



# GUARDRAIL 2020

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# OUTLINE

MASH Update

Temporary Work Zone Devices

New developments in Flared Terminals

Connecting to existing guardrail

# MASH UPDATE

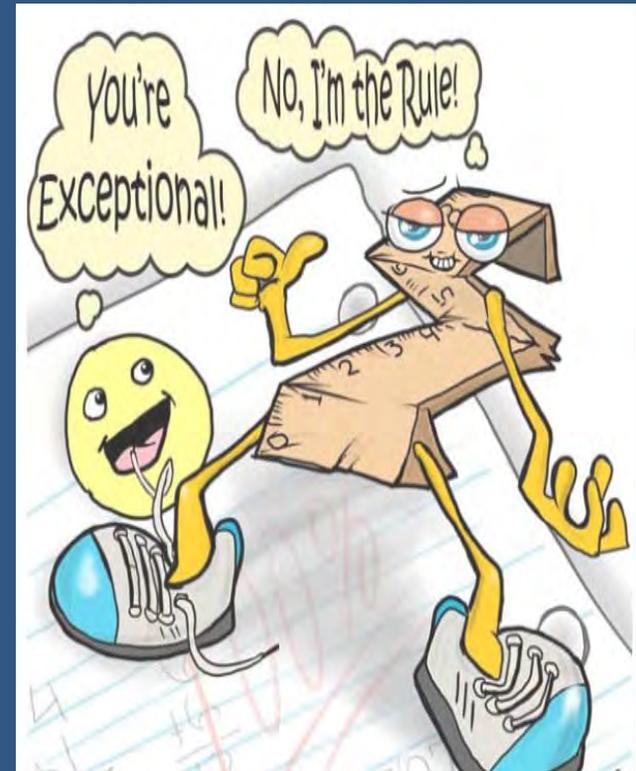
December 31, 2019

Last NCHRP 350 sunset date passed.

All types of highway safety hardware must now be  
**MASH - 2016** compliant.

# EXCEPTIONS

1. A MASH-2016 compliant device does not exist.
2. A MASH-2016 compliant device exists but does not meet the need.
3. The device is a temporary work zone device and was in use prior to December 31, 2019 and is still within its normal service life.



# TEMPORARY WORK ZONE DEVICES

Category 1: Cones, Drums (including lighted drums), Tubular Markers

Category 2: Barricades, Sign Stands, Lighted Cones



Qualified Products List for Cat. 1 & 2 devices:

Temporary Traffic Control Devices

*(doesn't include sign standards)*

# TEMPORARY WORK ZONE DEVICES

## Category 3: Portable Barriers, Portable Attenuators

(think jersey barriers...)

### Portable Barrier

**Qualified Products List** being developed for portable barrier.

**Standard Detail** being developed for temporary concrete barrier.

### Portable Attenuators

**Qualified Products List:**

**Crash Cushions/Impact Attenuators**



# TEMPORARY WORK ZONE DEVICES

Category 4: Truck mounted attenuators, message boards

Qualified Products List

Crash Cushion/Impact Attenuators *(doesn't include message boards)*



# SERVICE LIFE EXCEPTION



Any NCHRP 350 compliant temporary work zone device that was in use last year **can continue to be used** if it is functional, in good condition, and within its normal service life.

We are looking at defining “**normal service life**”...  
This may involve cutoff dates 5-10 years out.

# FLARED TERMINALS FOR 2020

- The **MFLEAT** is now available and has been added to the Terminals for W-Beam Guardrail QPL.
- **Other 31" NCHRP 350 terminals** are still listed on the QPL for the 2020 construction season.

Choices for this year:

31" FLEAT

NCHRP 350

MFLEAT

MASH – 2016

31" SRT

NCHRP 350

# MEET THE MFLEAT

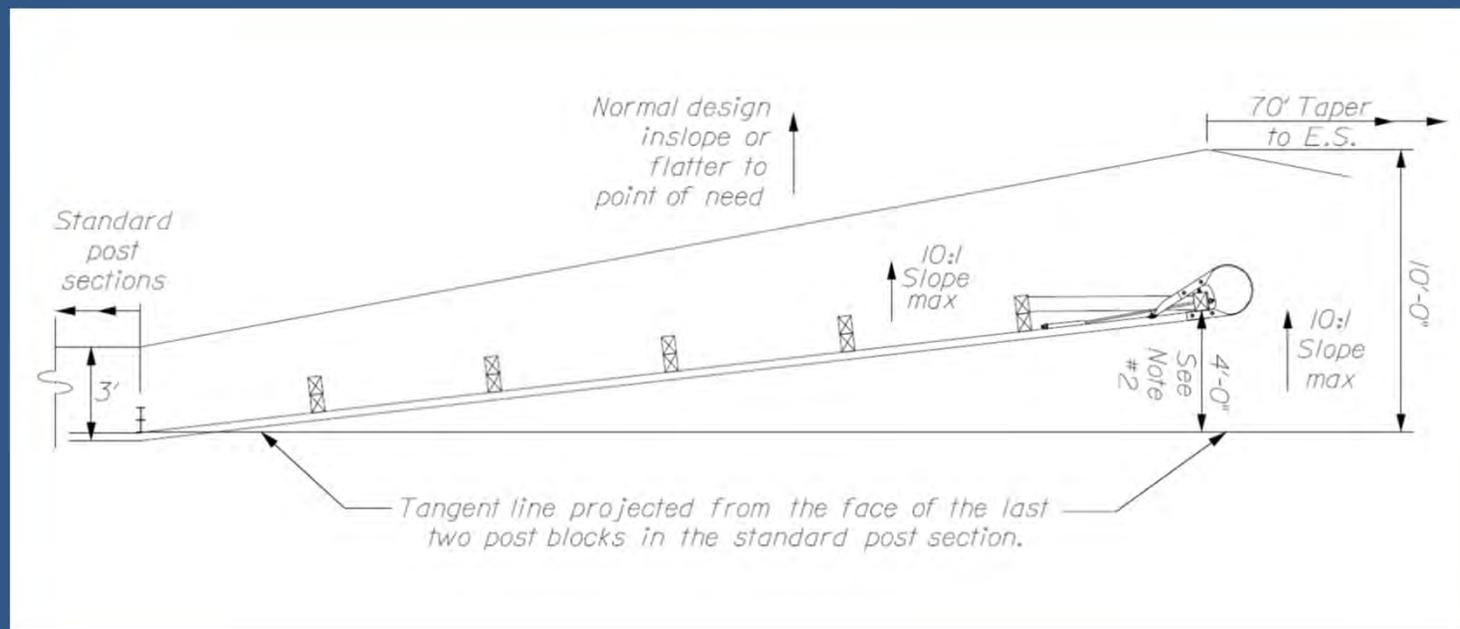


# HOW IS THE MFLEAT DIFFERENT?

<b>MFLEAT</b>	<b>FLEAT 350</b>
<b>39'-7" straight flared length</b>	37'-6" straight flared length
<b>3-ft. offset</b>	4-ft. offset
<b>Three steel Hinged Posts (#1, #2, #3)</b>	Two steel Hinged Posts (#1,#2)
<b>6'-3" and 4'-2" post spacing</b>	6'-3" post spacing

# HOW IS THE MFLEAT DIFFERENT?

Guardrail Widening would be constructed to the same dimensions as before.



# FLARED TERMINALS FOR 2020



We are NOT installing 27" terminals!

# GUARDRAIL POLICY



What has **changed** starting in 2020?

**MELTs** on Corridor Priority 1 & 2 roads must be replaced!

All **BCTs** and **Low Volume Ends** must be replaced!

Replace with terminals from the **Terminals for W-Beam Guardrail QPL**.

# GUARDRAIL POLICY



What has **NOT** changed in 2020?

All Existing **FLEATs** and **SRTs** in good condition can be left in place!

**MELTs** in good condition can be left on Corridor Priority 3&4 roads!

# CONNECTIONS

31" Midway Splice Guardrail  27 3/4" Guardrail:

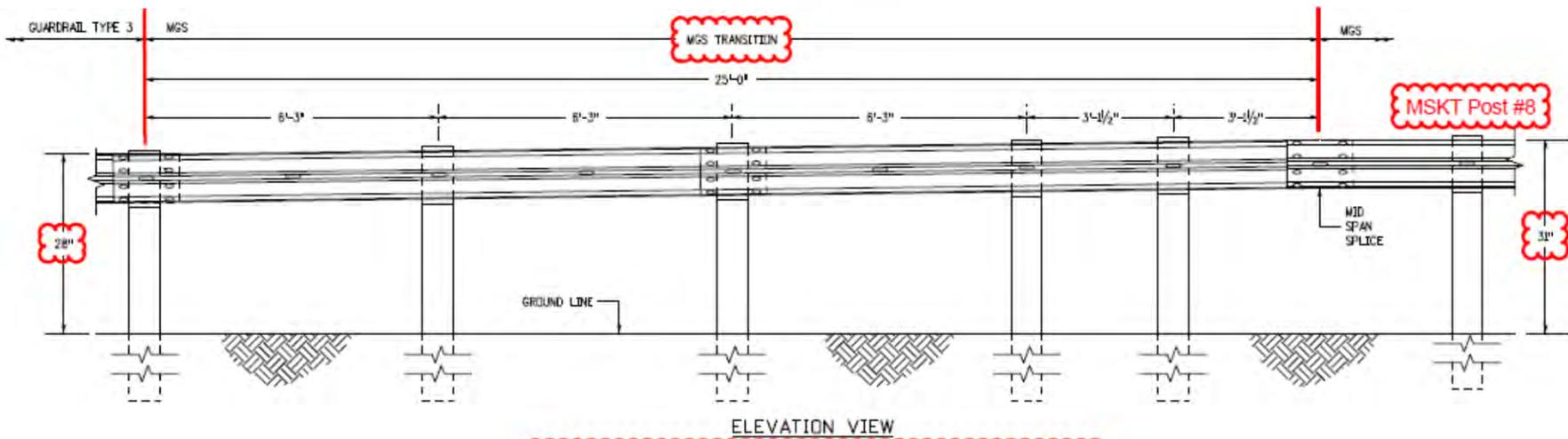
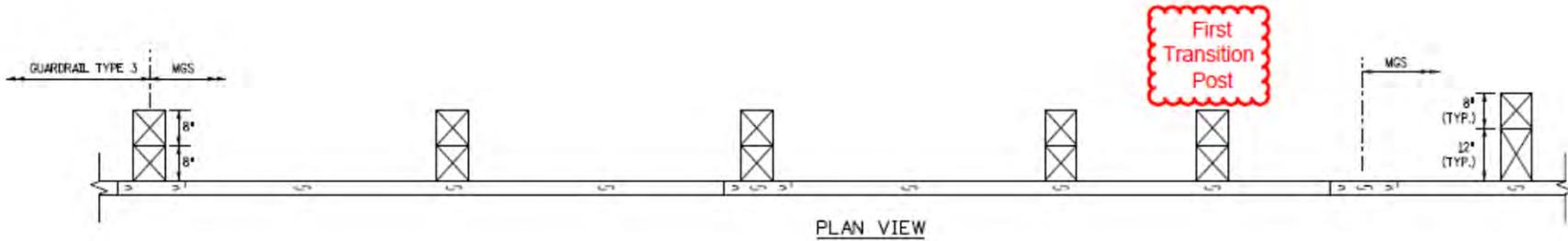
Height transition must be spread out over at least **25 feet**.

- Transition must take place within the existing rail section.
- Several existing posts will need to be adjusted.

An **extra post** or a **shorter rail section** will be needed.

NOTES

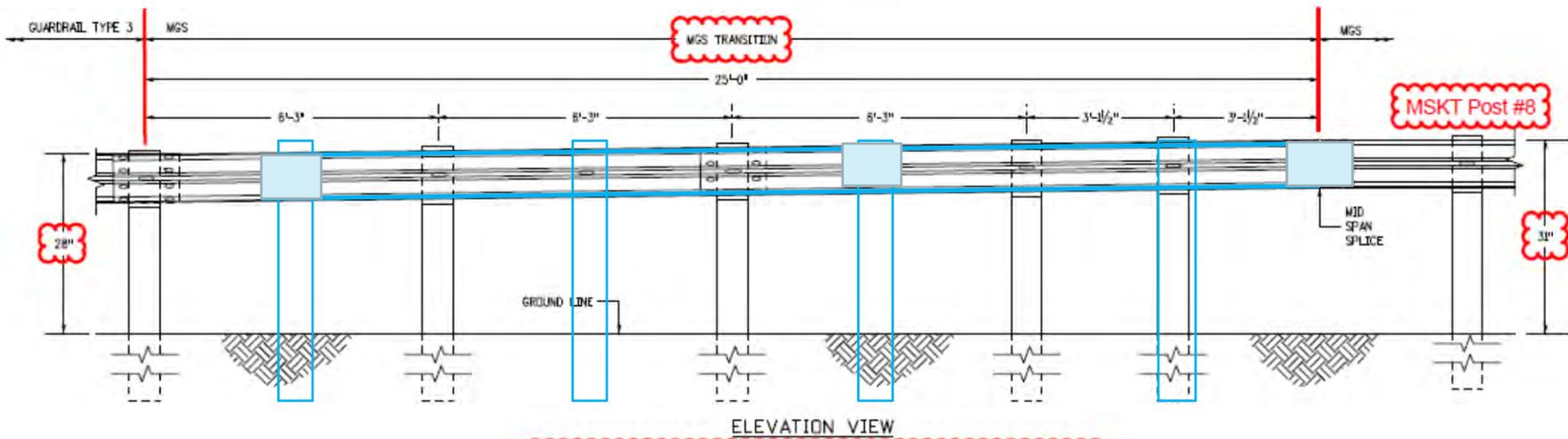
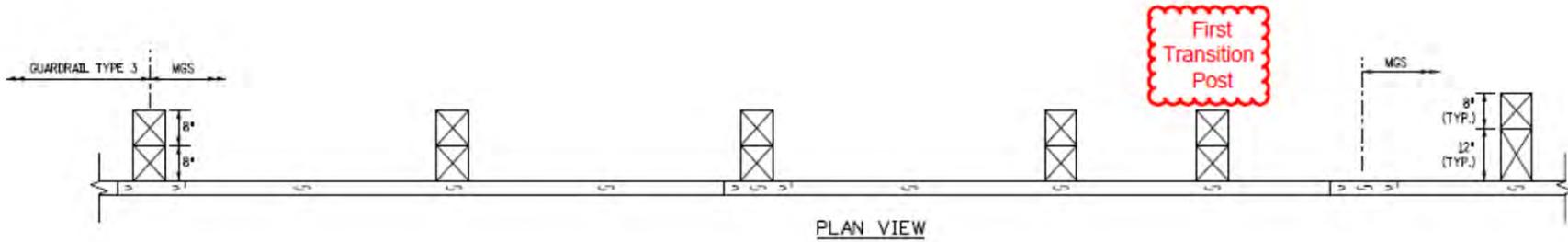
1. THE MGS TRANSITION FROM A TYPE 3 GUARDRAIL SHALL BE COMPLETED OUTSIDE THE MGS END ANCHORAGE LIMITS.



TRANSITION FROM 28 INCH GUARDRAIL TO 31 INCH MGS

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TRANSITION FROM 28 INCH GUARDRAIL TO 31 INCH MGS

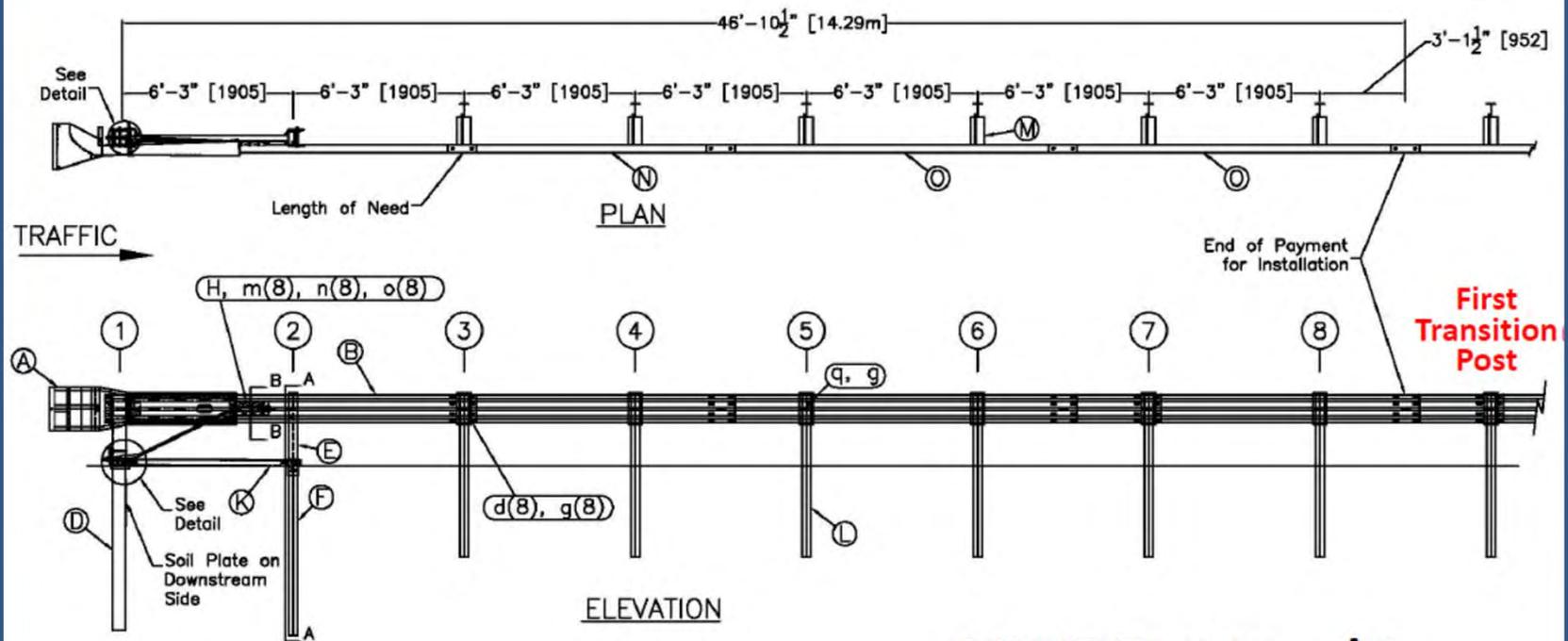
# CONNECTIONS

31" Midway Splice Terminal  27 3/4" Guardrail:

Height transition must be spread out over at least 25 feet.

- Transition must take place outside the limits of the terminal.
- Several existing posts will need to be adjusted.

An extra post or a shorter rail section will be needed.



### MSKT Test Level 3

# MISCELLANEOUS REMINDERS

1. If you are adjusting existing guardrail, height should not exceed 30"
2. Standard post length is 7 feet. With a reduced berm, 8 foot posts are required.
3. Under no circumstances should guardrail posts within terminals be cut for any reason.
4. Section 606 was updated but **not included** in the 2020 Standard Specs. **Make sure to refer to the Repair Spec!!**