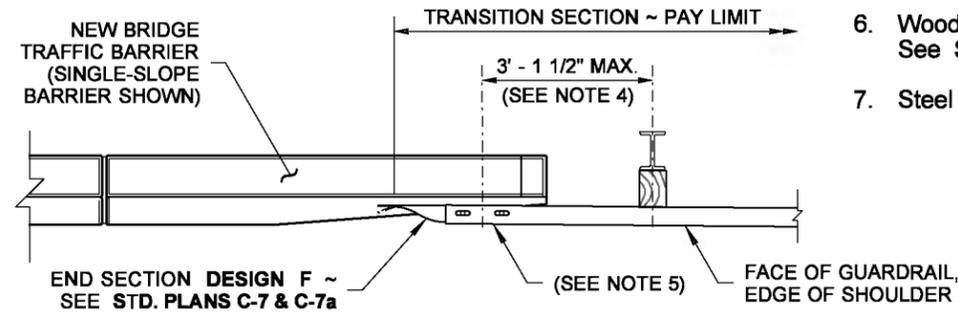
SHEET 1 OF 1 SHEET

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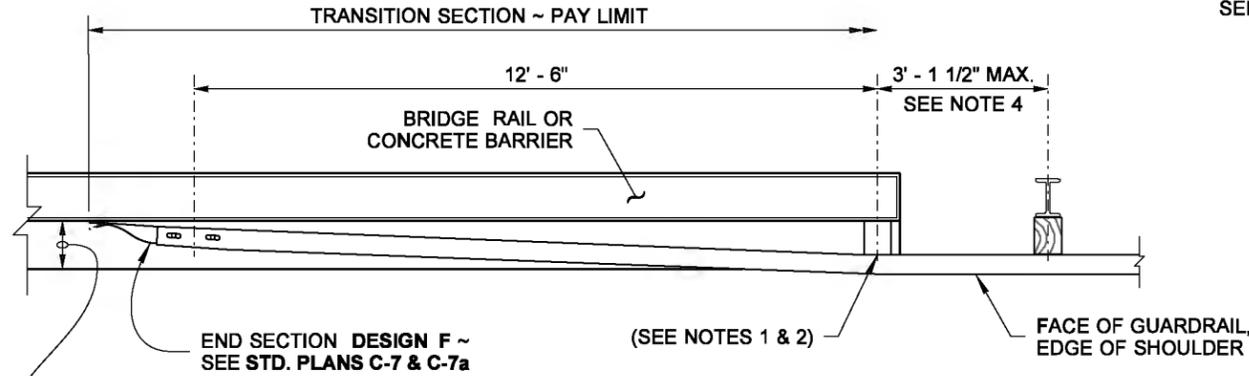
DRAWN BY: FERN LIDDELL



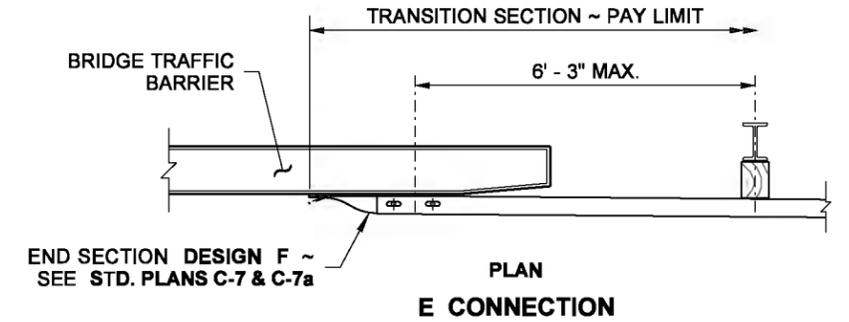
**PLAN
A CONNECTION**



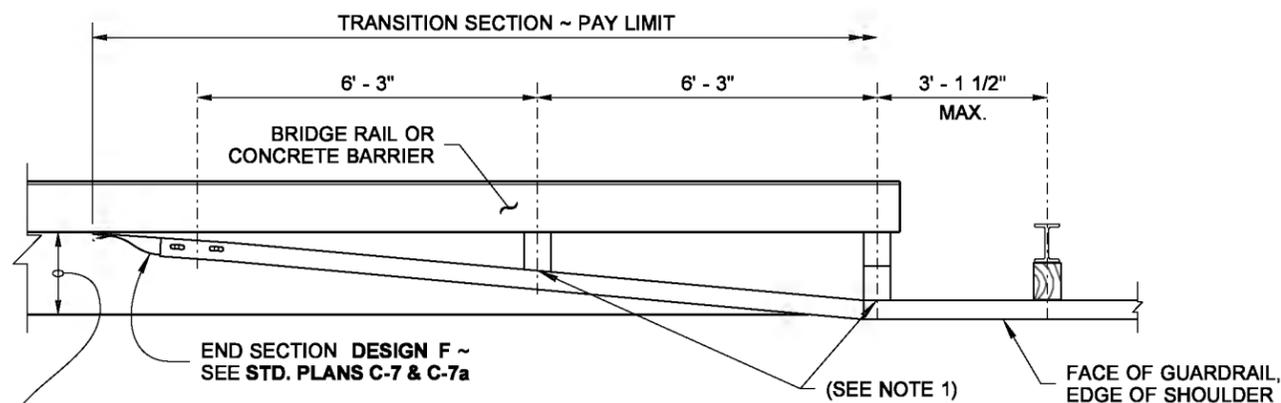
**PLAN
D CONNECTION
(SEE NOTE 3)**



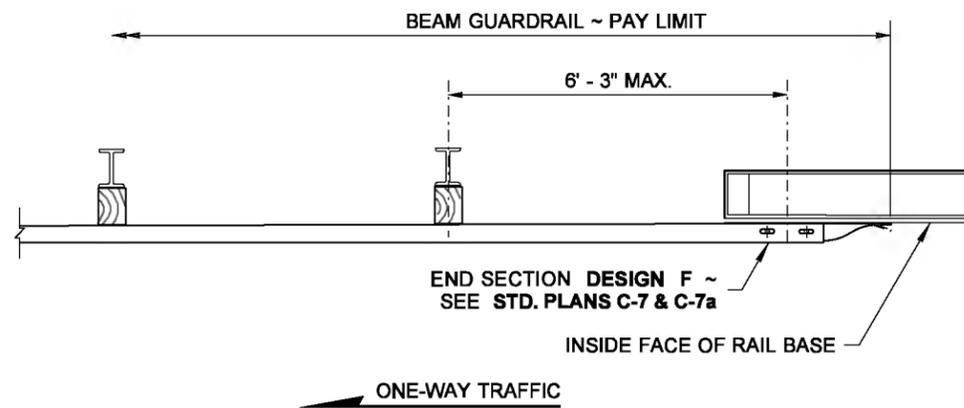
**PLAN
B CONNECTION**



**PLAN
E CONNECTION**



**PLAN
C CONNECTION**



**PLAN
F CONNECTION**

NOTES

1. Attach guardrail to bridge rail or concrete barrier with 7/8" (in) diameter bolts in accordance with **Standard Spec. 9-06.5(4)**, with thin slab ferrule inserts or resin-bonded anchors. See Contract Plans.
2. If the last guardrail post is 3" (in) or less from the end of the bridge barrier, this attachment and blockout is not necessary.
3. This case is also applicable for F-shape and vertical faces with no curbs.
4. When B connection is used with Type 1A Transition, the maximum spacing between bolts is 6' - 3".
5. See Bridge Plans for additional connection details.
6. Wood blocks shown. Blocks of alternate material may be used. See **Standard Specification 9-16.3 (2)**.
7. Steel posts shown. Timber posts may be used.



**GUARDRAIL CONNECTION
TO BRIDGE RAIL
OR CONCRETE BARRIER
STANDARD PLAN C-24.10-01**

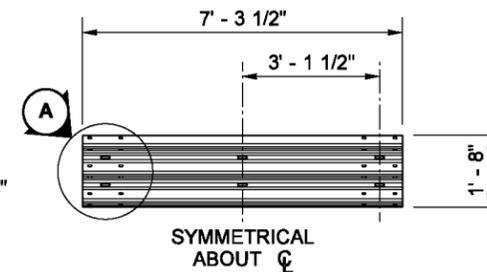
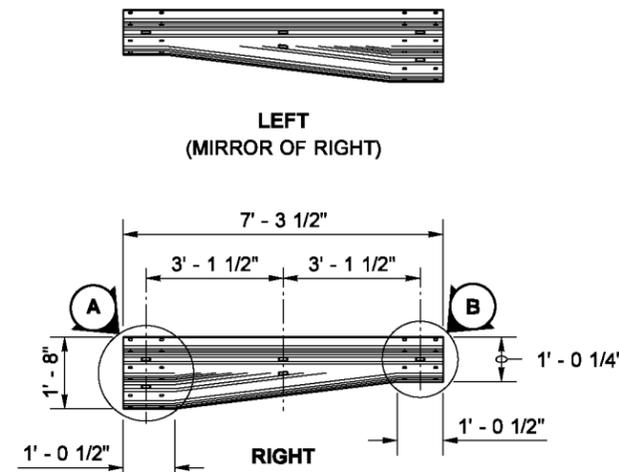
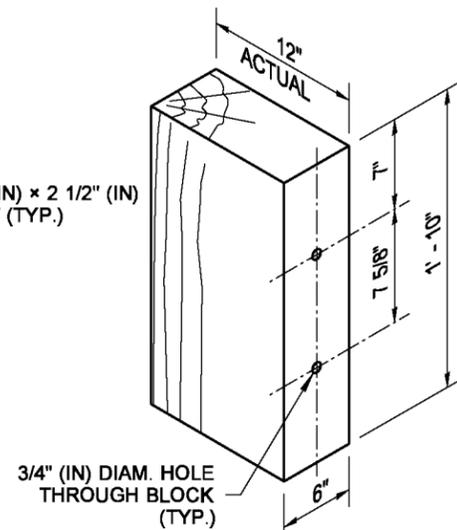
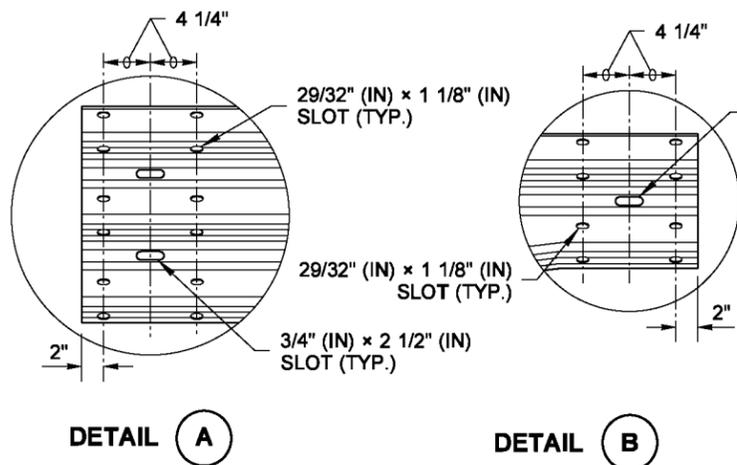
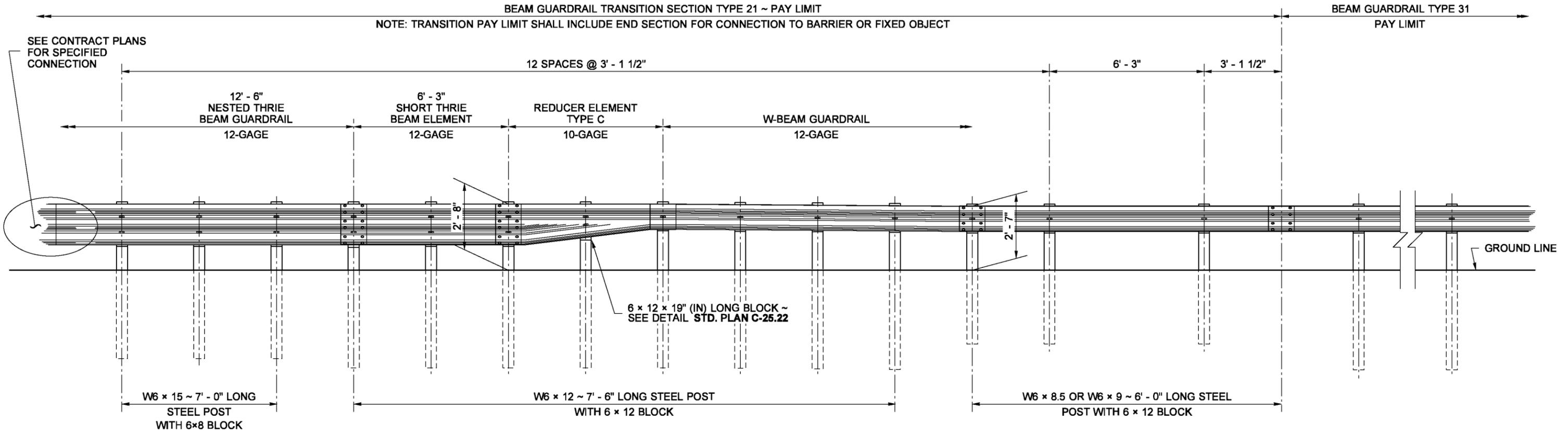
SHEET 1 OF 1 SHEET

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STATE DESIGN ENGINEER
Washington State Department of Transportation

NOTES

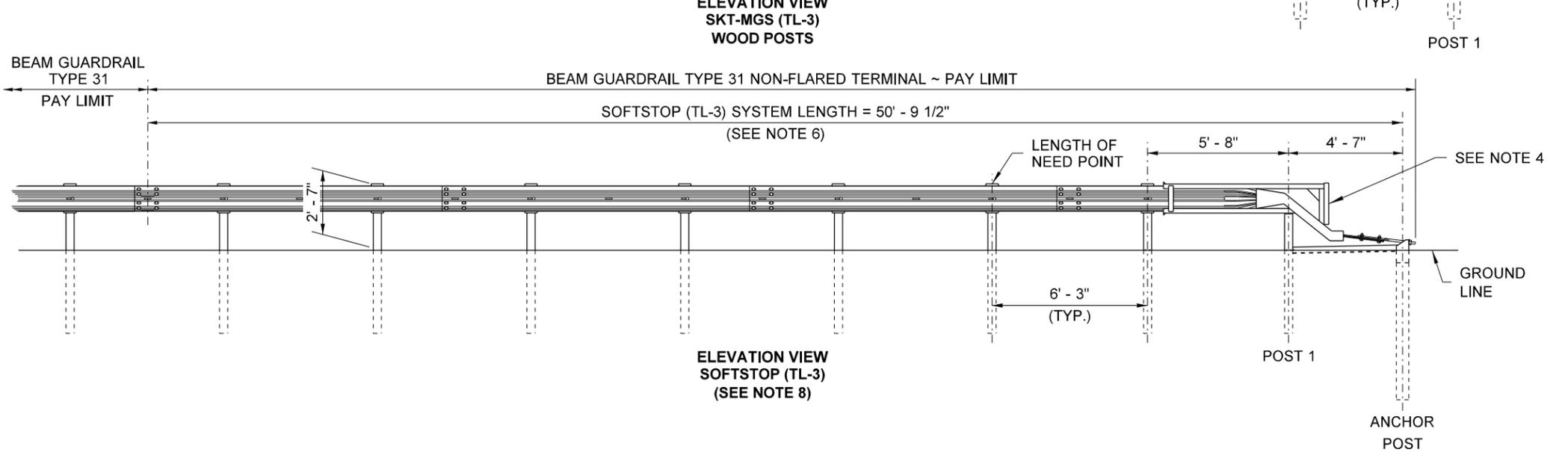
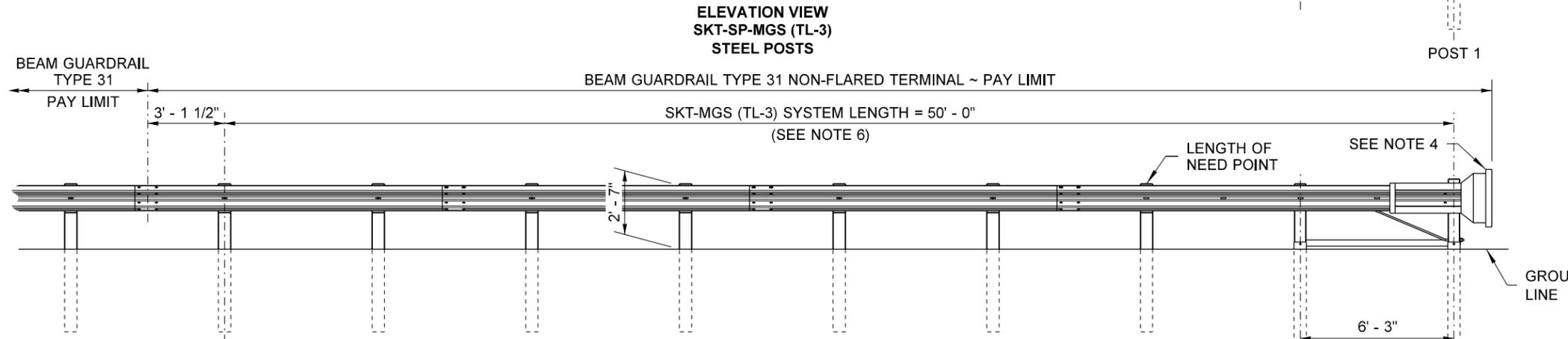
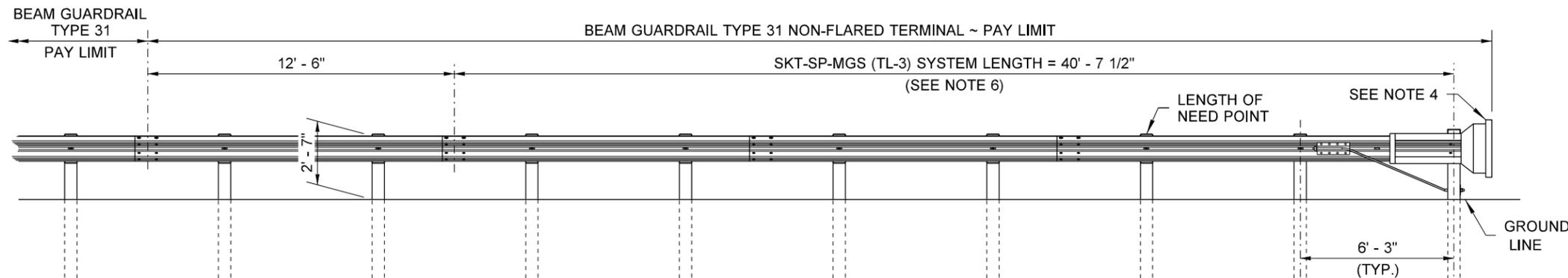
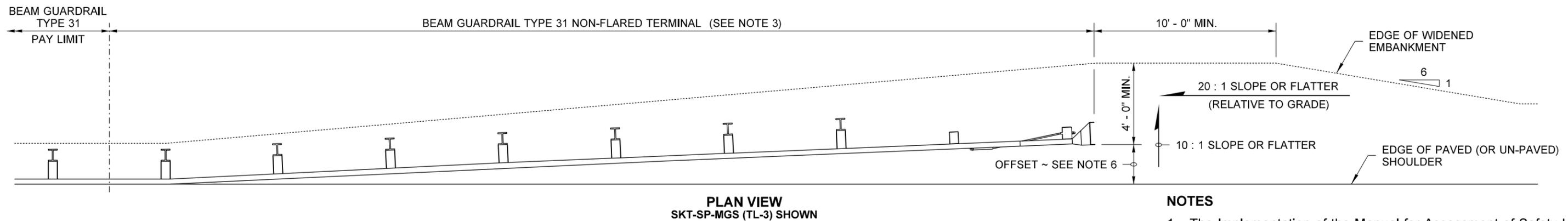
1. This guardrail transition is for connection to a vertical concrete shape, a single slope, or a safety-shape barrier. The toe of the single slope and the safety-shape barrier shall be tapered or the barrier blocked out so that the toe of the barrier does not project past the face of the approach guardrail.
2. See **Standard Plan C-24.10** for details regarding connection to bridge rail or traffic barrier.
3. For details of typical components, see **Standard Plans C-1b** and **C-20.10**.



**BEAM GUARDRAIL (TYPE 31)
TRANSITION SECTION
TYPE 21
STANDARD PLAN C-25.20-06**

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION



NOTES

1. The Implementation of the Manual for Assessment of Safety Hardware (MASH) criteria may result in the acceptance of guardrail terminal systems currently not shown on this plan, or the elimination of guardrail terminals that are on this plan. Non-Flared terminals shall be selected from the WSDOT Qualified Products List (QPL) or approved through the WSDOT Request for Approval of Materials (RAM) process.
2. This terminal is FHWA eligible at Test Level Three (TL-3) and may be used for all posted speeds.
3. An SKT-MGS (TL-3) or an SKT-SP-MGS (TL-3) as manufactured by Road Systems, Inc. or SOFTSTOP (TL-3) as manufactured by Trinity Highway Products, LLC shall be installed according to manufacturer's recommendations.
4. A reflectorized object marker shall be installed according to manufacturer's recommendations.
5. When snow load post washers and snow load rail washers are required by the Contract, the snow load rail washers shall not be installed within the terminal limits.
6. Terminal shall be installed at a widening, ensuring the end piece is entirely off the shoulder. While this terminal does not require an offset at the end, a flare is recommended. For the SKT-MGS (TL-3) and the SKT-SP-MGS (TL-3), a maximum flare of 25 : 1 or flatter over the length of the terminal is allowed with a maximum offset of 24" (in) over 50' (ft).
For the SOFTSTOP (TL-3) a maximum flare of 25.4 : 1 or flatter is allowed over the system length of 50' - 9 1/2" with a maximum offset of 24" (in) at the anchor post.
7. For terminal details, see WSDOT approved manufacturer's drawings.
8. The SOFTSTOP terminal is supplied with steel posts only. It can be used with guardrail runs composed of steel or wood guardrail posts.



**BEAM GUARDRAIL TYPE 31
NON-FLARED TERMINAL
(ALL POSTED SPEEDS)
STANDARD PLAN C-22.40-05**