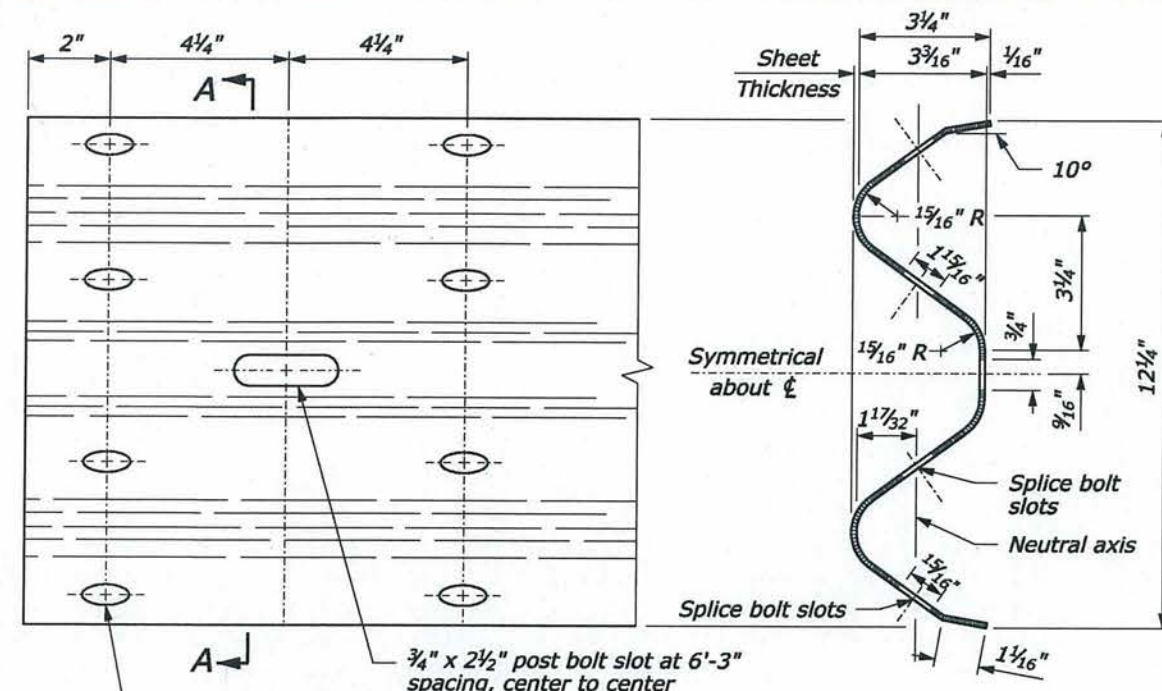


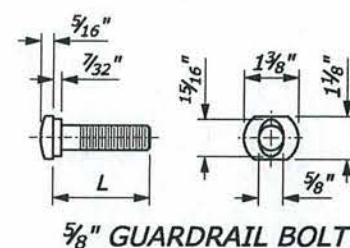
| STATE | PROJECT      | SHEET NO. | TOTAL SHEETS |
|-------|--------------|-----------|--------------|
| HI    | HI A-AD 6(7) | T1        | T101         |



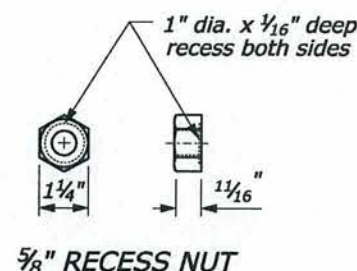
RAIL ELEMENT ELEVATION

SECTION A-A

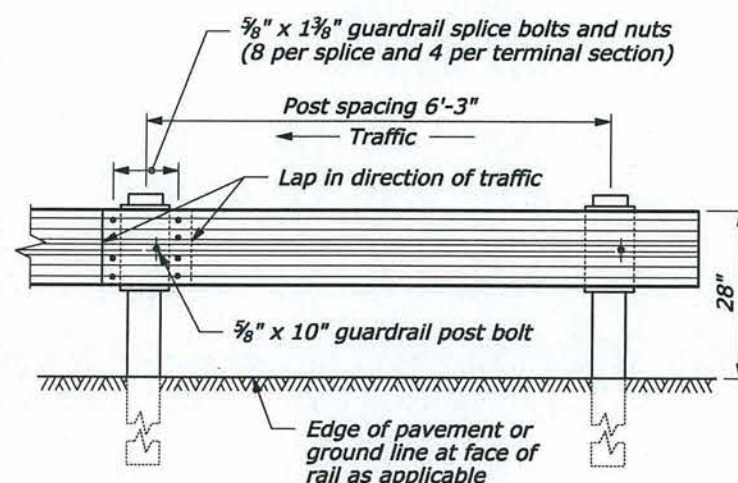
W BEAM RAIL MEMBERS



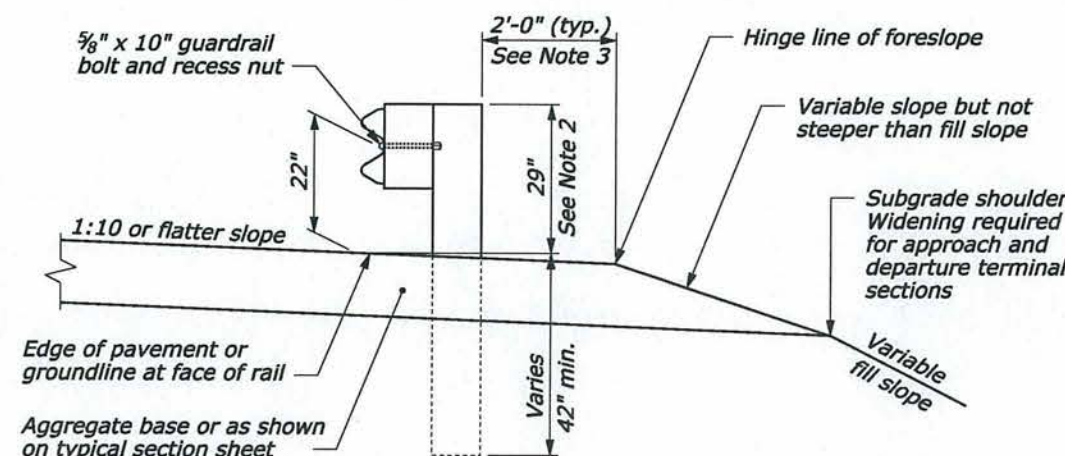
| L      | Thread Length  |
|--------|----------------|
| 1 3/8" | 1 1/8" minimum |
| 2"     | 1 3/4" minimum |
| 10"    | 4" minimum     |
| 18"    | 4" minimum     |
| 25"    | 4" minimum     |



GUARDRAIL BOLT AND RECESS NUT



POST SPACING  
STANDARD POST SECTION



TYPICAL GUARDRAIL CROSS SECTION

AS-BUILT DRAWINGS/SPECIFICATIONS  
This certifies that the dimensions and details shown on this sheet reflect the dimensions and details and specifications as constructed in the field.

GOODFELLOW BROS., INC.  
Contractor's Name:

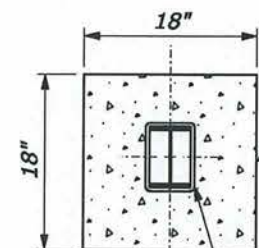
Signature: *[Signature]* Date: 1/2/14

This work was prepared by me  
or under my supervision  
*[Signature]*  
Expiration Date of License 4/30/2014

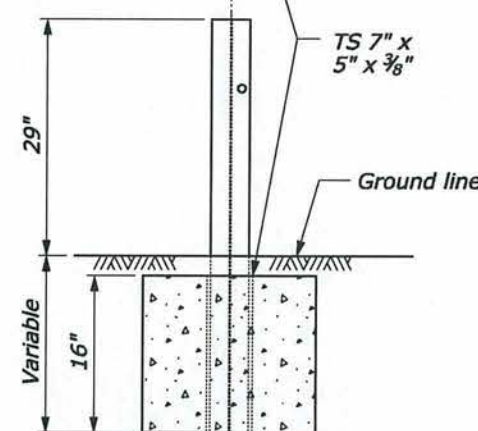


NOTE:

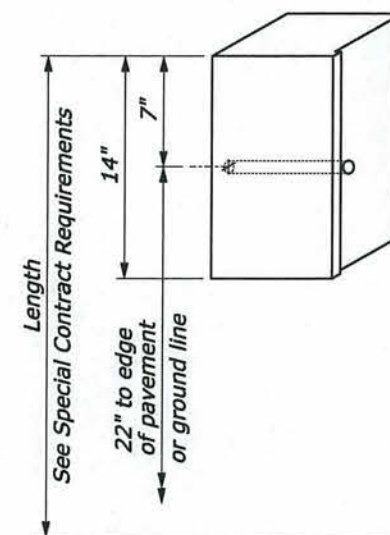
1. Use no more than 3 short guardrail posts in a row.
2. Use alternate hole arrangement, post above ground shall be 33 inches tall.
3. See Special Contract Requirements when 7'-0" or longer posts are specified.
4. Install reflector tab between post bolt and rail, every fourth post. Alternate reflector tab shapes are acceptable.
5. Dimensional tolerances not shown or implied are intended to be those consistent with the proper functioning of the part, including its appearance, and accepted manufacturing practices.
6. See Special 617-B for steel post and block detail.



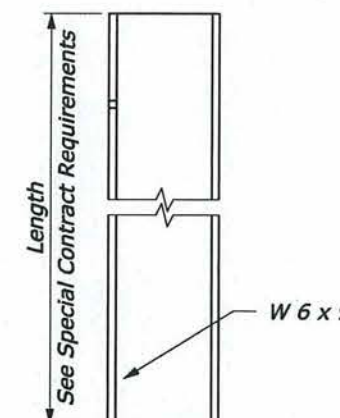
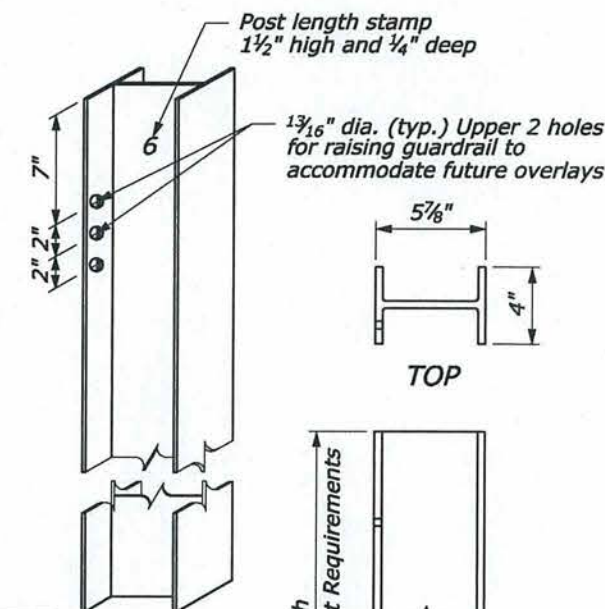
Use 20" diameter round anchor  
or 18" square anchor. Reduced  
size acceptable in solid rock.



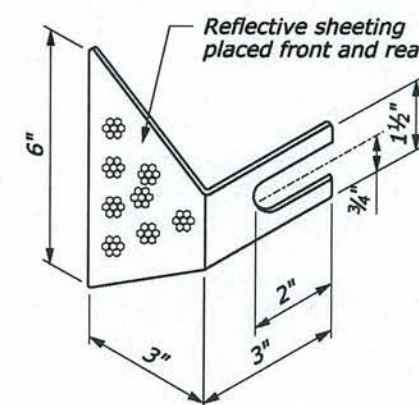
CONCRETE ANCHOR FOR  
SHORT GUARDRAIL POST  
(See Note 1 and 2)



ALTERNATE HOLE ARRANGEMENT  
POST AND BLOCK DETAIL



STRUCTURAL SHAPE POST



REFLECTOR TAB  
(See Note 4)

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

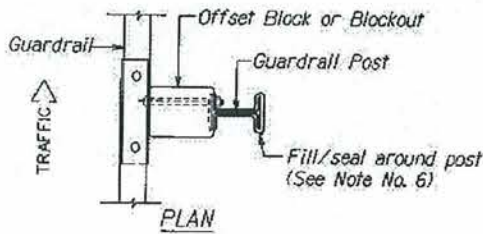
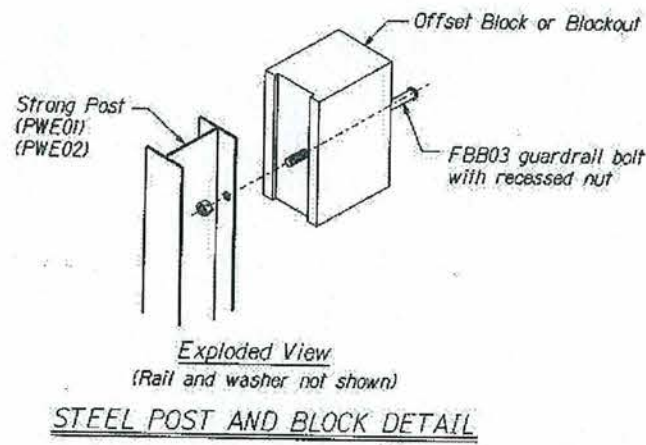
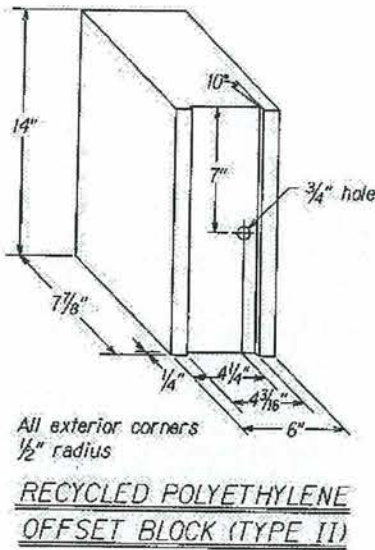
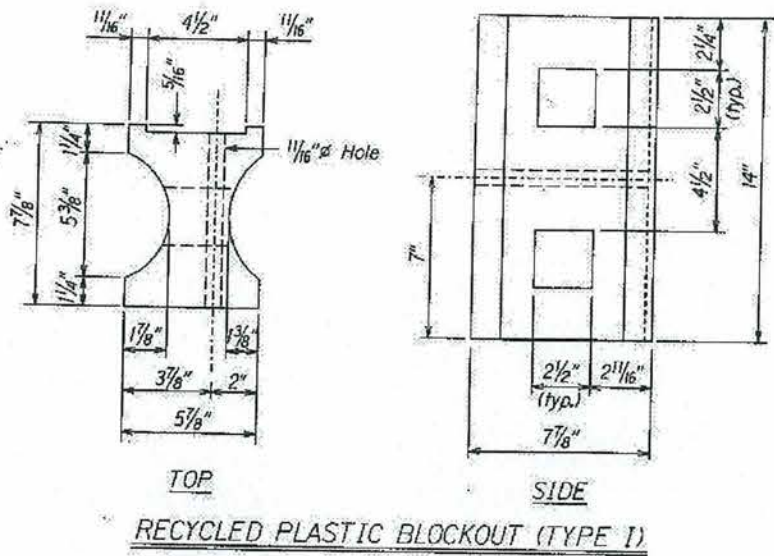
U.S. CUSTOMARY SPECIAL  
**G4 W-BEAM GUARDRAIL  
STEEL POSTS**

SPECIAL  
617-A

| STATE | PROJECT      | SHEET NO. | TOTAL SHEETS |
|-------|--------------|-----------|--------------|
| HI    | HI A-AD 6(7) | T2        | T101         |

GENERAL NOTES

1. The Recycled Plastic Block or Offset Block shall be approved by the CO.

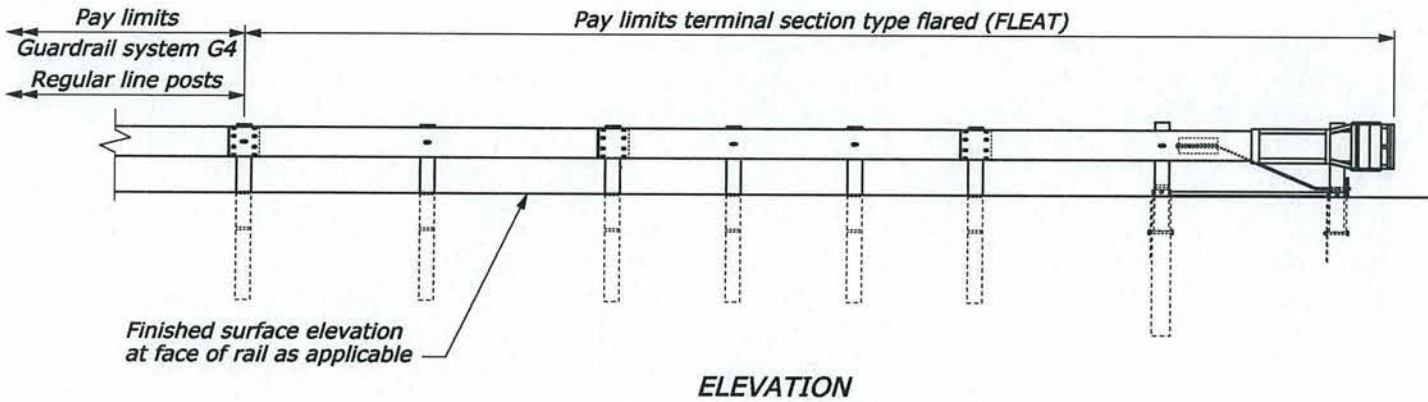
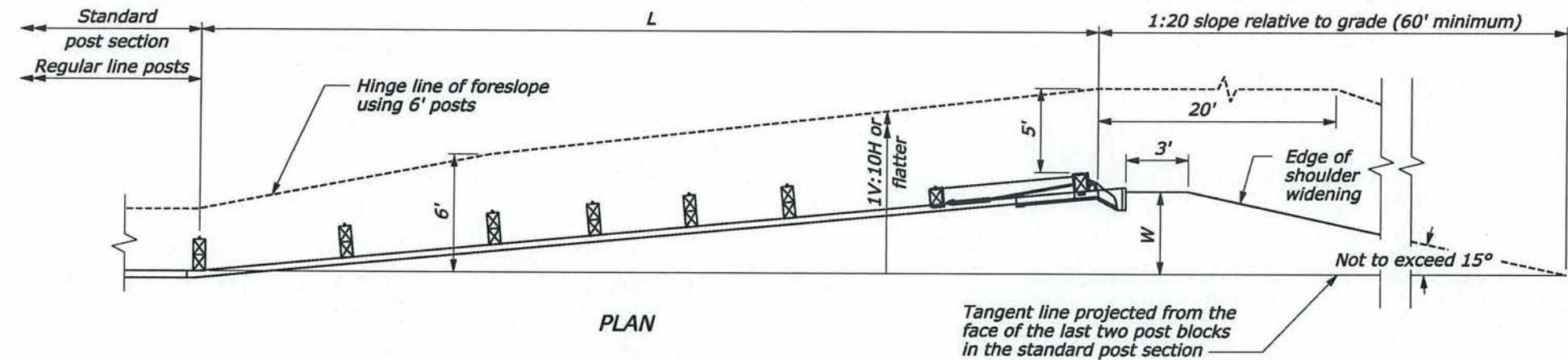


**AS-BUILT DRAWINGS/SPECIFICATIONS**  
This certifies that the dimensions and details shown on this sheet reflect the dimensions and details and specifications as constructed in the field.  
**GOODFELLOW BROS., INC.**  
Contractor's Name:  
*Yuri Kono* Signature  
1/2/14 Date



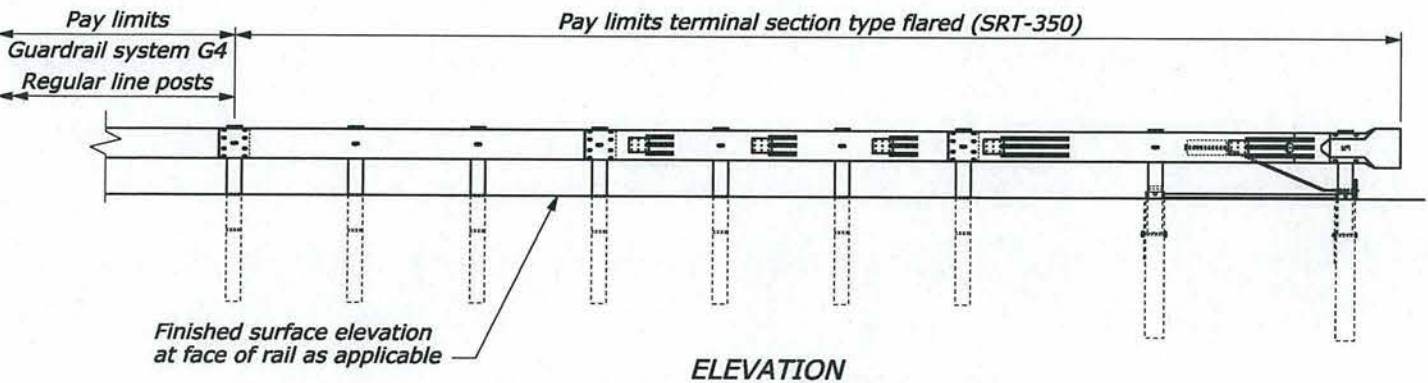
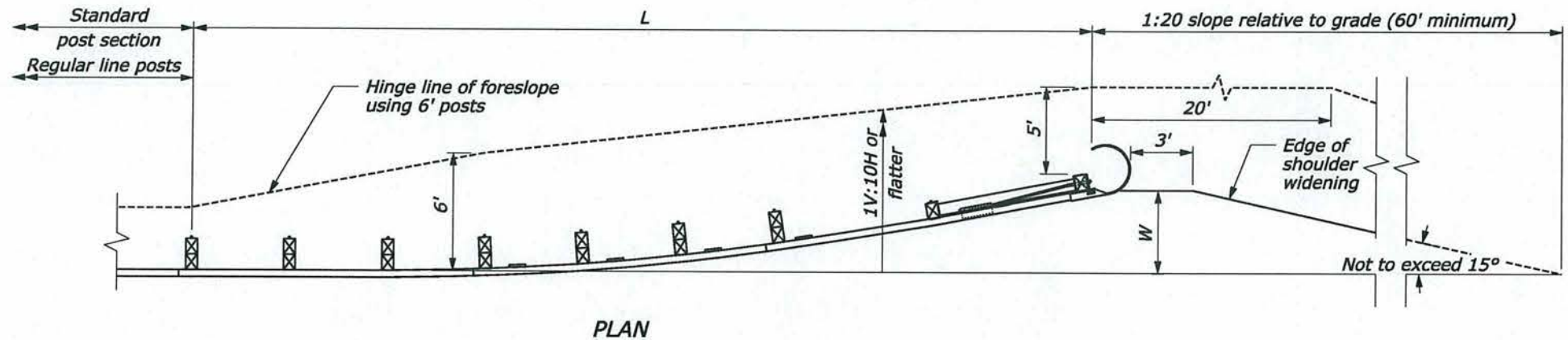
This work was prepared by me or under my supervision  
*Daniel A. Liddle*  
Expiration Date of License 4/30/2014

|   |  |
|---|--|
| U.S. DEPARTMENT OF TRANSPORTATION<br>FEDERAL HIGHWAY ADMINISTRATION<br>CENTRAL FEDERAL LANDS HIGHWAY DIVISION |  |
| U.S. CUSTOMARY SPECIAL  |  |
| <b>GUARDRAIL STEEL POST<br/>AND BLOCK DETAIL</b>  |  |
| SPECIAL<br>617-B  |  |



**STRAIGHT FLARED OPTION**

| TEST LEVEL         | L (ft) | W (ft)    |
|--------------------|--------|-----------|
| 2 ( $\leq 45$ mph) | 25.0   | 1.67-2.67 |
| 3 ( $> 45$ mph)    | 37.5   | 2.5-4.0   |



**PARABOLIC FLARED OPTION**

| TEST LEVEL      | L (ft) | W (ft)     |
|-----------------|--------|------------|
| 3 ( $> 45$ mph) | 37.5   | 3.0 or 4.0 |

**NOTE:**

1. Install a flared G4 W-beam guardrail terminal that meets NCHRP-350 requirements per manufacturer's recommendations. Ensure that terminal meets appropriate test level for the project.
2. Where terminal is placed on a curve, and post offsets would result in the rail encroaching onto the shoulder (e.g., the inside of a curve), install the posts so that the face of the rail is at the edge of the shoulder.
3. Pave widened shoulder on both ends of guardrail runs when indicated on the plans.
4. See manufacturer's drawings for other details.

**AS-BUILT DRAWINGS/SPECIFICATIONS**

This certifies that the dimensions and details shown on this sheet reflect the dimensions and details and specifications as constructed in the field.

**GOODFELLOW BROS., INC.**  
Contractor's Name:

Signature: *[Signature]* Date: 1/2/14



This work was prepared by me or under my supervision

*[Signature]*

Expiration Date of License 4/30/2014

My responsibility with respect to this plan sheet is limited to the selection of the standard plans for this project and a determination that the selection is appropriate for the project.

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

U.S. CUSTOMARY STANDARD

**G4 W-BEAM GUARDRAIL  
TYPE FLARED TERMINAL**

STANDARD APPROVED FOR USE 6/2005

REVISED:  
DRAFT: 2/2007

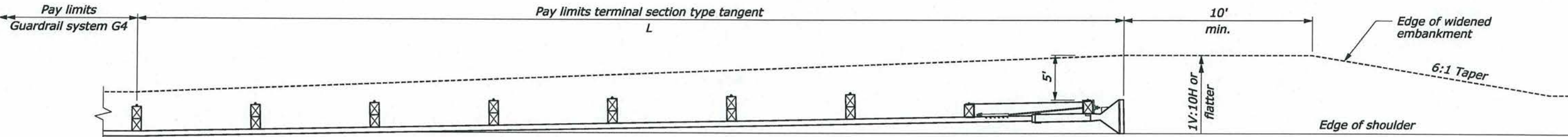
STANDARD  
617-19

NO SCALE

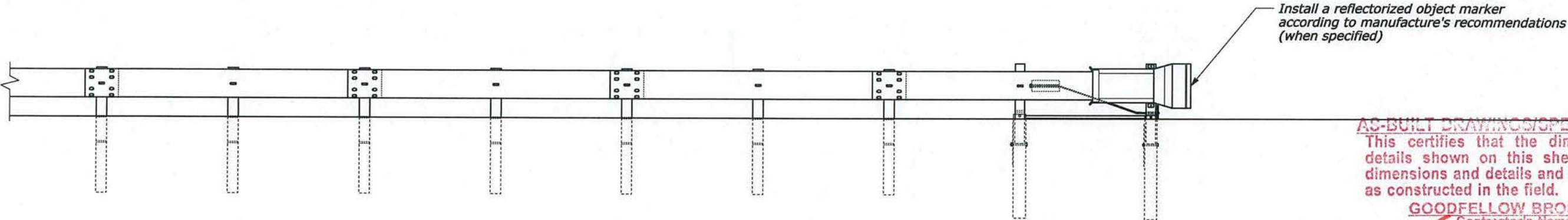
| REG | STATE | PROJECT      | SHEET NO. | TOTAL SHEETS |
|-----|-------|--------------|-----------|--------------|
|     | HI    | HI A-AD 6(7) | T4        | T101         |

NOTE:

1. Install a tangent G4 W-beam guardrail terminal that meets NCHRP-350 requirements per manufacturer's recommendations. Ensure that terminal meets appropriate test level for the project.
2. Install terminal at a 1:50 taper, ensuring that end piece is entirely off shoulder.
3. See manufacturer's drawings for other details.



PLAN



ELEVATION

| TEST LEVEL         | L (ft)     |
|--------------------|------------|
| 2 ( $\leq 45$ mph) | 25         |
| 3 ( $> 45$ mph)    | 37.5 or 50 |

AS-BUILT DRAWINGS/SPECIFICATIONS  
This certifies that the dimensions and details shown on this sheet reflect the dimensions and details and specifications as constructed in the field.

GOODFELLOW BROS., INC.  
Contractor's Name:

Signature: *[Signature]* Date: 1/21/14



My responsibility with respect to this plan sheet is limited to the selection of the standard plans for this project and a determination that the selection is appropriate for the project.

This work was prepared by me or under my supervision

*Daniel A. Liddle*  
Expiration Date of License 4/30/2014

NO SCALE

|  |          |
|--|----------|
| U.S. DEPARTMENT OF TRANSPORTATION<br>FEDERAL HIGHWAY ADMINISTRATION<br>FEDERAL LANDS HIGHWAY |          |
| U.S. CUSTOMARY STANDARD  |          |
| <b>G4 W-BEAM GUARDRAIL<br/>TYPE TANGENT TERMINAL</b>   |          |
| STANDARD APPROVED FOR USE 6/2005   | STANDARD |
| REVISED:<br>DRAFT: 2/2007  | 617-20   |