

This graphic shows both currently approved and older systems. It is intended to help identify the various terminals that have been used over the years, and is not intended to identify those terminals that are currently approved.

2/15/18

# Common Energy Absorbing Guardrail Terminals

Non-Flared

## ET Trinity Highway Products, LLC. ET-2000

Installed by WSDOT until superseded by ET-Plus in ≈ 2000.

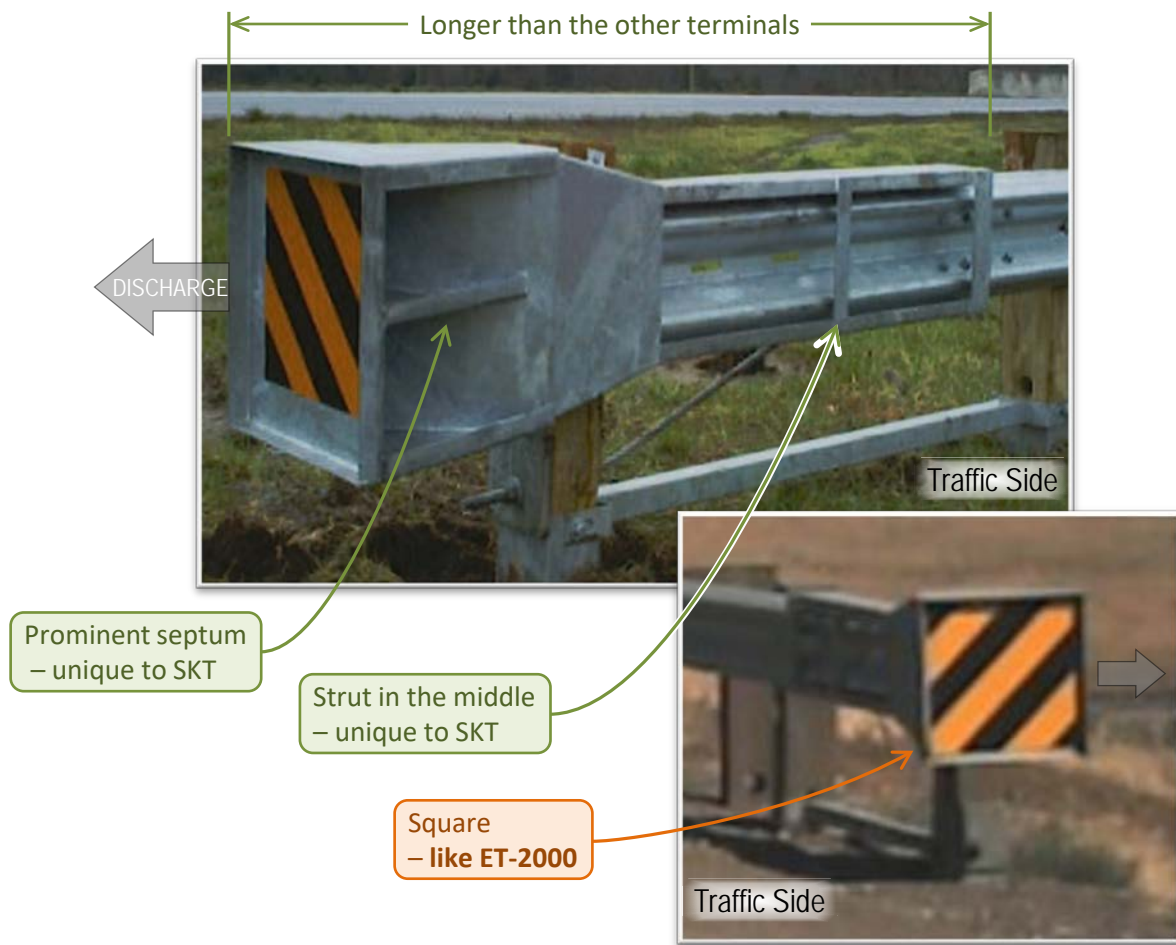


## ET-Plus / ET-31

Later generation of ET-2000.



## SKT Road Systems, Inc.



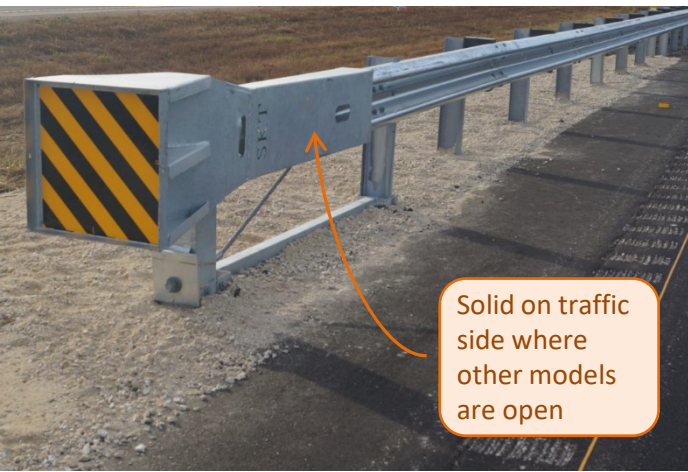
Non-Flared

## Softstop Trinity Highway Products, LLC.



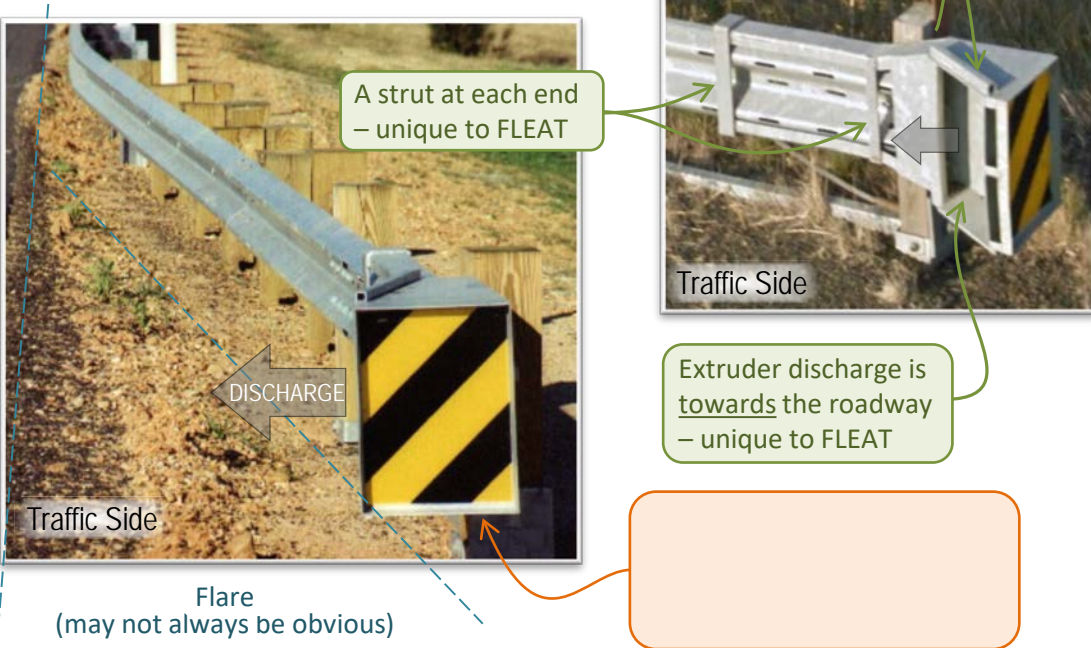
Image from Trinity Highway Products, LLC website.

## MSKT Road Systems, Inc.



The MSKT is an updated version of the SKT that is MASH compliant

## FLEAT Road Systems, Inc.



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Common Non-Energy Absorbing Guardrail Terminals

**SRT** Slotted Rail Terminal Trinity Highway Products, LLC.

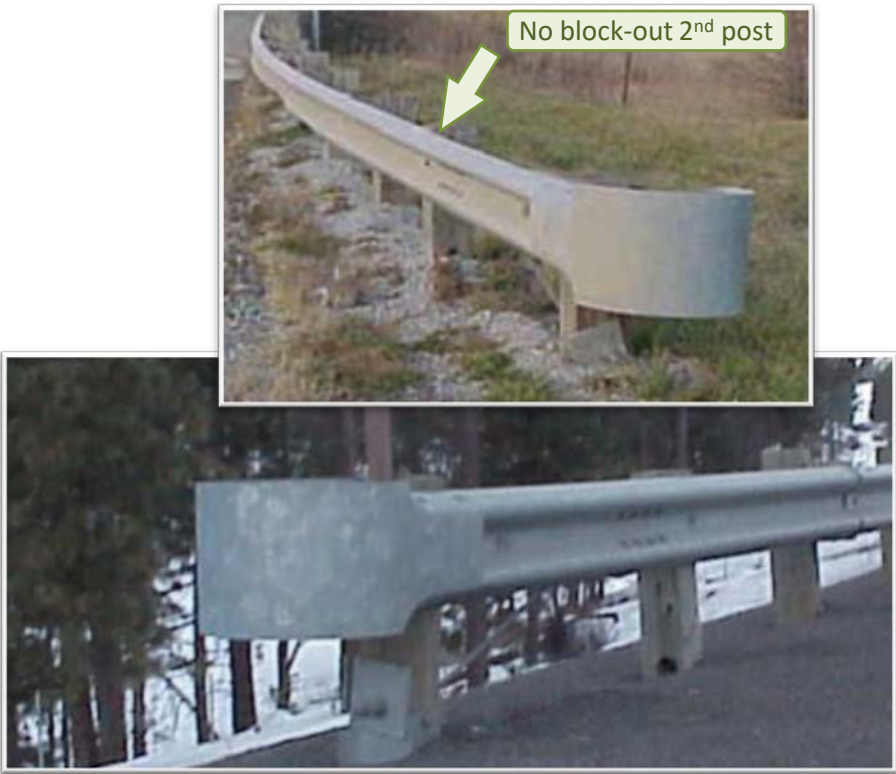


**Buried-In-Backslope** (Nonproprietary)

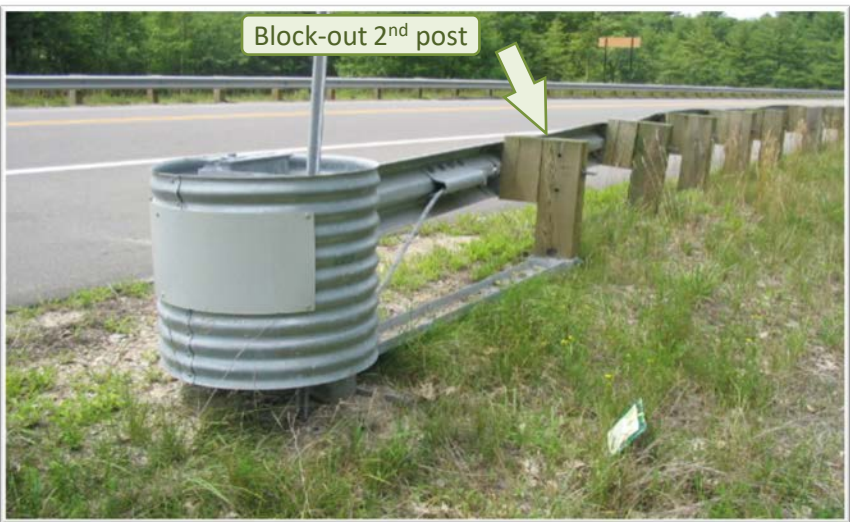
2/15/18



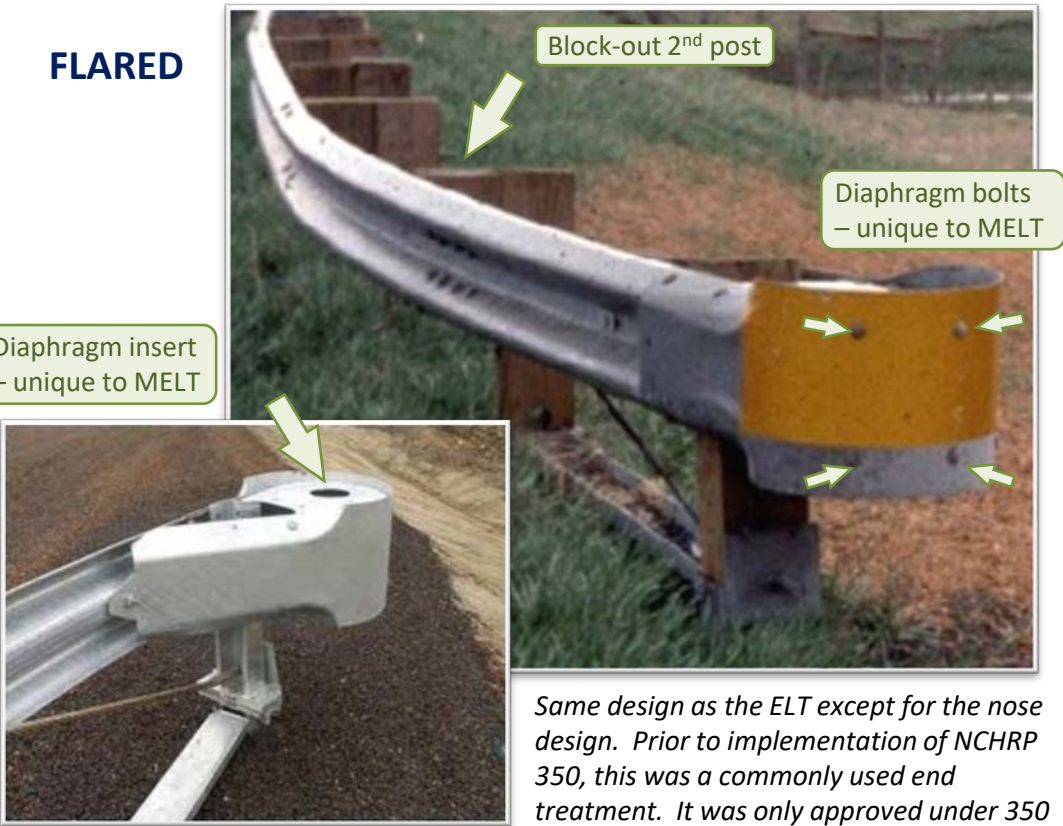
**BCT** Breakaway Cable Terminal



**ELT** Eccentric Loader Terminal (Nonproprietary)



**MELT** Modified Eccentric Loader Terminal (Nonproprietary)



Same design as the ELT except for the nose design. Prior to implementation of NCHRP 350, this was a commonly used end treatment. It was only approved under 350 for TL-2 (speeds 45 mph or less) applications.

## These notes are intended primarily for WSDOT Maintenance Staff

The manufacturer has stopped manufacturing the SKT head assembly, and is now only manufacturing the MSKT head assembly. The SKT and MSKT head assemblies are interchangeable. HOWEVER, just putting an MSKT head on an existing SKT terminal assembly does not make it a MASH compliant terminal. There are some other modifications necessary to make the terminal installation MASH compliant.

If you have further questions, see the Manufacturer's installation manual at: [Roadsystems.com](http://Roadsystems.com)

### Interchangeability between "Wood Post" MASH MSKT & NCHRP 350 SKT-W-MGS

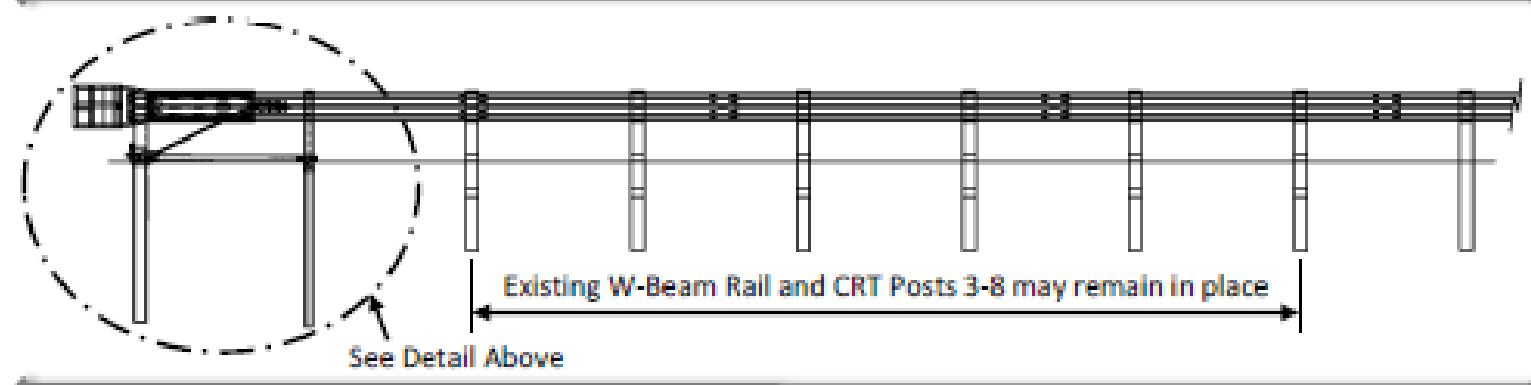
The following components are exactly the same for the Wood Post MASH MSKT and the Wood Post NCHRP 350 SKT-W-MGS:

#### Wood Post Version

- All W-Beam rail sections.
- CRT posts #3 and beyond.
- Cable anchor bracket and shoulder bolts.
- Cable assembly.
- Bearing plate.
- The MASH MSKT Impact Head may be used for new NCHRP 350 terminals or repairs of existing systems (any wood or steel post design option). Note this does not convert the NCHRP 350 SKT to a MASH terminal.
- The existing Wood Posts 1 & 2, Foundation Tubes, and Ground Strut must be replaced with MSKT upper and lower Steel Posts 1 & 2 and the new Ground Strut. See below.



MSKT Impact Head MSKT Upper & Lower Post 1 MSKT Ground Strut MSKT Upper & Lower Post 2

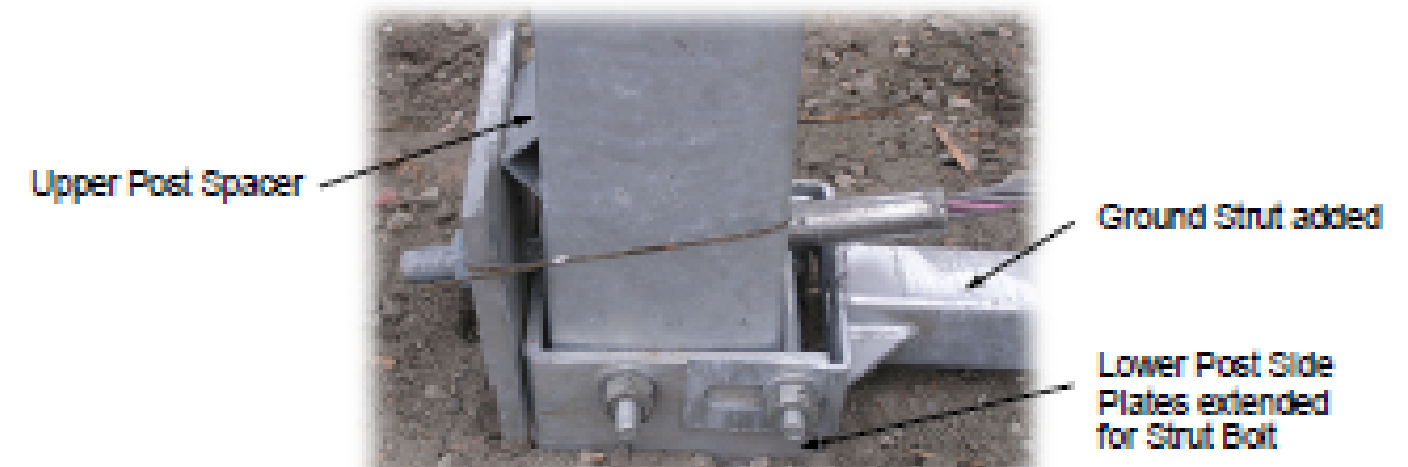


### Interchangeability between MASH MSKT and NCHRP 350 SKT-SP

The following components are exactly the same for the MASH MSKT and NCHRP 350 SKT-SP:

#### Steel Post Version

- All W-Beam rail sections.
- Post #2 upper.
- Posts #3 and beyond.
- Cable anchor bracket and shoulder bolts.
- Cable assembly.
- Bearing plate.
- All hardware, no new hardware for MSKT.
- The MASH MSKT Impact Head may be used for new NCHRP 350 terminals or repairs of existing systems (any steel or wood post design option). Note this does not convert the NCHRP 350 SKT to a MASH terminal.
- The MSKT uses a ground strut and requires another 5/8" bolt. See below.
- The MSKT upper post #1 has a spacer angle welded to the post. See below.
- The MSKT lower post #1 has longer side plates for the strut. See below.
- The MSKT lower post #2 is longer, but has been used in other SKT steel post systems.



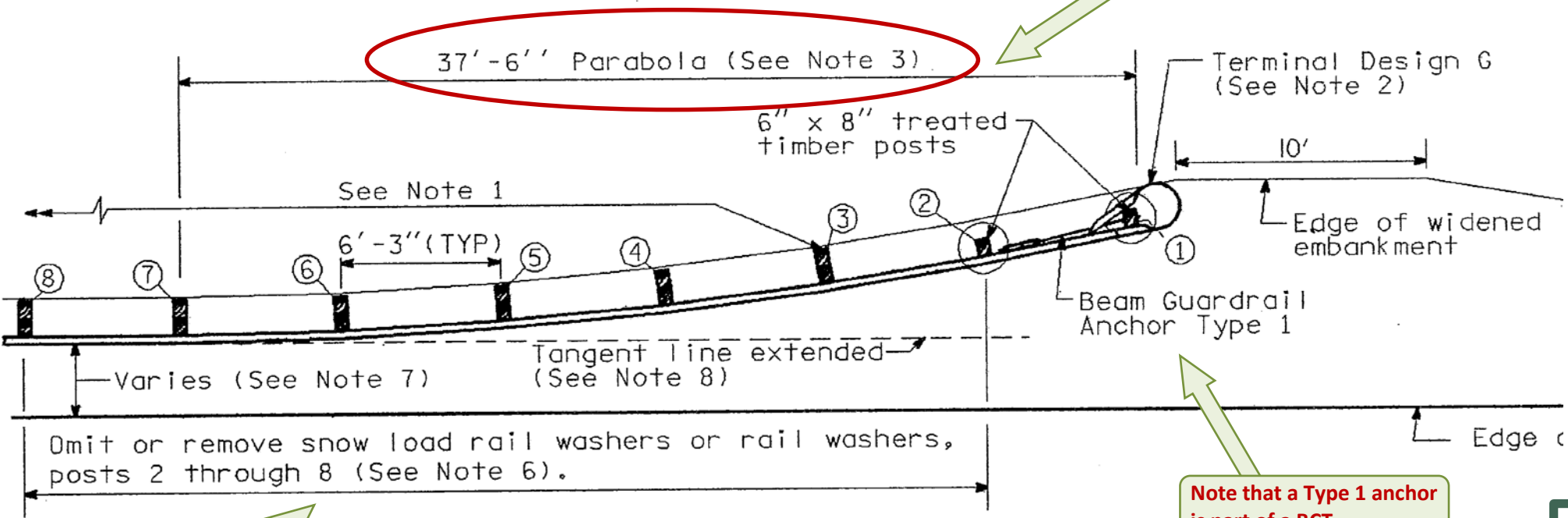
# Identifying BCT's – Distinguishing Characteristics

2/26/18

At first glance, a BCT may not look very different from a Type 1 anchor. This is because the BCT INCLUDES a Type 1 anchor. The most distinguishing characteristic of the BCT is the parabolic flare (as shown below)

## Parabolic Offset Distances

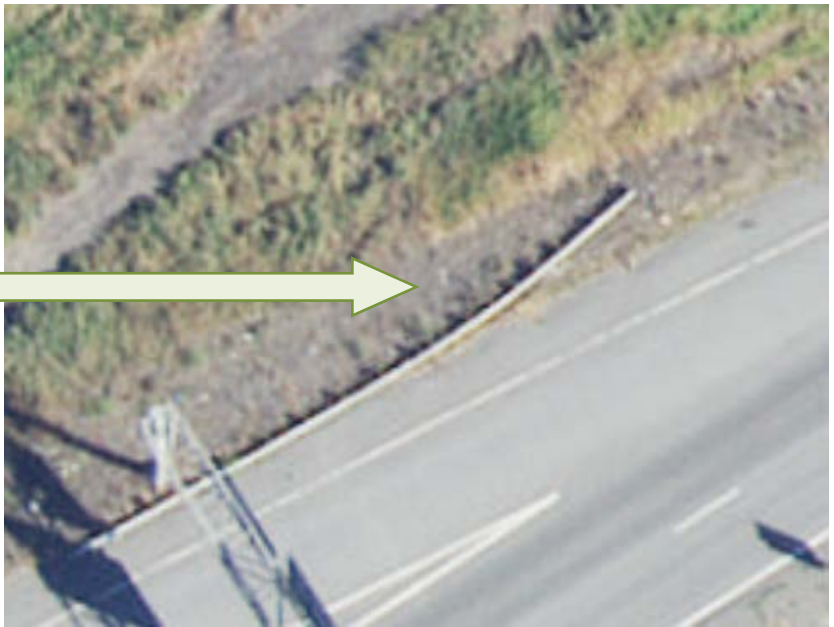
POST NO.	(7)	(6)	(5)	(4)	(3)	(2)	(1)
OFFSET DISTANCE	0.00'	0.11'	0.44'	1.00'	1.78'	2.78'	4.00'



PLAN  
BREAKAWAY CABLE TERMINAL (BCT)

If constructed correctly, a BCT will not have rail washers on posts 2 through 8

Parabolic shape is one key characteristic. However, there was a period of time when BCT's were installed without the parabola.



Note that a Type 1 anchor is part of a BCT

