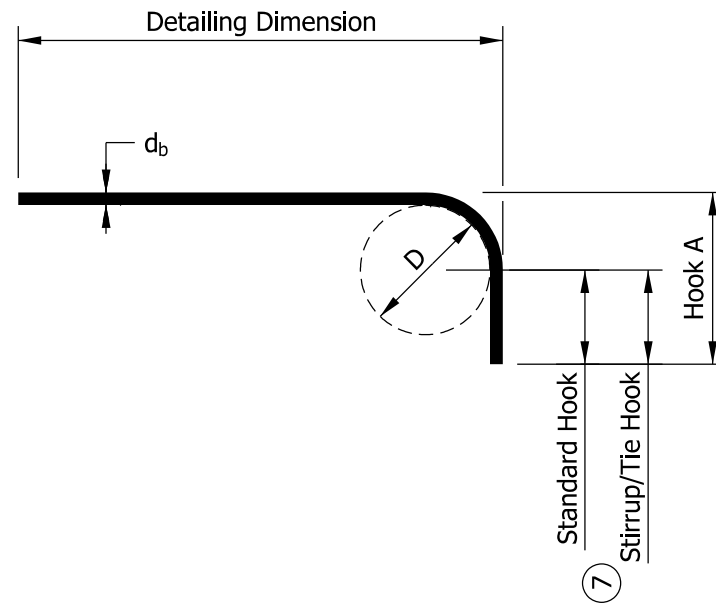
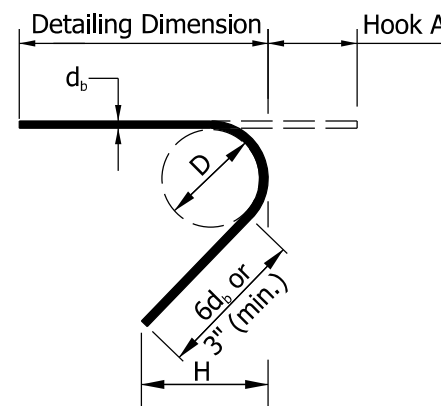


180° HOOK



90° HOOK



135° SEISMIC HOOK

STANDARD END HOOKS				
BAR SIZE	D	180° HOOK		90° HOOK
		HOOK A	J	HOOK A
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	1'-0"
#7	5 1/4"	10"	7"	1'-2"
#8	6"	11"	8"	1'-4"
#9	9 1/2"	1'-3"	11 3/4"	1'-7"
#10	10 3/4"	1'-5"	1'-1 1/4"	1'-10"
#11	12"	1'-7"	1'-2 3/4"	2'-0"
#14	18 1/4"	2'-3"	1'-9 3/4"	2'-7"
#18	24"	3'-0"	2'-4 1/2"	3'-5"

STIRRUP / SEISMIC HOOKS				
BAR SIZE	D	135° SEISMIC HOOK		90° HOOK
		HOOK A	H*	HOOK A
#3	1 1/2"	4 1/4"	3"	4"
#4	2"	4 1/2"	3"	4 1/2"
#5	2 1/2"	5 1/2"	3 3/4"	6"
#6	4 1/2"	8"	4 1/2"	1'-0"
#7	5 1/4"	9"	5 1/4"	1'-2"
#8	6"	10 1/2"	6"	1'-4"

\* H dimension is approximate

**NOTES:**

- All dimensions on reinforcing bar bending diagrams shall be measured out-to-out of bars.
- All dimensions on reinforcing bar details shall be measured on centerlines of bars, except where cover or cl. is indicated.
- Bent bars will be given a numeric bar mark, e.g., 588. The last two digits, e.g., 88, indicate the mark. The characters preceding the last two digits, e.g., 5, indicate the size of the bar.
- Straight bars will be designated by size and length.
- Standard size hooks shown shall be used on all hooked bars unless noted.
- See the plans for lap and embedment lengths.
- Standard Hook:  $\cdot 12d_b$   
Stirrup/Tie Hook:  $\cdot 6d_b$  for #3, #4, and #5  
 $\cdot 12d_b$  for #6, #7, and #8
- This drawings is consistent with the ACI 318-14 and CRSI *Manual of Standard Practice*.

ACI = American Concrete Institute  
CRSI = Concrete Reinforcing Steel Institute

INDIANA DEPARTMENT OF TRANSPORTATION	
BAR BENDING DETAILS	
SEPTEMBER 2022	
STANDARD DRAWING NO.	E 703-BRST-01
	 DESIGN STANDARDS ENGINEER      6/15/2022 DATE
	 CHIEF ENGINEER      06/27/2022 DATE