



# INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

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**Michael R. Pence, Governor**  
**Karl B. Browning, Commissioner**

March 26, 2015

## CONSTRUCTION MEMORANDUM 15-04

TO: District Deputy Commissioners  
District Construction Directors  
District Technical Services Directors  
District Area Engineers  
District Project Management Director  
Project Management Director  
District Traffic Engineers  
District Testing Engineers  
District LPA Coordinators  
Project Engineers/Supervisors  
Field Engineers  
Office of Material Management

FROM: Mark A. Miller, Director *Maemiller*  
Division of Construction Management and District Support

SUBJECT: **Panel Sign Wide Flange Post Selection and Plan Detailing**

EFFECTIVE: **Immediately**

The purpose of this memorandum is to notify all field personnel of the new guidance for designers on “**Panel Sign Wide Flange Post Selection and Plan Detailing**”, and what that means for current contracts.

Effective immediately, all work on ground mounted sign structures shall stop, until such time as the current designs on contracts that have not been Final Accepted, have been reviewed.

Before continuing, the PE/S will need to inform the Contractor to stop all work on the signs including but not limited to, design, purchase of materials, fabrication, and placement.

The PE/S will need to communicate to the Project Manager for the project that INDOT will need to have the Designer of Record review the sign designs for compliance with the new design memo, a copy of which is attached. Once the Designer of Record informs the Project Manager and the PE/S that the designs for the ground mounted sign structures are in compliance with the new design memo, then the Contractor can be informed that work may proceed on this work on the contract.

If it is found that the designs for the ground mounted sign structures are not in compliance, then the impact to the contract will need to be determined, such as added costs and added time to make the changes and discussion will need to take place so that the proper decision can be made as to how to proceed. This will need to be done on a “case-by-case basis” as this may potentially affect both “on-time” and “on-budget” issues for the contracts.

As additional reference, please see the attached design memo.

Any questions should be directed to the Office of Construction Management.

ATTACHMENT-1: Design Memorandum 15-04 (Technical Advisory)

ATTACHMENT-2: Installation Details for Wide-Flange Sign Support for Beams longer Than 24 ft

MAM/GGP/TGN



# INDIANA DEPARTMENT OF TRANSPORTATION

*Driving Indiana's Economic Growth*

## Design Memorandum No. 15-04 Technical Advisory

March 13, 2015

**TO:** All Design, Operations, and District Personnel, and Consultants

**FROM:** /s/ David Boruff  
David Boruff  
Manager, Office of Traffic Administration  
Traffic Engineering Division

**SUBJECT:** Panel Sign Wide Flange Post Selection and Plan Detailing

**EFFECTIVE:** Immediately

The following guidance should be applied when determining the appropriate W-beam sizes and plan detailing for ground-mounted panel signs:

1. Determining Sign Area. The entire area of the sign, including any exit number panels, should be considered when selecting the W-beam size. Exit panel sizes may be converted into an equivalent area, i.e. partial height over the entire width of the sign, or more conservatively by considering that the panel width matches the width of the main part of the sign.
2. Beam Length and Exit Panels. Exit panels should be supported by at least one W-beam. At least one W-beam should extend to the top of the exit panels.
3. Supplemental Signs. Supplemental signs should not be mounted below the fuse plate/hinge plate connection.
4. Other Attachments. The equivalent surface area of flashing beacons or other attachments should be added to the height and or width.
5. Foundation Placement on Steep Slopes. Foundations on slopes 2:1 or steeper should be located at least 2.5 ft from the edge of ditch.

6. Wide Flange Post Size Selection.

- a. Installation with Posts  $\leq$  24 ft. The Wide Flange Post Selection table given in Standard Drawing 802-SNGS-12 should be used only when the longest W-beam is no longer than 24 feet. The length of the post is measured from the top of the foundation to the top of the sign.
- b. Installation with Posts  $>$  24 ft. For installations where any post is longer than 24 ft, a recommended post size selection and corresponding structural and installation details have been developed and may be used as plan specific details. Until such details are incorporated into the INDOT *Standard Drawings*, the designer will need to review, sign and seal each of the detail sheets. The details may be found on the Y drive at: the Div. environment, Planning & Engineering\Interim Wide Flange Post. Consultants should contact their project manager for the details.

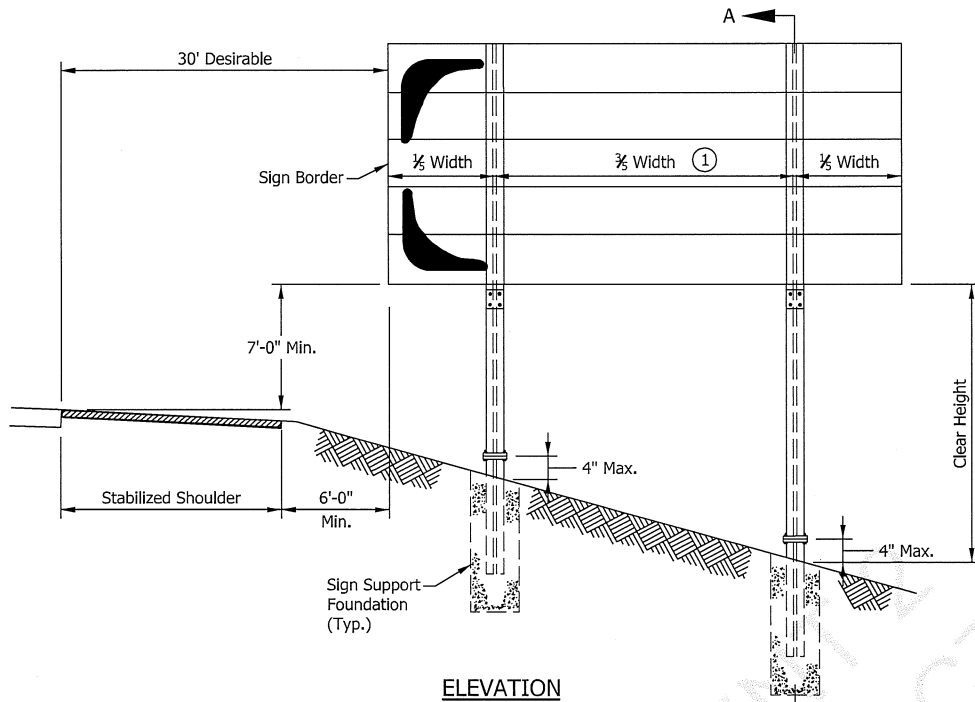
The following information pertains to post size selection, structural details, and installations details for posts  $>$  24 ft.

1. Breakaway Mechanism. The details for longer W-beams include an upper breakaway joint that consists of a perforated fuse plate on the approach side and a non-perforated hinge plate on the back side. This breakaway mechanism is applicable for shoulder side installations only and has been crash tested and is considered to be NCHRP 350 compliant.
2. Design Criteria. The post selection tables for beams  $>$  24 ft and the structural details have been developed for signs assuming a 90 mph wind velocity and a 25 year recurrence interval (service life). A copy of the structural analysis is available upon request. The analysis method is in accordance with AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* (AASHTO) and AISC *Manual of Steel Construction*.
3. Post Selection Tables. To select a post size the designer first needs to determine the height and width of the sign and the clear height. The clear height is the elevation difference between the top of the foundation and bottom of the sign. For multiple posts, the largest elevation difference should be used. Selection tables for clear heights ranging from 8 ft to 20 ft on 2 foot increments are available. Should a post size not be indicated for the sign dimensions and clear height combination then the designer may contact the Office of Traffic Design for recommendations on how to proceed.
4. Foundation Selection. The foundation selection is based on soil condition, either cohesive, drained sand, or undrained sand. So to prepare the most accurate plan and cost estimate the designer should gather information regarding soil type. This information may be obtained the geotechnical report or from the Office of Geotechnical Services, Athar Khan ([atkhan@indot.in.gov](mailto:atkhan@indot.in.gov))

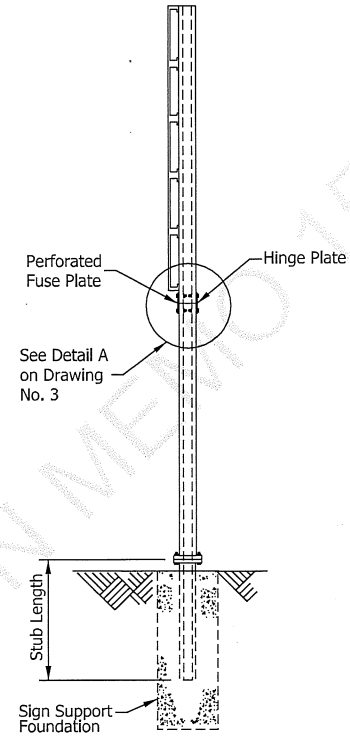
5. Alternative Designs. The designer may develop an alternative design, provided the following are met:
  - a. The design meets the current AASHTO design standards. Structural analysis of the beams, foundations, and breakaway mechanism must be submitted to and approved by INDOT. The recurrence interval (service life) should be 25 years.
  - b. The design must be crashworthy and NCHRP 350 compliant (crash tested and approved).
6. Elevation differences. Special designs are required should the ground elevation at the sign location be 30 ft or greater compared to the adjacent land. See AASHTO Appendix C, Table 3C-1 for adjustment factors.

Please contact the Office of Traffic Administration, David Boruff ([dboruff@indot.in.gov](mailto:dboruff@indot.in.gov)) should you have any questions.

DB:ewp



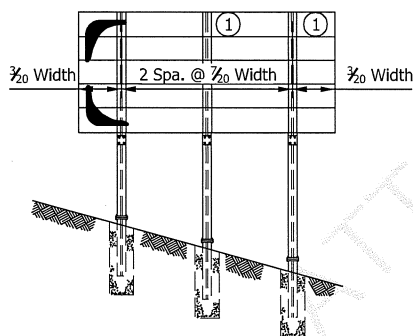
**ELEVATION**



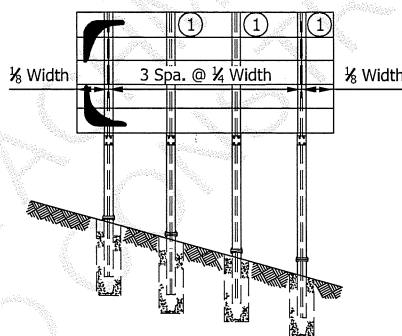
**SECTION A-A**

**NOTES:**

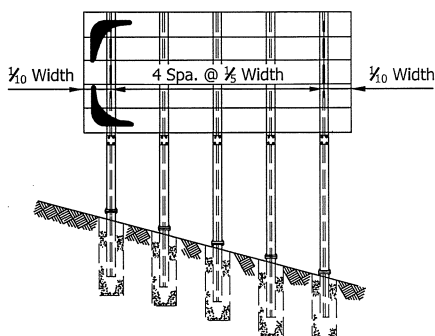
1. For beams that have a unit weight greater than 18 lbs per foot the minimum beam spacing is 7 ft.
2. For sign post clip details see Standard Drawing 802-SNGP-03 and 802-SNGP-10A.



**3 BEAM SPACING**



**4 BEAM SPACING**

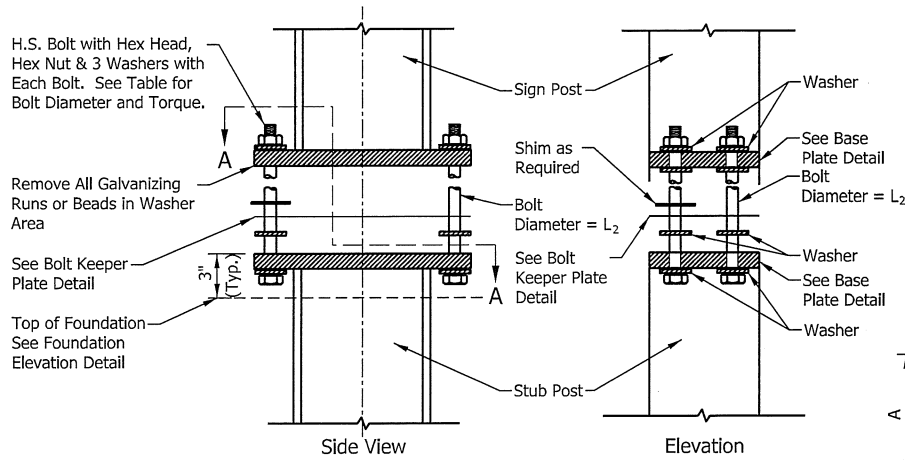


**5 BEAM SPACING**

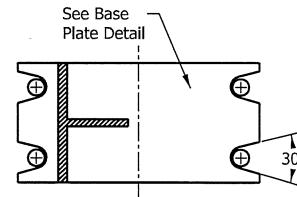
INDIANA DEPARTMENT OF TRANSPORTATION	
WIDE FLANGE SIGN SUPPORT FOR BEAMS LONGER THAN 24' PLACEMENT AND W-BEAM SPACING	
DRAWING NO. 1	

**PROCEDURE FOR ASSEMBLY OF BASE CONNECTION**

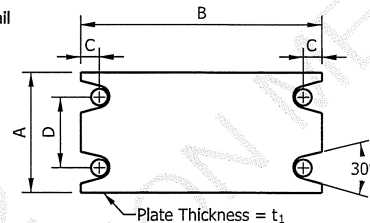
1. Assemble Post to Stub with Bolts and Flat Washers as Shown.
2. Shim as Required to Plumb Post (See Shim Detail).
3. Tighten all L<sub>2</sub> Bolts the Maximum Possible with 1'-0" to 1'-3" Wrench to Bed Washers and Shims and to Clean Bolt Threads.
4. Burr Threads at Junction with Nut using a Center Punch to Prevent Nut Loosening.



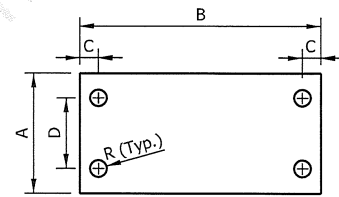
Side View  
Elevation  
SIGN COLUMN & STUB COLUMN VIEWS  
**BASE CONNECTION**



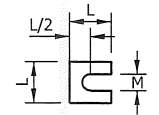
**SECTION A-A**



**BASE PLATE**



**BOLT KEEPER PLATE**



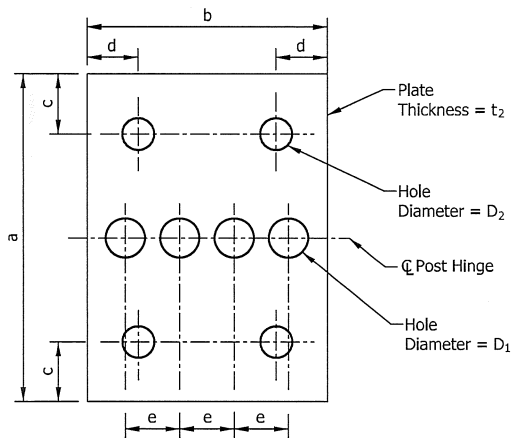
Provide 2- 0.0149" Thick (28 Gauge) and 2- 0.0329" Thick (21 Gauge) Shims per Post.

**SHIM DETAIL**

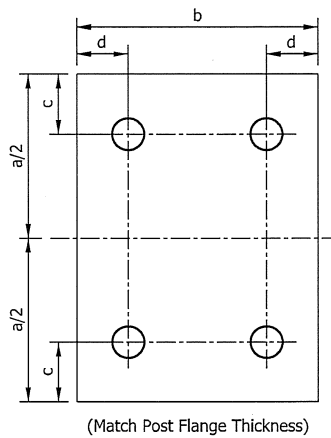
BASE CONNECTION DATA										SHIM	
Section*	A	B	C	D	R	t <sub>1</sub>	L <sub>2</sub>	W	Torque (lbf*in)	L	M
W 6x12	4"	10"	3/4"	2"	3/8"	1-5/8"	5/8"	1/4"	270 ± 45	1-3/8"	11/16"
W 8x18	5-1/4"	12-1/2"	7/8"	2-3/4"	7/16"	1-3/4"	3/4"	3/8"	445 ± 75	1-3/4"	13/16"
W 8x24	6-1/2"	12-1/2"	7/8"	3-1/4"	7/16"	1-3/4"	3/4"	3/8"	445 ± 75	2-1/8"	13/16"
W 10x33	8"	16"	1-1/4"	4-3/4"	9/16"	2"	1"	1/2"	580 ± 90	2-3/8"	1-1/16"
W 12x45	10"	18"	1-1/4"	6"	9/16"	2"	1"	1/2"	580 ± 90	2-3/4"	1-1/16"

\*Designations: Normal Depth in inches and weight in pounds per linear foot.

INDIANA DEPARTMENT OF TRANSPORTATION	
WIDE-FLANGE SIGN SUPPORT FOR BEAMS LONGER THAN 24' BASE CONNECTION	
DRAWING NO. 2	



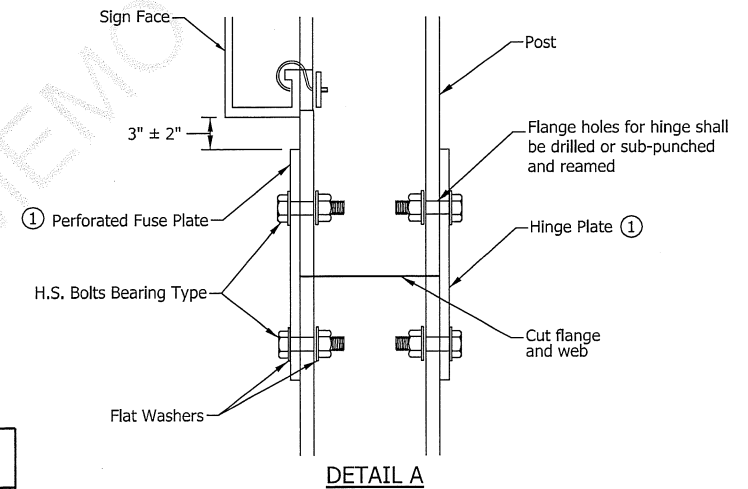
FUSE PLATE



HINGE PLATE

**NOTES:**

- ① The distance from the top of the fuse plate and the hinge plate to the bottom of the sign shall be the same for all posts.
2. At the fuse/hinge plate function the beam sections shall be in contact upon installation.



DETAIL A

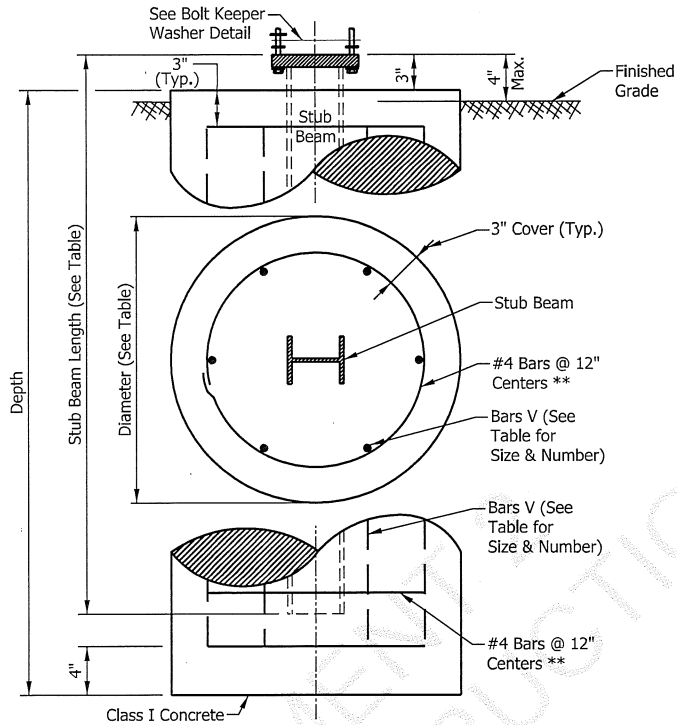
FUSE AND HINGE PLATE DATA

Section*	a	b	c	d	e	$t_2$	$D_1$	$D_2$	$L_1$
W 6x12	7-1/4"	4"	1-1/4"	7/8"	15/16"	3/8"	13/16"	11/16"	5/8"
W 8x18	8-1/4"	5-1/4"	1-3/8"	1-1/8"	1-1/4"	3/8"	1"	13/16"	3/4"
W 8x24	8-1/4"	6-1/2"	1-3/8"	1-1/2"	1-1/2"	1/2"	1"	13/16"	3/4"
W 10x33	9-1/4"	8"	2"	1-3/4"	1-3/4"	5/8"	1-1/8"	1-1/16"	1"
W 12x45	11"	8"	2"	1-3/4"	1-3/4"	3/4"	1-5/16"	1-1/16"	1"

\*Designations: Normal Depth in Inches and Weight in Pounds Per Linear Foot.

INDIANA DEPARTMENT OF TRANSPORTATION	
WIDE-FLANGE SIGN SUPPORT FOR BEAMS LONGER THAN 24' FUSE/HINGE PLATE CONNECTION	
DRAWING NO. 3	





**FOUNDATION ELEVATION**

**NOTE: All Reinforcing To Be Grade 60.**

\*\*At the Option of the Contractor, D10 Spiral Wire @ 6" Pitch, Three Flat Turns Top and One Flat Turn Bottom may be Utilized in Lieu of Specified.

Shop-Weld Assemblies of Foundation Stirrup Reinforcing Bars are Permitted in Reinforced Concrete Foundation Provided that:

1. The Reinforcing Bars Conform to ASTM Specification A706/706M.
2. The Holding Wires Conform to ASTM Specification A1064.

FOUNDATION DATA								
Section	Undrained Sand		Drained Sand		Cohesive Soil		Stub Length	Reinforcement Bars - V
	Dia.	Depth	Dia.	Depth	Dia.	Depth		
W 6x12	1'-8"	8'	1'-8"	6'-6"	1'-8"	5'	3'	10 - #6
W 8x18	2'	9'-6"	2'	7'-6"	1'-8"	6'-6"	4'	8 - #8
W 8x24	2'-6"	10'-6"	2'-6"	8'	1'-8"	8'	4'	8 - #8
W 10x33	2'-6"	13'	2'-6"	10'	2'-6"	9'	4'	8 - #8
W 12x45	2'-6"	14'	2'-6"	12'-6"	2'-6"	10'-6"	5'	10 - #8

INDIANA DEPARTMENT OF TRANSPORTATION

WIDE-FLANGE SIGN SUPPORT  
FOR BEAMS LONGER THAN 24'  
FOUNDATION

DRAWING NO. 4

Sign Width (ft)

	6	8	10	12	14	16	18	20	22	24	26	28	30
4	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W6x12	3-W6x12	3-W6x12	3-W6x12
6	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W6x12	3-W6x12	3-W8x18	3-W8x18
8	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x18	3-W8x18	3-W8x18	3-W8x18
10	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x18	3-W8x24	3-W8x24	3-W8x24
12	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x24	3-W8x24	3-W10x33	3-W10x33
14	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W10x33	3-W10x33	3-W10x33	3-W10x33
16	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W10x33	3-W10x33	3-W10x33	3-W10x33
18		2-W8x24	2-W10x33	2-W10x33	2-W10x33	2-W10x33	2-W10x33	2-W12x45	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33
20		2-W8x24	2-W10x33	2-W10x33	2-W10x33	2-W12x45	2-W12x45	2-W12x45	3-W10x33	3-W10x33	3-W12x45	3-W12x45	3-W12x45
22		2-W10x33	2-W10x33	2-W10x33	2-W12x45	2-W12x45	3-W10x33	3-W10x33	3-W10x33	3-W12x45	3-W12x45	4-W10x33	4-W10x33
24		2-W10x33	2-W10x33	2-W12x45	2-W12x45	3-W12x45	3-W12x45	3-W12x45	3-W12x45	3-W12x45	4-W12x45	4-W12x45	4-W12x45
26		2-W10x33	2-W12x45	2-W12x45		3-W12x45	3-W12x45	3-W12x45	4-W12x45	4-W12x45	4-W12x45		5-W12x45
28		2-W12x45	2-W12x45			3-W12x45			4-W12x45				
30		2-W12x45	2-W12x45										

\*Use Standard Drawing 802-SNGS-12 for post selection

Clear Height is the Elevation from Top of Foundation to Bottom of Sign

Table Entries are Number of Posts x W-Beam Size  
Sign Dimensions and Clear Height should be Rounded Up to the Nearest Even Number

BEAM SELECTION TABLE; CLEAR HEIGHT = 8 ft

INDIANA DEPARTMENT OF TRANSPORTATION

WIDE-FLANGE SIGN SUPPORT  
FOR BEAMS LONGER THAN 24'  
BEAM SELECTION TABLE  
CLEAR HEIGHT = 8 FT

DRAWING NO. 5


Sign Width (ft)

	6	8	10	12	14	16	18	20	22	24	26	28	30
4	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W6x12	3-W6x12	3-W6x12	3-W6x12
6	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x18	3-W8x18	3-W8x18	3-W8x18
8	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x18	3-W8x18	3-W8x18	3-W8x18
10	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x18	3-W8x24	3-W8x24	3-W8x24
12	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W10x33	3-W10x33	3-W10x33	3-W10x33
14	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W10x33	3-W10x33	3-W10x33	3-W10x33
16		2-W8x24	2-W8x24	2-W10x33	2-W10x33	2-W10x33	2-W10x33	2-W12x45	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33
18		2-W8x24	2-W10x33	2-W10x33	2-W10x33	2-W12x45	2-W12x45	2-W12x45	3-W10x33	3-W10x33	3-W10x33	3-W12x45	3-W12x45
20		2-W10x33	2-W10x33	2-W10x33	2-W12x45	2-W12x45	2-W12x45	3-W10x33	3-W10x33	3-W12x45	3-W12x45	4-W10x33	4-W10x33
22		2-W10x33	2-W10x33	2-W12x45	2-W12x45	3-W12x45	3-W12x45	3-W12x45	3-W12x45	4-W12x45	4-W12x45	4-W12x45	4-W12x45
24		2-W10x33	2-W12x45	2-W12x45		3-W12x45	3-W12x45	3-W12x45	4-W12x45	4-W12x45	4-W12x45		5-W12x45
26		2-W10x33	2-W12x45			3-W12x45	3-W12x45		4-W12x45	4-W12x45			5-W12x45
28		2-W12x45	2-W12x45										
30		2-W12x45											

\*Use Standard Drawing 802-SNGS-12 for post selection

Clear Height is the Elevation from Top of Foundation to Bottom of Sign

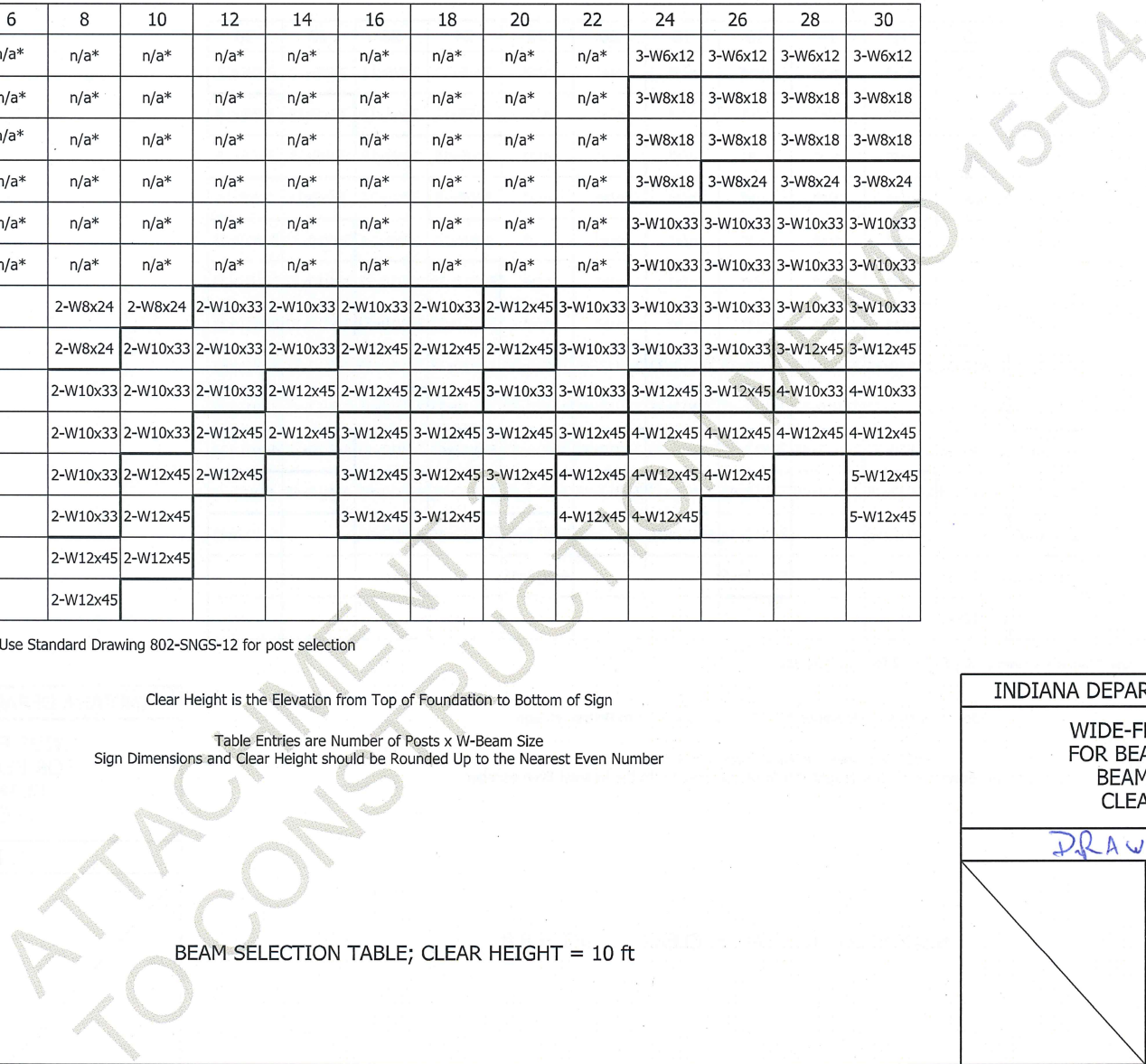
Table Entries are Number of Posts x W-Beam Size  
Sign Dimensions and Clear Height should be Rounded Up to the Nearest Even Number

BEAM SELECTION TABLE; CLEAR HEIGHT = 10 ft

INDIANA DEPARTMENT OF TRANSPORTATION

WIDE-FLANGE SIGN SUPPORT  
FOR BEAMS LONGER THAN 24'  
BEAM SELECTION TABLE  
CLEAR HEIGHT = 10 FT

DRAWING NO. 6



Sign Width (ft)

	6	8	10	12	14	16	18	20	22	24	26	28	30
4	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x18	3-W8x18	3-W8x18	3-W8x18
6	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x18	3-W8x18	3-W8x18	3-W8x18
8	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x18	3-W8x24	3-W8x24	3-W8x24
10	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x24	3-W8x24	3-W10x33	3-W10x33
12	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W10x33	3-W10x33	3-W10x33	3-W10x33
14	2-W8x18	2-W8x24	2-W8x24	2-W10x33	2-W10x33	2-W10x33	2-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33
16		2-W8x24	2-W10x33	2-W10x33	2-W10x33	2-W10x33	2-W12x45	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W12x45
18		2-W10x33	2-W10x33	2-W10x33	2-W12x45	2-W12x45	2-W12x45	3-W10x33	3-W10x33	3-W12x45	3-W12x45	3-W12x45	5-W10x33
20		2-W10x33	2-W10x33	2-W12x45	2-W12x45	2-W12x45	3-W12x45	3-W12x45	3-W12x45	3-W12x45	4-W12x45	4-W12x45	5-W10x33
22		2-W10x33	2-W12x45	2-W12x45	2-W12x45	3-W12x45	3-W12x45	3-W12x45	3-W12x45	4-W12x45	4-W12x45	4-W12x45	5-W12x45
24		2-W10x33	2-W12x45	2-W12x45		3-W12x45	3-W12x45		4-W12x45	4-W12x45			5-W12x45
26		2-W12x45	2-W12x45										
28		2-W12x45											
30		2-W12x45											

Sign Height (ft)

\*Use Standard Drawing 802-SNGS-12 for post selection

Clear Height is the Elevation from Top of Foundation to Bottom of Sign

Table Entries are Number of Posts x W-Beam Size  
Sign Dimensions and Clear Height should be Rounded Up to the Nearest Even Number

BEAM SELECTION TABLE; CLEAR HEIGHT = 12 ft

INDIANA DEPARTMENT OF TRANSPORTATION

WIDE-FLANGE SIGN SUPPORT  
FOR BEAMS LONGER THAN 24'  
BEAM SELECTION TABLE  
CLEAR HEIGHT = 12 FT

DRAWING NO. 7


Sign Width (ft)

	6	8	10	12	14	16	18	20	22	24	26	28	30
4	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x18	3-W8x18	3-W8x18	3-W8x18
6	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x18	3-W8x24	3-W8x24	3-W8x24
8	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x24	3-W8x24	3-W8x24	3-W8x24
10	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W10x33	3-W10x33	3-W10x33	3-W10x33
12	2-W8x18	2-W8x24	2-W8x24	2-W8x24	2-W10x33	2-W10x33	2-W10x33	2-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33
14		2-W8x24	2-W10x33	2-W10x33	2-W10x33	2-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	4-W10x33
16		2-W10x33	2-W10x33	2-W10x33	2-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	4-W10x33	4-W10x33	4-W12x45
18		2-W10x33	2-W10x33			3-W10x33	3-W10x33	3-W10x33	4-W10x33	4-W10x33	4-W10x33	4-W10x33	5-W10x33
20		2-W10x33											
22		2-W10x33											

\*Use Standard Drawing 802-SNGS-12 for post selection

Clear Height is the Elevation from Top of Foundation to Bottom of Sign

Table Entries are Number of Posts x W-Beam Size  
Sign Dimensions and Clear Height should be Rounded Up to the Nearest Even Number

BEAM SELECTION TABLE; CLEAR HEIGHT = 14 ft

INDIANA DEPARTMENT OF TRANSPORTATION

WIDE-FLANGE SIGN SUPPORT  
FOR BEAMS LONGER THAN 24'  
BEAM SELECTION TABLE  
CLEAR HEIGHT = 14 FT

DRAWING NO. 8


Sign Width (ft)

	6	8	10	12	14	16	18	20	22	24	26	28	30
4	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x18	3-W8x18	3-W8x18	3-W8x18
6	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x24	3-W8x24	3-W8x24	3-W8x24
8	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x24	3-W8x24	3-W10x33	3-W10x33
10	2-W8x18	2-W8x24	2-W8x24	2-W8x24	2-W10x33	2-W10x33	2-W10x33	2-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33
12		2-W8x24	2-W8x24	2-W10x33	2-W10x33	2-W10x33	2-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	4-W10x33	5-W10x33
14		2-W8x24	2-W10x33	2-W10x33	2-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	4-W10x33	4-W10x33	5-W10x33
16		2-W10x33	2-W10x33	2-W10x33		3-W10x33	3-W10x33	3-W10x33	4-W10x33	4-W10x33	4-W10x33	4-W10x33	5-W10x33
18		2-W10x33	2-W10x33										
20		2-W10x33											

\*Use Standard Drawing 802-SNGS-12 for post selection

Clear Height is the Elevation from Top of Foundation to Bottom of Sign

Table Entries are Number of Posts x W-Beam Size  
Sign Dimensions and Clear Height should be Rounded Up to the Nearest Even Number

BEAM SELECTION TABLE; CLEAR HEIGHT = 16 ft

INDIANA DEPARTMENT OF TRANSPORTATION

WIDE-FLANGE SIGN SUPPORT  
FOR BEAMS LONGER THAN 24'  
BEAM SELECTION TABLE  
CLEAR HEIGHT = 16 FT

DRAWING NO. 9

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		Sign Width (ft)												
		6	8	10	12	14	16	18	20	22	24	26	28	30
Sign Height (ft)	4	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x24	3-W8x24	3-W8x24	3-W8x24
	6	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x24	3-W8x24	3-W8x24	3-W8x24
	8	2-W8x18	2-W8x24	2-W8x24	2-W8x24	2-W8x24	2-W10x33	2-W10x33	2-W10x33	3-W8x24	3-W10x33	3-W10x33	3-W10x33	3-W10x33
	10		2-W8x24	2-W8x24	2-W10x33	2-W10x33	2-W10x33	2-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33
	12		2-W8x24	2-W10x33	2-W10x33	2-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	3-W10x33	4-W10x33	4-W10x33	4-W10x33
	14		2-W10x33	2-W10x33			3-W10x33	3-W10x33	3-W10x33	4-W10x33	4-W10x33	4-W10x33	4-W10x33	5-W10x33
16		2-W10x33												

\*Use Standard Drawing 802-SNGS-12 for post selection

Clear Height is the Elevation from Top of Foundation to Bottom of Sign

Table Entries are Number of Posts x W-Beam Size  
Sign Dimensions and Clear Height should be Rounded Up to the Nearest Even Number

BEAM SELECTION TABLE; CLEAR HEIGHT = 18 ft

INDIANA DEPARTMENT OF TRANSPORTATION	
WIDE-FLANGE SIGN SUPPORT FOR BEAMS LONGER THAN 24' BEAM SELECTION TABLE CLEAR HEIGHT = 18 FT	
DRAWING NO. 10	

Sign Height (ft)

Sign Width (ft)

	6	8	10	12	14	16	18	20	22	24	26	28	30
4	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*	3-W8x24	3-W8x24	3-W8x24	3-W8x24
6	2-W8x18	2-W8x24	2-W8x24	2-W8x24	2-W8x24	2-W8x24	2-W8x24	3-W8x24	3-W8x24	3-W8x24	4-W8x24	4-W8x24	5-W8x24
8		2-W8x24	2-W8x24	2-W8x24									
10		2-W8x24											

\*Use Standard Drawing 802-SNGS-12 for post selection

Clear Height is the Elevation from Top of Foundation to Bottom of Sign

Table Entries are Number of Posts x W-Beam Size

Sign Dimensions and Clear Height should be Rounded Up to the Nearest Even Number

BEAM SELECTION TABLE; CLEAR HEIGHT = 20 ft

INDIANA DEPARTMENT OF TRANSPORTATION

WIDE-FLANGE SIGN SUPPORT  
FOR BEAMS LONGER THAN 24'  
BEAM SELECTION TABLE  
CLEAR HEIGHT = 20 FT

DRAWING NO. 11
