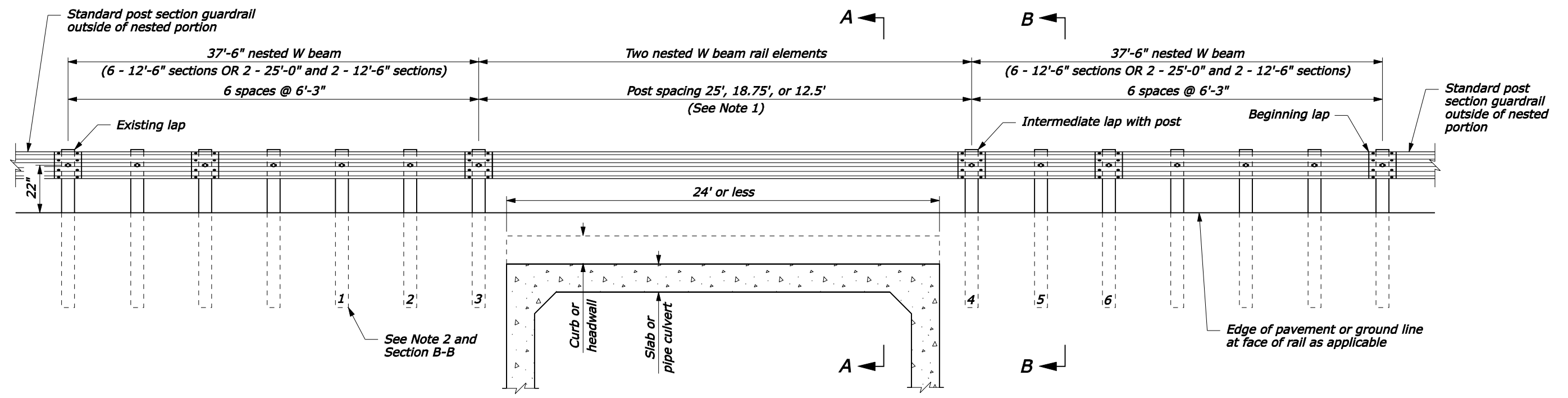
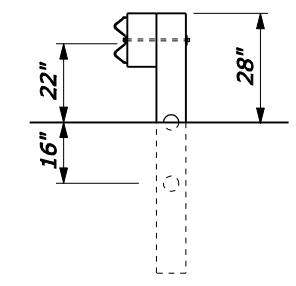
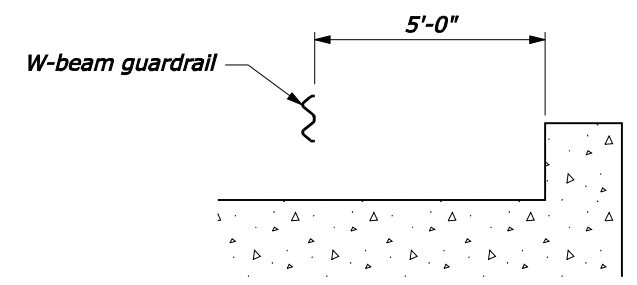


**NOTE:**

- 25'-0" rail lengths may be used to eliminate the intermediate lap without a post. Do not place a lap without a post unless needed due to length of gap.
- Posts 1 thru 6 are CRT posts with two blockouts. See Section B-B for details.
- Install the back face of the nested guardrail a minimum of 5'-0" from the face of the curb-like headwall.

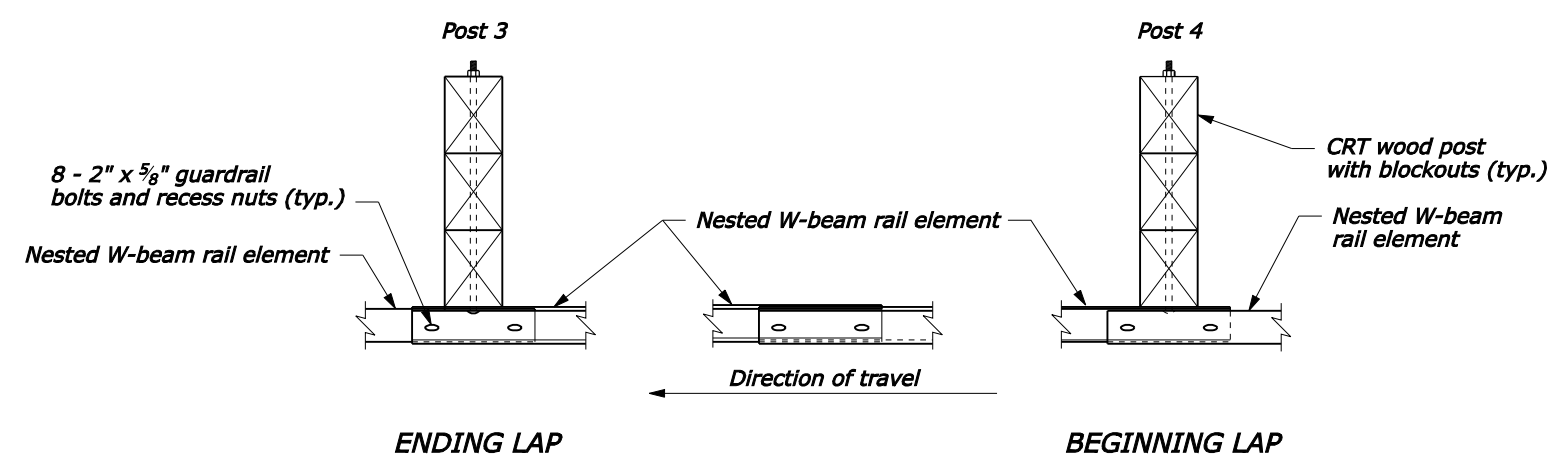


**ELEVATION**



**SECTION A-A**  
(See Note 3)

**SECTION B-B**  
(See Note 2)



**ENDING LAP**

**INTERMEDIATE LAP WITHOUT POST**

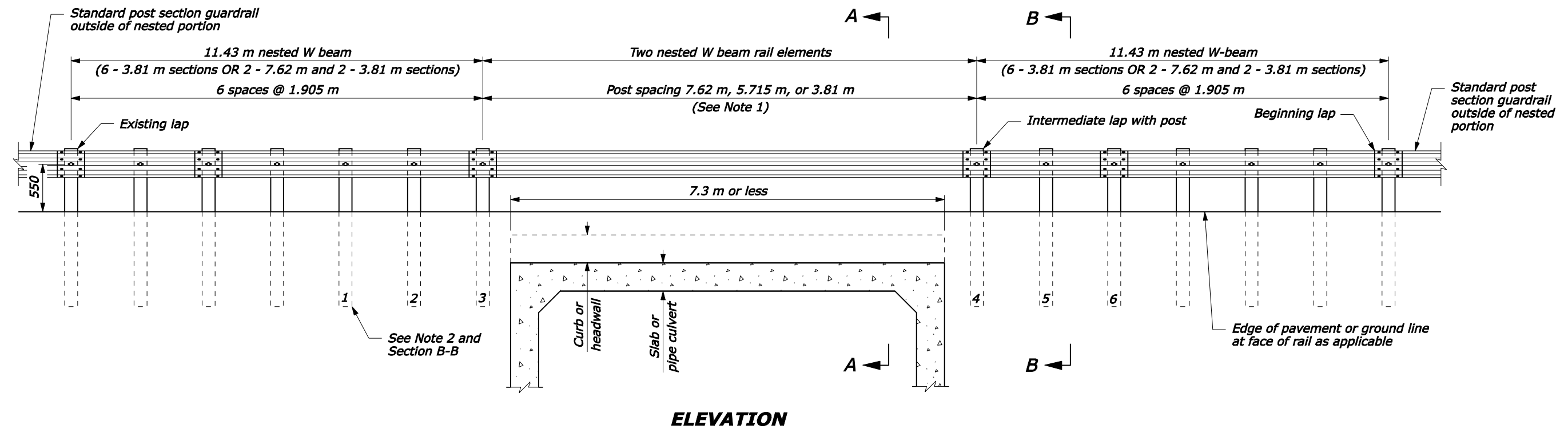
**BEGINNING LAP**

NO SCALE

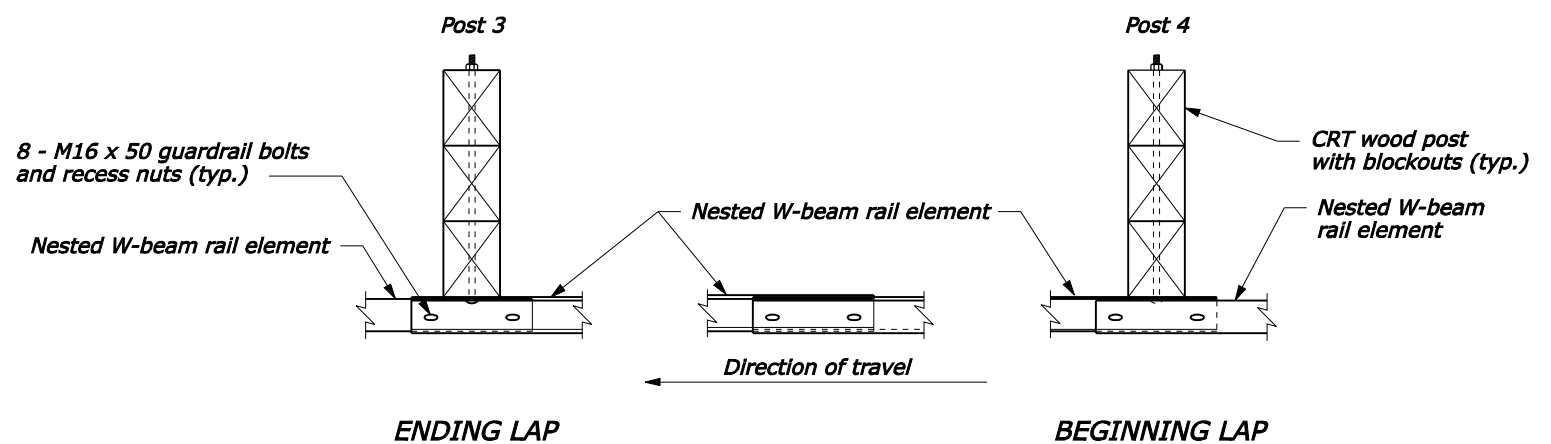
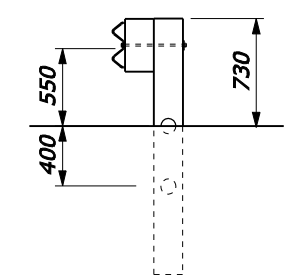
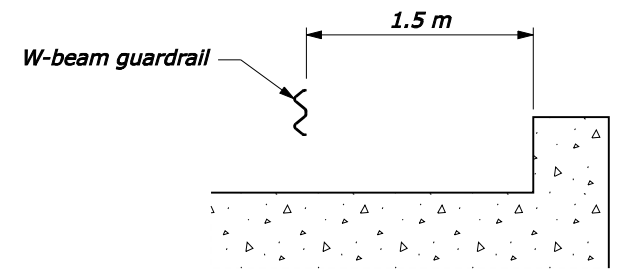
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
U.S. CUSTOMARY STANDARD	
<b>G4 W-BEAM GUARDRAIL LONG SPAN, DOUBLE-NESTED GUARDRAIL SYSTEM</b>	
STANDARD APPROVED FOR USE 1/1994	STANDARD
REVISED: 4/1994 6/2005	617-24

**NOTE:**

1. 7.62 m rail lengths may be used to eliminate the intermediate lap without a post. Do not place a lap without a post unless needed due to length of gap.
2. Posts 1 thru 6 are CRT posts with two blockouts. See Section B-B for details.
3. Install the back face of the nested guardrail a minimum of 1.5 m from the face of the curb-like headwall.
4. Dimensions without units are millimeters.



**ELEVATION**



**ENDING LAP**

**INTERMEDIATE LAP WITHOUT POST**

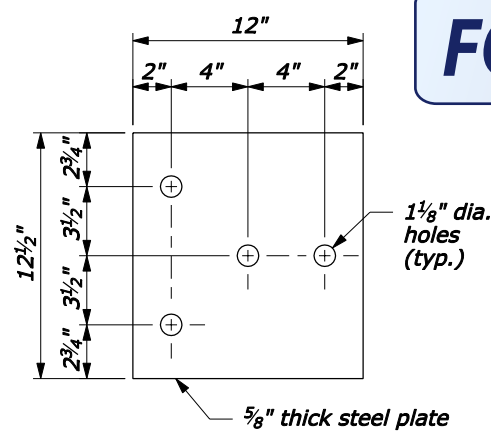
**BEGINNING LAP**

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL LANDS HIGHWAY	
METRIC STANDARD	
<b>G4 W-BEAM GUARDRAIL LONG-SPAN, DOUBLE-NESTED GUARDRAIL SYSTEM</b>	
STANDARD APPROVED FOR USE 3/1996	STANDARD
REVISED: 8/1997 6/2005	<b>M617-24</b>

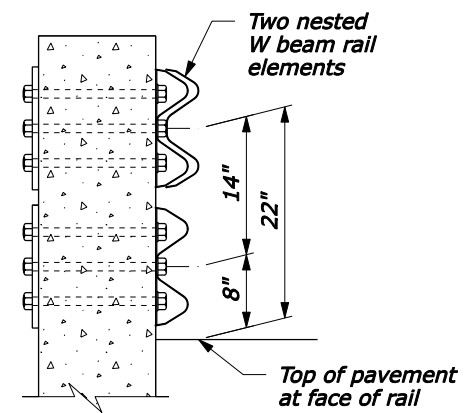
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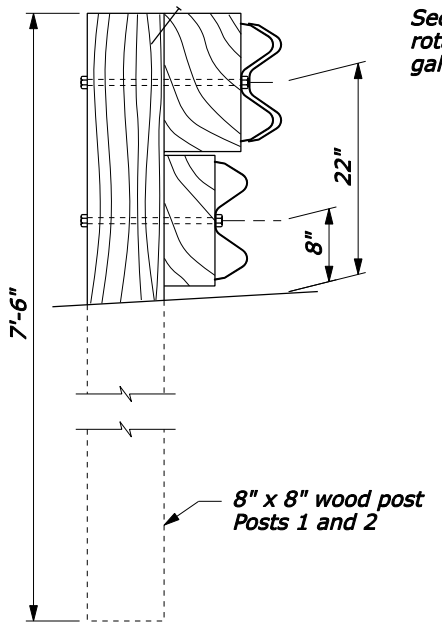
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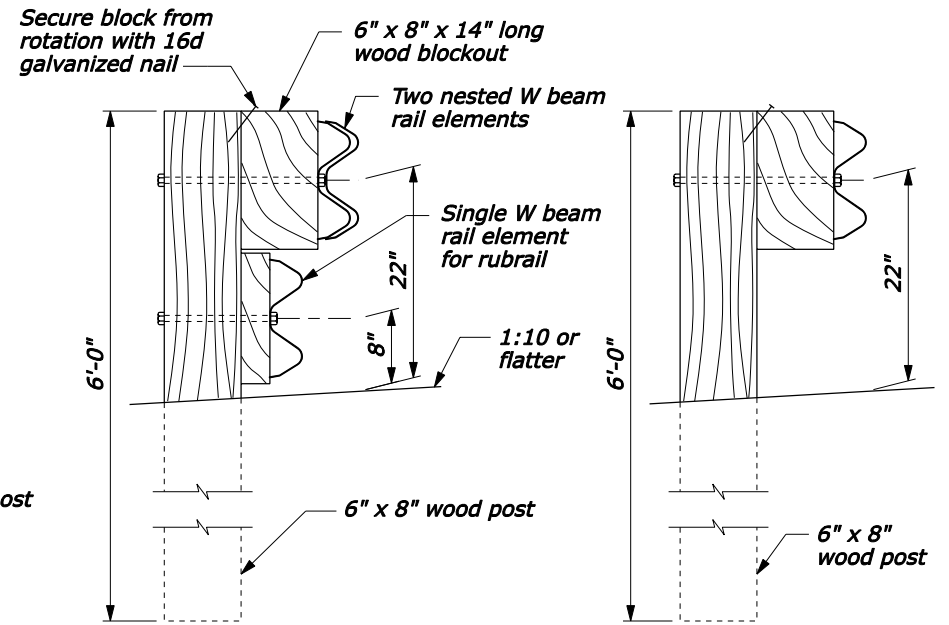
**BEARING PLATE**



**SECTION A-A**



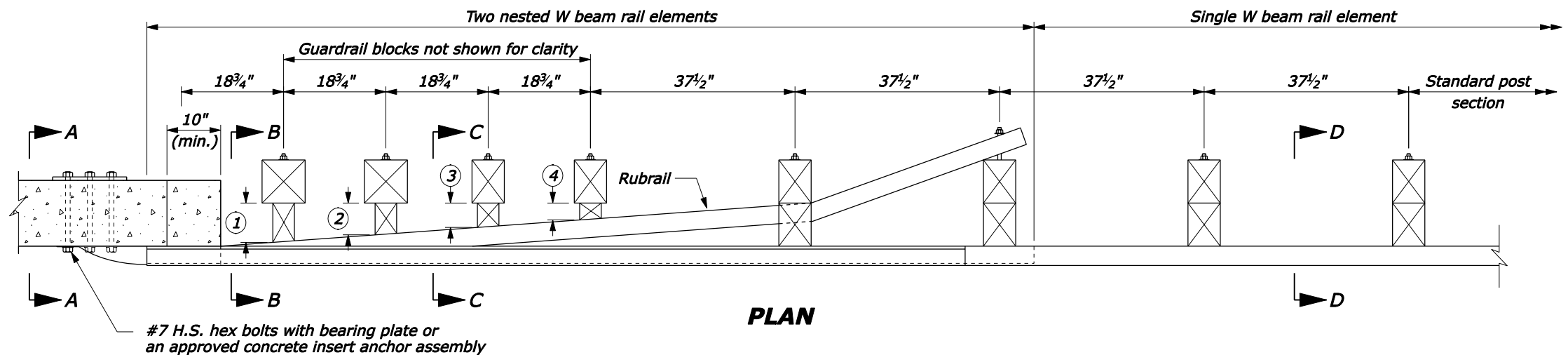
**SECTION B-B**



**SECTION C-C**

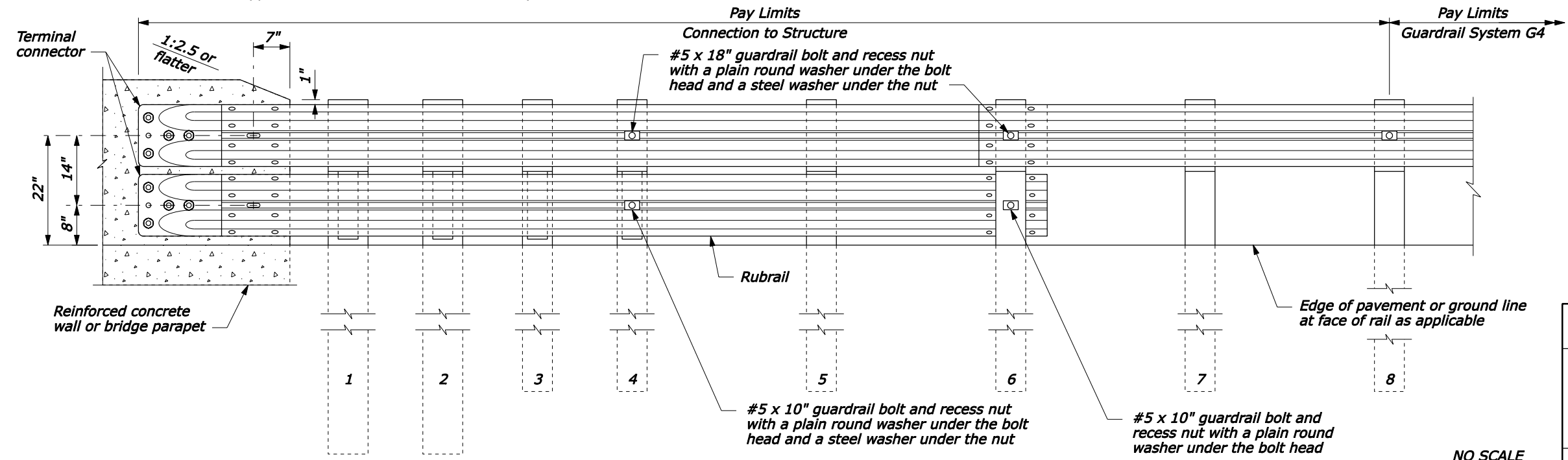
**SECTION D-D**

- NOTE:**
1. The rubrail may be shop bent in the last 37 1/2" to facilitate installation.
  2. CENTER drill wood blocks for rubrail located on posts 1 through 4. Secure blocks to post 1 through 3 with M16 carriage bolts.
  3. Posts 1, 2, 3, 4 and 6 require an additional hole to attach lower wood blocks and/or the rubrail.
  4. Do not bolt nested W beam or rubrail W beam to posts and blocks on posts 1, 2, 3 and 5. Bolt blocks directly to posts.
  5. Reinforced concrete wall or bridge parapet must be capable of developing a 59.6 kip pull out strength.



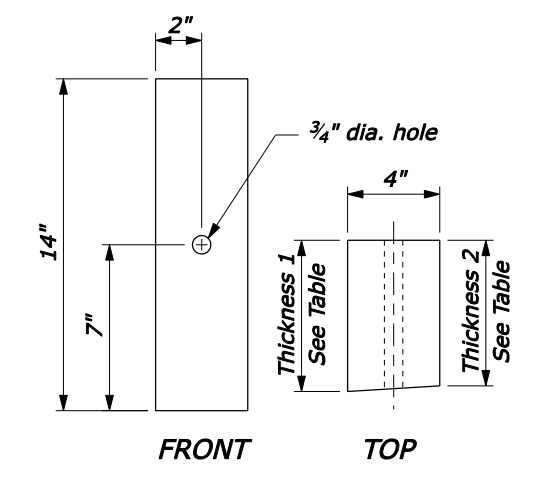
**PLAN**

WOOD BLOCKS FOR RUBRAIL		
POST	THICKNESS 1	THICKNESS 2
①	6 1/2"	6 1/4"
②	5 3/8"	5"
③	4"	3 5/8"
④	2 5/8"	2 7/16"
⑤	NO BLOCK	NO BLOCK



**ELEVATION**

NO SCALE



**WOOD BLOCK FOR RUBRAIL**

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

U.S. CUSTOMARY STANDARD  
**G4 W-BEAM GUARDRAIL CONNECTION TO VERTICAL FACE STRUCTURE WOOD POSTS**

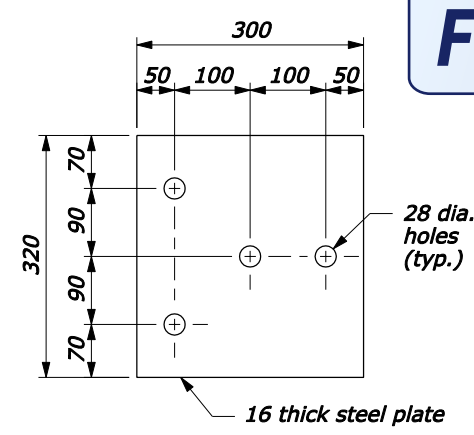
STANDARD APPROVED FOR USE --/---

REVISOR: DRAFT: 5/2005

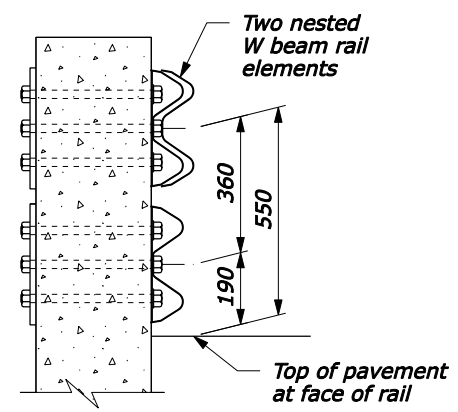
STANDARD 617-25

5/2/2005 F:\StdDraw\Draft\18161725.dgn [US Customary]

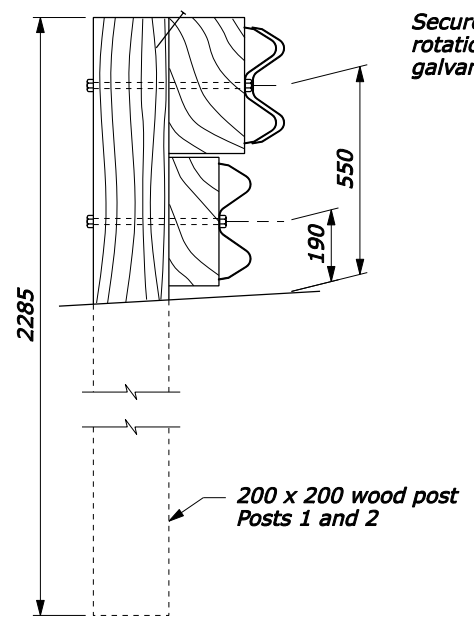
**FOR COMMENT**



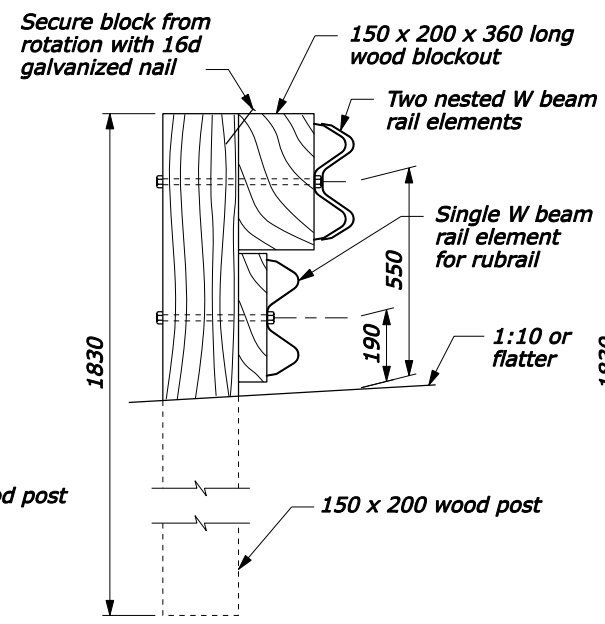
**BEARING PLATE**



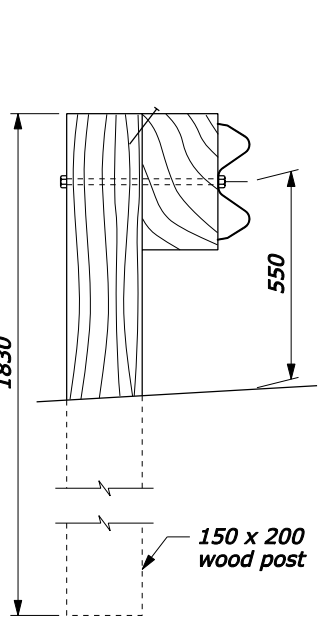
**SECTION A-A**



**SECTION B-B**



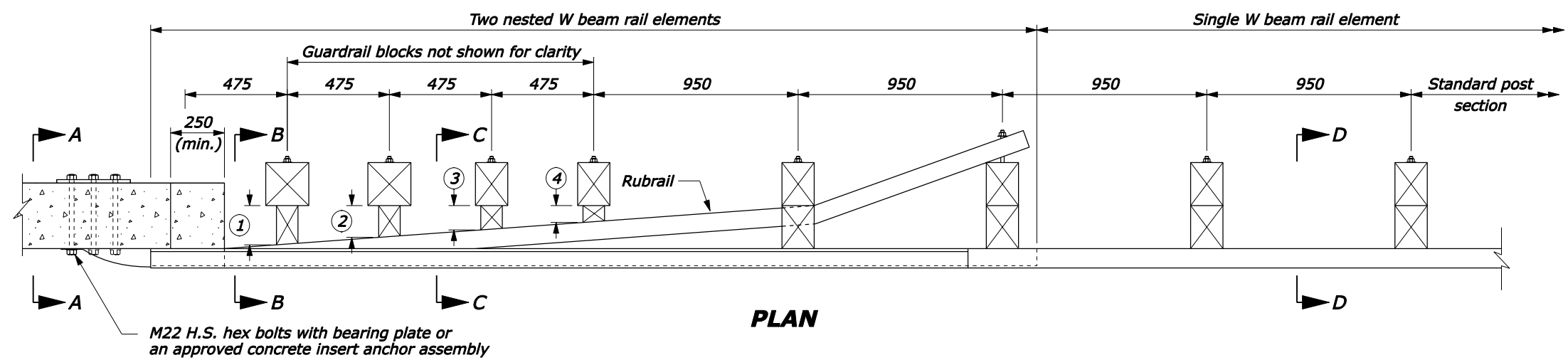
**SECTION C-C**



**SECTION D-D**

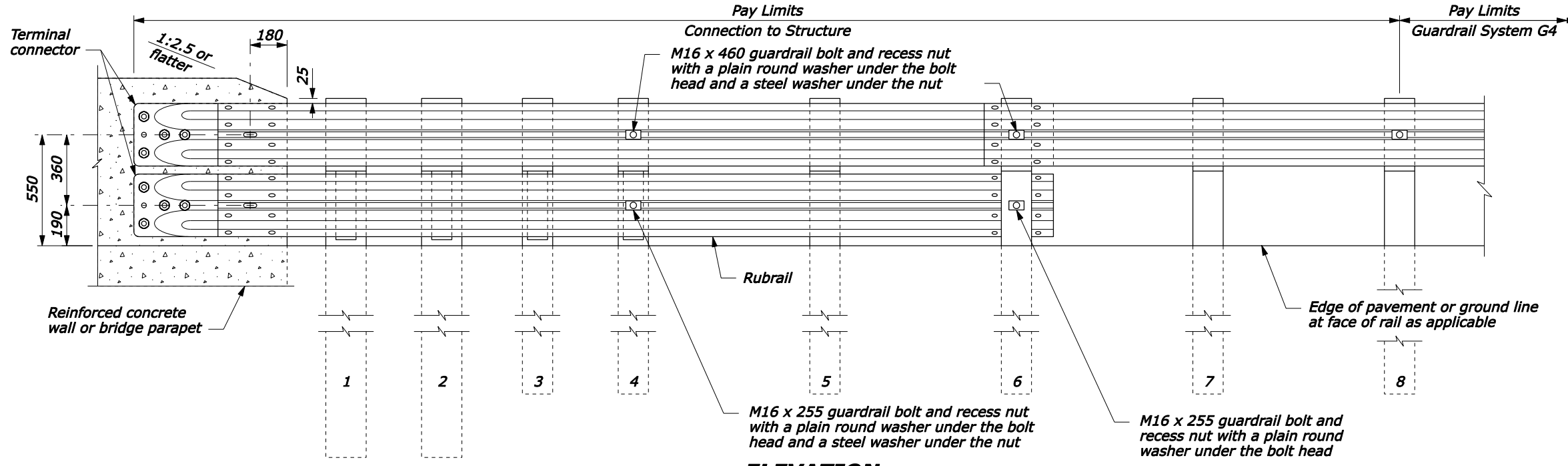
**NOTE:**

1. The rubrail may be shop bent in the last 950 mm to facilitate installation.
2. CENTER drill wood blocks for rubrail located on posts 1 through 4. Secure blocks to post 1 through 3 with M16 carriage bolts.
3. Posts 1, 2, 3, 4 and 6 require an additional hole to attach lower wood blocks and/or the rubrail.
4. Do not bolt nested W beam or rubrail W beam to posts and blocks on posts 1, 2, 3 and 5. Bolt blocks directly to posts.
5. Reinforced concrete wall or bridge parapet must be capable of developing a 265 kN pull out strength.
6. Furnish hardware in the metric sizes shown. Equivalent US Customary sizes may be used when metric sizes are not available.
7. Dimensions without units are millimeters.

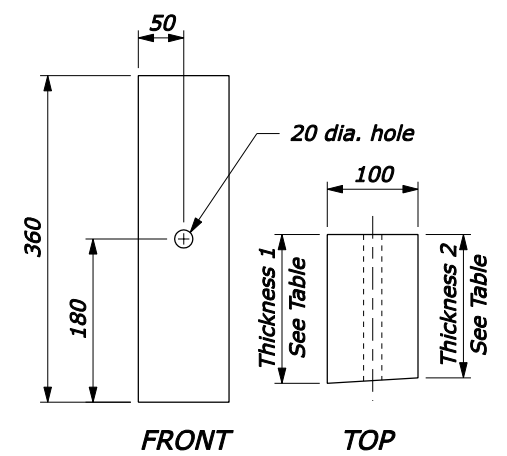


**PLAN**

WOOD BLOCKS FOR RUBRAIL		
POST	THICKNESS 1	THICKNESS 2
①	164	158
②	131	125
③	99	93
④	67	61
⑤	NO BLOCK	NO BLOCK



**ELEVATION**



**WOOD BLOCK FOR RUBRAIL**

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

**METRIC STANDARD  
G4 W-BEAM GUARDRAIL  
CONNECTION TO  
VERTICAL FACE STRUCTURE  
WOOD POSTS**

STANDARD APPROVED FOR USE 3/1996

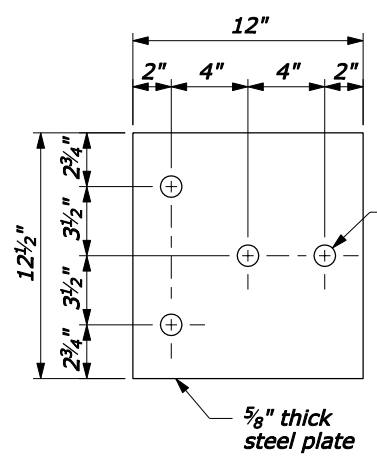
REVISOR: DRAFT: 5/2005

STANDARD M617-25

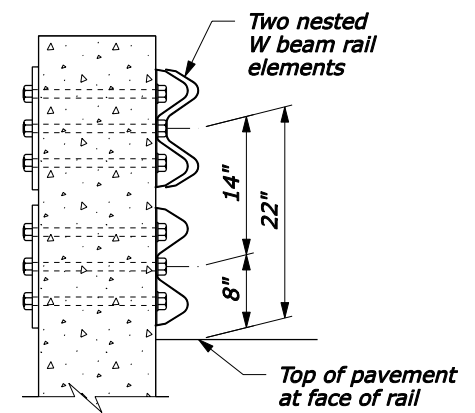
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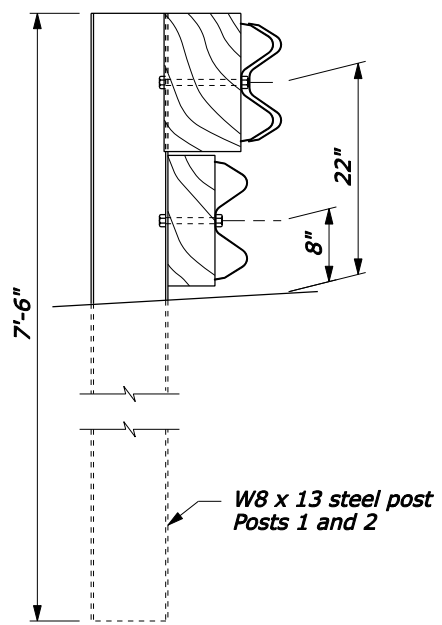
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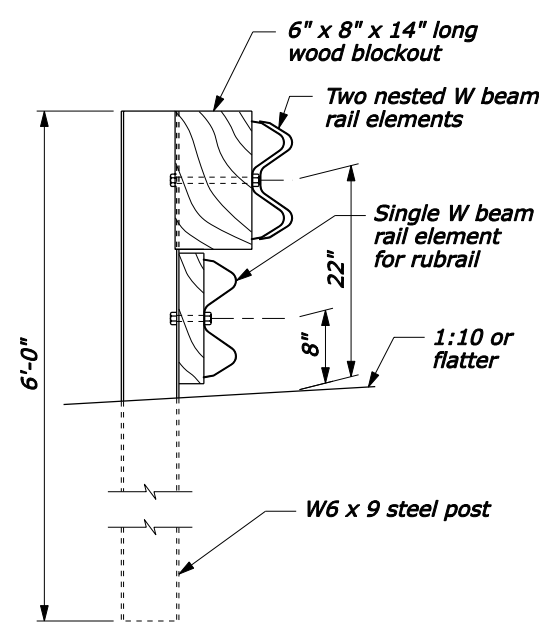
**BEARING PLATE**



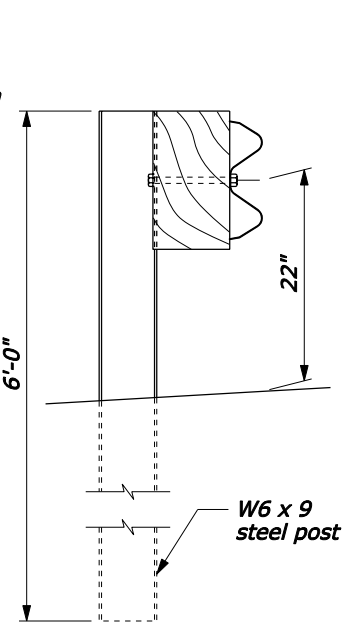
**SECTION A-A**



**SECTION B-B**



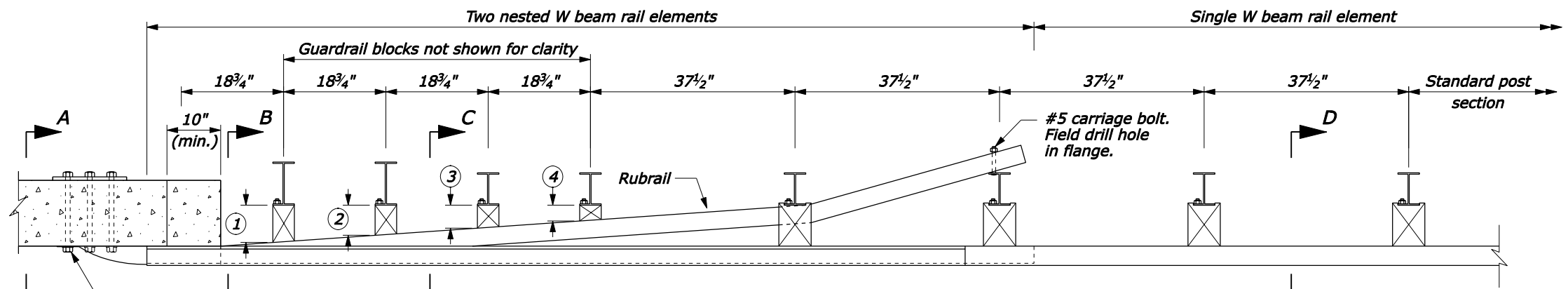
**SECTION C-C**



**SECTION D-D**

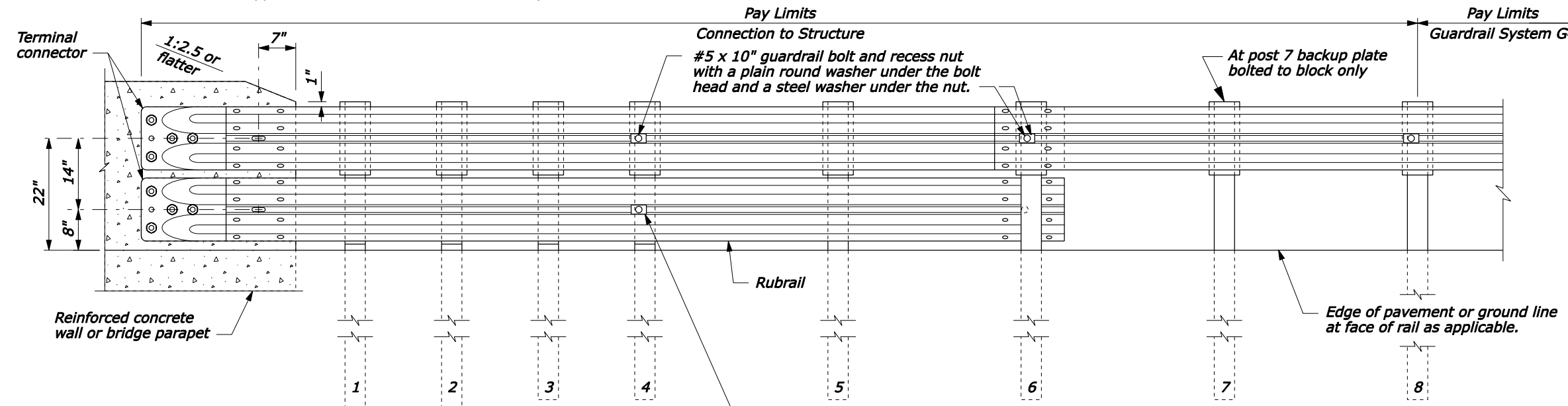
**NOTE:**

1. The rubrail may be shop bent in the last 37 1/2" to facilitate installation.
2. Offset drill wood blocks for rubrail to sit squarely on the post flange posts 1 through 4. Secure blocks to post 1 through 3 with #5 carriage bolts.
3. Posts 1, 2, 3, 4 and 6 require an additional hole to attach lower wood blocks and/or the rubrail.
4. Do not bolt nested W beam or rubrail W beam to posts and blocks on posts 1, 2, 3 and 5. Bolt blocks directly to posts.
5. Reinforced concrete wall or bridge parapet must be capable of developing a 59.6 kip pull out strength.



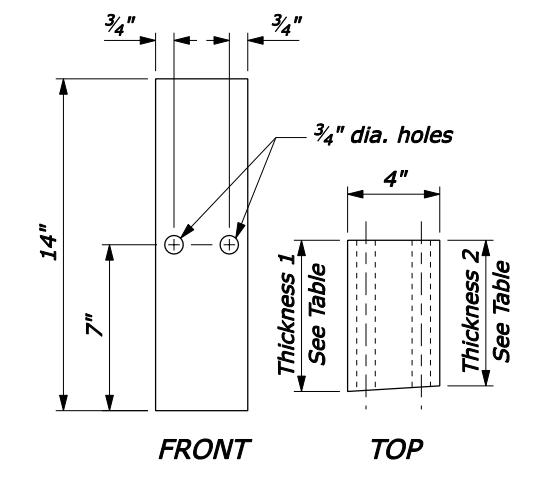
**PLAN**

WOOD BLOCKS FOR RUBRAIL		
POST	THICKNESS 1	THICKNESS 2
①	6 1/2"	6 1/4"
②	5 3/8"	5"
③	4"	3 5/8"
④	2 5/8"	2 7/16"
⑤	NO BLOCK	NO BLOCK



**ELEVATION**

NO SCALE



**WOOD BLOCK FOR RUBRAIL**

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

U.S. CUSTOMARY STANDARD  
**G4 W-BEAM GUARDRAIL CONNECTION TO VERTICAL FACE STRUCTURE STEEL POSTS**

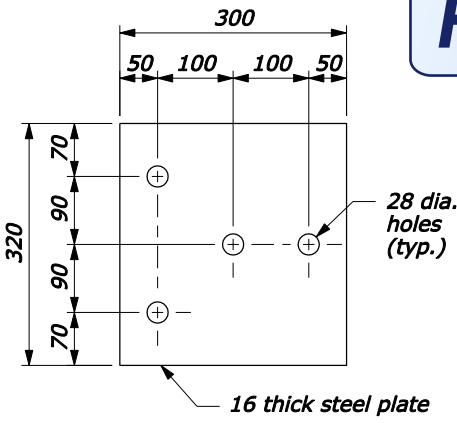
STANDARD APPROVED FOR USE --/----

REVISID: 5/2005

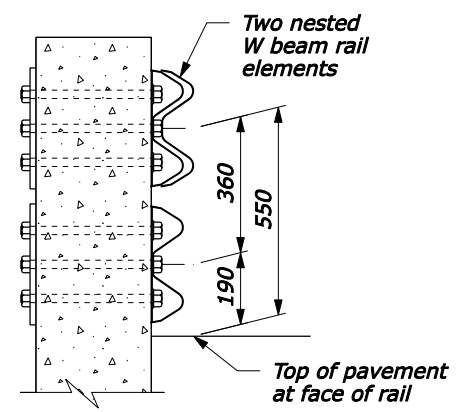
STANDARD 617-26

5/2/2005 F:\StdDraw\Draft\18161726.dgn [US Customary]

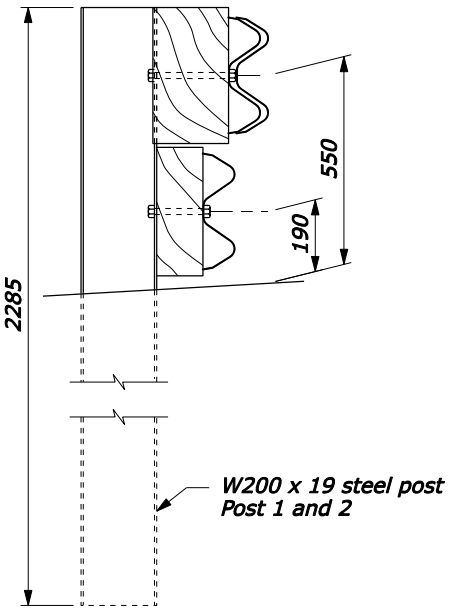
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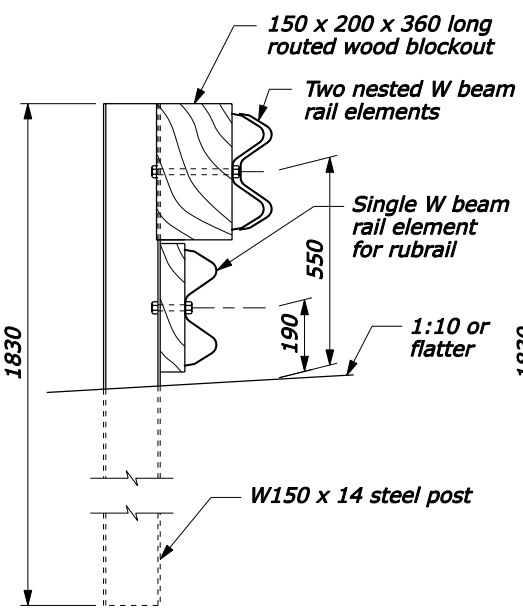
**BEARING PLATE**



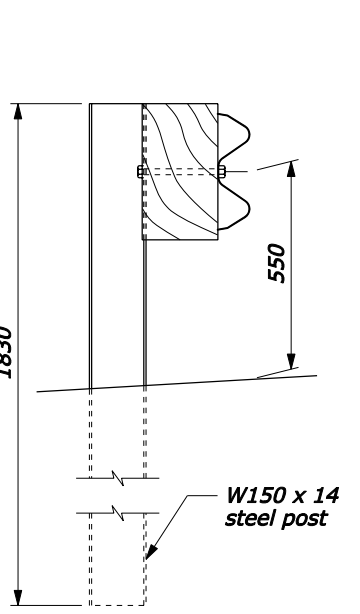
**SECTION A-A**



**SECTION B-B**



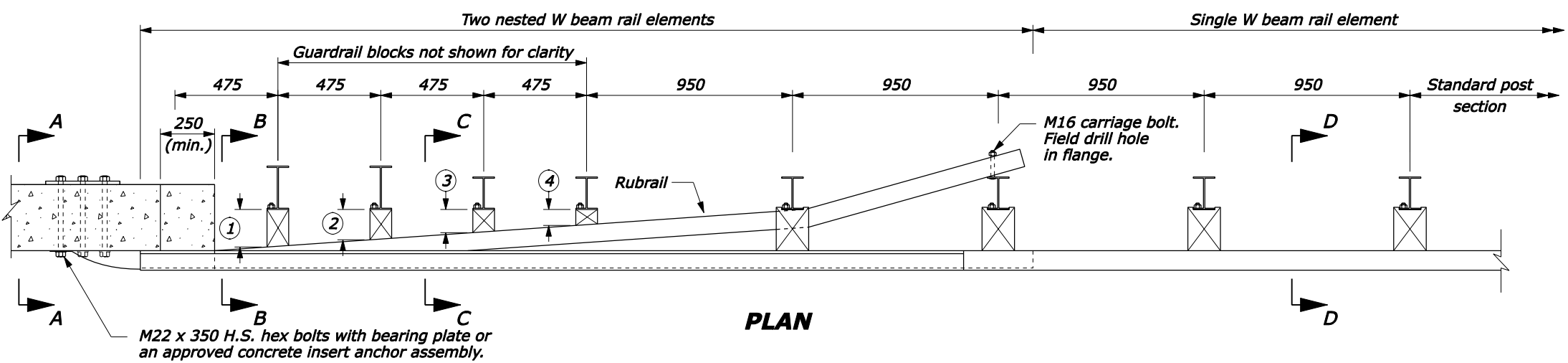
**SECTION C-C**



**SECTION D-D**

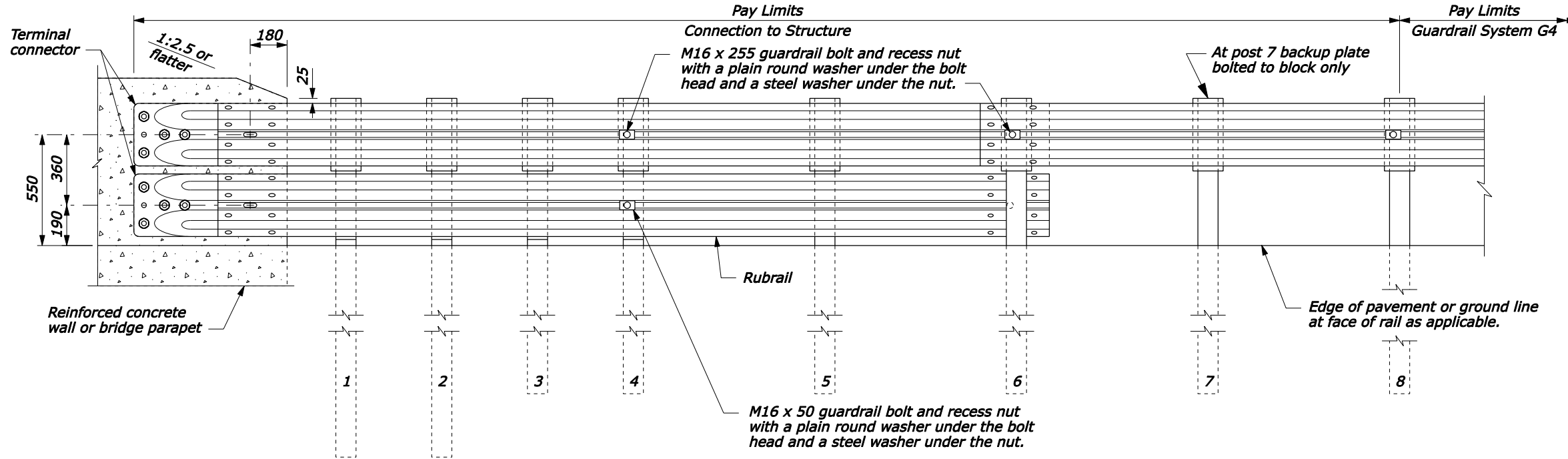
**NOTE:**

1. The rubrail may be shop bent in the last 950 mm to facilitate installation.
2. Offset drill wood blocks for rubrail to sit squarely on the post flange posts 1 through 4. Secure blocks to post 1 through 3 with M16 carriage bolts.
3. Posts 1, 2, 3, 4 and 6 require an additional hole to attach lower wood blocks and/or the rubrail.
4. Do not bolt nested W beam or rubrail W beam to posts and blocks on posts 1, 2, 3 and 5. Bolt blocks directly to posts.
5. Reinforced concrete wall or bridge parapet must be capable of developing a 265 kN pull out strength.
6. Furnish hardware in the metric sizes shown. Equivalent US Customary sizes may be used when metric sizes are not available.
7. Dimensions without units are millimeters.

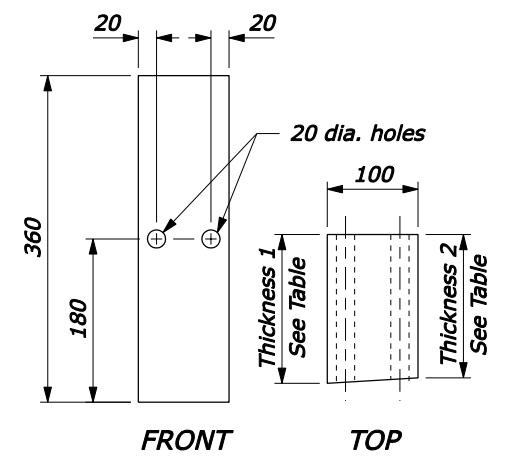


**PLAN**

WOOD BLOCKS FOR RUBRAIL		
POST	THICKNESS 1	THICKNESS 2
①	164	158
②	131	125
③	99	93
④	67	61
⑤	NO BLOCK	NO BLOCK



**ELEVATION**



**WOOD BLOCK FOR RUBRAIL**

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

**METRIC STANDARD  
G4 W-BEAM GUARDRAIL  
CONNECTION TO  
VERTICAL FACE STRUCTURE  
STEEL POSTS**

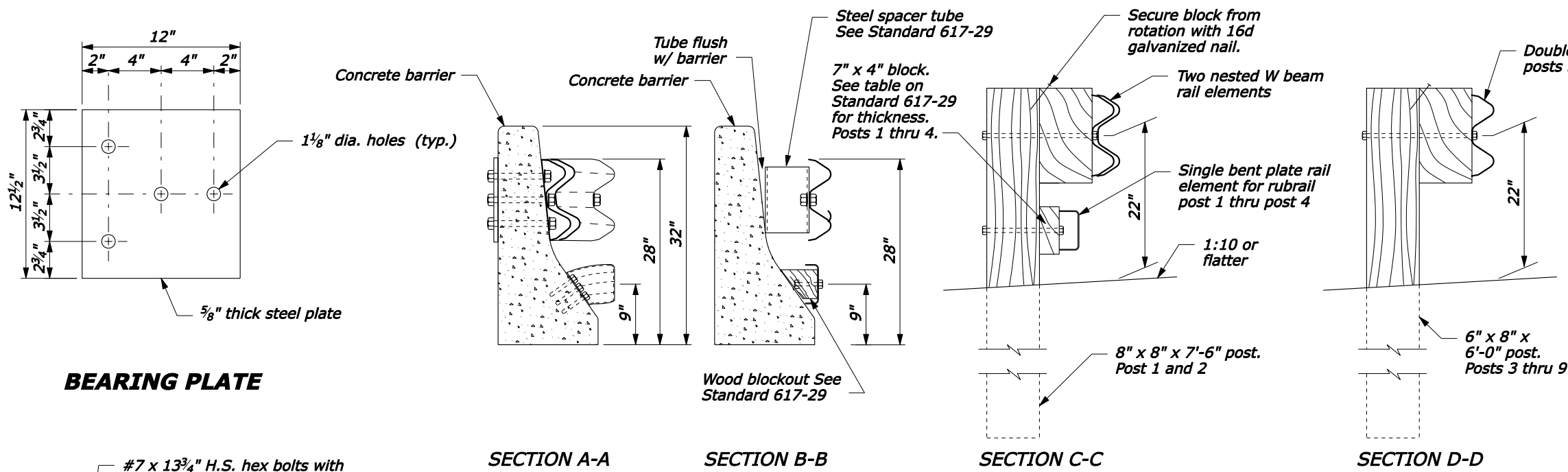
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REVISOR: 5/2005

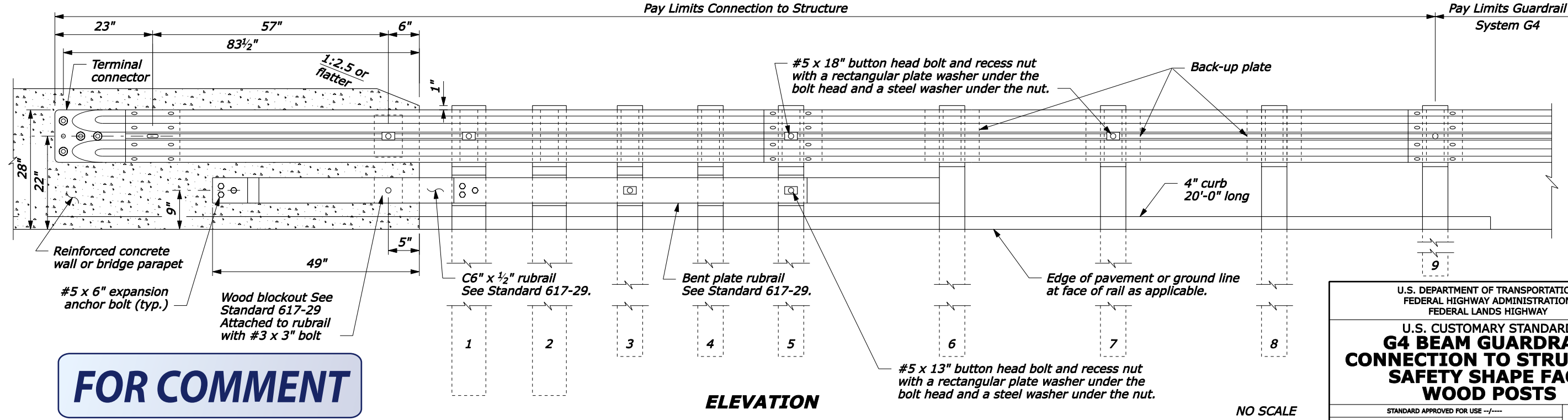
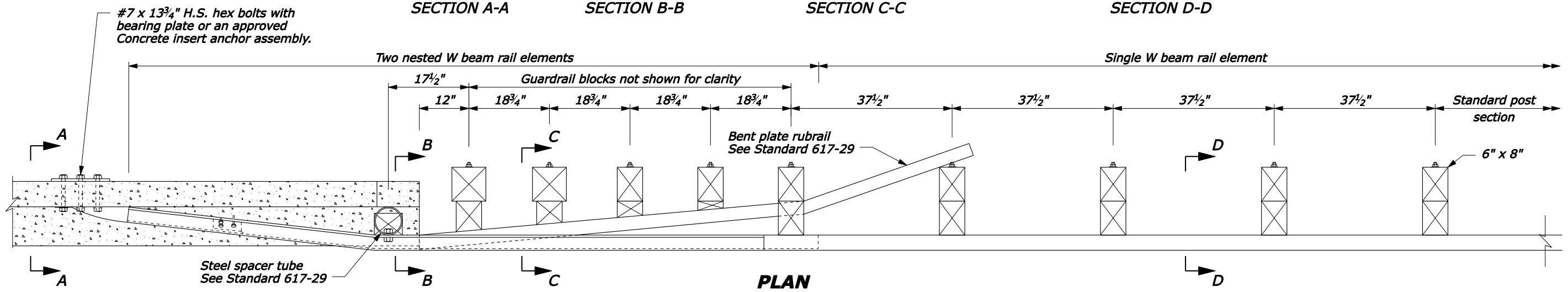
STANDARD M617-26

NO SCALE

5/2/2005 F:\StanDraw\Draft\08\061726.dgn [Metric]



- NOTE:**
- Posts 1 through 5 require an additional hole to attach lower wood blocks and/or rubrail.
  - Center drill wood blocks for rubrail located on posts 1 through 4. Secure blocks to posts 2 and 4. Secure rubrail and blocks to posts 1, 3, and 5 using M16 carriage bolts.
  - Do not bolt W beam to posts and blocks at posts 2 and 4.
  - Reinforced concrete wall or bridge parapet must be capable of developing a 59.6 kip pull out strength.



**FOR COMMENT**

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

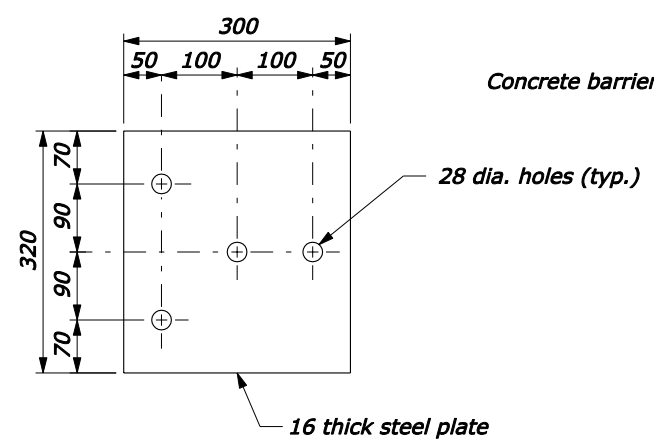
**U.S. CUSTOMARY STANDARD  
G4 BEAM GUARDRAIL  
CONNECTION TO STRUCTURE  
SAFETY SHAPE FACE  
WOOD POSTS**

STANDARD APPROVED FOR USE --/--

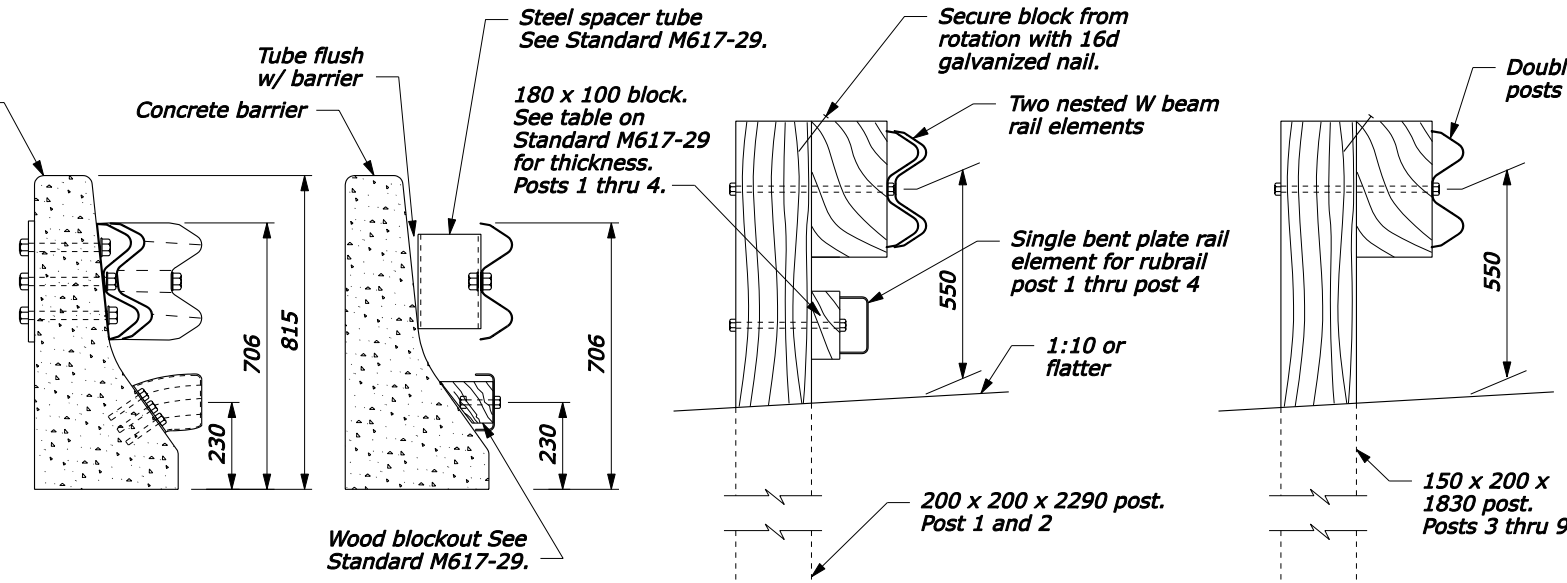
REVISOR: 6/2004  
DRAFT: 6/2004

STANDARD  
617-27

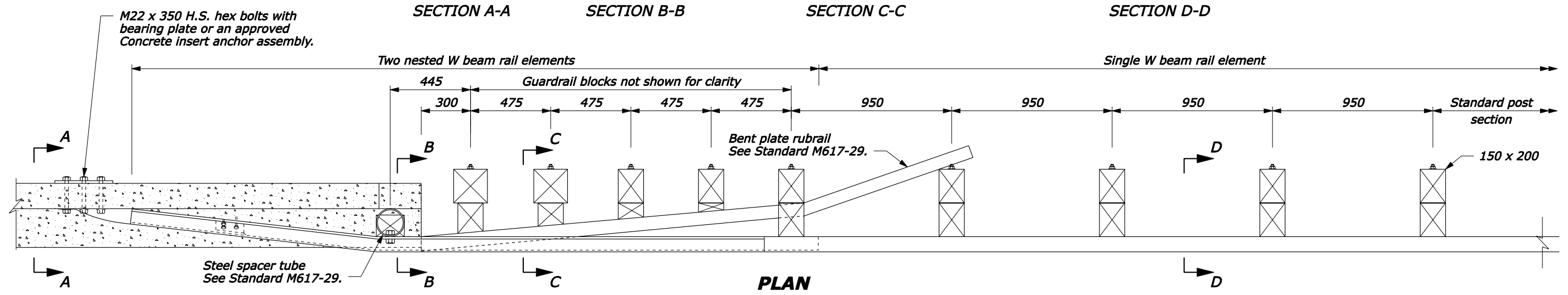
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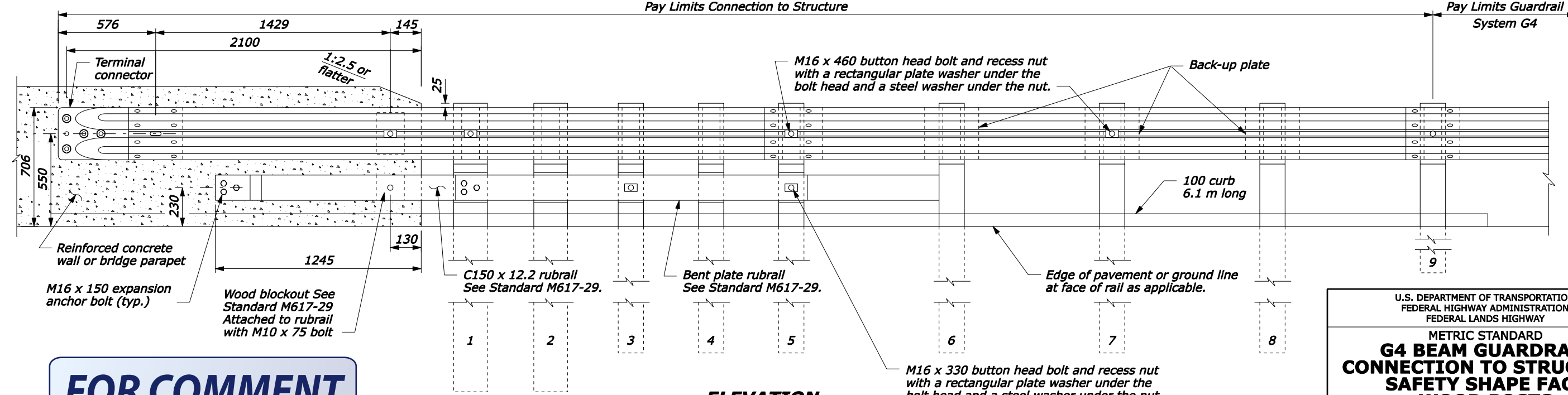
**BEARING PLATE**



- NOTE:**
1. Posts 1 through 5 require an additional hole to attach lower wood blocks and/or rubrail.
  2. Center drill wood blocks for rubrail located on posts 1 through 4. Secure blocks to posts 2 and 4. Secure rubrail and blocks to posts 1, 3, and 5 using M16 carriage bolts.
  3. Do not bolt W beam to posts and blocks at posts 2 and 4.
  4. Reinforced concrete wall or bridge parapet must be capable of developing a 265 kN pull out strength.
  5. Furnish hardware in the metric sizes shown. Equivalent U.S. Customary sizes may be used when metric sizes are not available.
  6. Dimensions without units are millimeters.



**PLAN**



**ELEVATION**

**FOR COMMENT**

NO SCALE

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

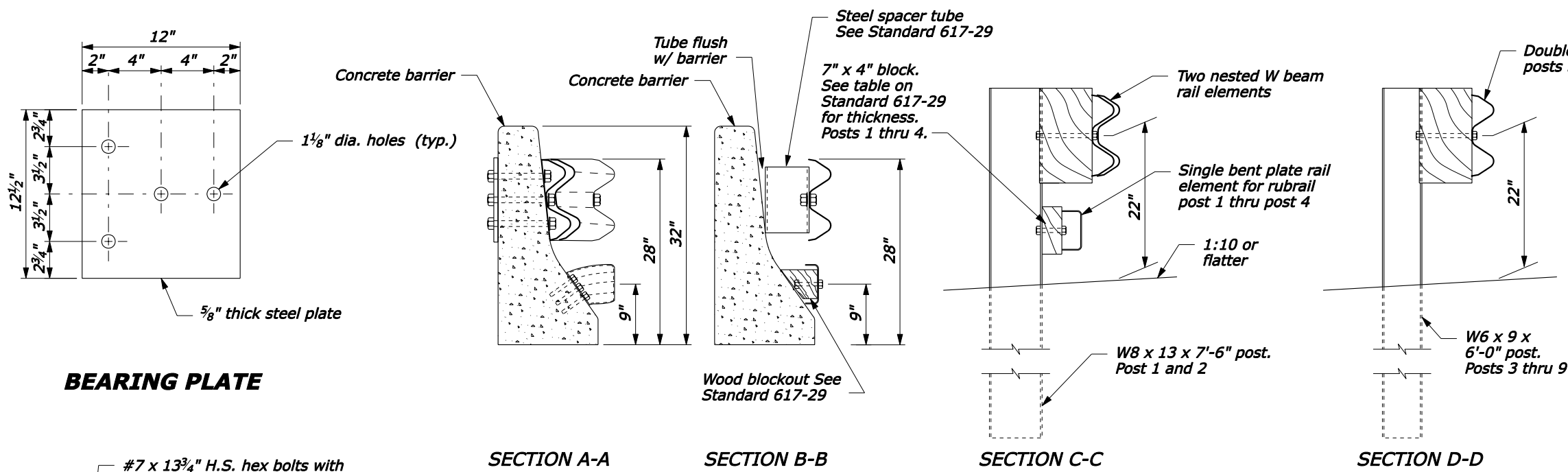
**METRIC STANDARD  
 G4 BEAM GUARDRAIL  
 CONNECTION TO STRUCTURE  
 SAFETY SHAPE FACE  
 WOOD POSTS**

STANDARD APPROVED FOR USE 3/1996  
 REVISED: 1/1998  
 DRAFT: 6/2004

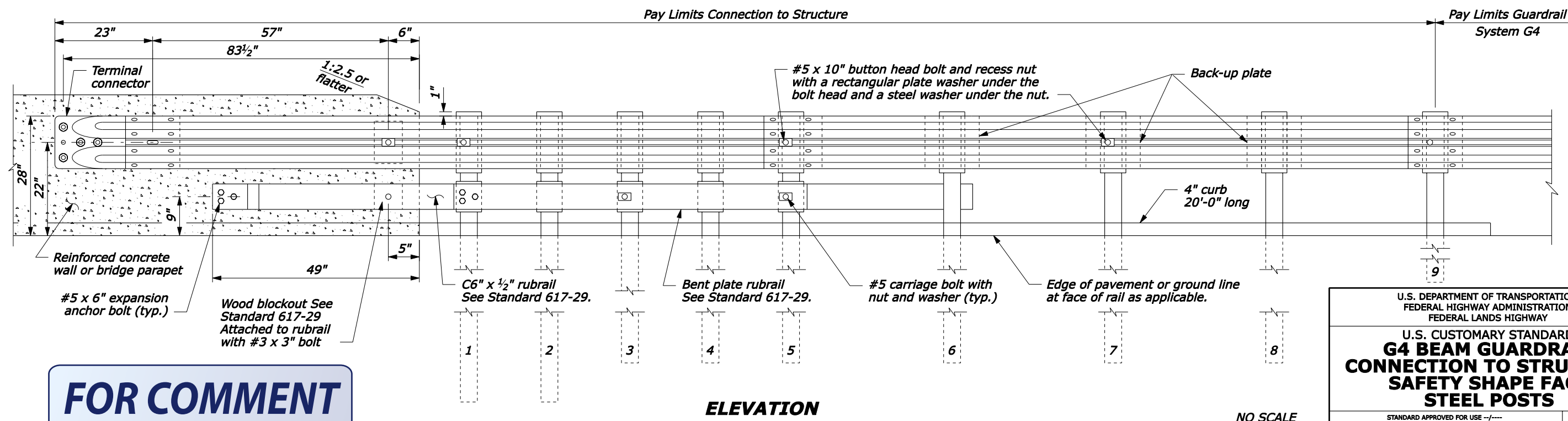
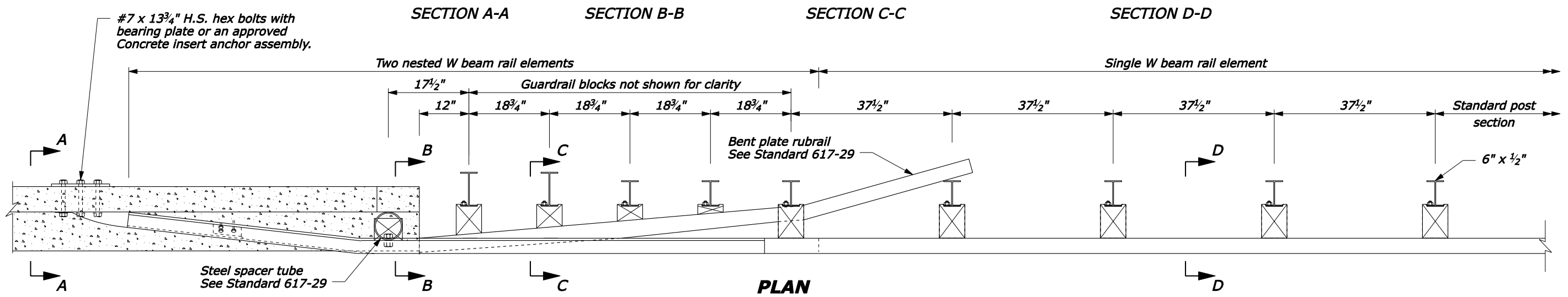
STANDARD  
**M617-27**

23-Jun-2004 04:11 PM  
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- NOTE:**
- Posts 1 through 5 require an additional hole to attach lower wood blocks and/or rubrail.
  - Offset drill wood blocks for rubrail to sit squarely on the post flange on posts 1 through 4. Secure blocks to posts 2 and 4. Secure rubrail and blocks to post flange on posts 1, 3, and 5 using #5 carriage bolts.
  - Do not bolt W beam to posts and blocks at posts 2 and 4.
  - Reinforced concrete wall or bridge parapet must be capable of developing a 59.6 kip pull out strength.



**FOR COMMENT**

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

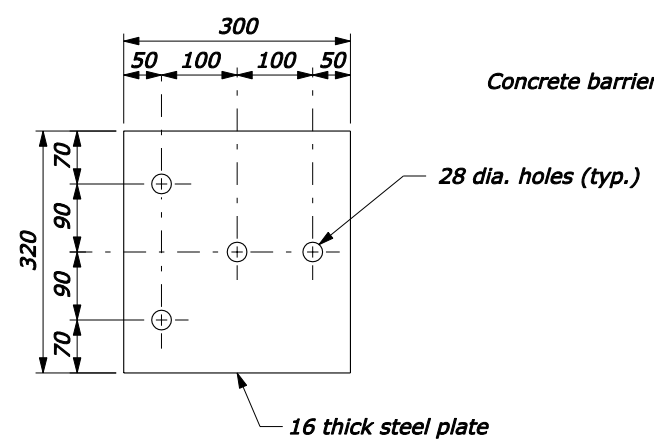
**U.S. CUSTOMARY STANDARD  
 G4 BEAM GUARDRAIL  
 CONNECTION TO STRUCTURE  
 SAFETY SHAPE FACE  
 STEEL POSTS**

STANDARD APPROVED FOR USE --/---

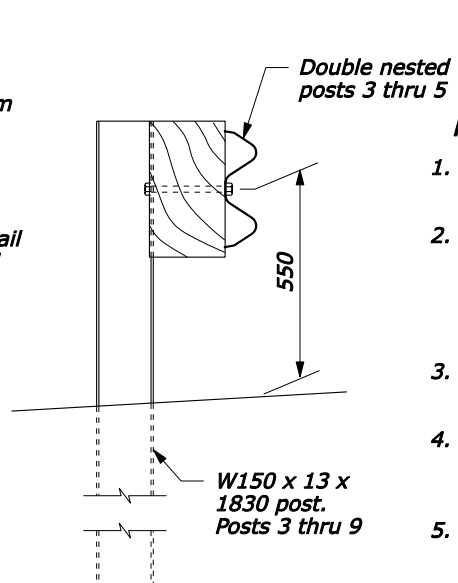
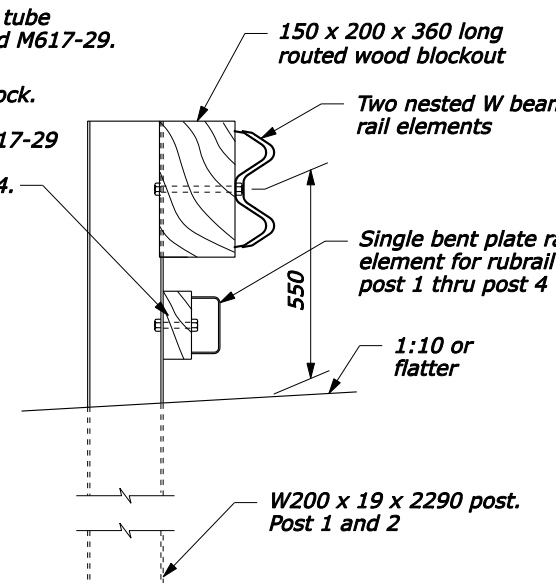
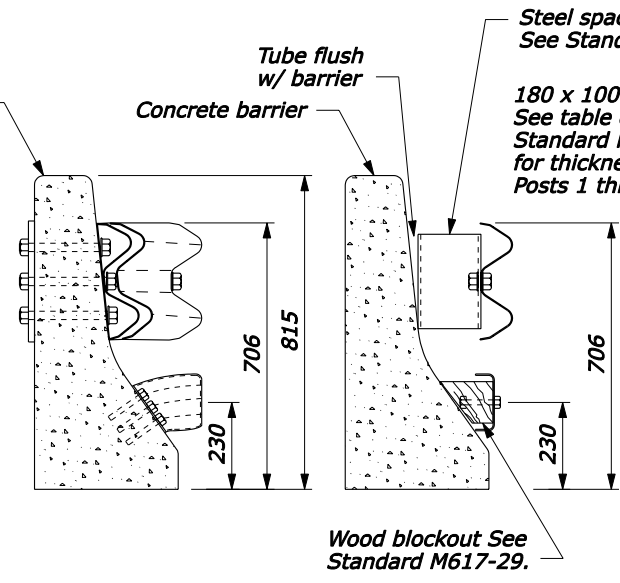
REVISED: 6/2004  
 DRAFT: 6/2004

STANDARD  
 617-28

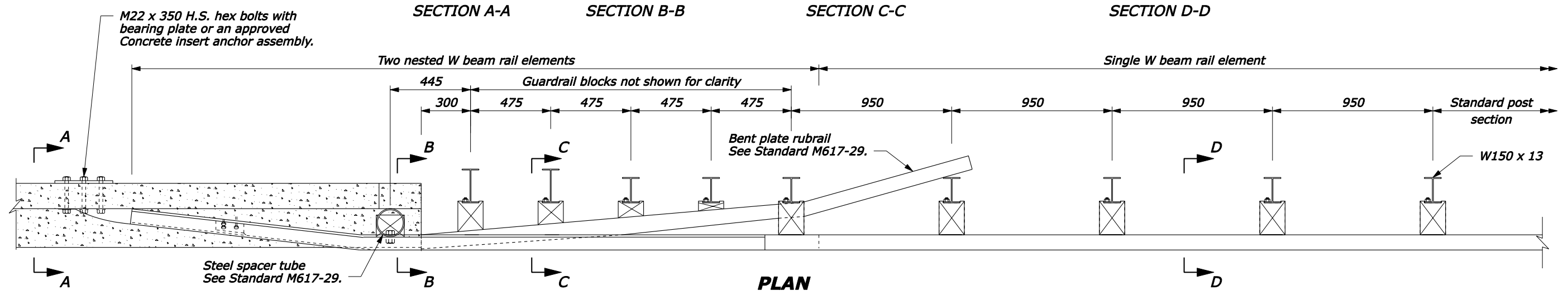
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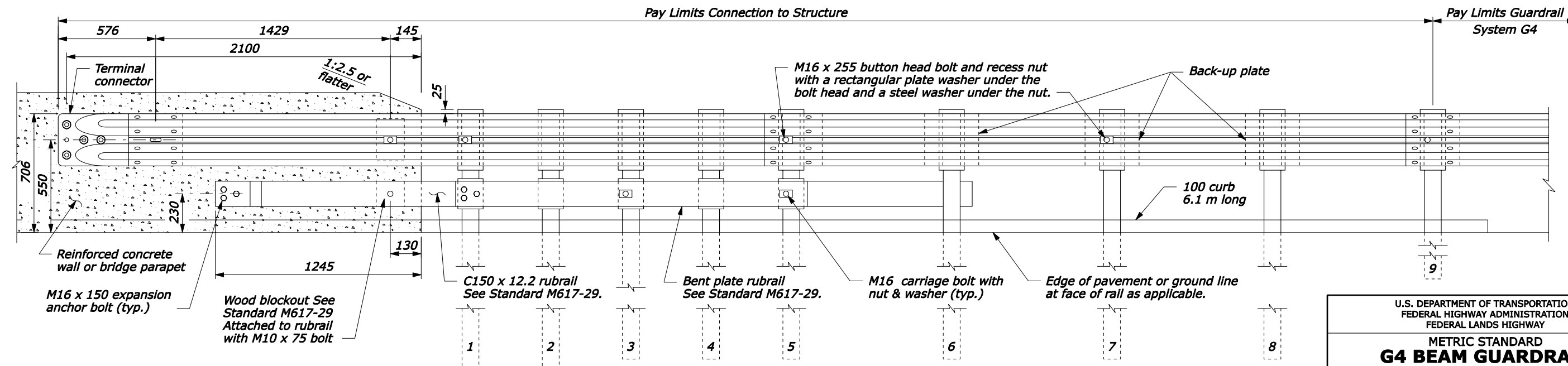
**BEARING PLATE**



- NOTE:**
1. Posts 1 through 5 require an additional hole to attach lower wood blocks and/or rubrail.
  2. Offset drill wood blocks for rubrail to sit squarely on the post flange on posts 1 through 4. Secure blocks to posts 2 and 4. Secure rubrail and blocks to post flange on posts 1, 3, and 5 using M16 carriage bolts.
  3. Do not bolt W beam to posts and blocks at posts 2 and 4.
  4. Reinforced concrete wall or bridge parapet must be capable of developing a 265 kN pull out strength.
  5. Furnish hardware in the metric sizes shown. Equivalent U.S. Customary sizes may be used when metric sizes are not available.
  6. Dimensions without units are millimeters.



**PLAN**



**ELEVATION**

**FOR COMMENT**

NO SCALE

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

**METRIC STANDARD  
 G4 BEAM GUARDRAIL  
 CONNECTION TO STRUCTURE  
 SAFETY SHAPE FACE  
 STEEL POSTS**

STANDARD APPROVED FOR USE 3/1996  
 REVISED: 1/1998  
 DRAFT: 6/2004

STANDARD  
**M617-28**

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