

INDEX	
SHEET NO.	SUBJECT
1	Midwest Guardrail System Assembly Index and General Notes
2 - 5	Midwest Guardrail System Assembly
6 - 7	Midwest Guardrail System Assembly, Omitted Post
8 - 9	Midwest Guardrail System Assembly, Long-Span
10	Midwest Guardrail System Assembly, Structure Top-Mounted Post
11	Midwest Guardrail System Assembly, Guardrail Transition with Curb
12	Midwest Guardrail System Assembly, Guardrail Transition without Curb
13 - 15	Midwest Guardrail System Assembly, Guardrail Transition
16	Midwest Guardrail System Assembly, Height Transition
17 - 22	Midwest Guardrail System Assembly, Cable Terminal Anchor System
23	Midwest Guardrail System Assembly, Working Width

GENERAL NOTES:

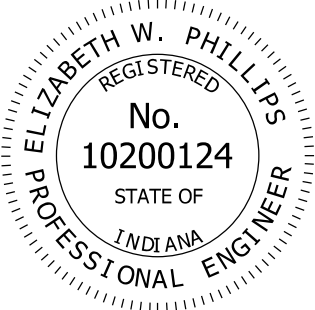
1. The Midwest Guardrail System (MGS) is a steel or timber post w-beam guardrail semi-rigid longitudinal barrier system. The standard post length for MGS w-beam guardrail shall be 6 ft, unless noted otherwise.
2. MGS w-beam guardrail, omitted post, long-span, structure top-mount, guardrail transition, and cable terminal anchor are MASH TL-3 compliant.
3. Steel guardrail post W 6 x 8.5 may be substituted for W 6 x 9.

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
ASSEMBLY INDEX AND GENERAL NOTES

SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-01



/s/ Elizabeth W. Phillips

DESIGN STANDARDS ENGINEER

03/20/18

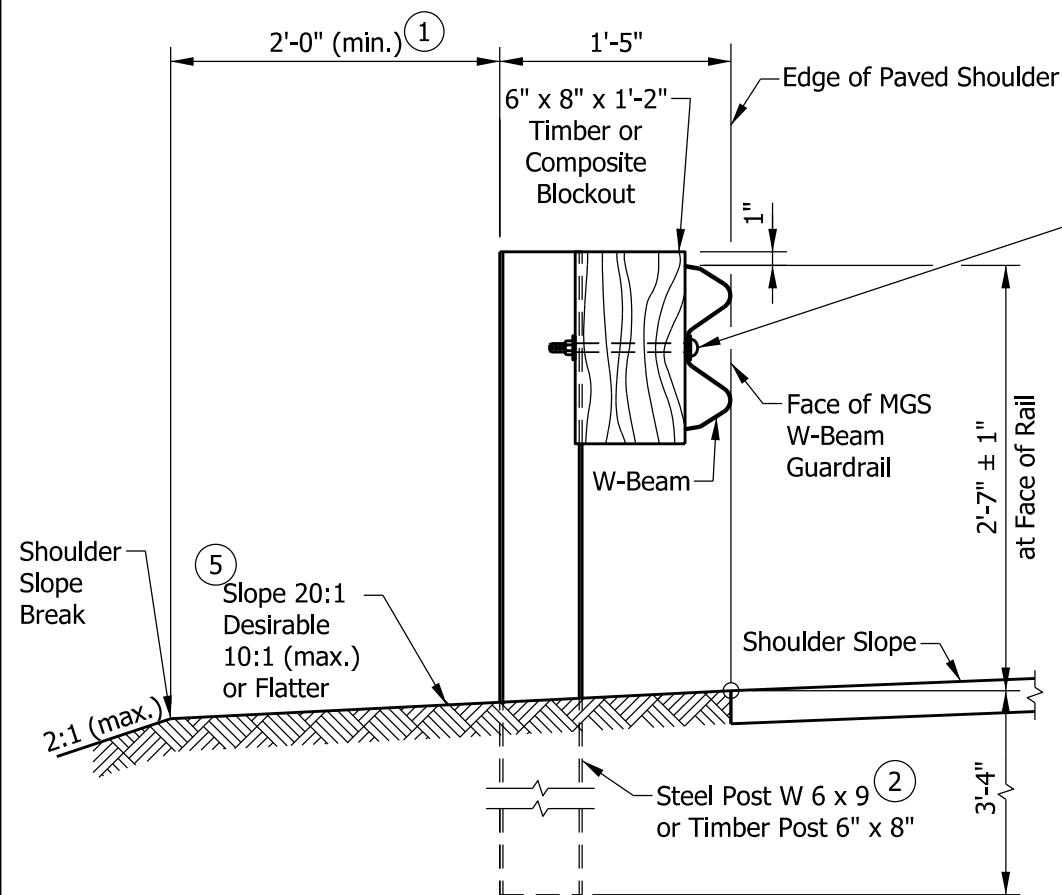
DATE

/s/ John Leckie

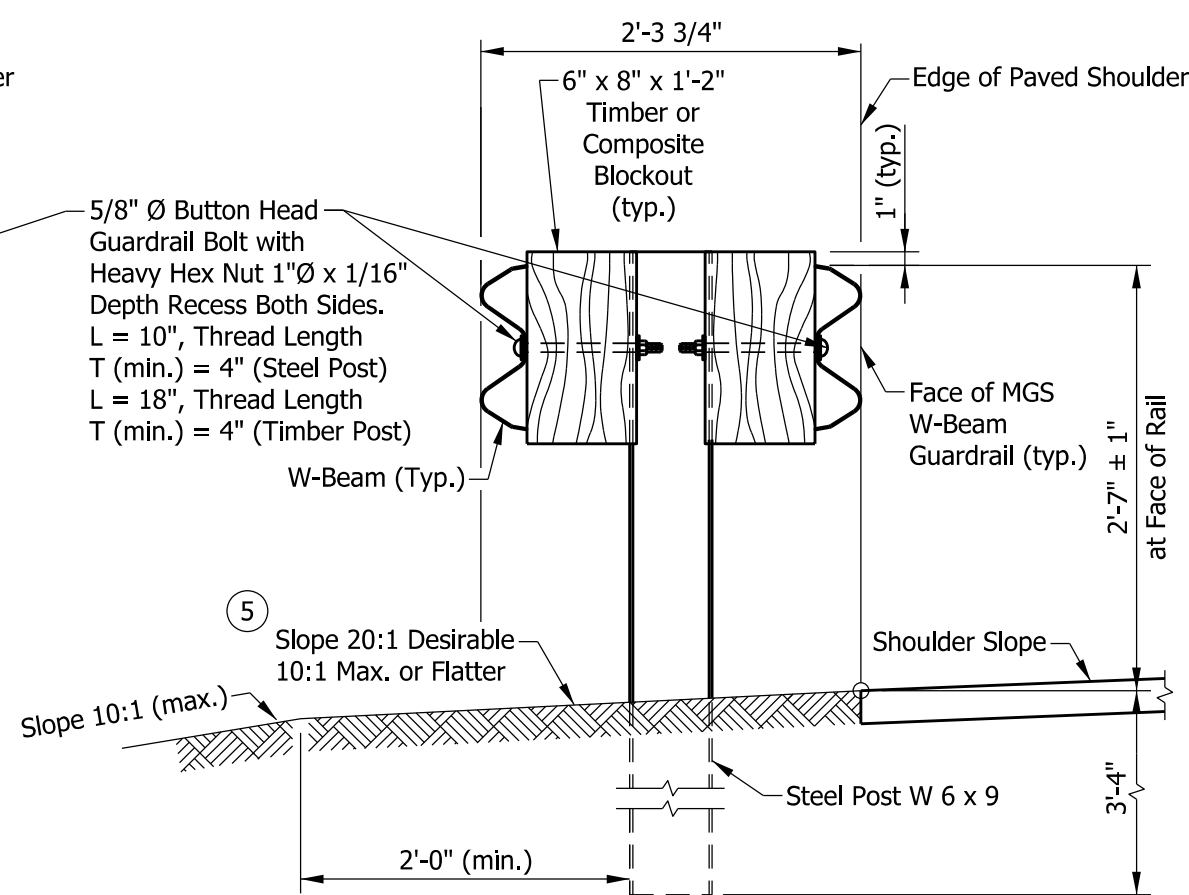
CHIEF ENGINEER

04/25/18

DATE



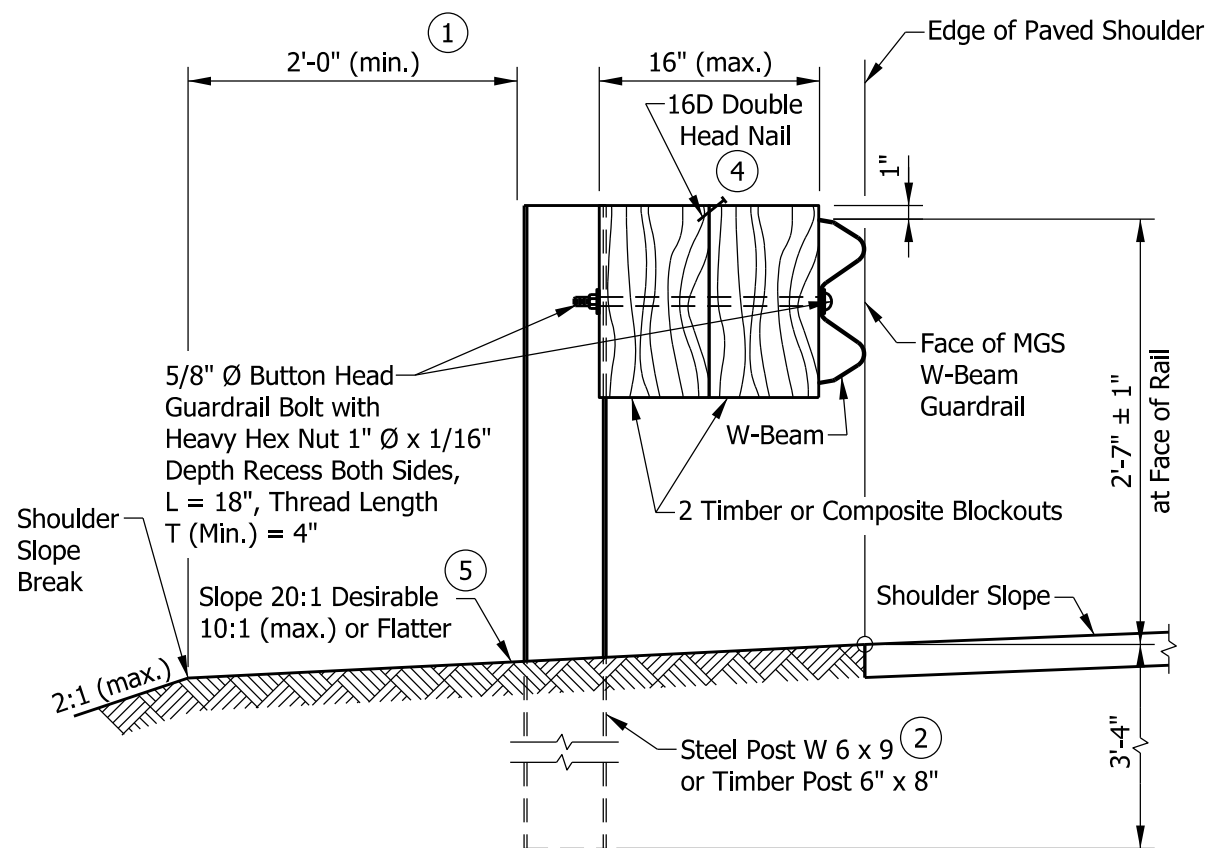
TYPICAL MGS W-BEAM INSTALLATION



TYPICAL DOUBLE-FACED MGS W-BEAM INSTALLATION

NOTES:

- ① Where the distance from back of post to shoulder slope break is less than 2 ft, the working width shall be adjusted. See Standard Drawing E 601-MGSA-23.
- ② Timber and steel posts shall not be intermixed. See Standard Drawing E 601-MGSA-04 for post details.
- ③ Blockouts of 12 in. or 16 in. depth may be utilized to increase the post offset. There is no limit to the number of posts that can have additional blockouts up to a 16 in. depth.
- ④ Where two timber blockouts are installed, one 16D galvanized double head nail shall be centered at the back of the blockout and driven into the adjacent blockout to limit rotation.
- ⑤ The post shall not be encased with asphalt, concrete, or riprap.



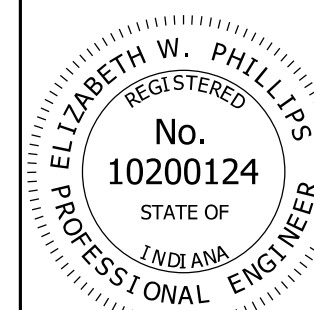
DETAIL FOR ALTERNATE BLOCKOUT DEPTH ③

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
ASSEMBLY

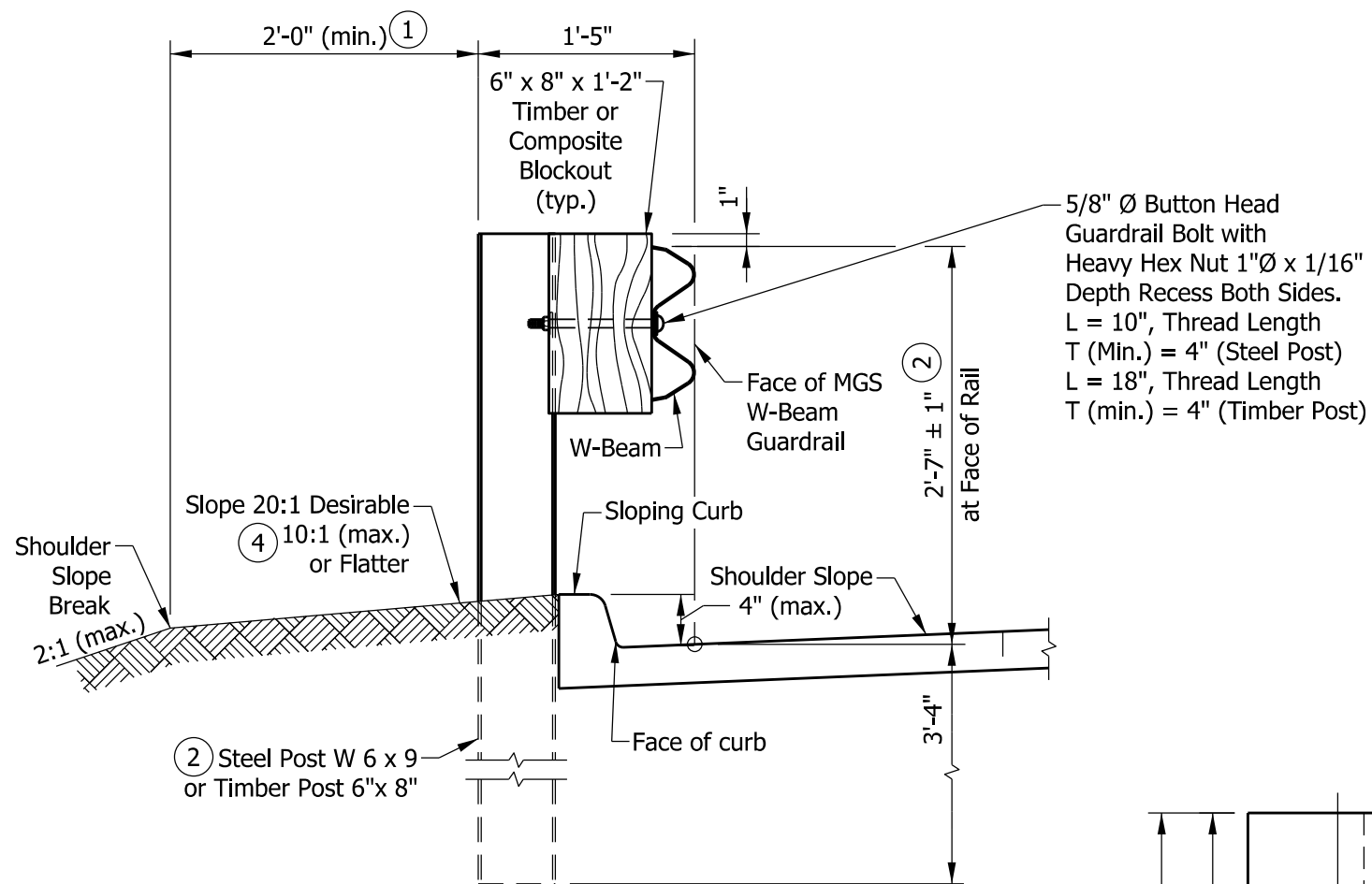
SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-02

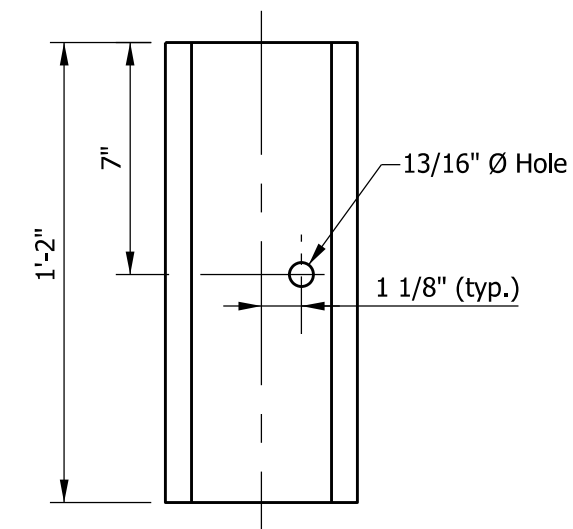
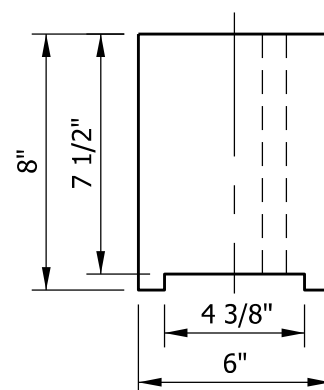


/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

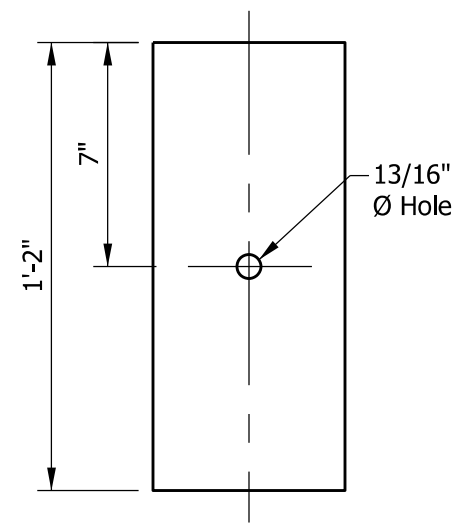
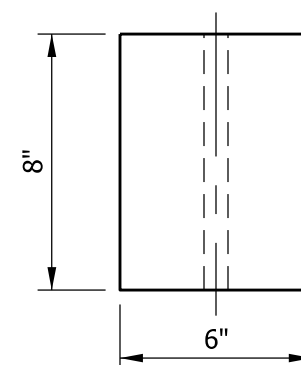
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE



TYPICAL MGS W-BEAM INSTALLATION AT CURB



**TIMBER OR COMPOSITE
BLOCKOUT WITH STEEL POST**



**TIMBER BLOCKOUT
WITH TIMBER POST**

NOTES:

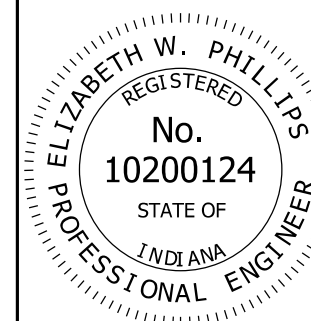
- ① Where the distance from back of post to shoulder slope break is less than 2 ft, the working width shall be adjusted. See Standard Drawing E 601-MGSA-23.
- ② Timber and steel posts shall not be intermixed. See Standard Drawing E 601-MGSA-04 for post details.
3. Blockouts of 12 in. or 16 in. depth may be utilized to increase the post offset. There is no limit to the number of posts that can have additional blockouts up to a 16 in. depth.
- ④ The post shall not be encased with asphalt, concrete, or riprap.

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
ASSEMBLY

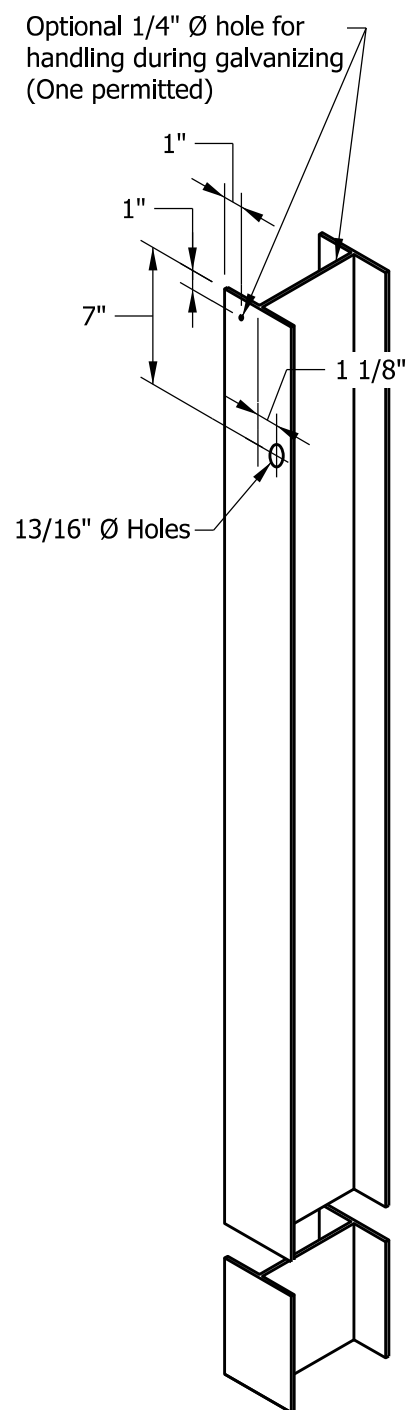
SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-03



/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

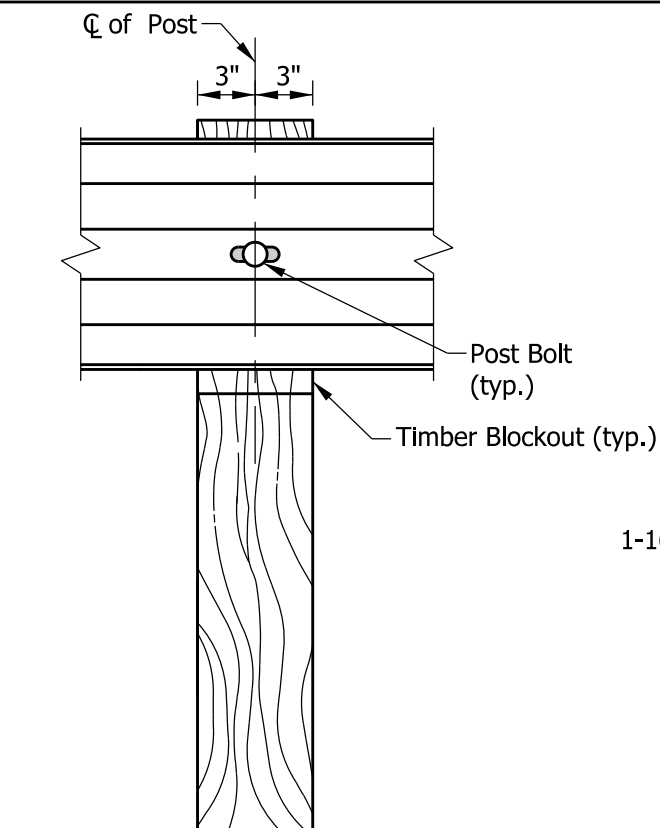
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE



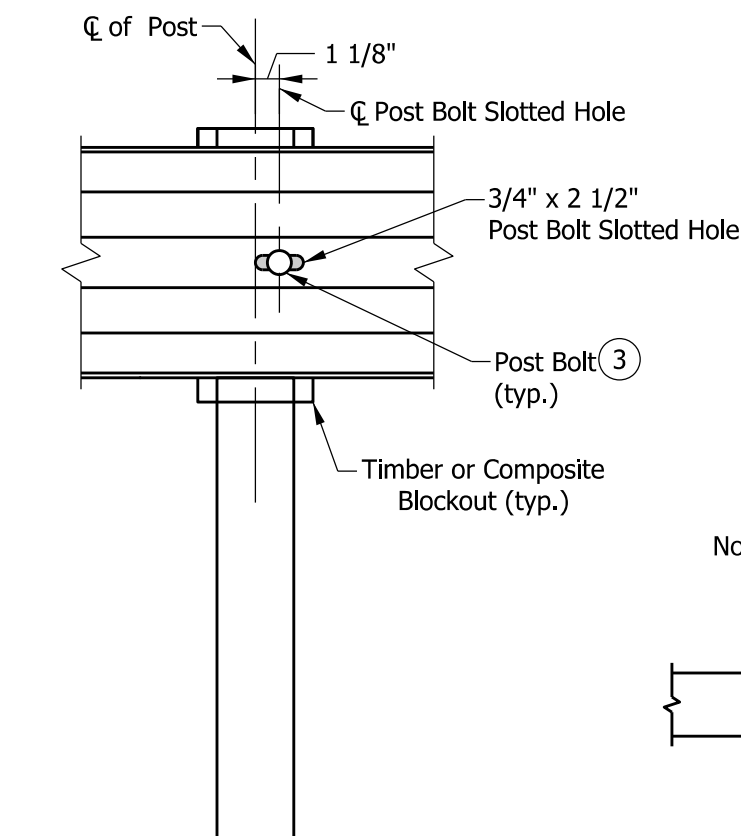
**STEEL POST &
HOLE PUNCHING DETAIL**
(W 6 X 9) (2)



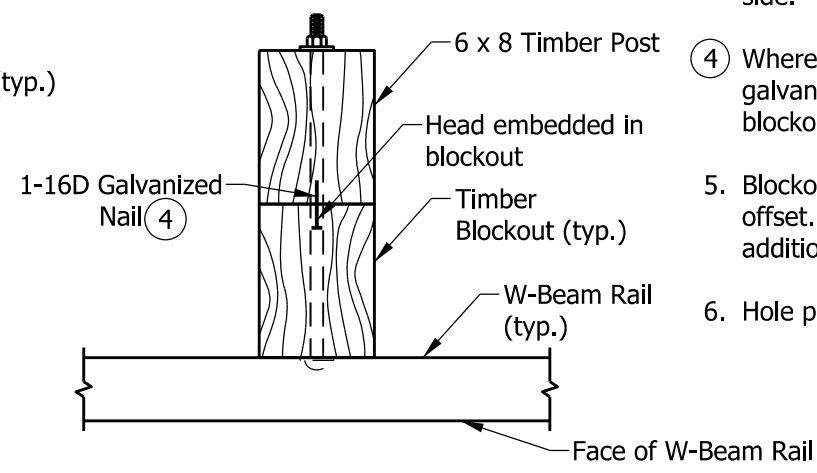
TIMBER POST
(6" X 8") NOMINAL



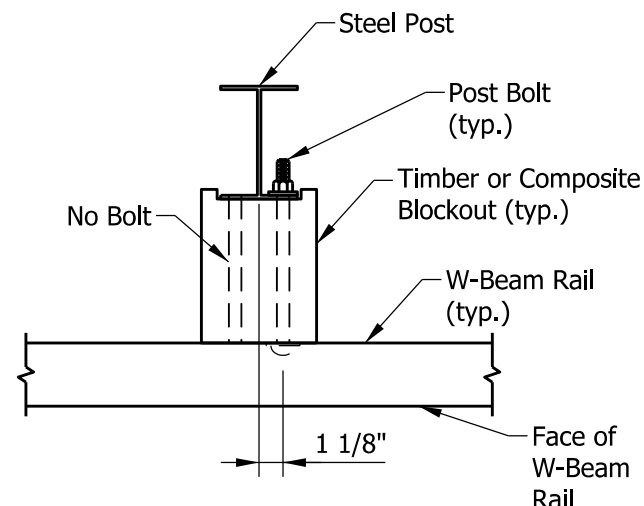
FRONT VIEW (TIMBER POST)



FRONT VIEW (STEEL POST)



PLAN VIEW (TIMBER POST)



PLAN VIEW (STEEL POST)

NOTES:

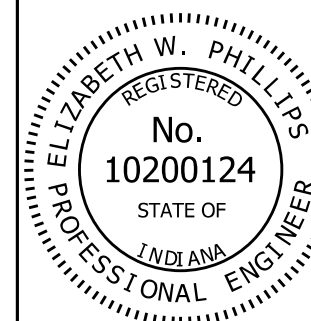
1. Timber or steel posts may be used. Timber and steel posts shall not be intermixed.
2. Steel guardrail post W 6 x 8.5 may be substituted for W 6 x 9.
3. Steel posts shall be installed with bolt holes on approaching traffic side.
4. Where a timber post and a timber blockout are installed, one 16D galvanized double head nail shall be centered at the back of the blockout and driven into the adjacent post to limit rotation.
5. Blockouts of 12 in. or 16 in. depth may be utilized to increase the post offset. There is no limit to the number of posts that can have additional blockouts up to a 16 in. depth.
6. Hole pattern for posts may be drilled in back flange.

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
ASSEMBLY

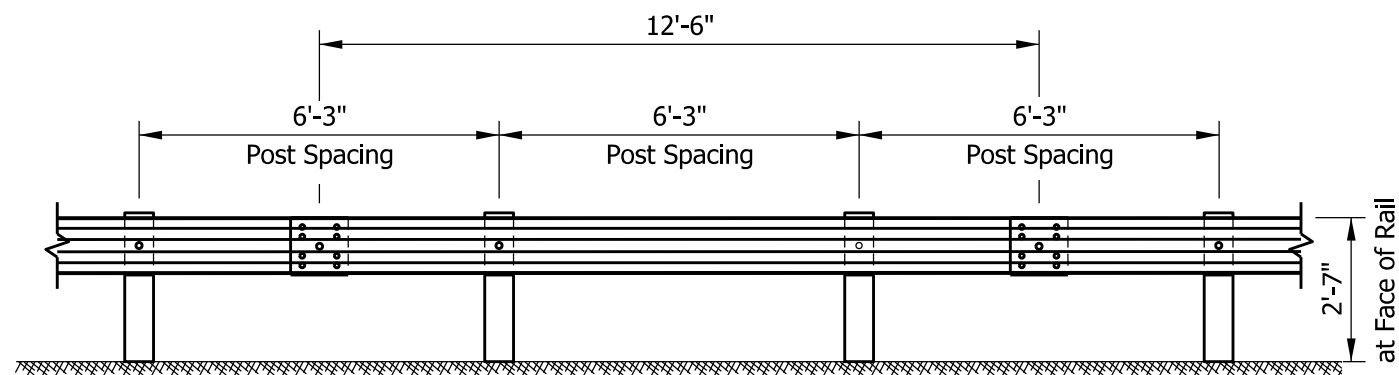
SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-04



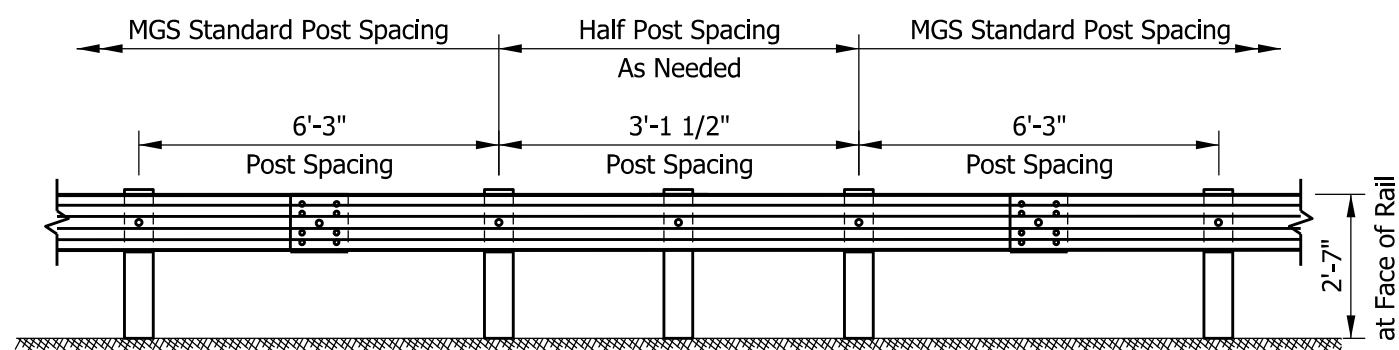
/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE



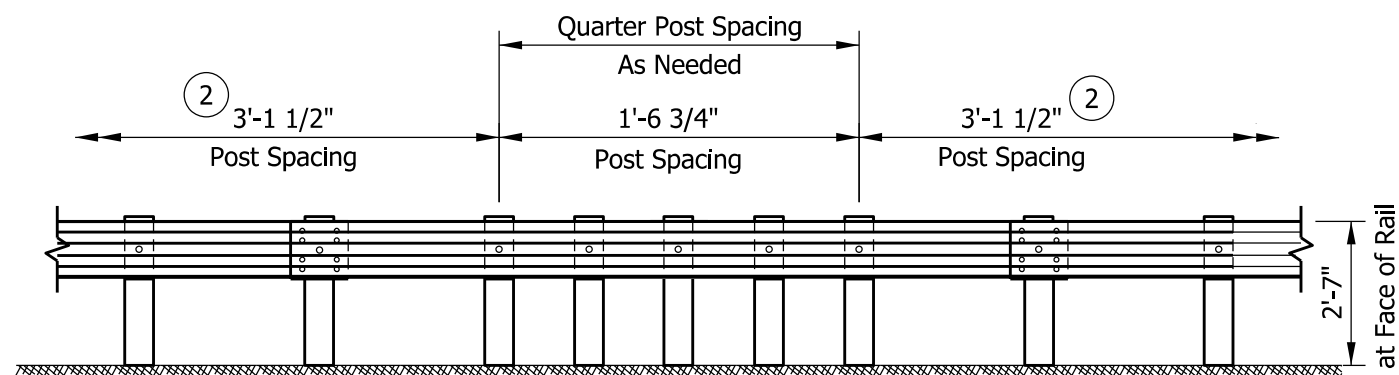
ELEVATION VIEW

MGS W-BEAM STANDARD POST SPACING, 6'-3"



ELEVATION VIEW

MGS W-BEAM HALF POST SPACING, 3'-1 1/2"

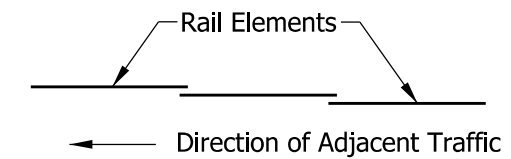


ELEVATION VIEW

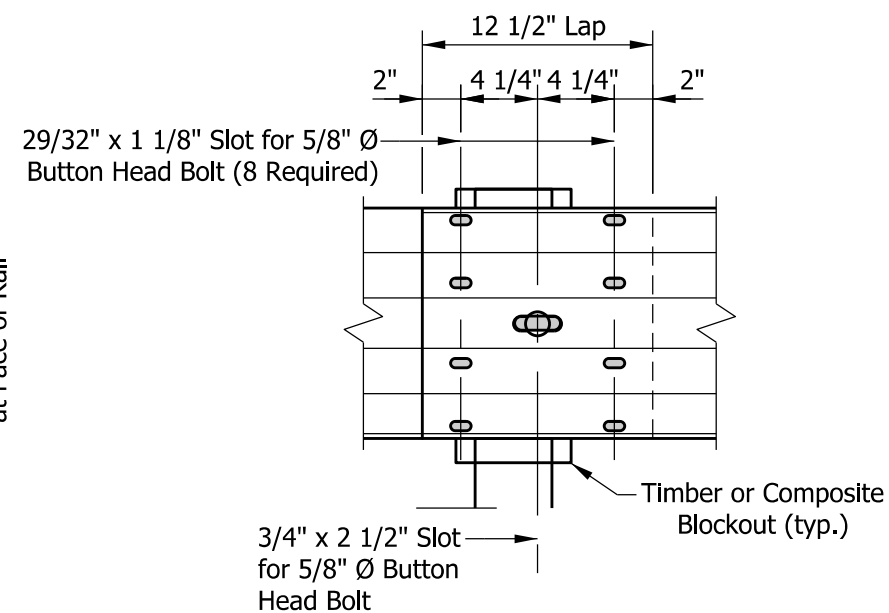
MGS W-BEAM QUARTER POST SPACING, 1'-6 3/4"

NOTES:

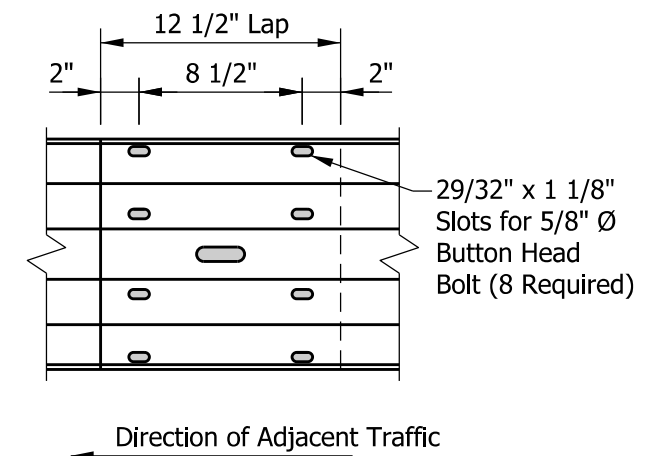
1. Splice locations shall be as shown.
- ② A minimum of 25 ft of MGS w-beam half post spacing shall be installed on the approach and departure ends of the quarter post spacing.



LAPPING PROCEDURE

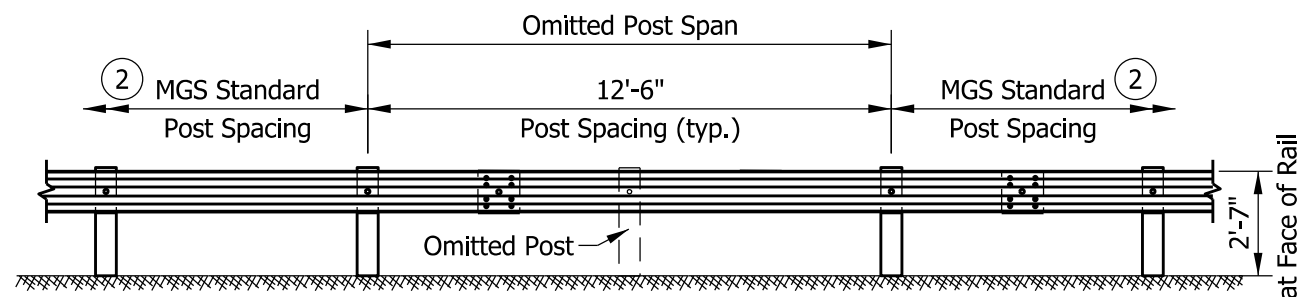


POST SPLICE DETAIL

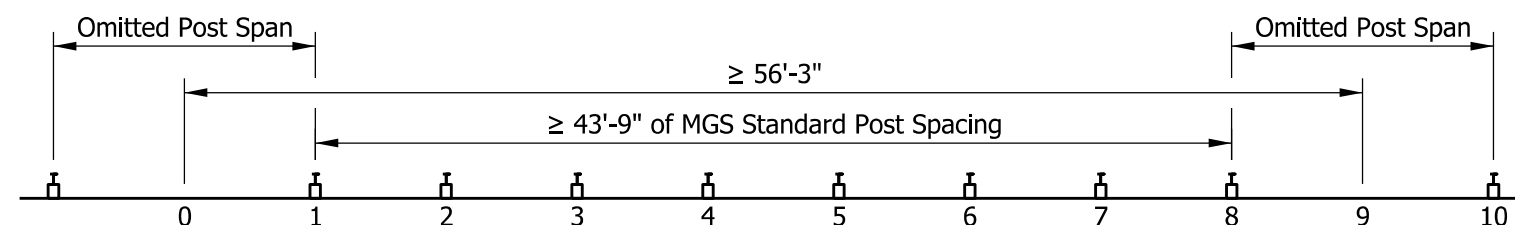


MID-SPAN SPLICE DETAIL

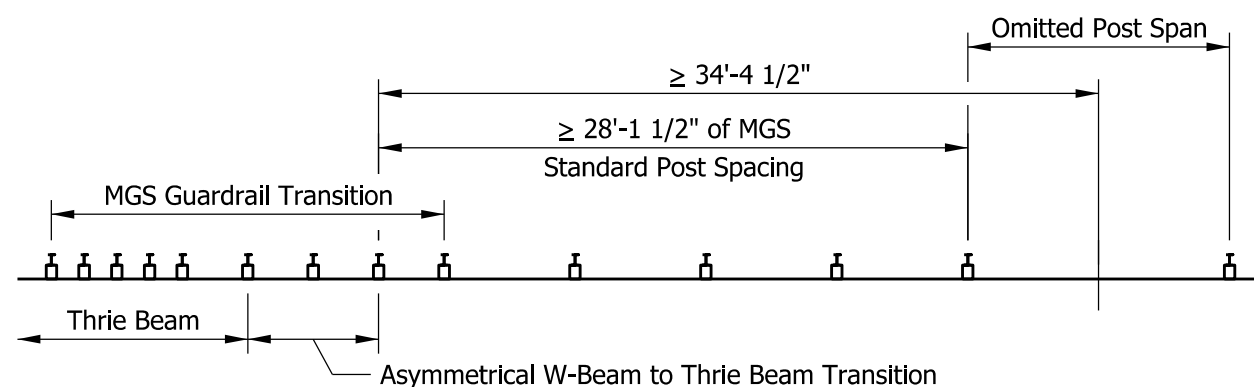
INDIANA DEPARTMENT OF TRANSPORTATION			
MIDWEST GUARDRAIL SYSTEM ASSEMBLY			
SEPTEMBER 2018			
STANDARD DRAWING NO.		E 601-MGSA-05	
	/s/ Elizabeth W. Phillips	03/20/18	
	DESIGN STANDARDS ENGINEER	DATE	
	/s/ John Leckie	04/25/18	
	CHIEF ENGINEER	DATE	



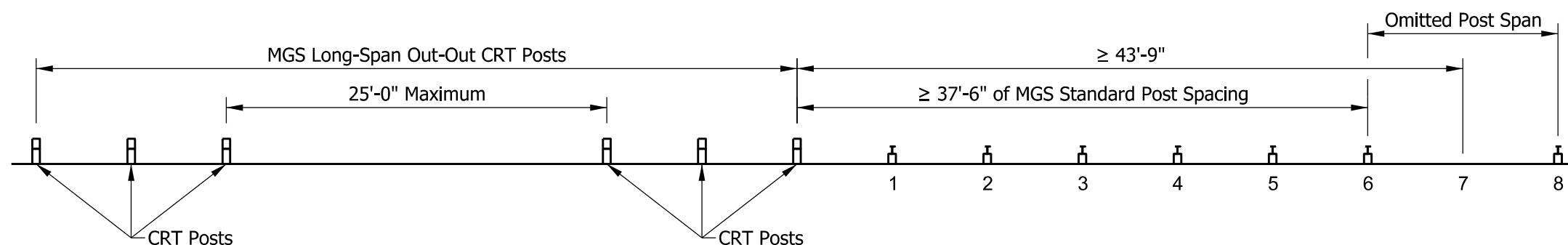
ELEVATION VIEW
MGS W-BEAM OMITTED POST



PLAN VIEW
MINIMUM DISTANCE BETWEEN OMITTED POSTS



PLAN VIEW
MINIMUM DISTANCE BETWEEN OMITTED POST AND MGS GUARDRAIL TRANSITION



PLAN VIEW
MINIMUM DISTANCE BETWEEN OMITTED POST AND MGS LONG-SPAN OUTER CRT POST

NOTES:

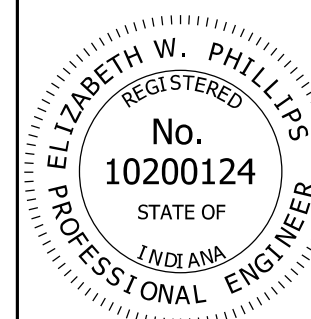
1. A single post may be omitted within an MGS w-beam guardrail run.
- ② Where a post is omitted, a minimum length of MGS standard post spacing guardrail shall be installed as shown.
3. An MGS w-beam guardrail run containing an omitted post shall not be installed adjacent to curb.

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
ASSEMBLY, OMITTED POST

SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-06

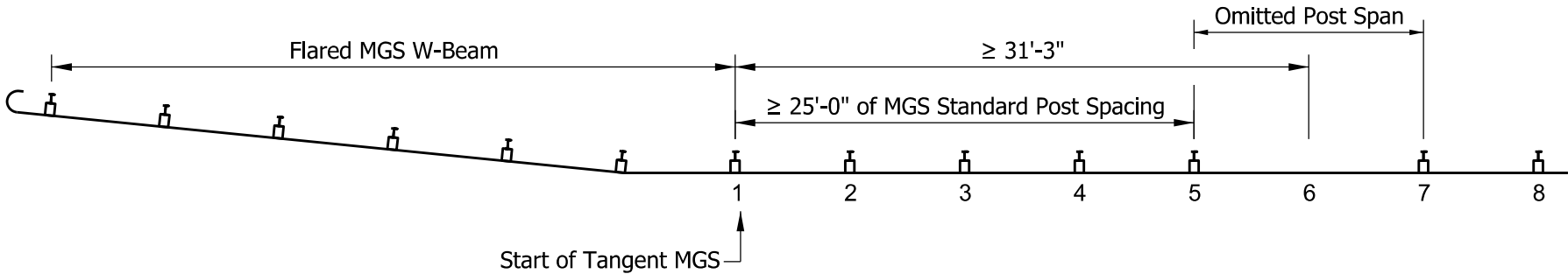


/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE

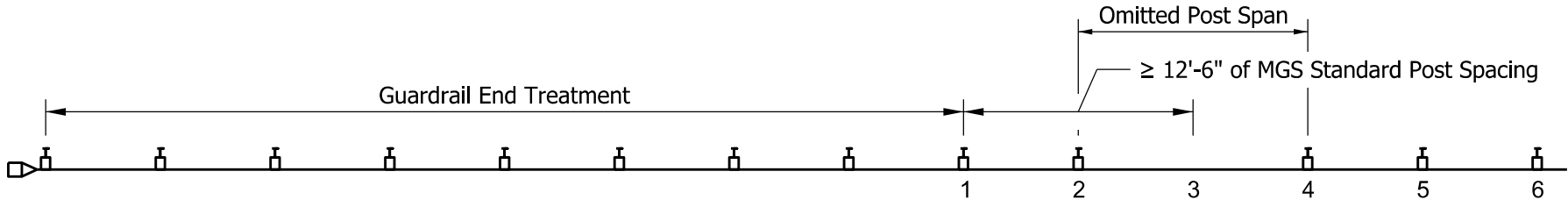
NOTES:

- 1. A single post may be omitted within an MGS w-beam guardrail run. See Standard Drawing E 601-MGSA-06
- 2. Where a post is omitted, a minimum length of MGS standard post spacing guardrail shall be installed as shown.
- 3. An MGS w-beam guardrail run containing an omitted post shall not be installed adjacent to curb.



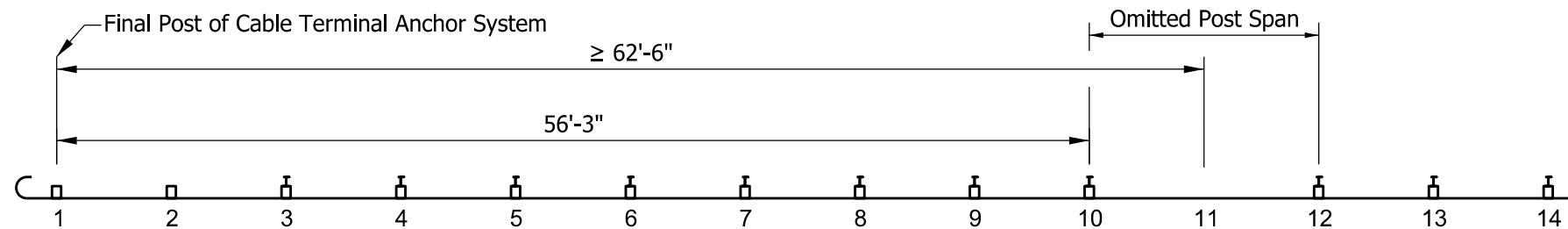
PLAN VIEW

MINIMUM DISTANCE BETWEEN OMITTED POST AND FLARED MGS W-BEAM



PLAN VIEW

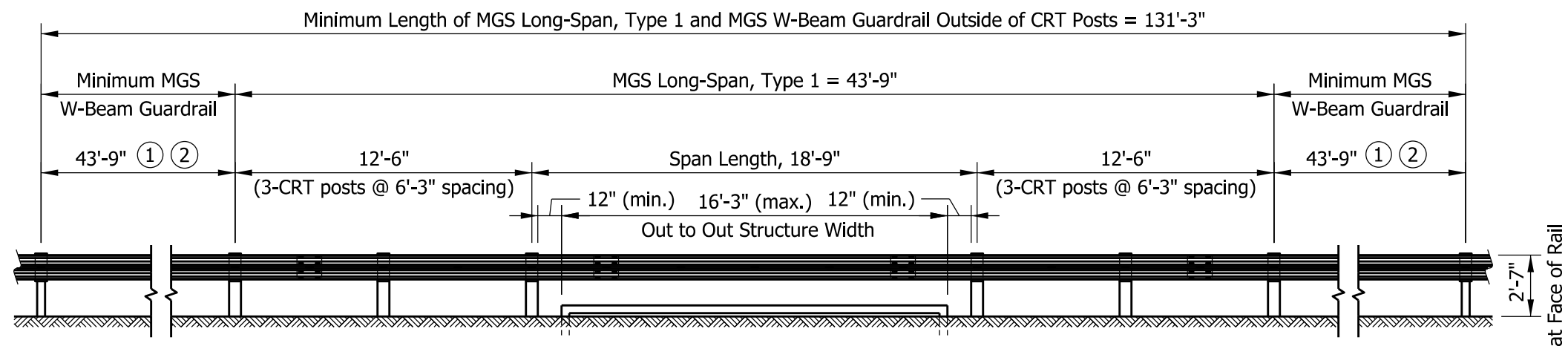
MINIMUM DISTANCE BETWEEN OMITTED POST AND GUARDRAIL END TREATMENT



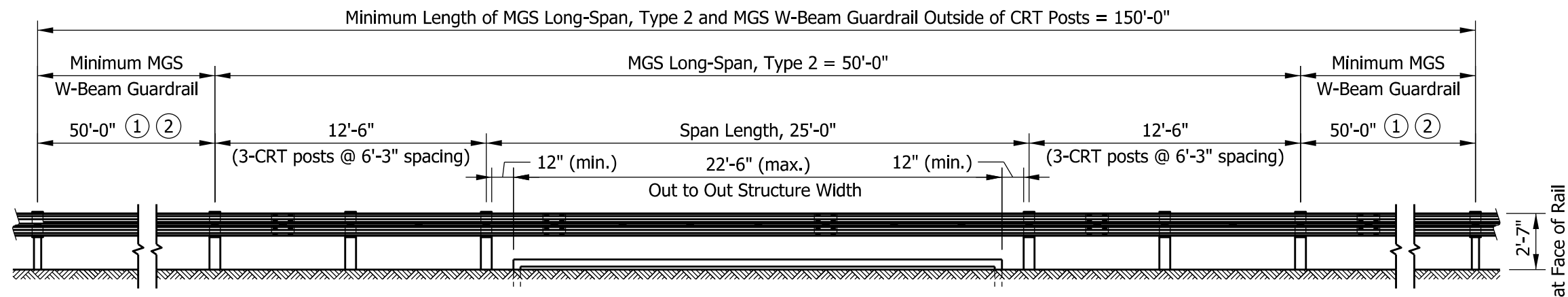
PLAN VIEW

MINIMUM DISTANCE BETWEEN OMITTED POST AND MGS CABLE TERMINAL ANCHOR SYSTEM

INDIANA DEPARTMENT OF TRANSPORTATION	
MIDWEST GUARDRAIL SYSTEM ASSEMBLY, OMITTED POST	
SEPTEMBER 2018	
STANDARD DRAWING NO. E 601-MGSA-07	
<div><div><div>ELIZABETH W. PHILLIPS</div><div>REGISTERED</div><div>No.<div>10200124</div></div><div>STATE OF</div><div>INDIANA</div><div>PROFESSIONAL ENGINEER</div></div></div>	<div><div>/s/ Elizabeth W. Phillips</div><div>DESIGN STANDARDS ENGINEER</div></div> <div><div>03/20/18</div><div>DATE</div></div> <div><div>/s/ John Leckie</div><div>CHIEF ENGINEER</div></div> <div><div>04/25/18</div><div>DATE</div></div>



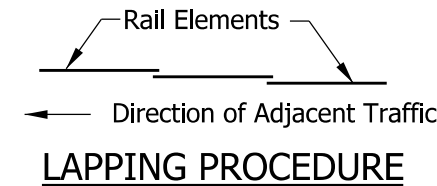
ELEVATION VIEW
INSTALLATION TYPE 1
(2 POSTS OMITTED)



ELEVATION VIEW
INSTALLATION TYPE 2
(3 POSTS OMITTED)

NOTES:

- ① A minimum length of MGS w-beam guardrail shall be installed on the approach and departure ends of the outermost CRT posts. This length may include the length of a guardrail end treatment, cable terminal anchor, or transition.
- ② A minimum of 62 ft 6 in. of tangent MGS w-beam guardrail shall be installed between the outermost CRT post and the beginning of any flared guardrail section.
3. An MGS w-beam guardrail run containing MGS Long-Span shall not be installed adjacent to curb.
4. See Standard Drawing E 601-MGSA-06 for one omitted post, span length 12 ft 6 in.

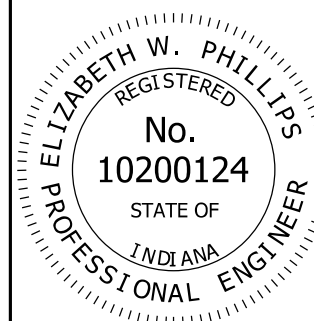


INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
ASSEMBLY, LONG-SPAN

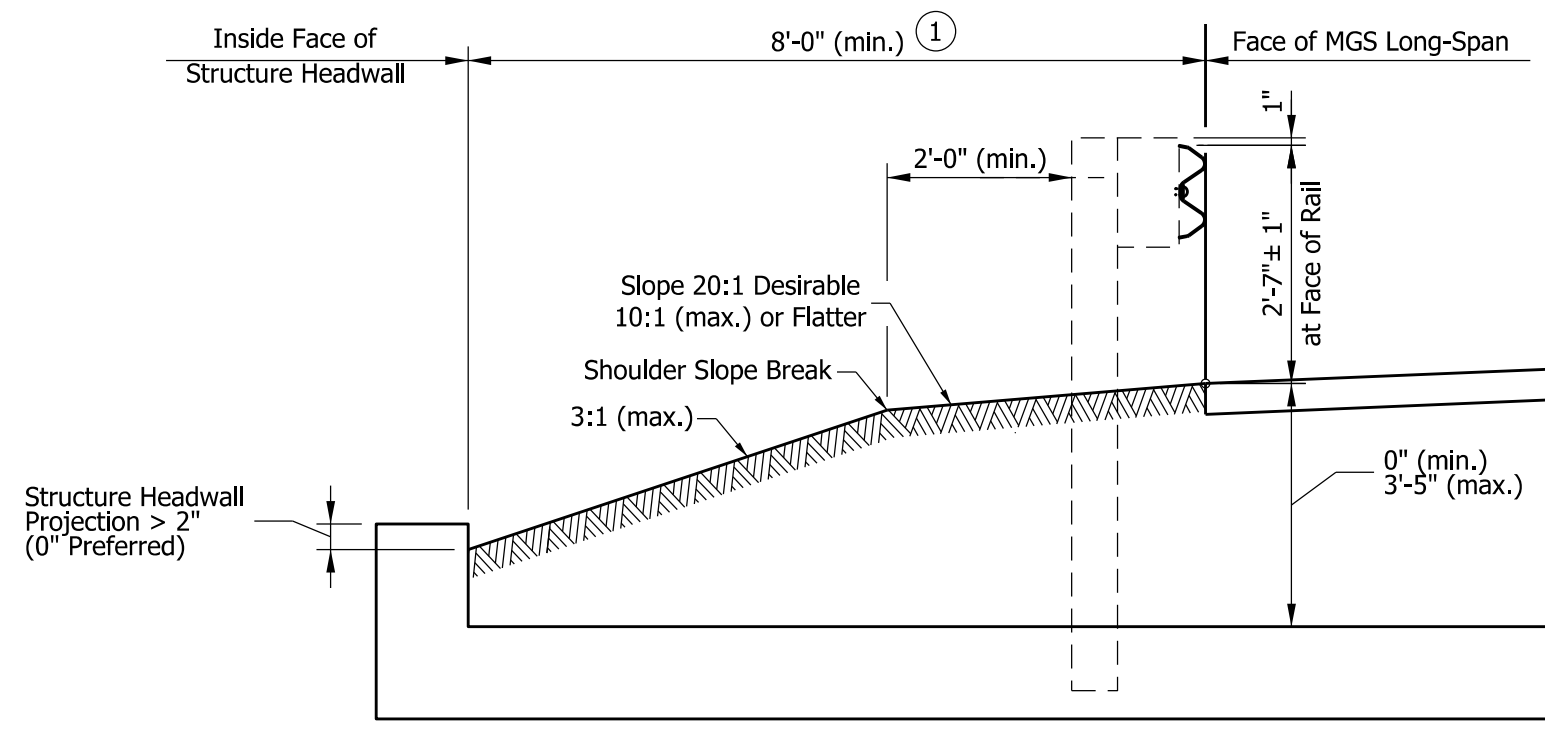
SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-08

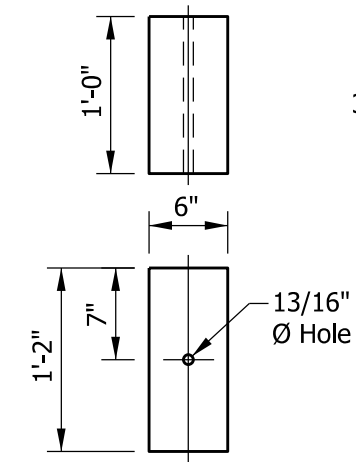


/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE



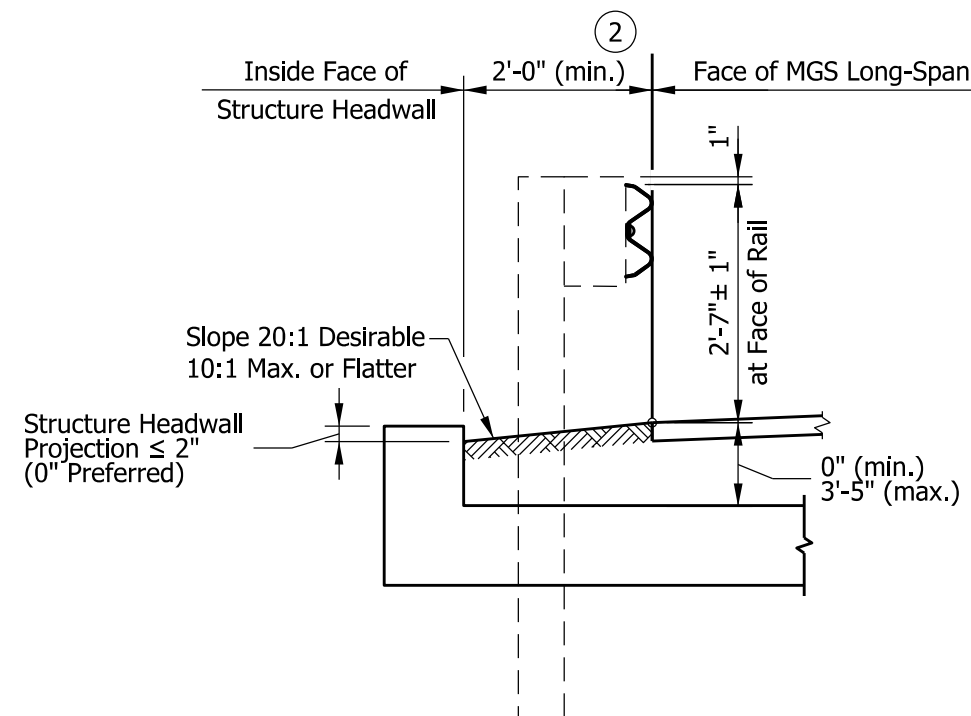
STRUCTURE HEADWALL PROJECTION > 2"



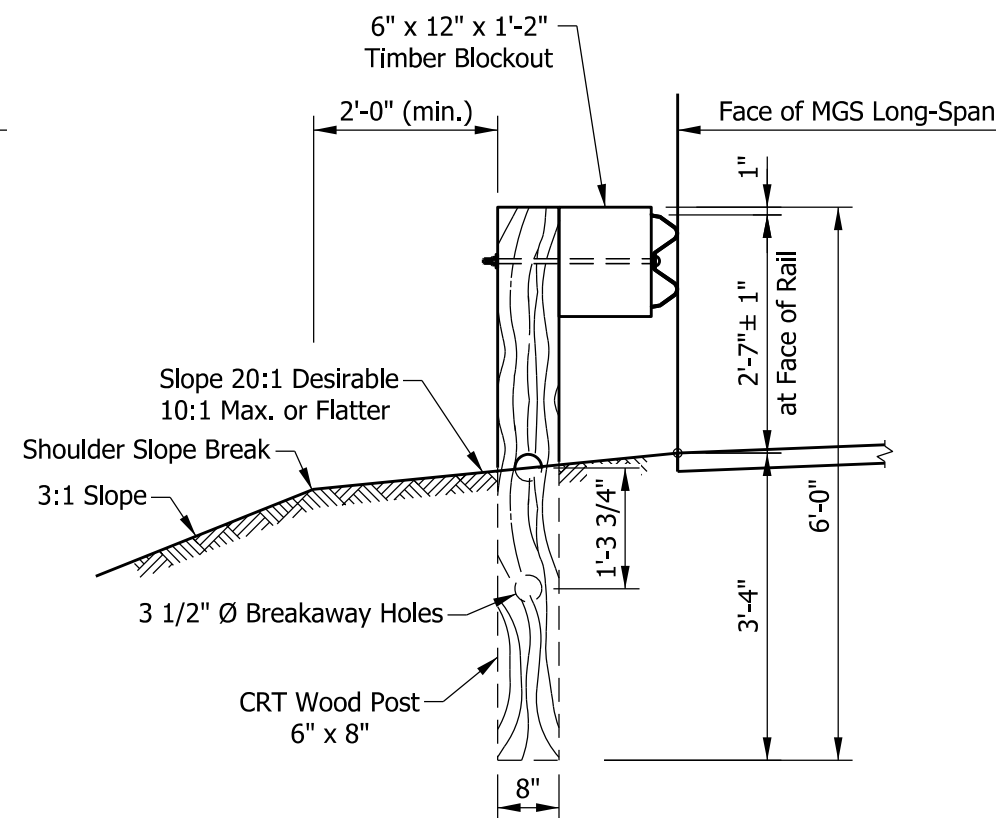
TIMBER BLOCKOUT WITH CRT POST

NOTES:

- ① Where the structure headwall projection is greater than 2 in. above the grade, the inside face of the headwall shall be a minimum of 8 ft from the face of MGS Long-Span.
- ② Where the structure headwall projection is 2 in. or less above the grade, the inside face of the headwall shall be a minimum of 2 ft from the face of MGS Long-Span.
3. MGS Long-Span shall not be installed adjacent to curb.



STRUCTURE HEADWALL PROJECTION ≤ 2"



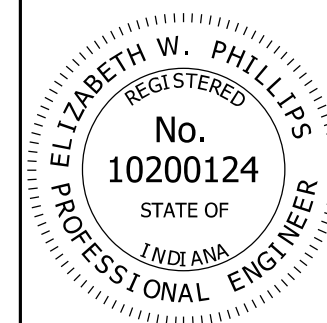
TYPICAL SECTION AT CRT POST

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
ASSEMBLY, LONG-SPAN

SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-09




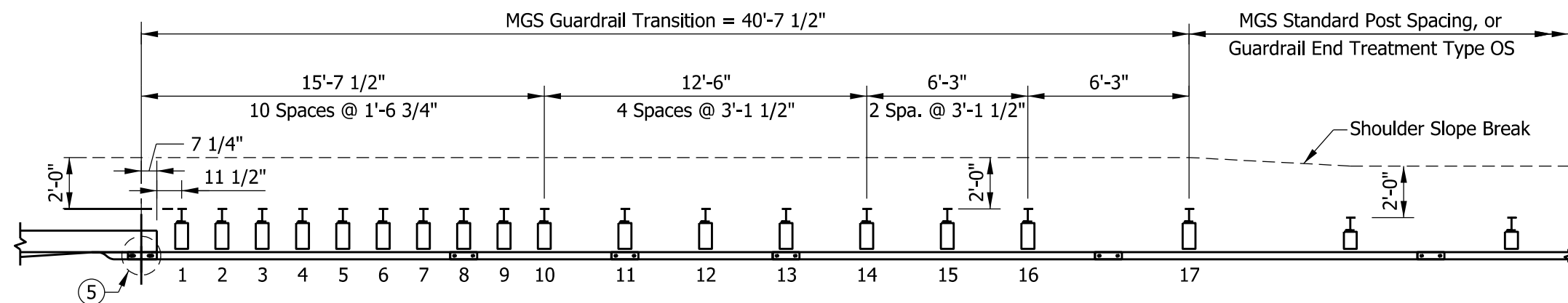
/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE

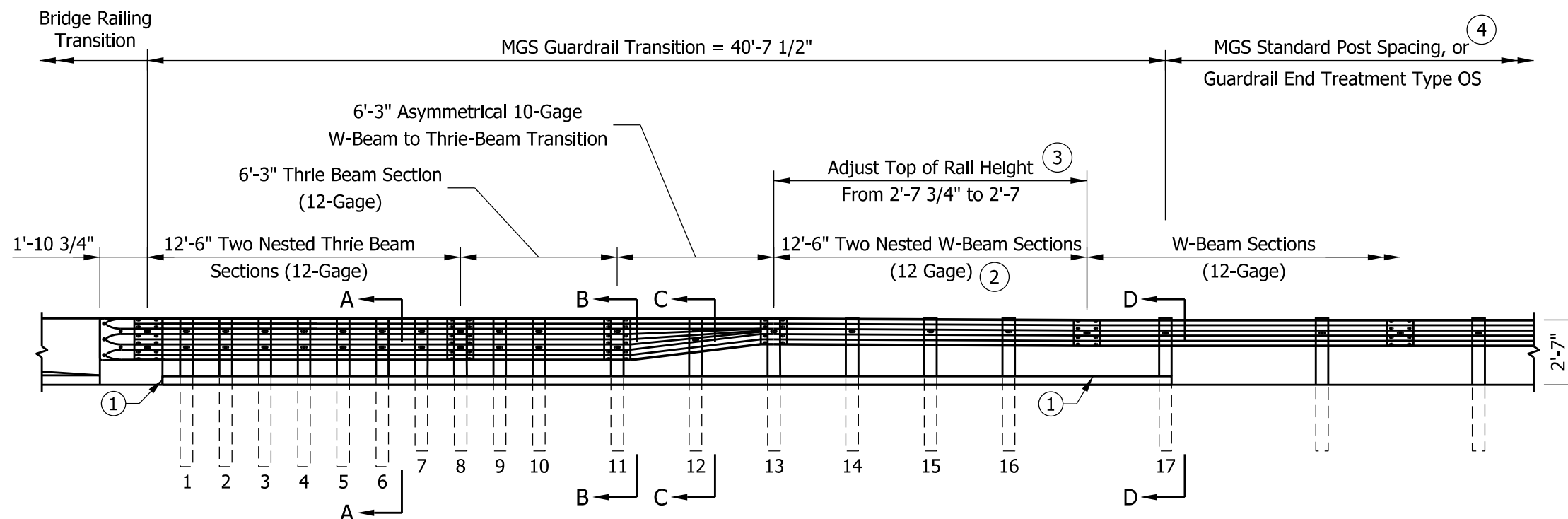


1. A top-mounted post shall not be installed on an arch-topped or true-arch structure.
2. Top-mounted post shall be spaced in accordance with standard MGS w-beam guardrail post spacing. See Standard Drawing E 601-MGSA-05.
- ③ The anchor bolt shall be 7/8 in. dia. rod, cut off to 8 1/2 in. length, with washer and nut, galvanized. The minimum embedment shall be 6 in. The anchor bolt shall be installed using Hilti RE500 Epoxy Anchoring System.
- ④ The center of the anchor bolt shall be installed a minimum of 4 in. from the outer structure edge.
- ⑤ The top of the post may be field cut to adjust the length. Where the post is field cut, drill holes at appropriate locations. All cut and hole surfaces shall receive a galvanized coating.
- ⑥ The post shall not be encased with asphalt, concrete, or riprap.

INDIANA DEPARTMENT OF TRANSPORTATION									
MIDWEST GUARDRAIL SYSTEM ASSEMBLY, STRUCTURE TOP-MOUNTED POST SEPTEMBER 2018									
STANDARD DRAWING NO. E 601-MGSA-10									
	<table><tr><td><i>/s/ Elizabeth W. Phillips</i></td><td><i>03/20/18</i></td></tr><tr><td>DESIGN STANDARDS ENGINEER</td><td>DATE</td></tr><tr><td><i>/s/ John Leckie</i></td><td><i>04/25/18</i></td></tr><tr><td>CHIEF ENGINEER</td><td>DATE</td></tr></table>	<i>/s/ Elizabeth W. Phillips</i>	<i>03/20/18</i>	DESIGN STANDARDS ENGINEER	DATE	<i>/s/ John Leckie</i>	<i>04/25/18</i>	CHIEF ENGINEER	DATE
<i>/s/ Elizabeth W. Phillips</i>	<i>03/20/18</i>								
DESIGN STANDARDS ENGINEER	DATE								
<i>/s/ John Leckie</i>	<i>04/25/18</i>								
CHIEF ENGINEER	DATE								



PLAN VIEW



ELEVATION VIEW

MGS GUARDRAIL TRANSITION

NOTES:

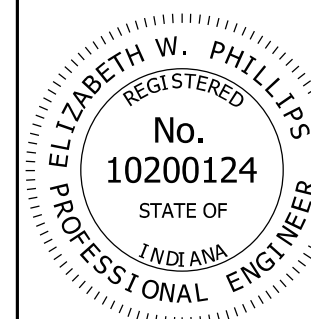
- Optional 4 in. sloping curb only. See Standard Drawing E 605-CCCG-01 or 605-CCIN-01. Where curb is present it shall extend the length of the transition to post 17. The face of curb shall not project beyond the face of w-beam or thrie-beam guardrail.
- Where curb is not present, a single w-beam section may be installed instead of a nested section. See Standard Drawing E 601-MGSA-12 for guardrail transition without curb.
- Guardrail mounting height at bridge railing transition shall be 2 ft 7 3/4 in. Adjust guardrail mounting height down to 2 ft 7 in.
- A minimum of 12 ft 6 in. of tangent MGS w-beam guardrail shall be installed beyond the MGS guardrail transition limits and the beginning of any flared guardrail section.
- See Standard Drawing E 601-MGSA-13 for lap detail.
- See Standard Drawing Series E 601-TBGC for Thrie-Beam Guardrail Components.
- See Standard Drawing E 601-MGSA-14 through -15 for post and blackout details and section views.
- See Standard Drawing E 706-CBRT-04 for bridge railing attachment details.

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM ASSEMBLY,
GUARDRAIL TRANSITION WITH CURB

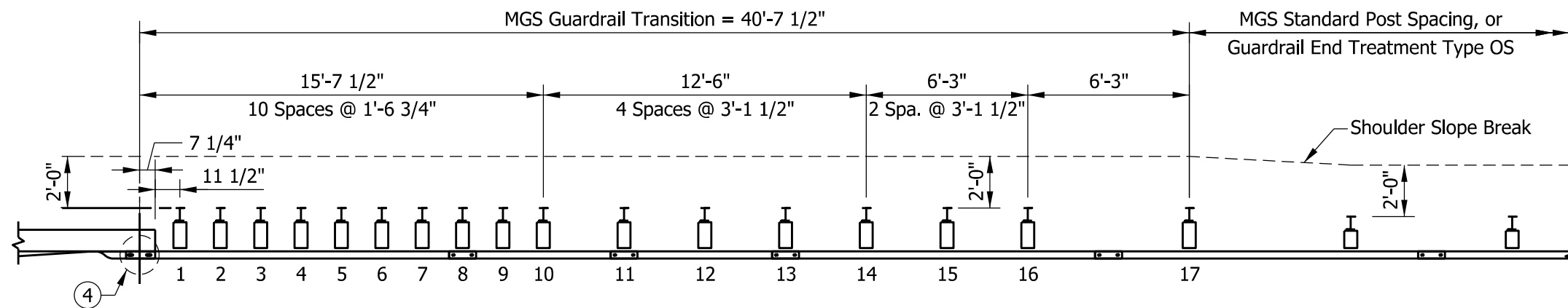
SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-11

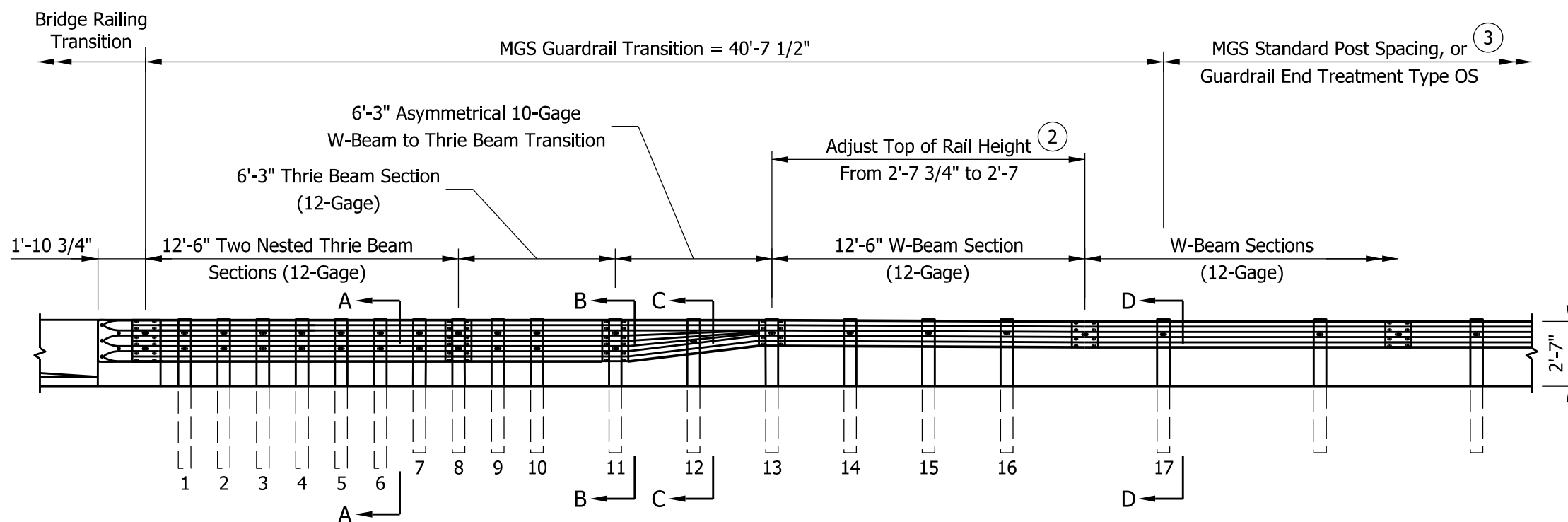


/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE



PLAN VIEW



ELEVATION VIEW

MGS GUARDRAIL TRANSITION

NOTES:

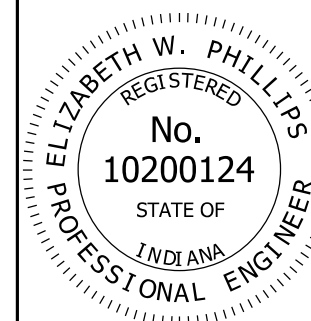
- Where a curb is present, details on Standard Drawing E 601-MGSA-11 guardrail transition with curb shall apply.
- Guardrail mounting height at bridge railing transition is 2 ft 7 3/4 in. Adjust guardrail mounting height down to 2 ft 7 in.
- A minimum of 12 ft 6 in. of tangent MGS w-beam guardrail shall be installed beyond the MGS guardrail transition limits and the beginning of any flared guardrail section.
- See Standard Drawing E 601-MGSA-13 for lap detail.
- See Standard Drawing Series E 601-TBGC for Thrie-Beam Guardrail Components.
- See Standard Drawing E 601-MGSA-14 through -15 for post and blockout details and section views.
- See Standard Drawing E 706-CBRT-04 for bridge railing attachment details.

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM ASSEMBLY,
GUARDRAIL TRANSITION WITHOUT CURB

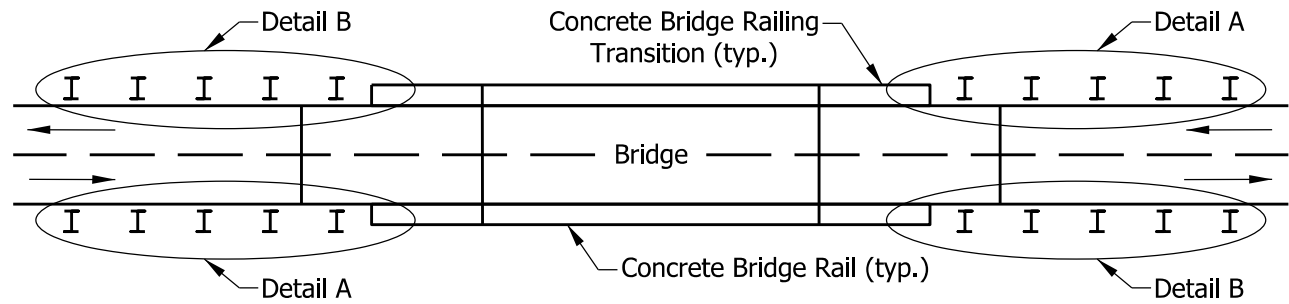
SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-12

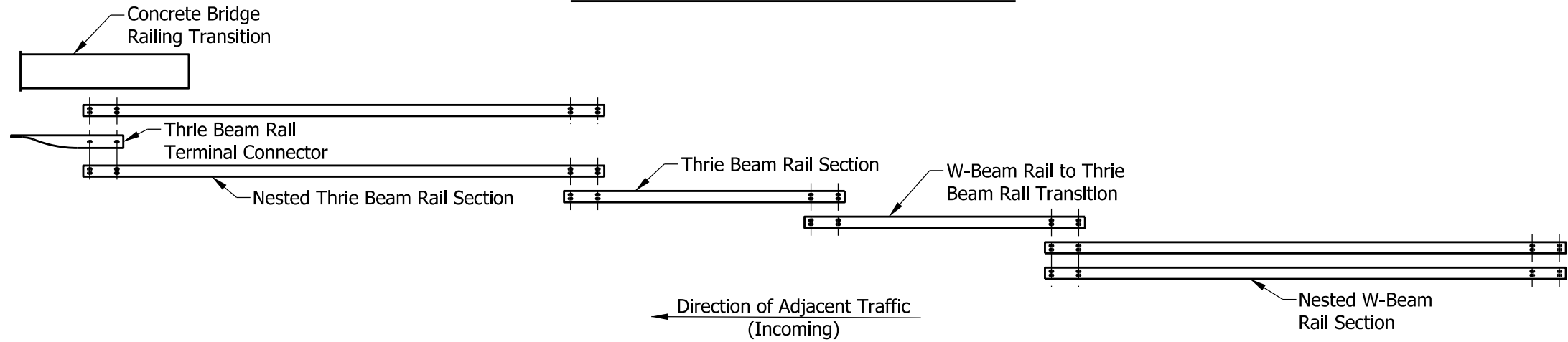


/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

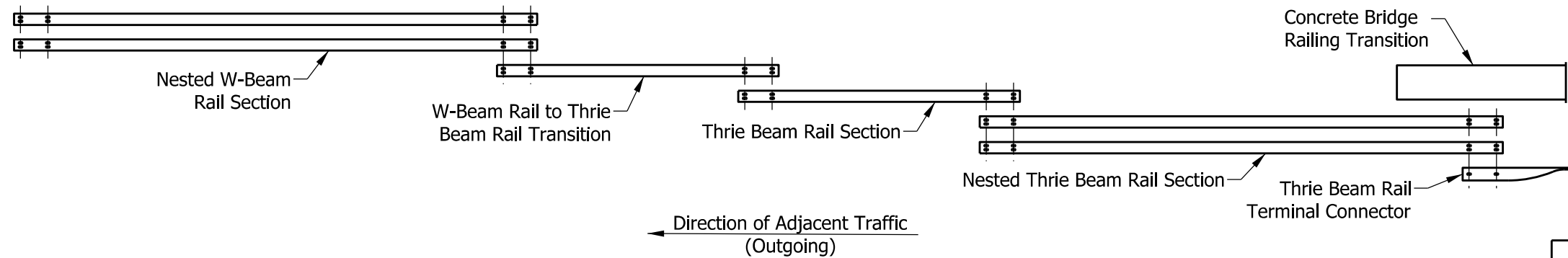
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE



GUARDRAIL TRANSITION PLAN VIEW



DETAIL A



DETAIL B

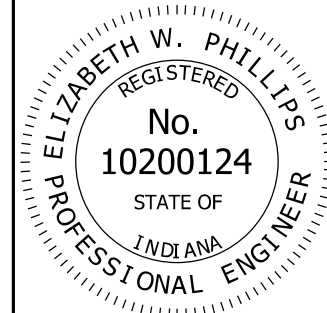
LAP DETAILS AT BRIDGE RAILING TRANSITION PLAN VIEW

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
ASSEMBLY, GUARDRAIL TRANSITION

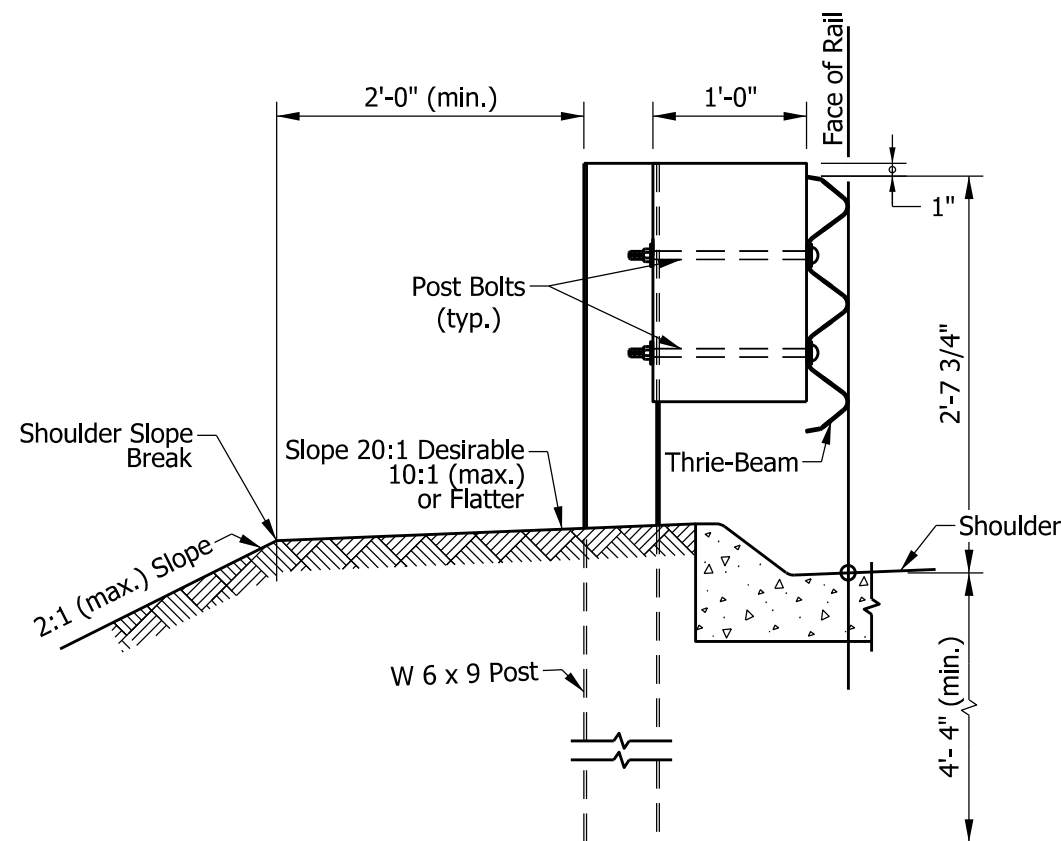
SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-13

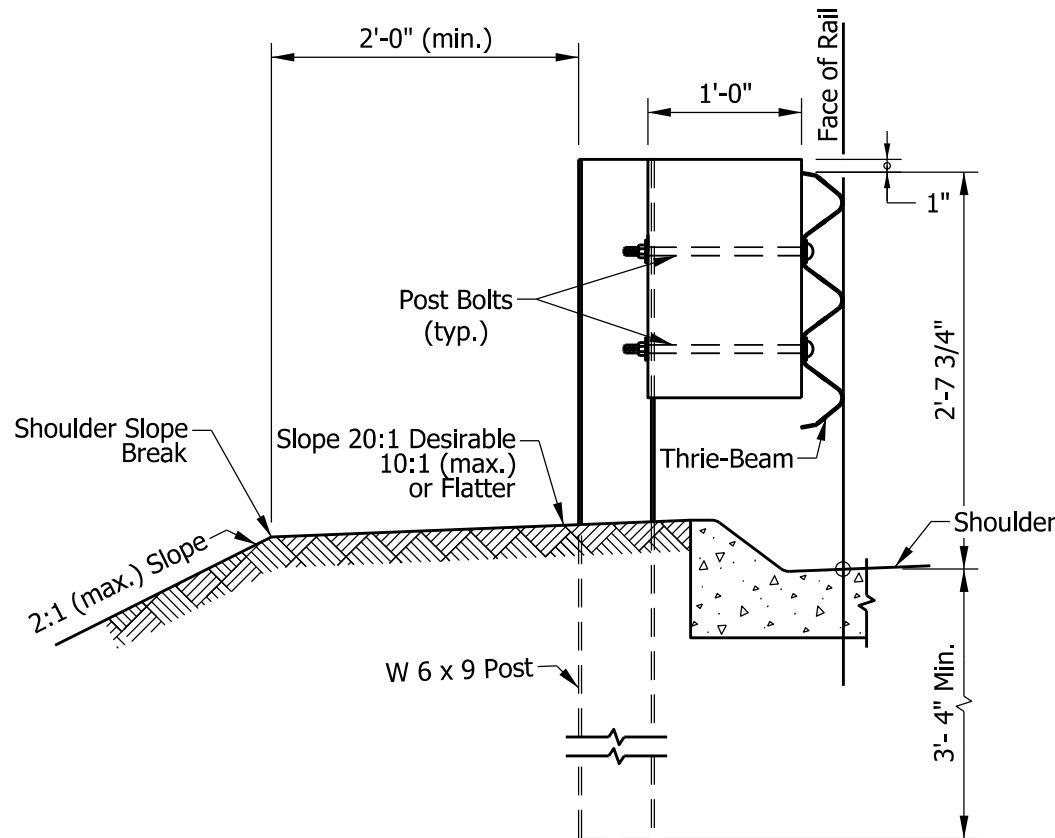


/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

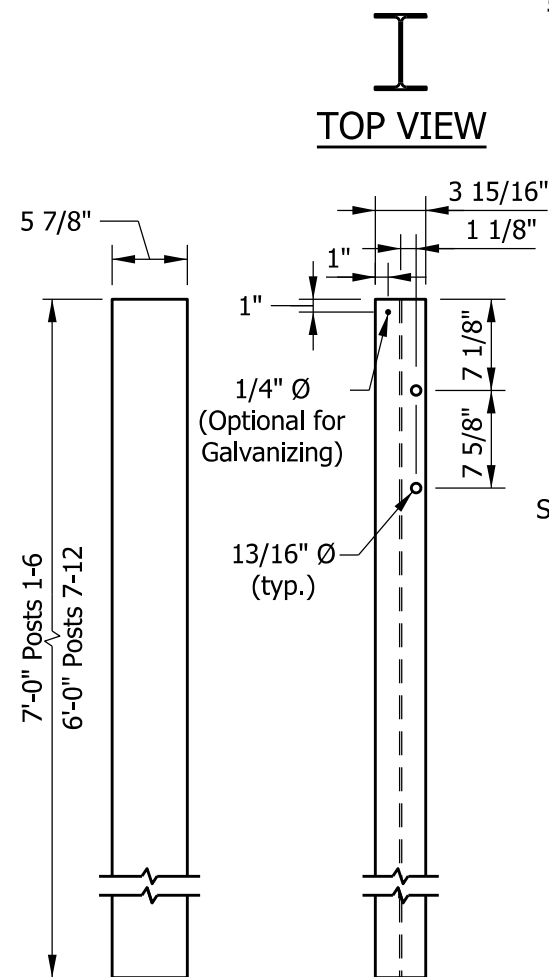
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE



SECTION A-A
POSTS 1-6

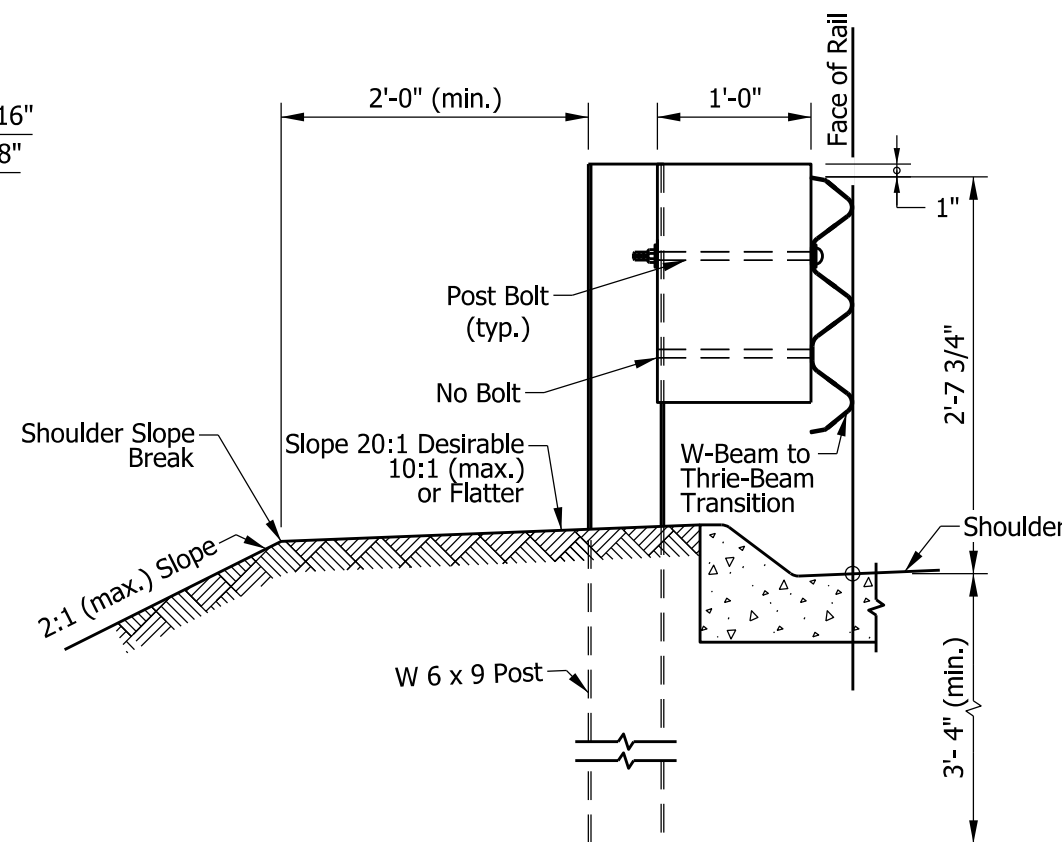


SECTION B-B
POSTS 7-11

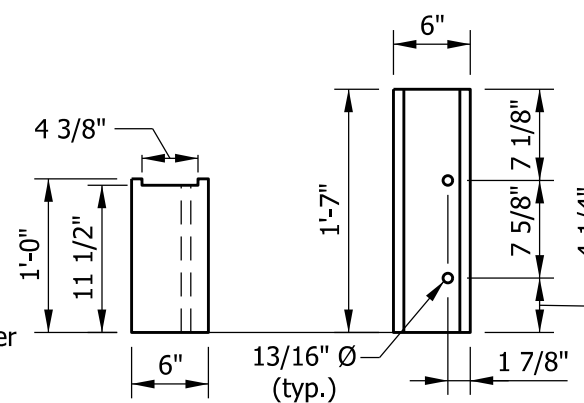


SIDE VIEW FRONT VIEW

W 6 x 9 POST DETAILS ②



SECTION C-C
POST 12



TOP VIEW FRONT VIEW
BLOCKOUT POSTS 1-12
(TIMBER)

NOTES:

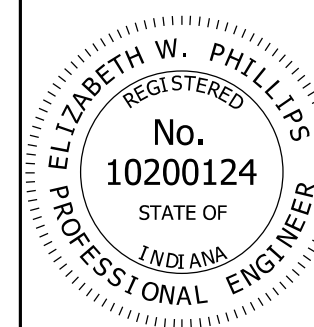
1. All holes drilled or punched to 13/16 in. dia.
- ② Timber posts shall not be used within the limits of the MGS guardrail transition.
3. Hole pattern for post numbers 1 through 12 may be drilled in back flange.
4. See Standard Drawing E 601-MGSA-11 or -12 for post numbers and sections.

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
ASSEMBLY, GUARDRAIL TRANSITION

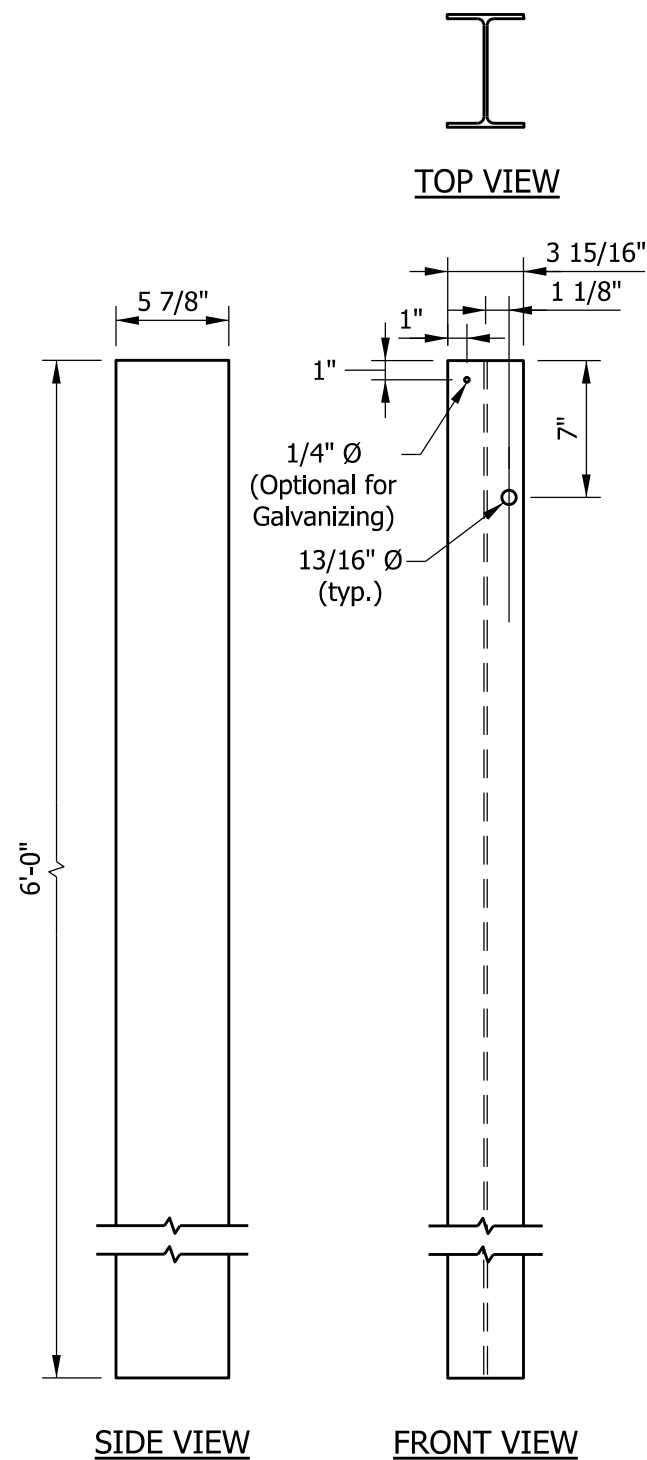
SEPTEMBER 2018

STANDARD DRAWING NO. E601-MGSA-14

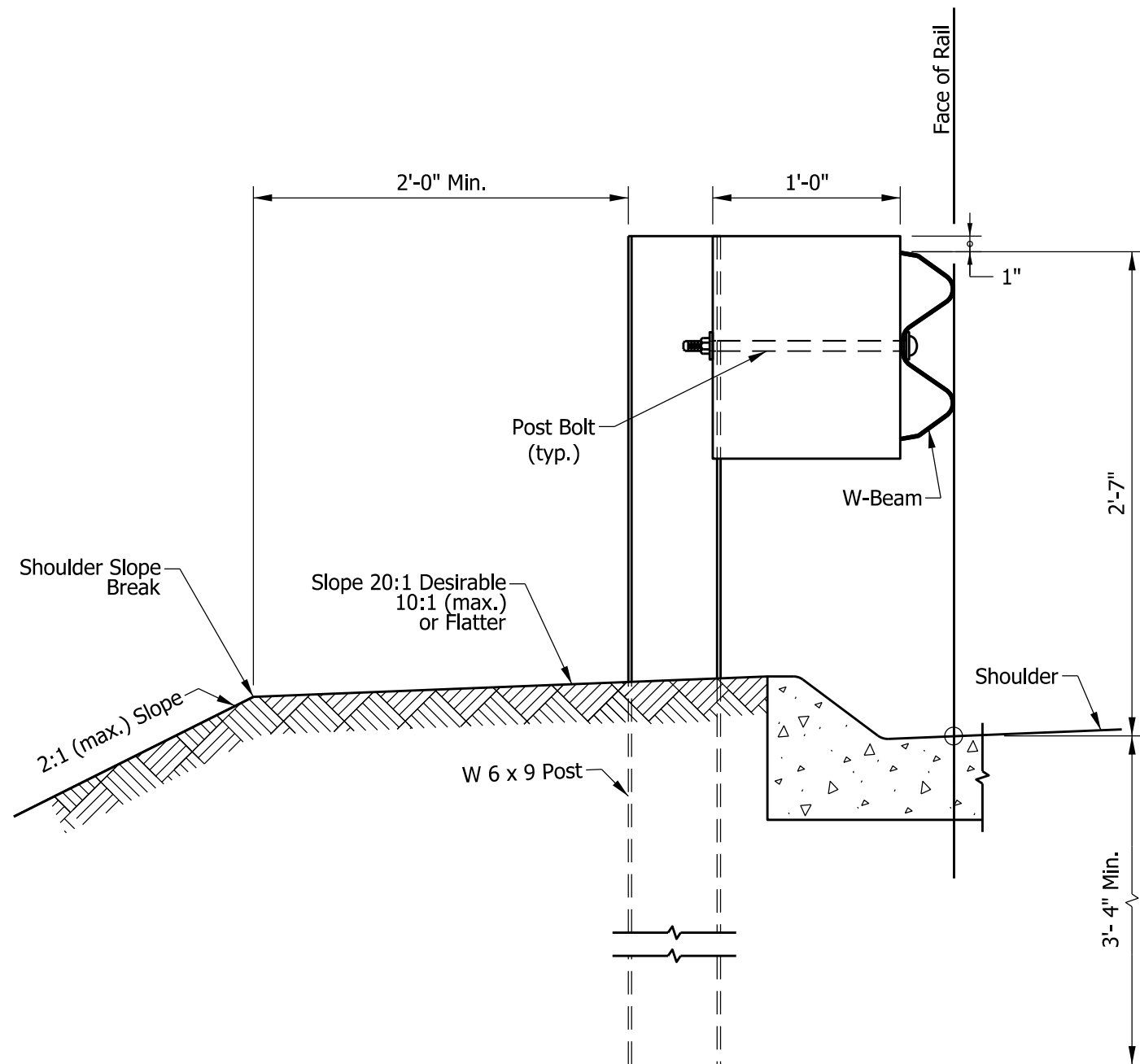


/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE

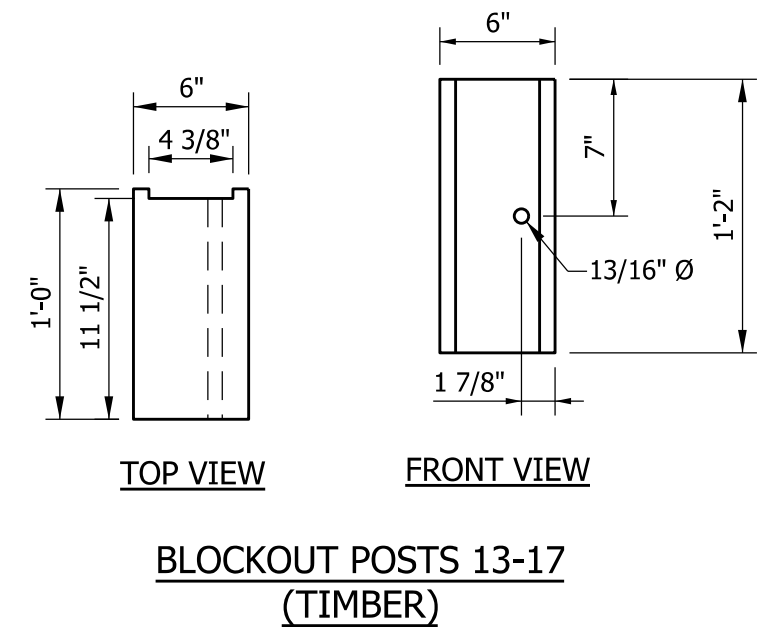


POSTS 13-17 ②



NOTES:

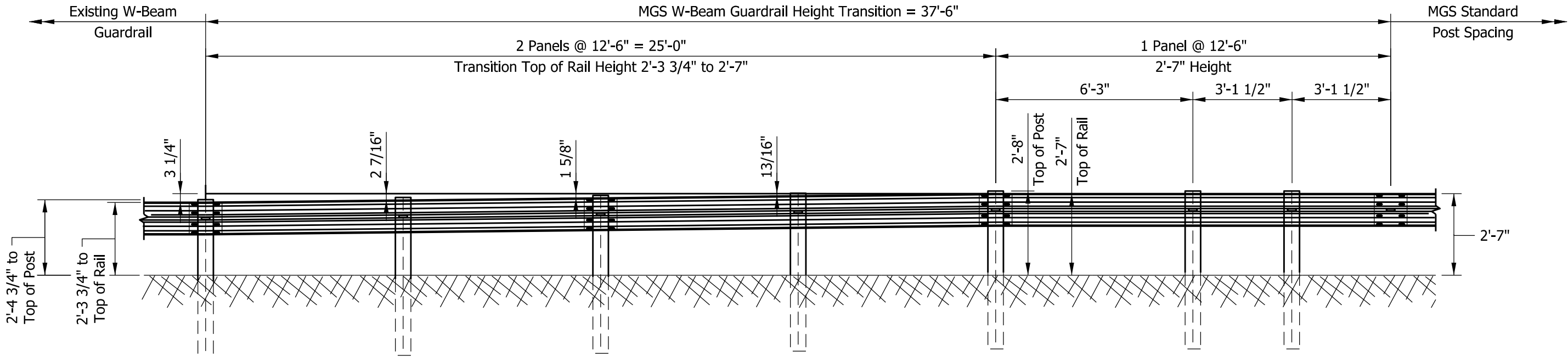
1. All holes drilled or punched to 13/16 in. dia.
- ② Timber posts shall not be used within the limits of the MGS guardrail transition.
3. Hole pattern for post numbers 13 through 17 may be drilled in back flange.
4. See Standard Drawing E 601-MGSA-11 or -12 for post numbers and sections.



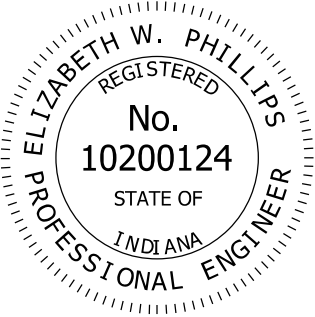
INDIANA DEPARTMENT OF TRANSPORTATION			
MIDWEST GUARDRAIL SYSTEM ASSEMBLY, GUARDRAIL TRANSITION			
SEPTEMBER 2018			
STANDARD DRAWING NO.		E 601-MGSA-15	
	/s/ Elizabeth W. Phillips		03/20/18
	DESIGN STANDARDS ENGINEER		DATE
	/s/ John Leckie		04/25/18
	CHIEF ENGINEER		DATE

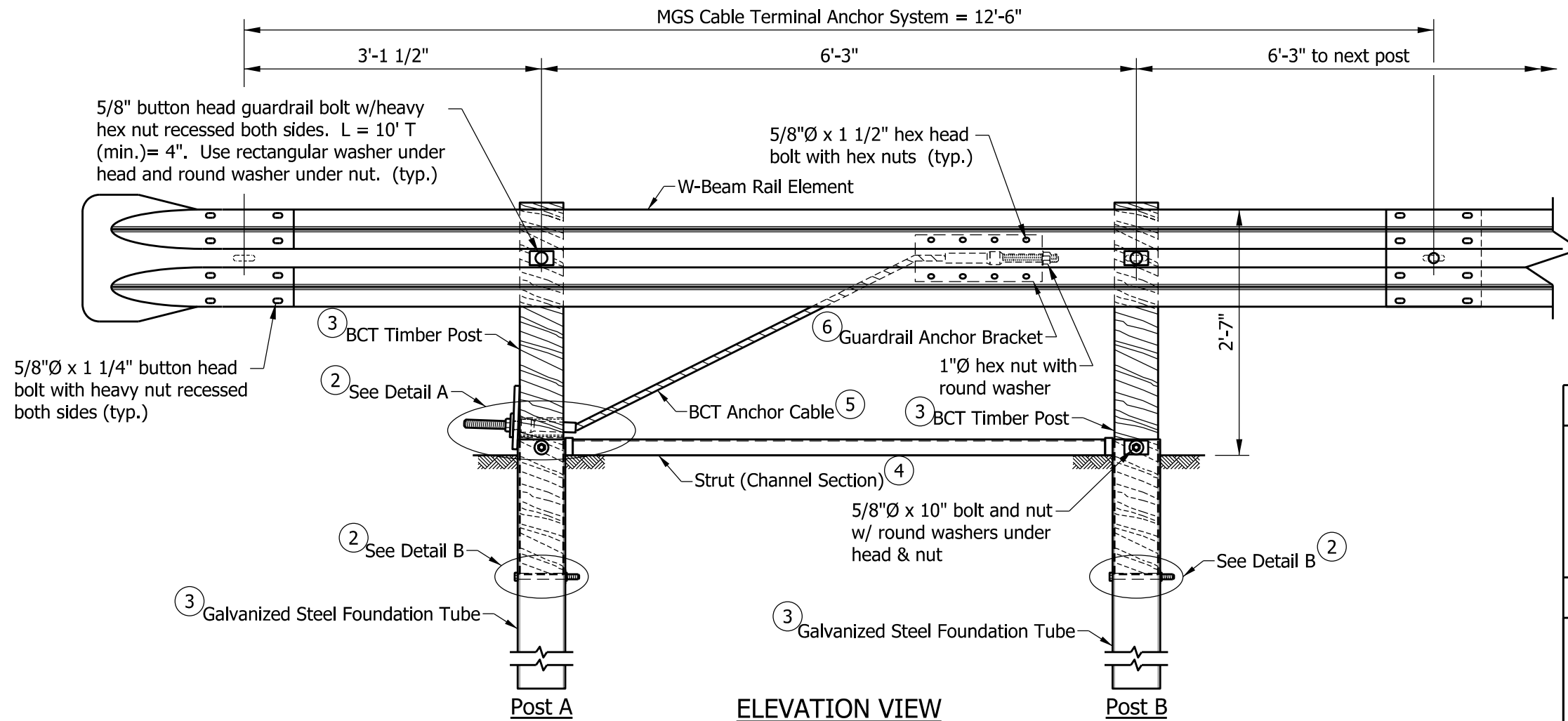
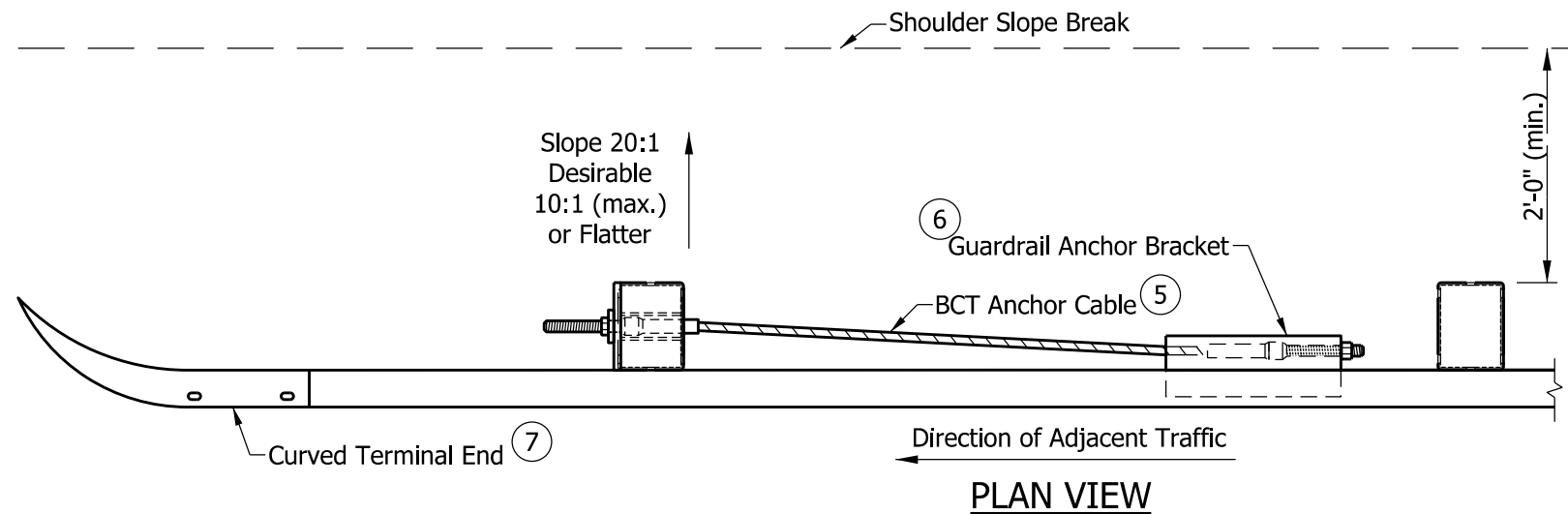
NOTES:

1. Where rub-rail is present on existing w-beam guardrail, the channel shall be cut and repositioned behind the flange.



ELEVATION VIEW

INDIANA DEPARTMENT OF TRANSPORTATION	
MIDWEST GUARDRAIL ASSEMBLY, HEIGHT TRANSITION	
SEPTEMBER 2018	
STANDARD DRAWING NO. E 601-MGSA-16	
	<div><div>/s/ Elizabeth W. Phillips03/20/18</div><div>DESIGN STANDARDS ENGINEERDATE</div><div>/s/ John Leckie04/25/18</div><div>CHIEF ENGINEERDATE</div></div>



NOTES:

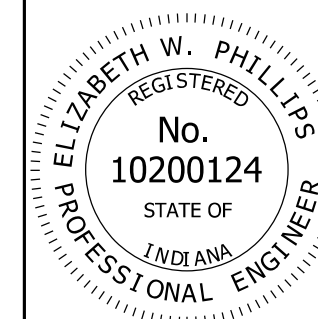
1. The MGS cable terminal anchor system shall only be used at the outgoing end of an MGS w-beam guardrail run not exposed to oncoming traffic.
- (2) See Standard Drawing E 601-MGSA-18 for Details A and B.
- (3) See Standard Drawing E 601-MGSA-19 for BCT timber post and steel foundation tube details.
- (4) See Standard Drawing E 601-MGSA-20 for strut details.
- (5) See Standard Drawing E 601-MGSA-21 for BCT anchor cable assembly details.
- (6) See Standard Drawing E 601-MGSA-22 for guardrail anchor bracket details.
- (7) See Standard Drawing E 601-WBGC-01 for curved terminal end details.

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
ASSEMBLY, CABLE TERMINAL ANCHOR SYSTEM

SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-17

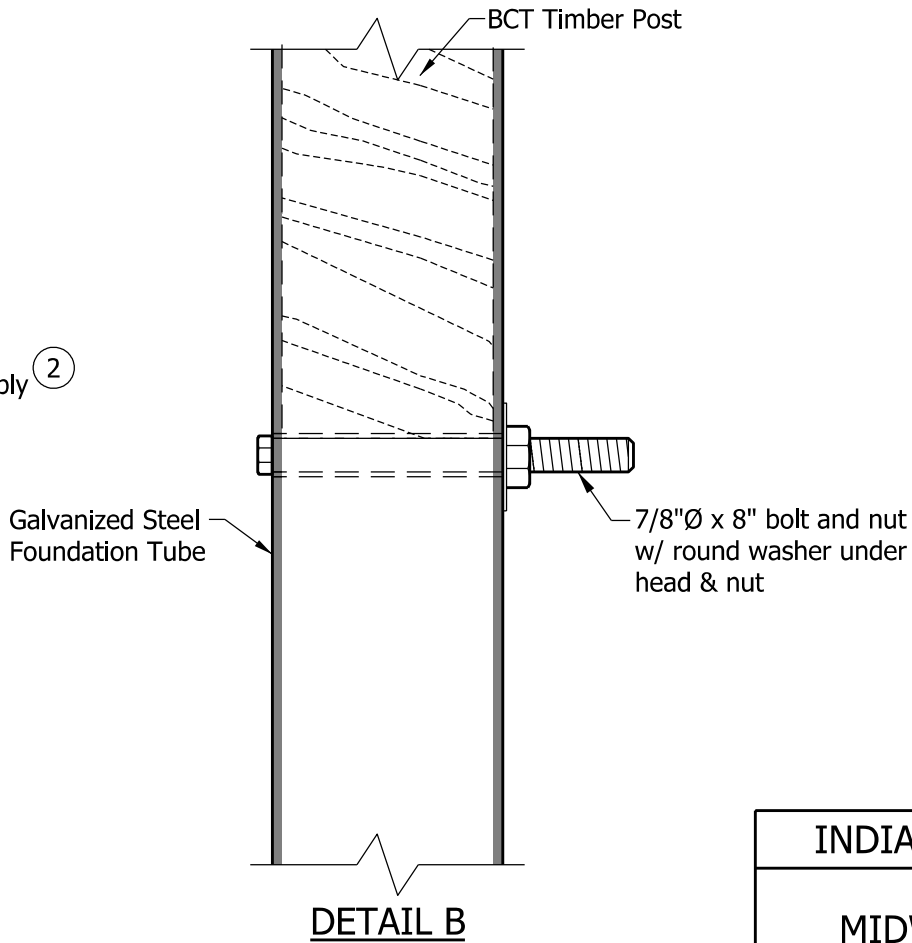
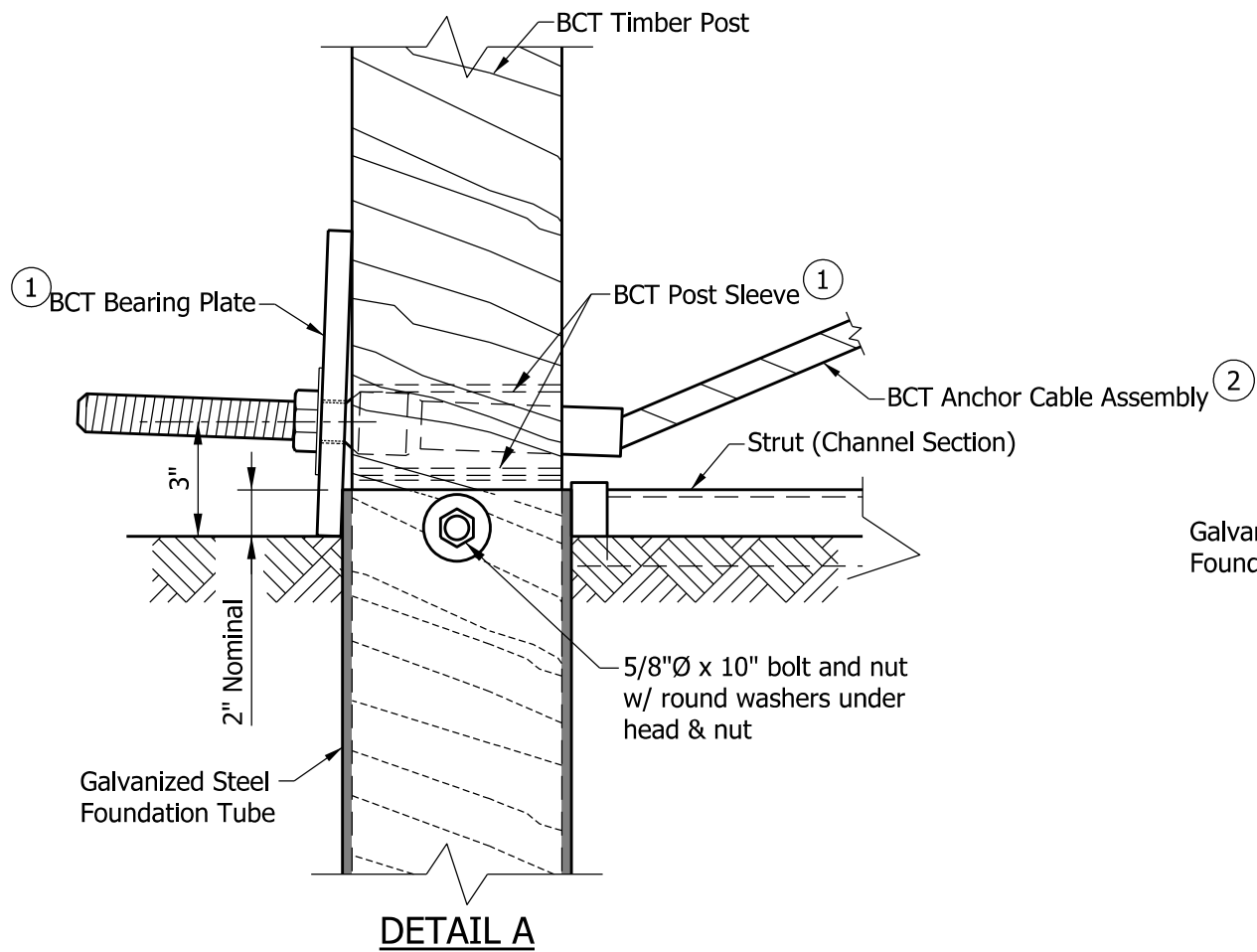


/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

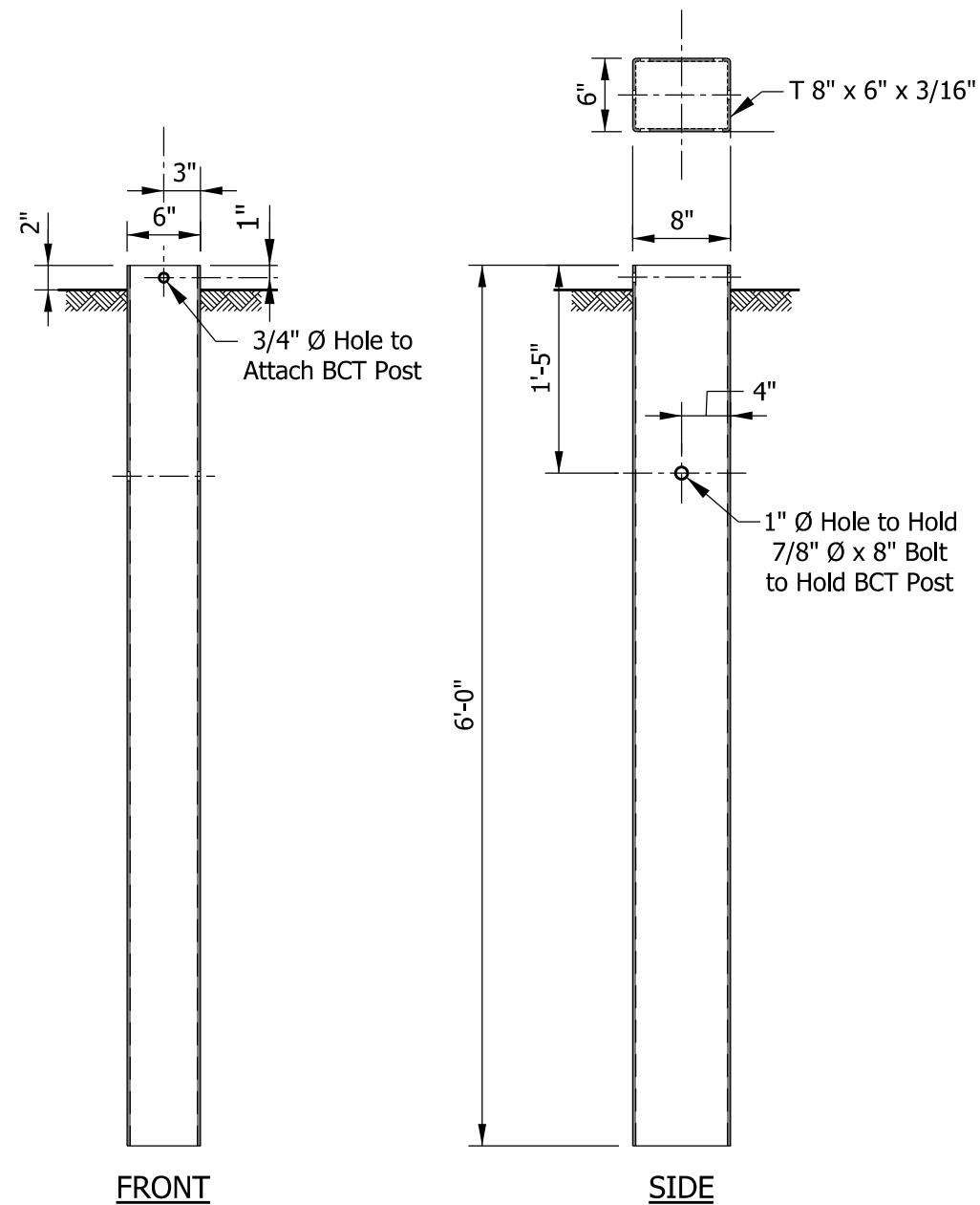
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE

NOTES:

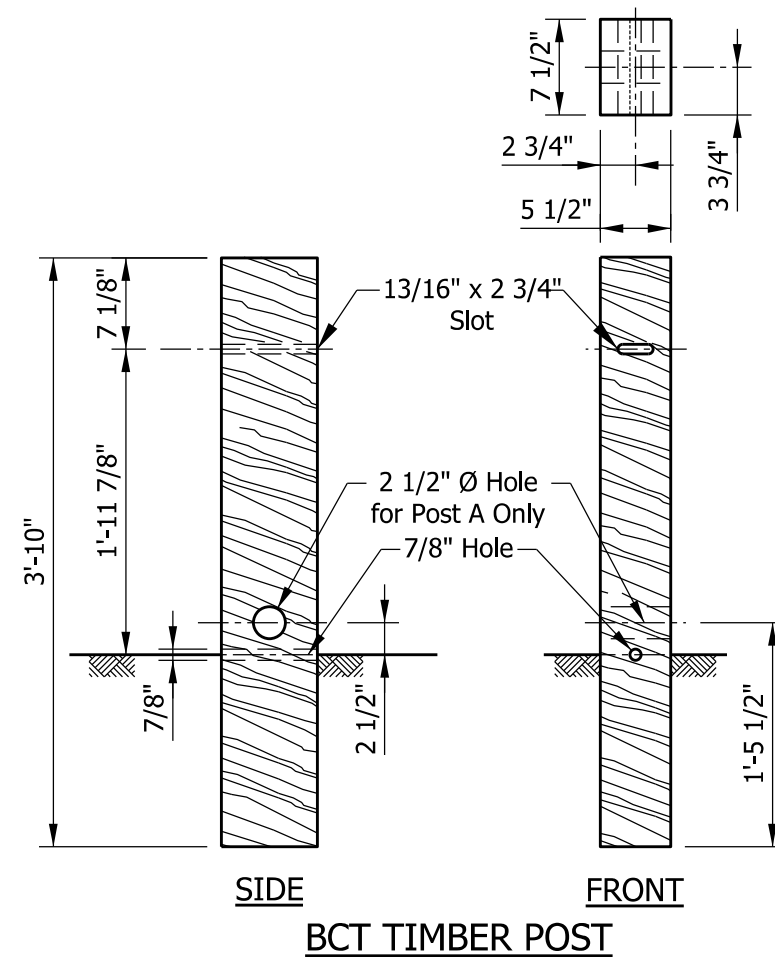
- ① See Standard Drawing E 601-MGSA-21 for BCT post sleeve and BCT bearing plate details.
- ② See Standard Drawing E 601-MGSA-21 for BCT anchor cable assembly details.



INDIANA DEPARTMENT OF TRANSPORTATION	
MIDWEST GUARDRAIL SYSTEM ASSEMBLY, CABLE TERMINAL ANCHOR SYSTEM	
SEPTEMBER 2018	
STANDARD DRAWING NO. E 601-MGSA-18	
	<div>/s/ Elizabeth W. Phillips03/20/18</div> <div>DESIGN STANDARDS ENGINEERDATE</div>
	<div>/s/ John Leckie04/25/18</div> <div>CHIEF ENGINEERDATE</div>



GALVANIZED STEEL
FOUNDATION TUBE

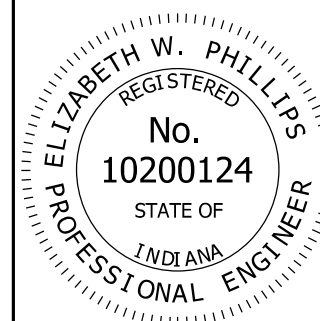


INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM ASSEMBLY,
CABLE TERMINAL ANCHOR SYSTEM

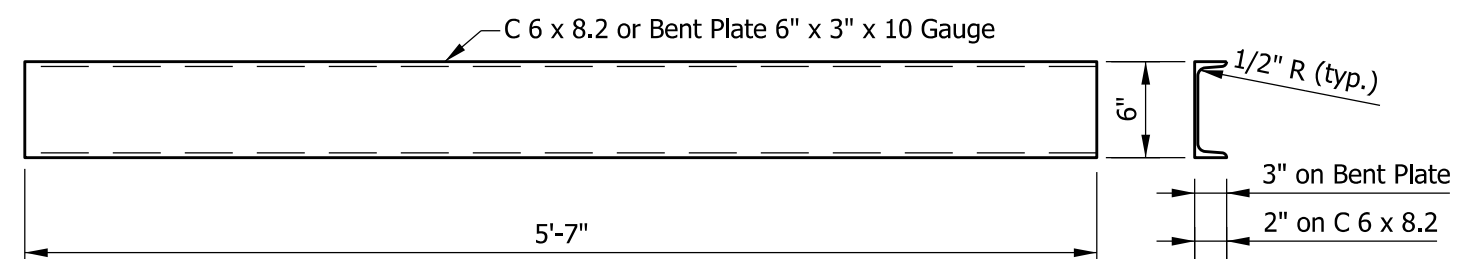
SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-19

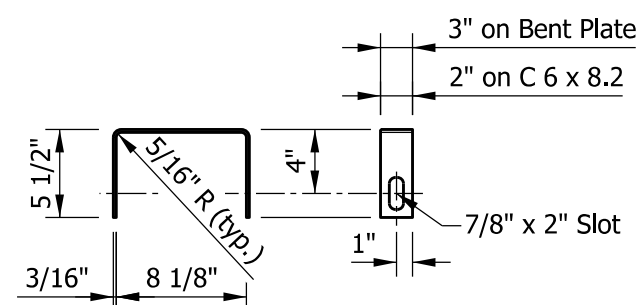


/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

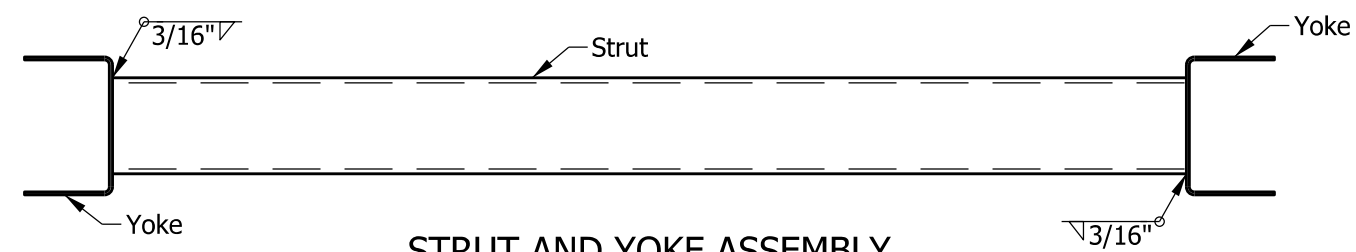
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE



STRUT DETAILS



YOKE DETAILS
(2 Required)



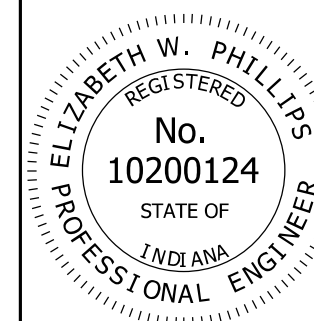
STRUT AND YOKE ASSEMBLY

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL ASSEMBLY,
CABLE TERMINAL ANCHOR SYSTEM

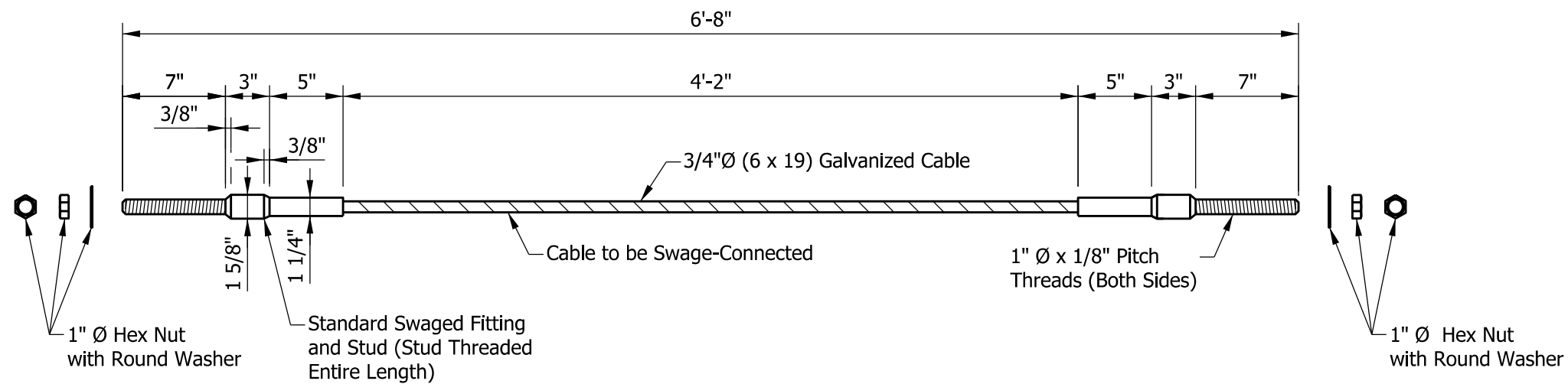
SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-20

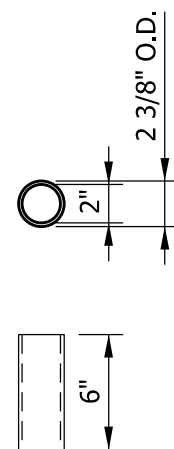


/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

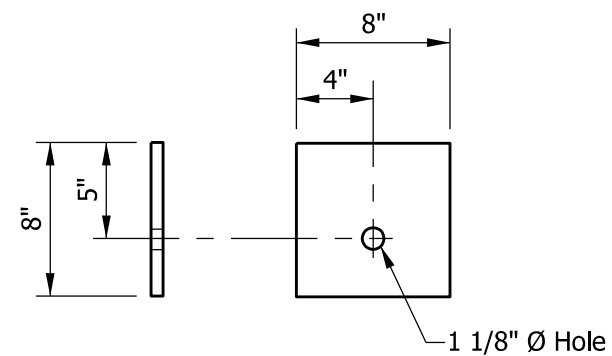
/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE



BCT ANCHOR CABLE ASSEMBLY

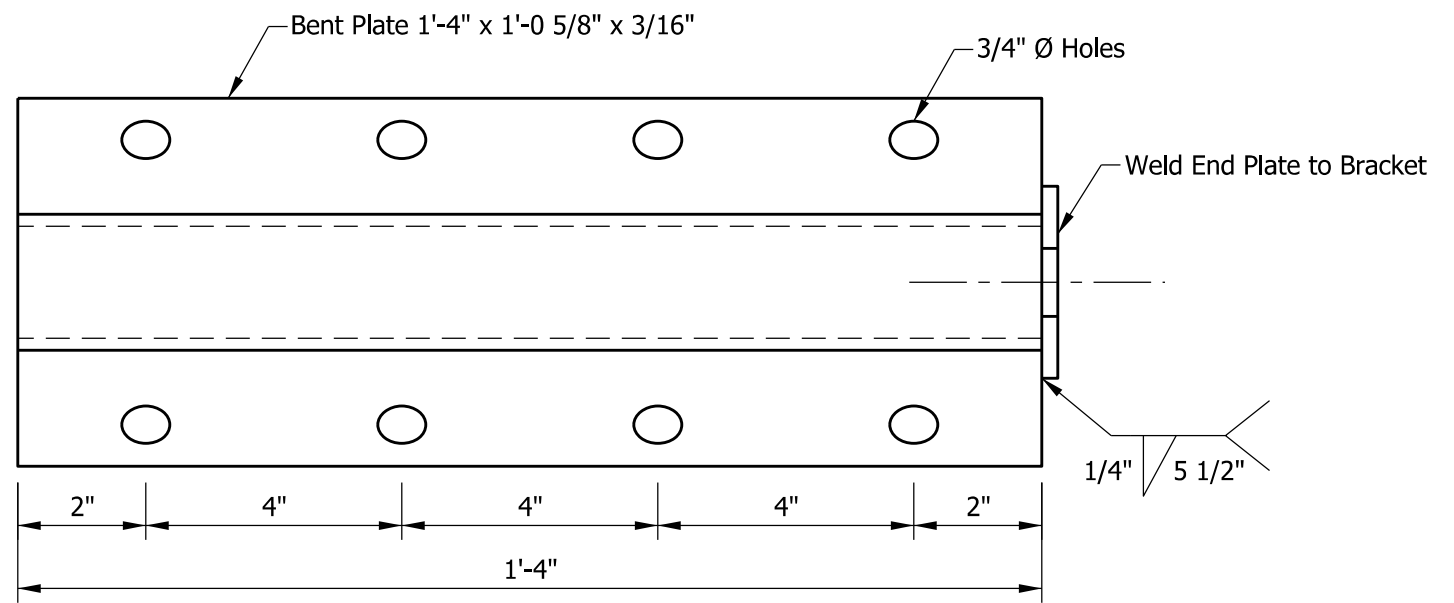
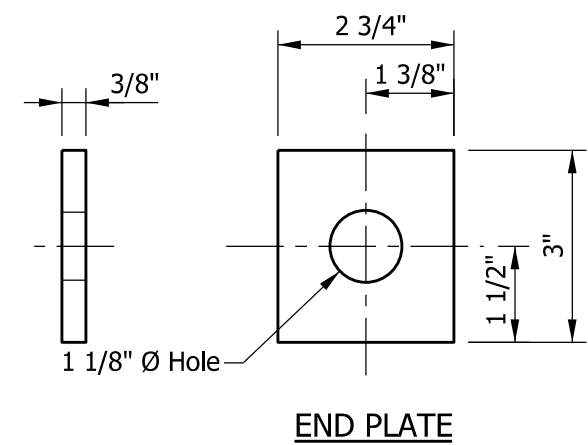
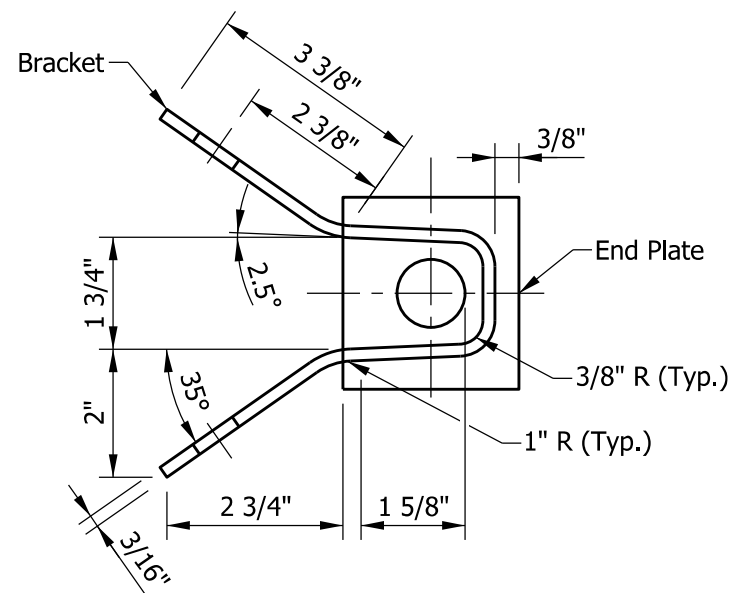


BCT POST SLEEVE



BCT BEARING PLATE

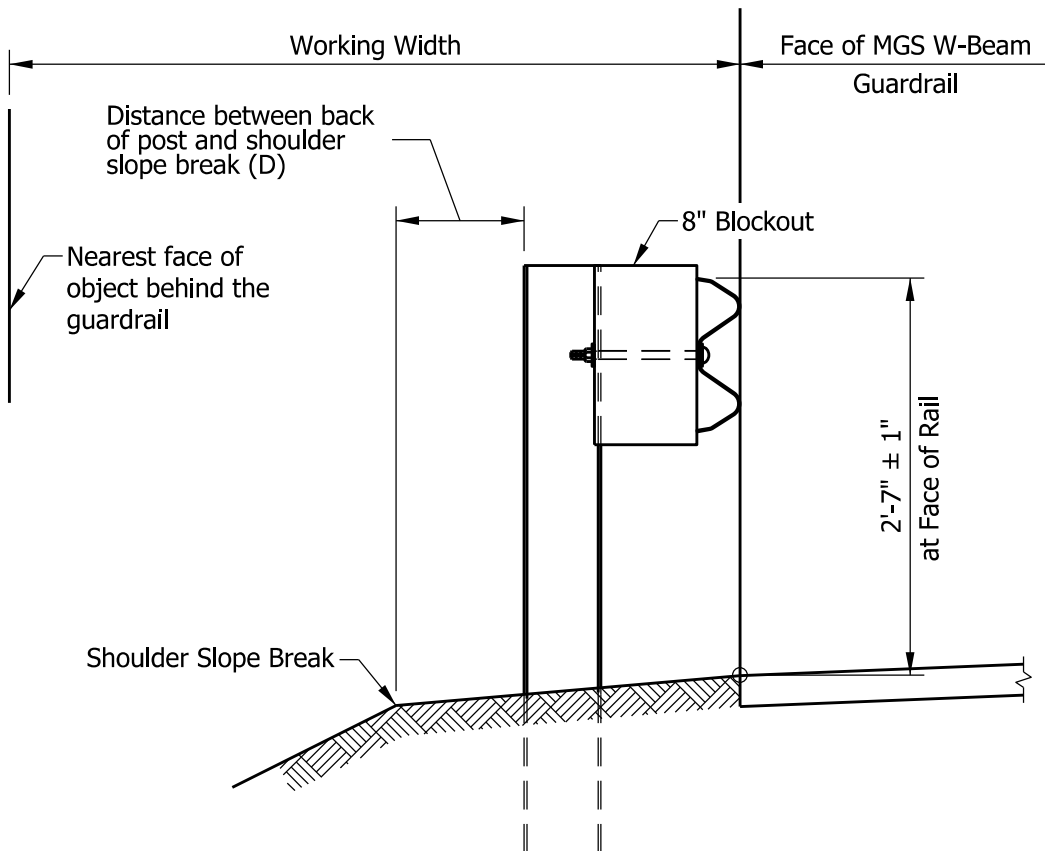
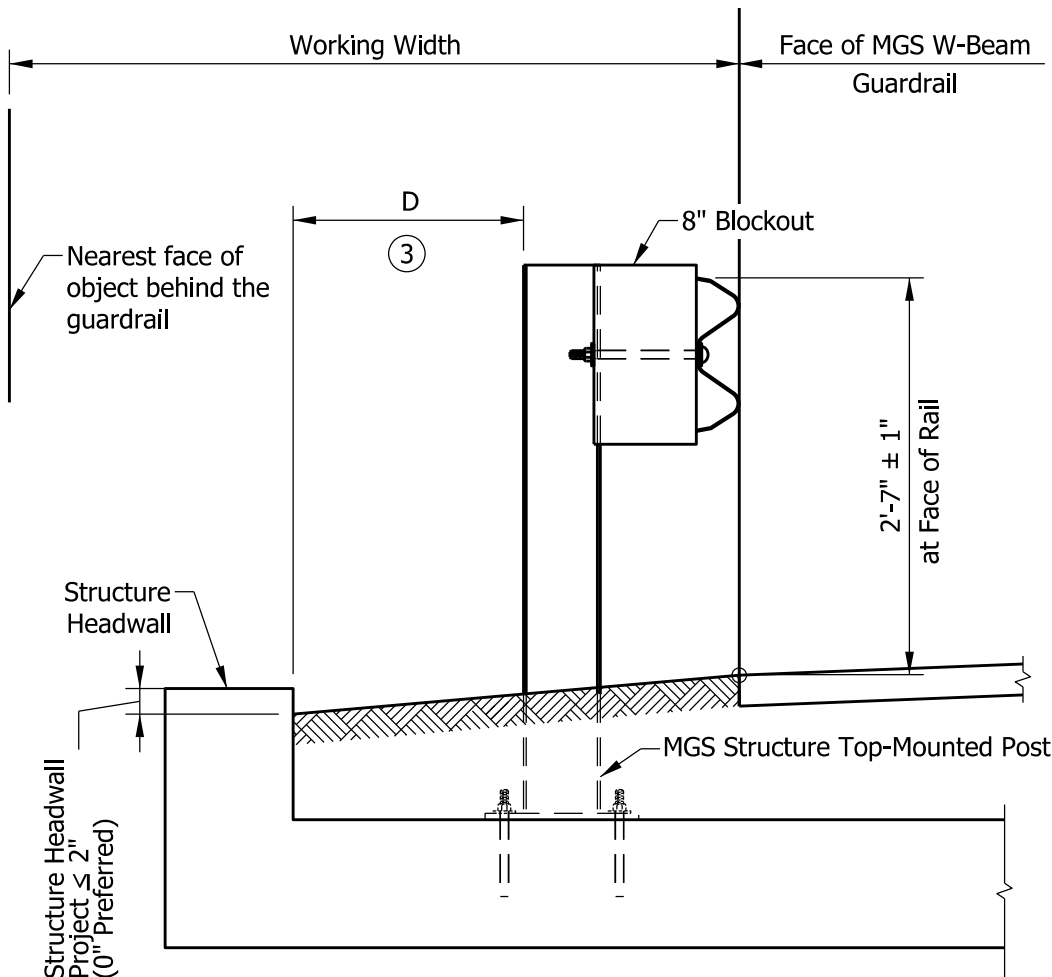
INDIANA DEPARTMENT OF TRANSPORTATION	
MIDWEST GUARDRAIL SYSTEM ASSEMBLY, CABLE TERMINAL ANCHOR SYSTEM	
SEPTEMBER 2018	
STANDARD DRAWING NO.	E601-MGSA-21
	/s/ Elizabeth W. Phillips 03/20/18 DESIGN STANDARDS ENGINEER DATE
	/s/ John Leckie 04/25/18 CHIEF ENGINEER DATE



BRACKET

GUARDRAIL ANCHOR BRACKET

INDIANA DEPARTMENT OF TRANSPORTATION	
MIDWEST GUARDRAIL SYSTEM ASSEMBLY, CABLE TERMINAL ANCHOR SYSTEM	
SEPTEMBER 2018	
STANDARD DRAWING NO. E 601-MGSA-22	
	/s/ Elizabeth W. Phillips 03/20/18 DESIGN STANDARDS ENGINEER DATE
	/s/ John Leckie 04/25/18 CHIEF ENGINEER DATE



NOTES:

- 1. Guardrail placement shall consider working width.
- 2. Working width assumes an 8-in. blockout. Where a deeper blockout is used, the working width shall be adjusted to include the additional depth.
- ③ Distance between the back of post and inside face of structure headwall.
- ④ See Standard Drawing E 601-MGSA-09 for the distance between front face of MSG Long-Span and inside face of structure headwall.

Guardrail Type	Post Spacing	D	Working Width
MGS W-Beam Standard	6'-3"	2 ft	5.0 ft
MGS W-Beam Standard w/Omitted Post	6'-3"	2 ft	5.0 ft
MGS W-Beam Standard	6'-3"	< 2 ft	6.5 ft
MGS W-Beam Half Post Spacing	3'-1 1/2"	2 ft	4.5 ft
MGS W-Beam Quarter Post Spacing	1'-6 3/4"	2 ft	4.0 ft
MGS Long-Span	Varies	④	8.0 ft
MGS Structure Top-Mount Post	6'-3"	1.5 ft ③	4.2 ft

INDIANA DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
ASSEMBLY, WORKING WIDTH

SEPTEMBER 2018

STANDARD DRAWING NO. E 601-MGSA-23



/s/ Elizabeth W. Phillips 03/20/18
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/25/18
CHIEF ENGINEER DATE