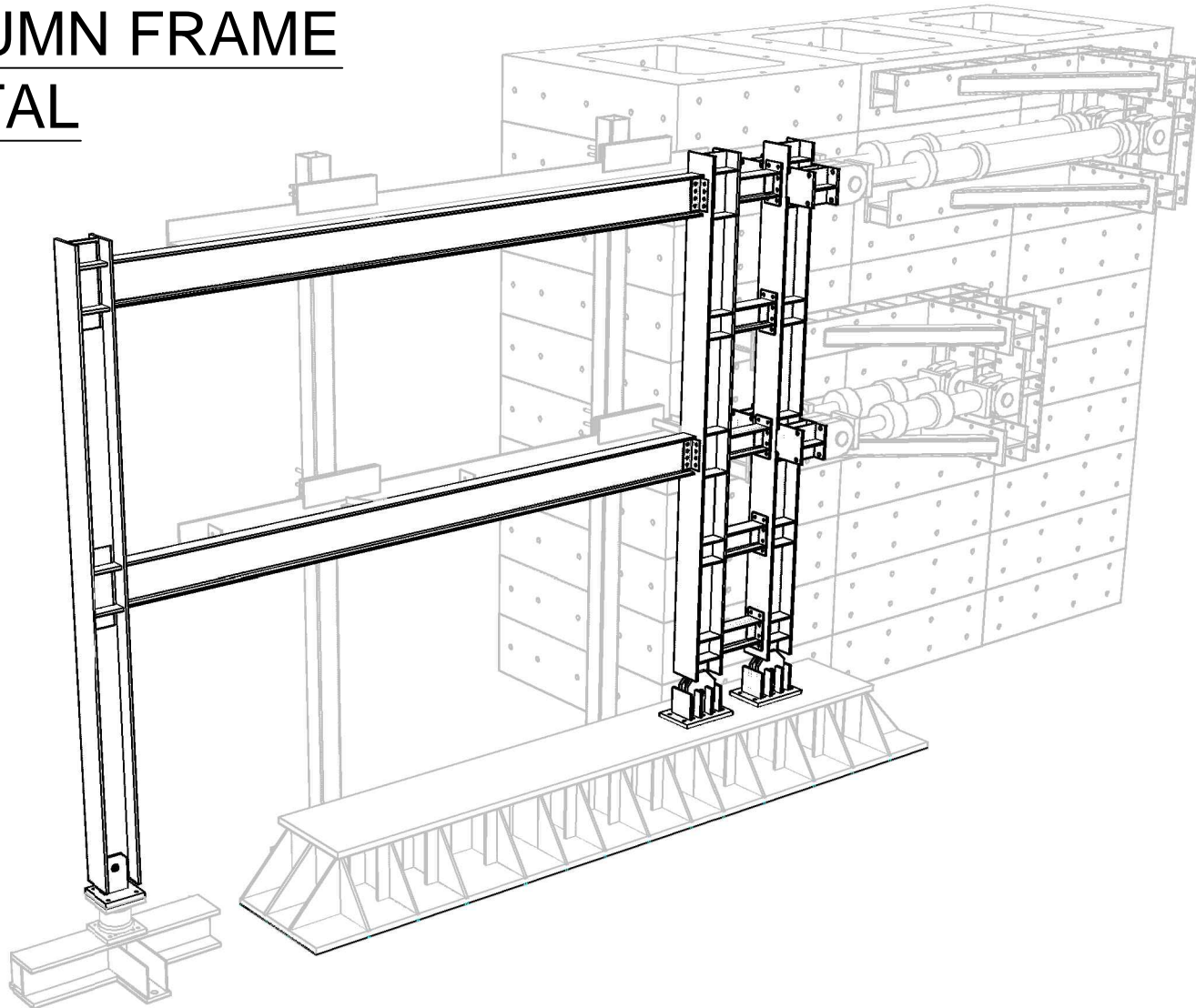



# LINKED COLUMN FRAME EXPERIMENTAL TEST



## GENERAL NOTES:

- 1) COLUMN AND BEAM ROLLED WIDE FLANGE SECTIONS USE A992
- 2) LINK ROLLED WIDE FLANGE SECTIONS USE A36 WITH LOWEST POSSIBLE  $F_y$  FROM MILL CERTIFICATIONS
- 3) PLATE STEEL USE A572 GRADE 50
- 4) PIN CONNECTOR USE A354 BD WITH DRIFT PINS EACH SIDE
- 5) BOLTS USE A490-X UNLESS OTHERWISE STATED
- 6) NO PAINT REQUIRED
- 7) PARTS OF FRAME TO BE PRE-ASSEMBLED WITH SNUG TIGHT BOLTS FOR DELIVERY AS FOLLOWS:
  - A) COL.1 C/W CLEVIS
  - B) COL.2 & COL.3 C/W CLEVIS AND 5 LINKS

EXHIBIT A - REVISED 080112

 <b>Portland</b> <b>State</b> <b>UNIVERSITY</b>	<b>LINKED COLUMN FRAME</b>		
	Designed By: APL	Approved By: PD	Rev: 2
	Units: IN.	Scale: NA	Date: 28 Jun 12
			Sheet: T-1

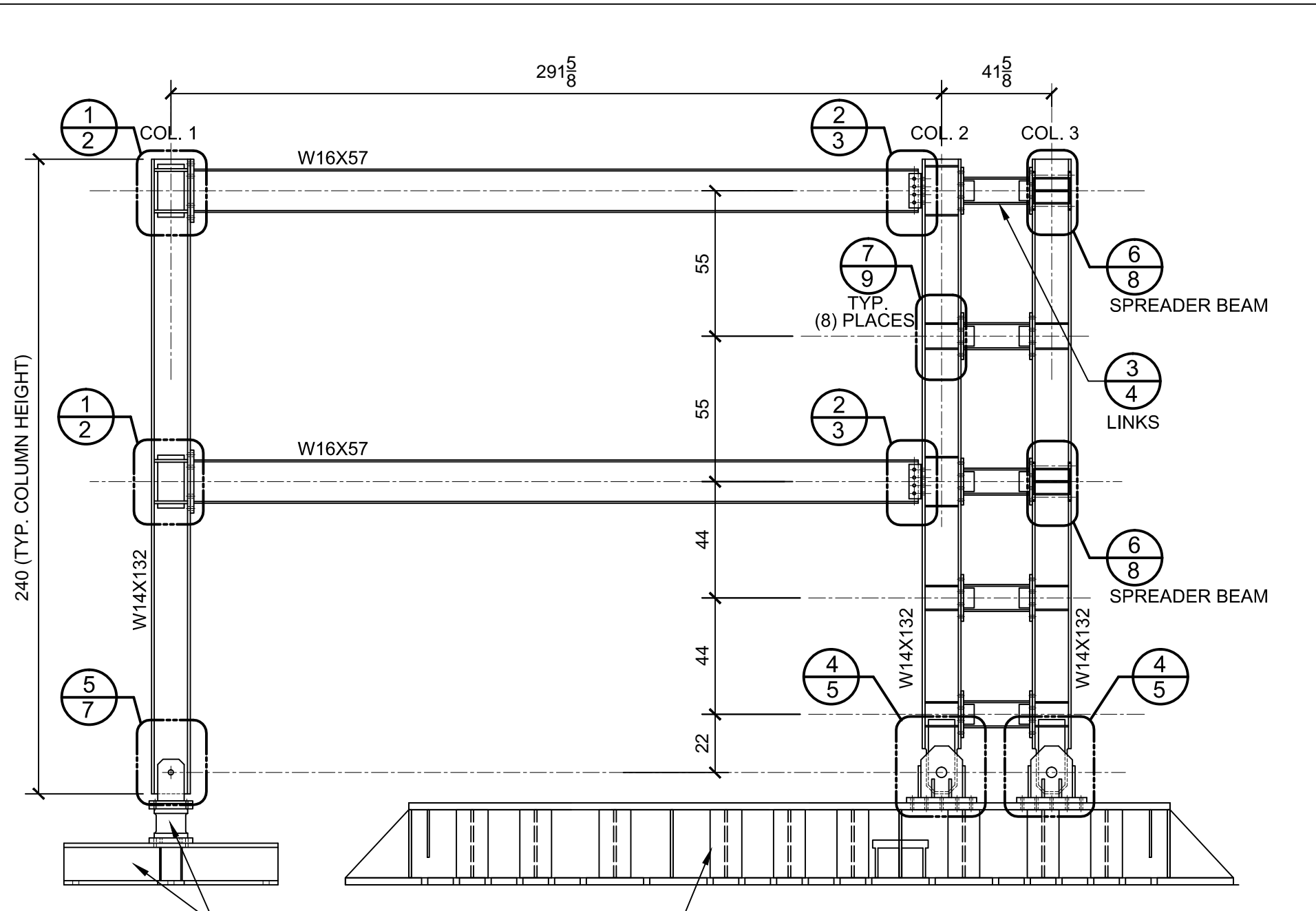

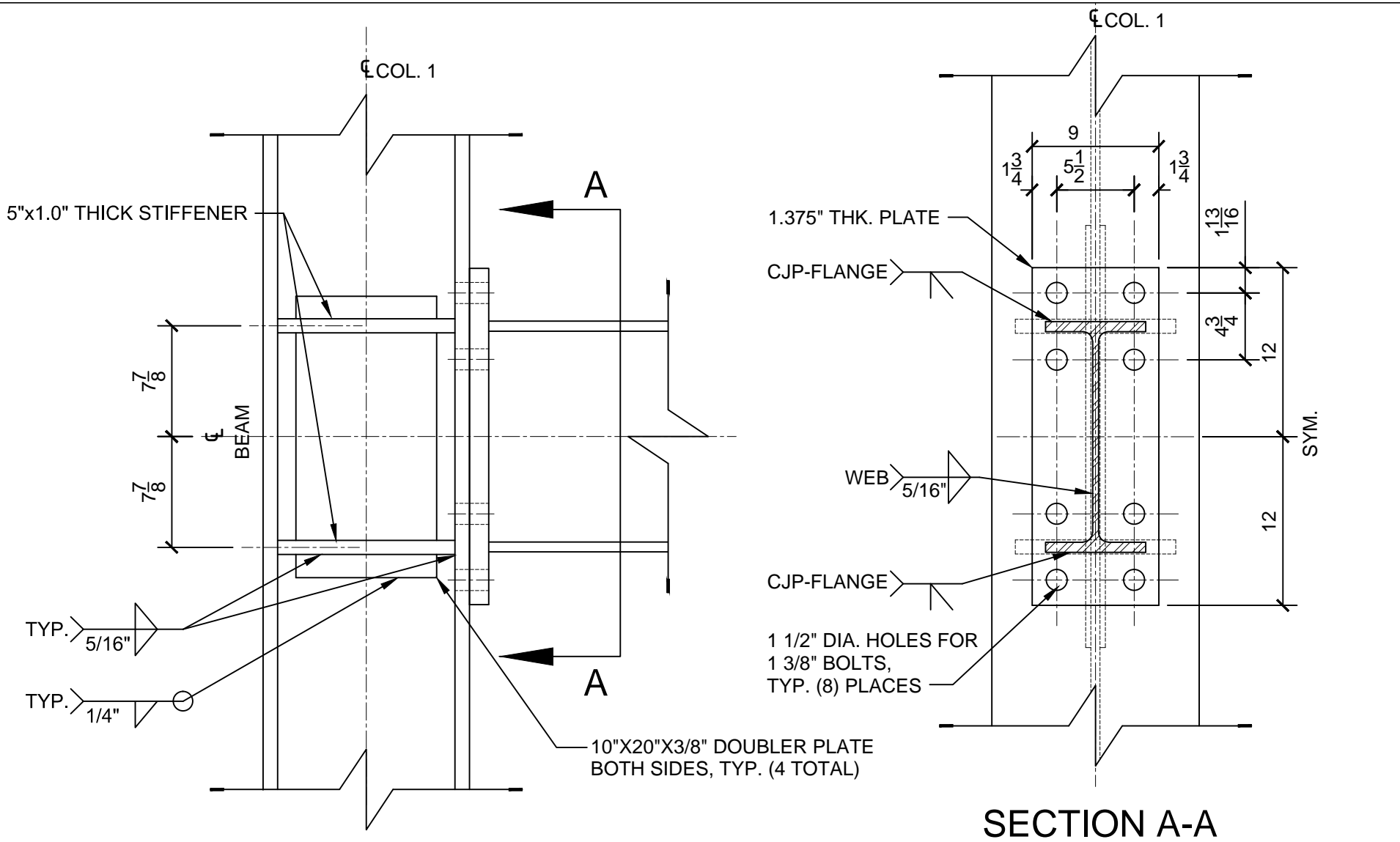



EXHIBIT A - REVISED 080112

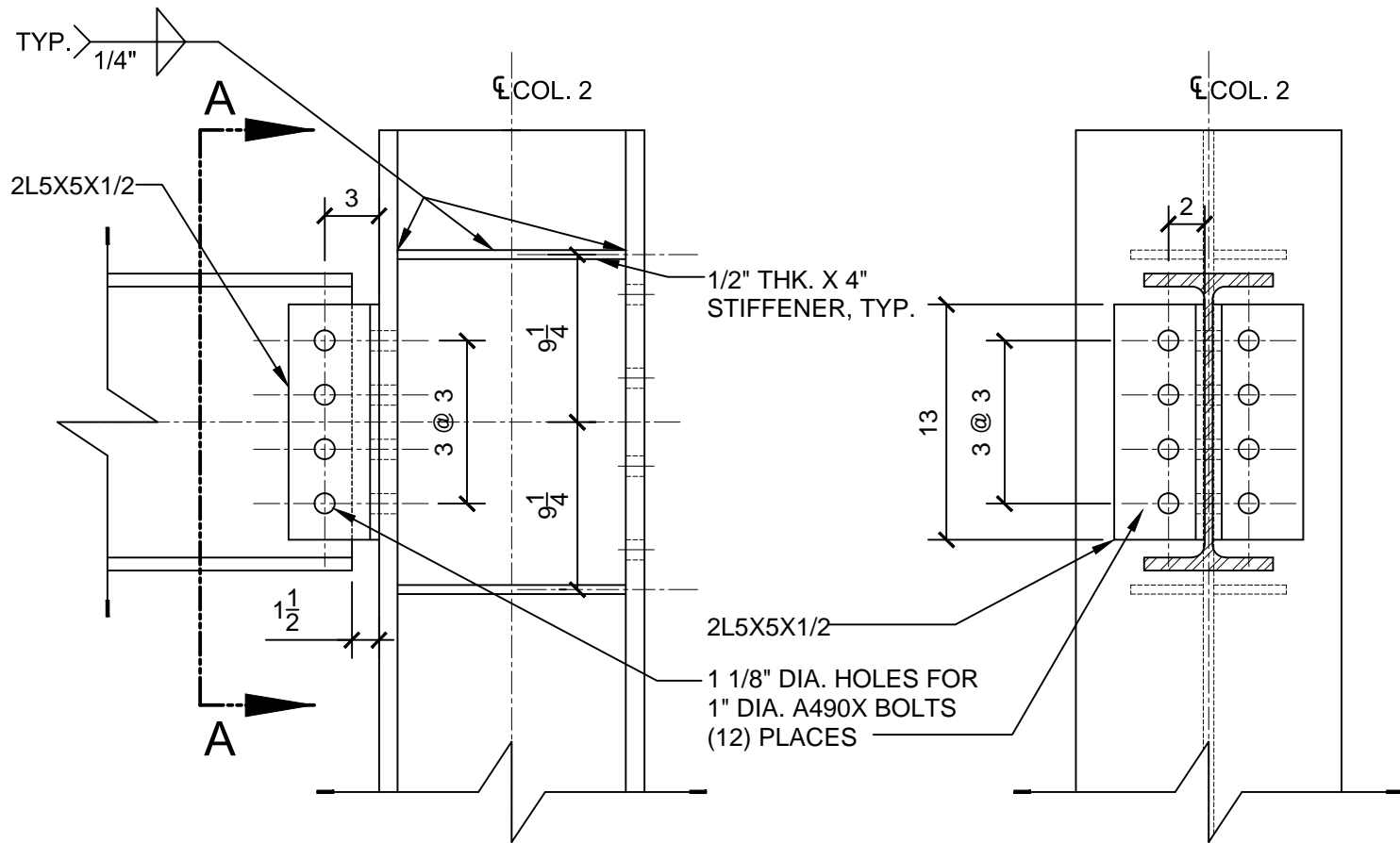
 <b>Portland State University</b>	<b>FRAME ELEVATION</b>		
	Designed By: APL	Approved By: PD	Rev: 2
	Units: IN.	Scale: NA	Date: 28 Jun 12
			Sheet: 1/9



1

GRAVITY BEAM END PLATE CONNECTION


 Portland State UNIVERSITY	GRAVITY BEAM END PLATE CONNECTION		
	Designed By: APL	Approved By: PD	Rev: 2
	Units: IN.	Scale: NA	Date: 28 Jun 12
			Sheet: 2/9

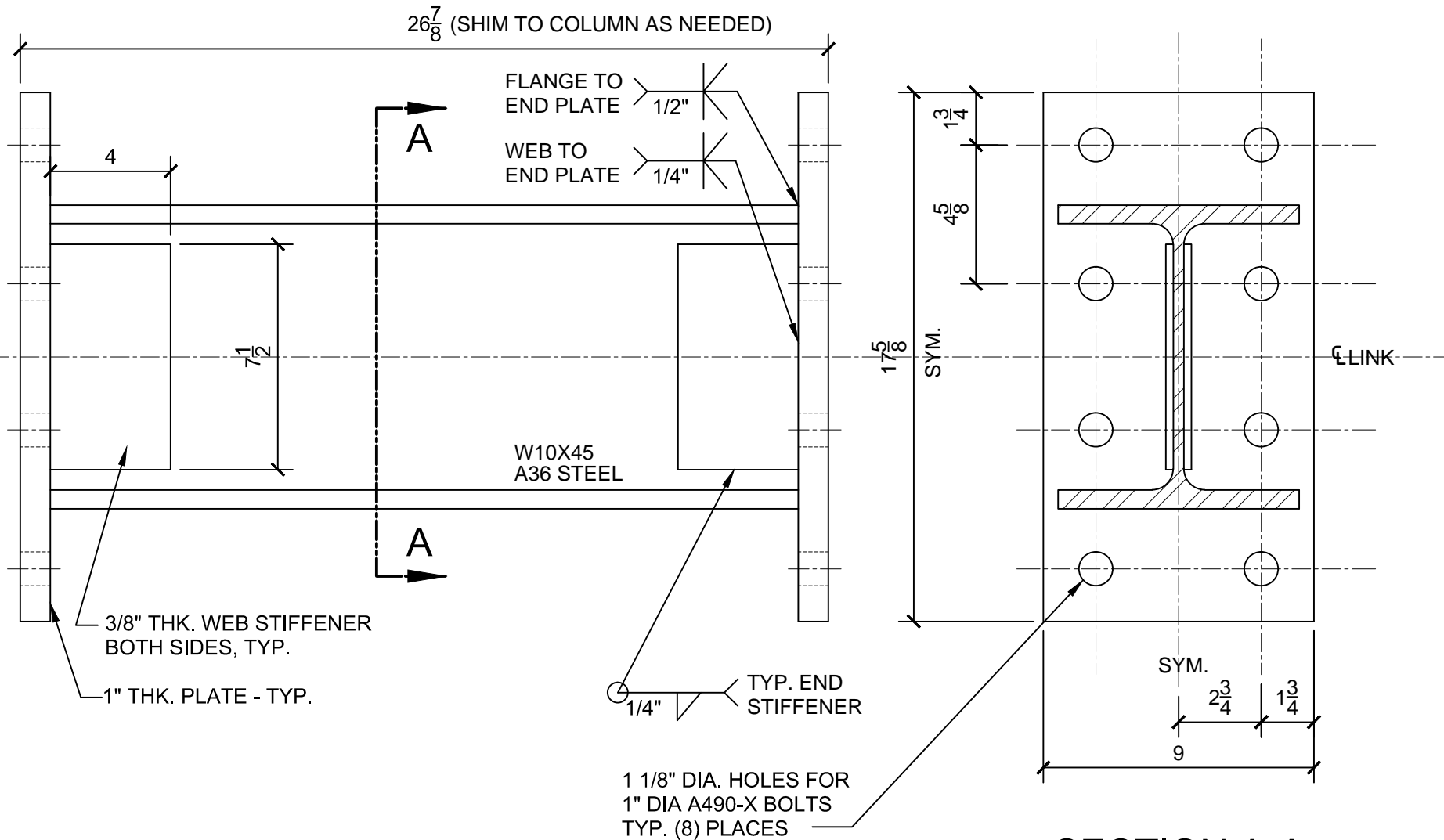


**SECTION A-A**

**2 GRAVITY BEAM PIN CONNECTION**

EXHIBIT A - REVISED 080112

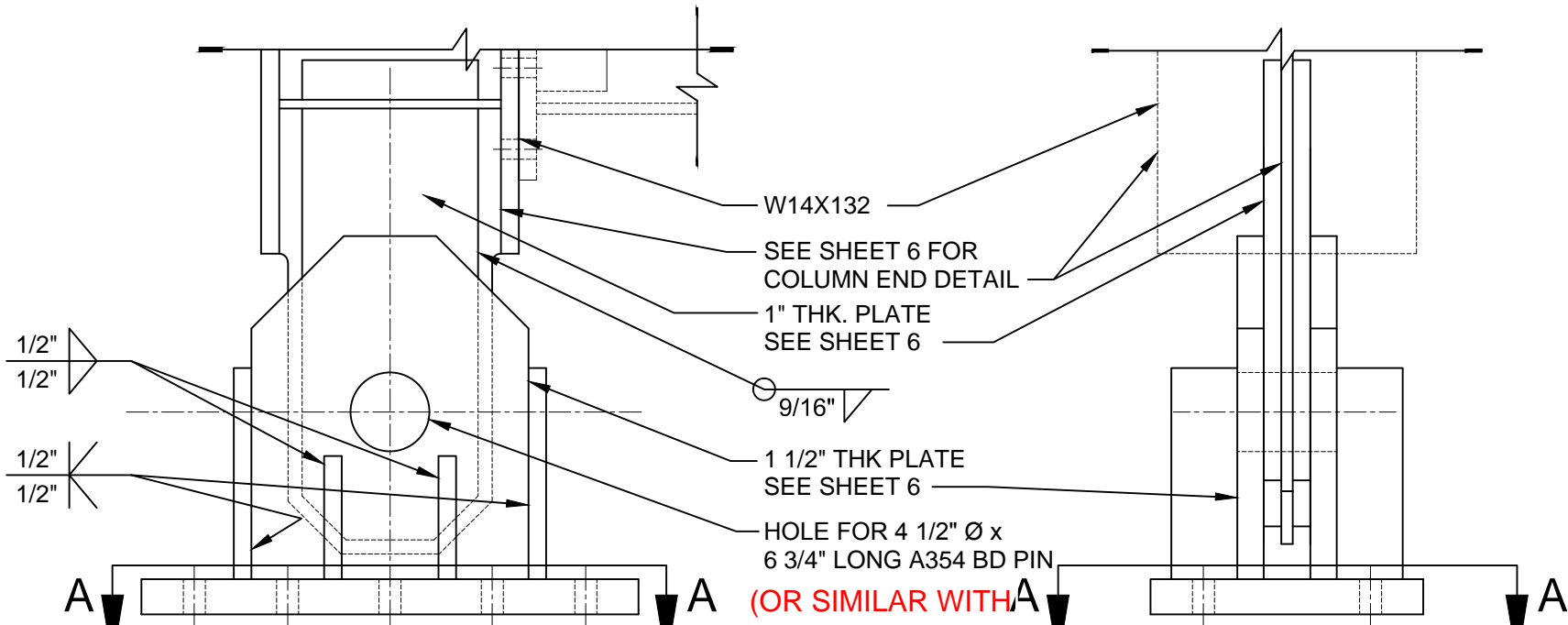
 <b>Portland State University</b>	<b>GRAVITY BEAM PIN CONNECTION</b>			
	Designed By: APL		Approved By: PD	
	Units: IN.		Scale: NA	
	Date: 28 Jun 12		Rev: 2	
		Date: 28 Jun 12		Sheet: 3/9



**SECTION A-A**

**3 SHEAR LINK DETAILS**

<p>Portland State UNIVERSITY</p>	<p>W10X45 S DETAILS</p>		<p>K</p>
	<p>Designed By: APL</p>	<p>Approved By: PD</p>	<p>Rev: 2</p>
	<p>Units: IN.</p>	<p>Scale: NA</p>	<p>Date: 28 Jun 12</p>



**CLEVIS FRONT**

**CLEVIS SIDE**

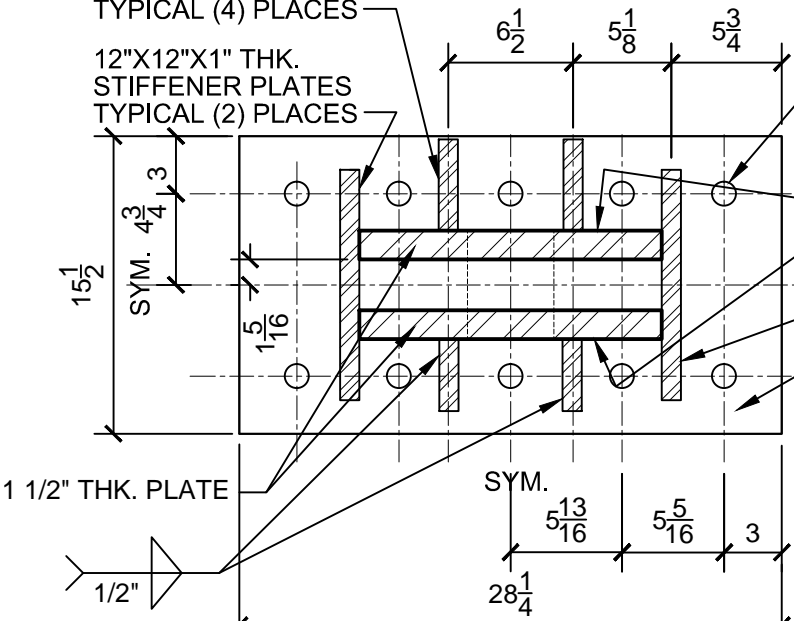
(OR SIMILAR WITH APPROVAL)

4"X7"X1" THK. STIFFENER PLATES TYPICAL (4) PLACES

12"X12"X1" THK. STIFFENER PLATES TYPICAL (2) PLACES

1 1/2" DIA. HOLE FOR 1 1/4" DIA. A490-N BOLTS TYP. (10) PLACES


1 1/4"  
3/8"  
2" THK. PLATE

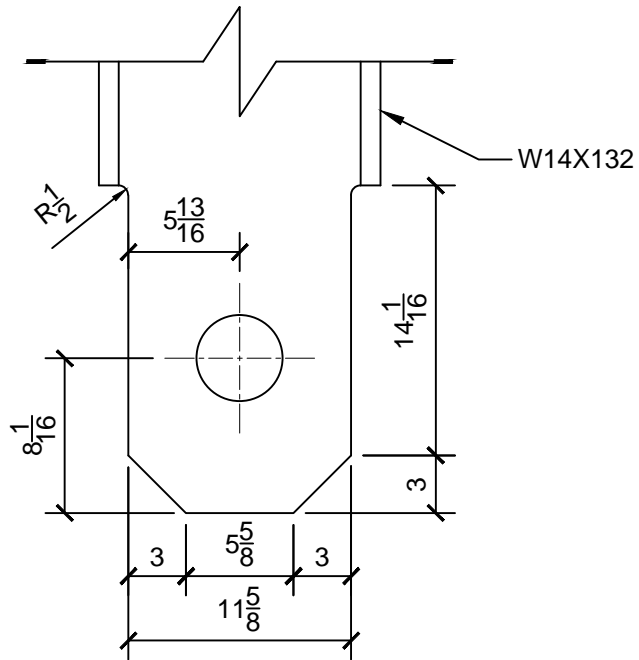


**SECTION A-A**

**4 LINKED COLUMN CLEVIS DETAILS**

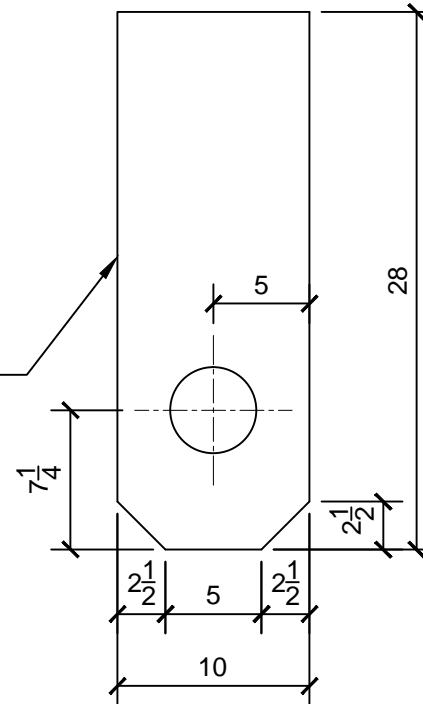
EXHIBIT A - REVISED 080112

 <b>Portland State UNIVERSITY</b>	<b>LINKED COLUMN CLEVIS DETAILS (1/2)</b>		
	Designed By: APL	Approved By: PD	Rev: 2
	Units: IN.	Scale: NA	Date: 28 Jun 12
			Sheet: 5/9

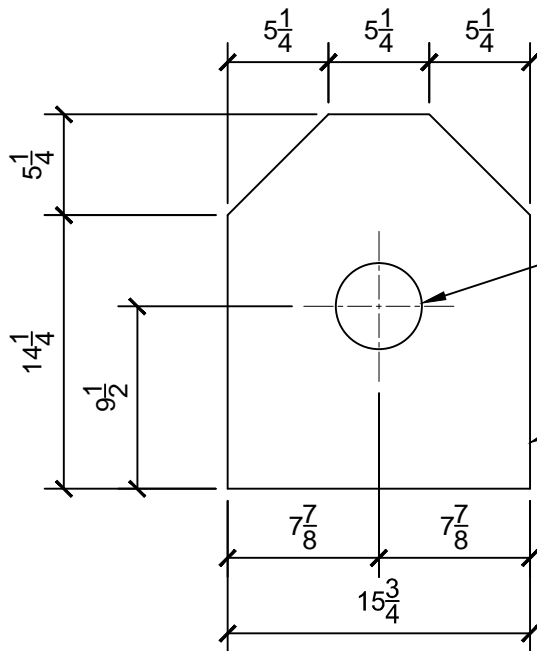


**COLUMN END**

1" THK. PLATE  
(4) REQUIRED



**COLUMN WEB STIFFENER**




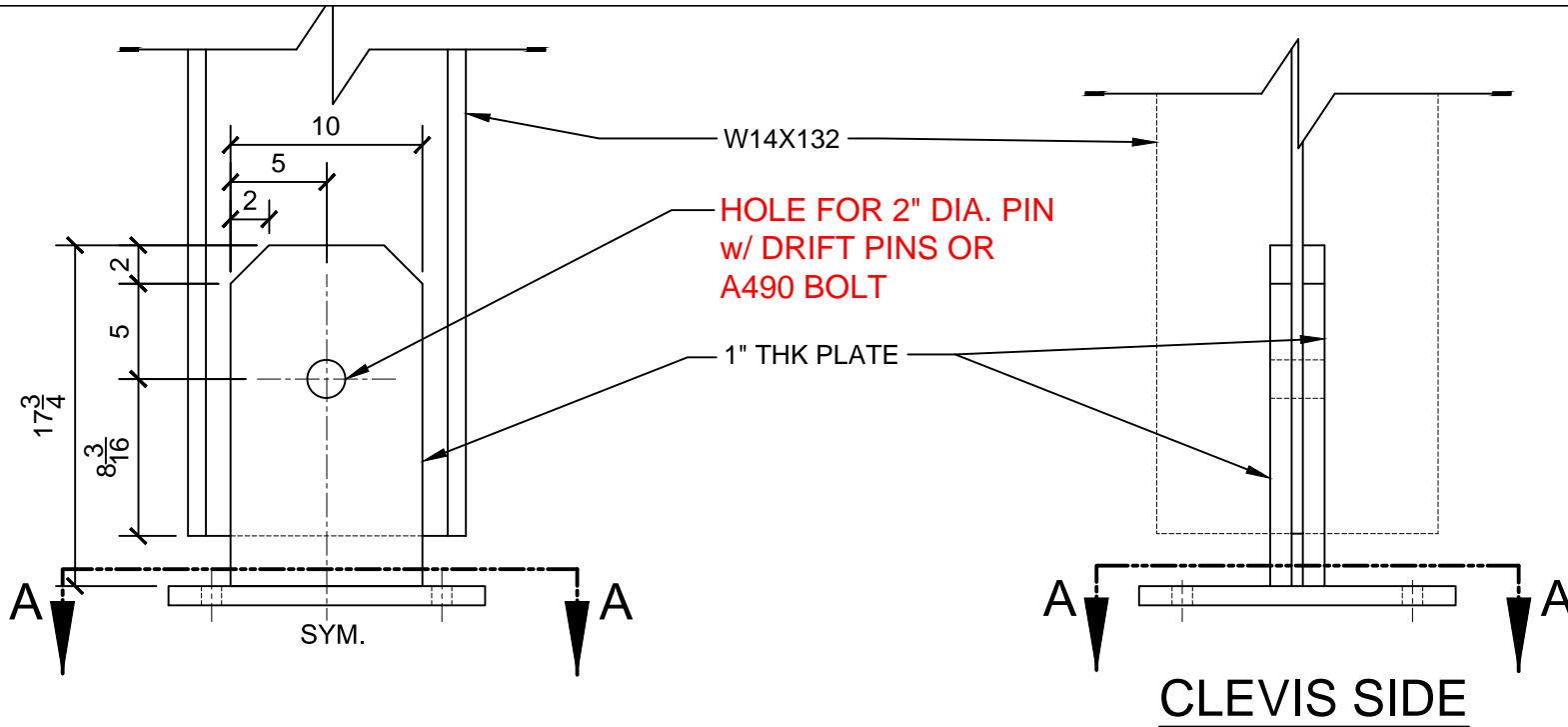
HOLE FOR 4 1/2" Ø x  
6 3/4" LONG A354 BD PIN  
W/ DRIFT PINS EACH SIDE

1 1/2" THK PLATE  
(4) REQUIRED

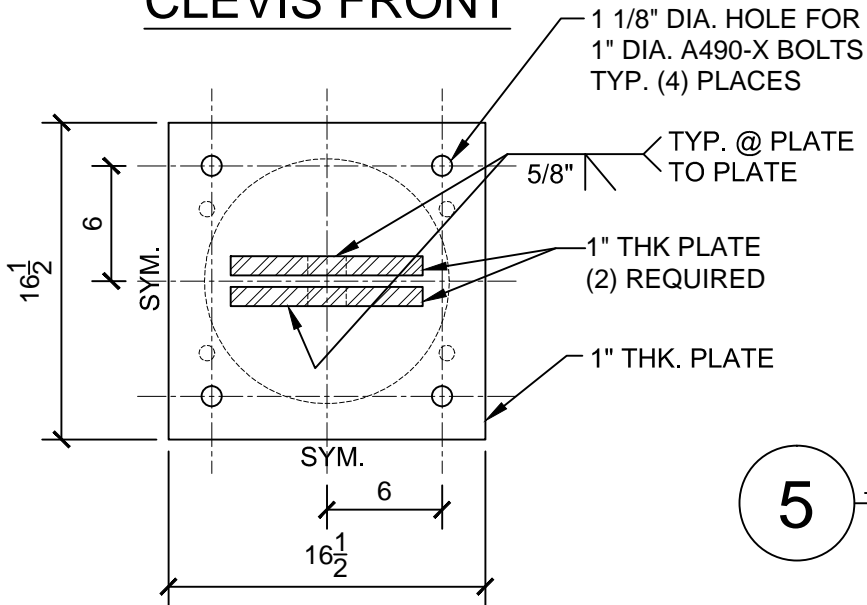
**CLEVIS PLATE**

EXHIBIT A - REVISED 080112

 <b>Portland State UNIVERSITY</b>	<b>LINKED COLUMN CLEVIS DETAILS (2/2)</b>		
	Designed By: APL	Approved By: PD	Rev: 2
	Units: IN.	Scale: NA	Date: 28 Jun 12
			Sheet: 6/9



**CLEVIS FRONT**




**SECTION A-A**

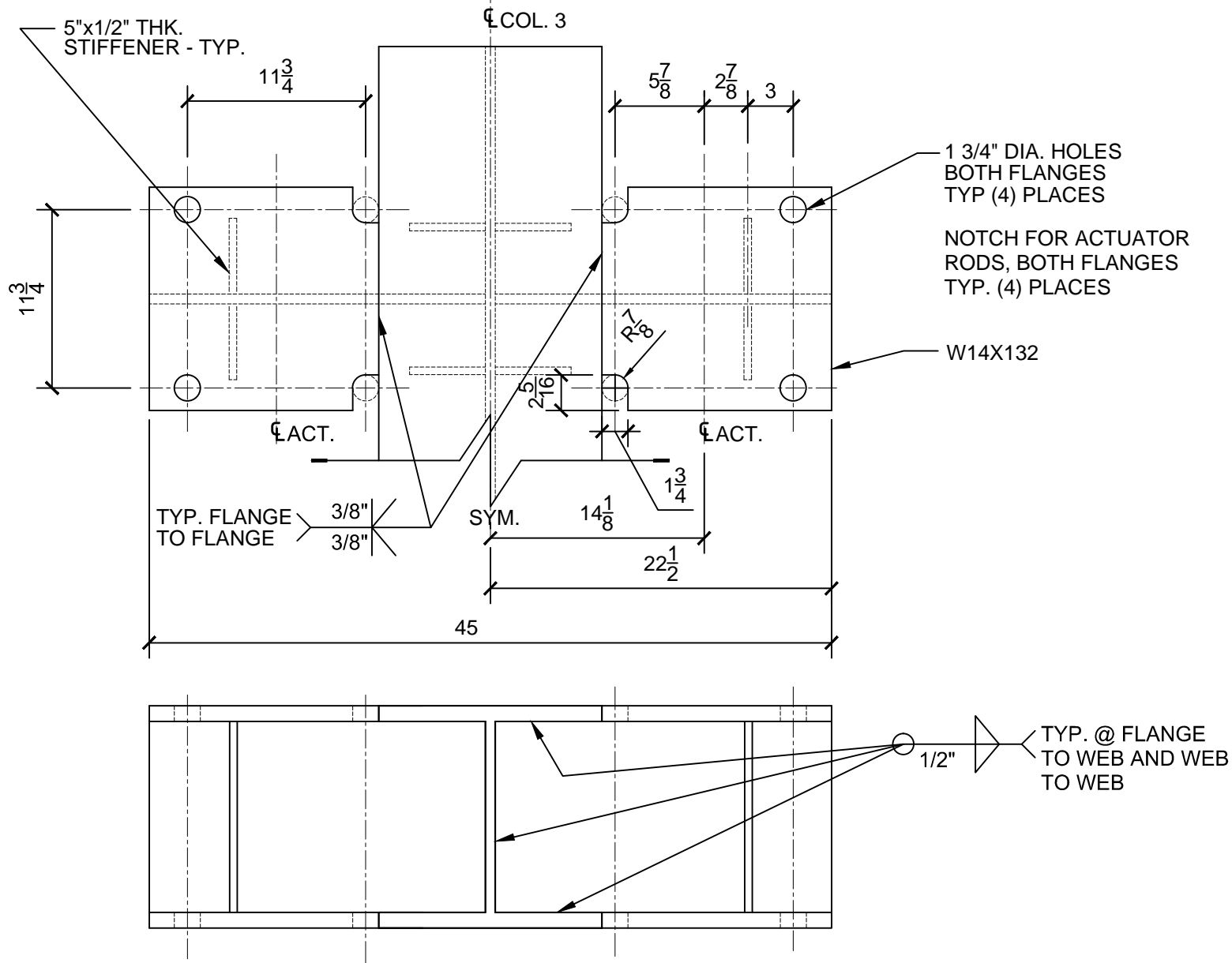
5

**GRAVITY COLUMN CLEVIS DETAIL**

EXHIBIT A - REVISED 080112

 <b>Portland State UNIVERSITY</b>	<b>GRAVITY COLUMN CLEVIS DETAILS</b>		
	Designed By: APL	Approved By: PD	Rev: 2
	Units: IN.	Scale: NA	Date: 28 Jun 12
			Sheet: 7/9




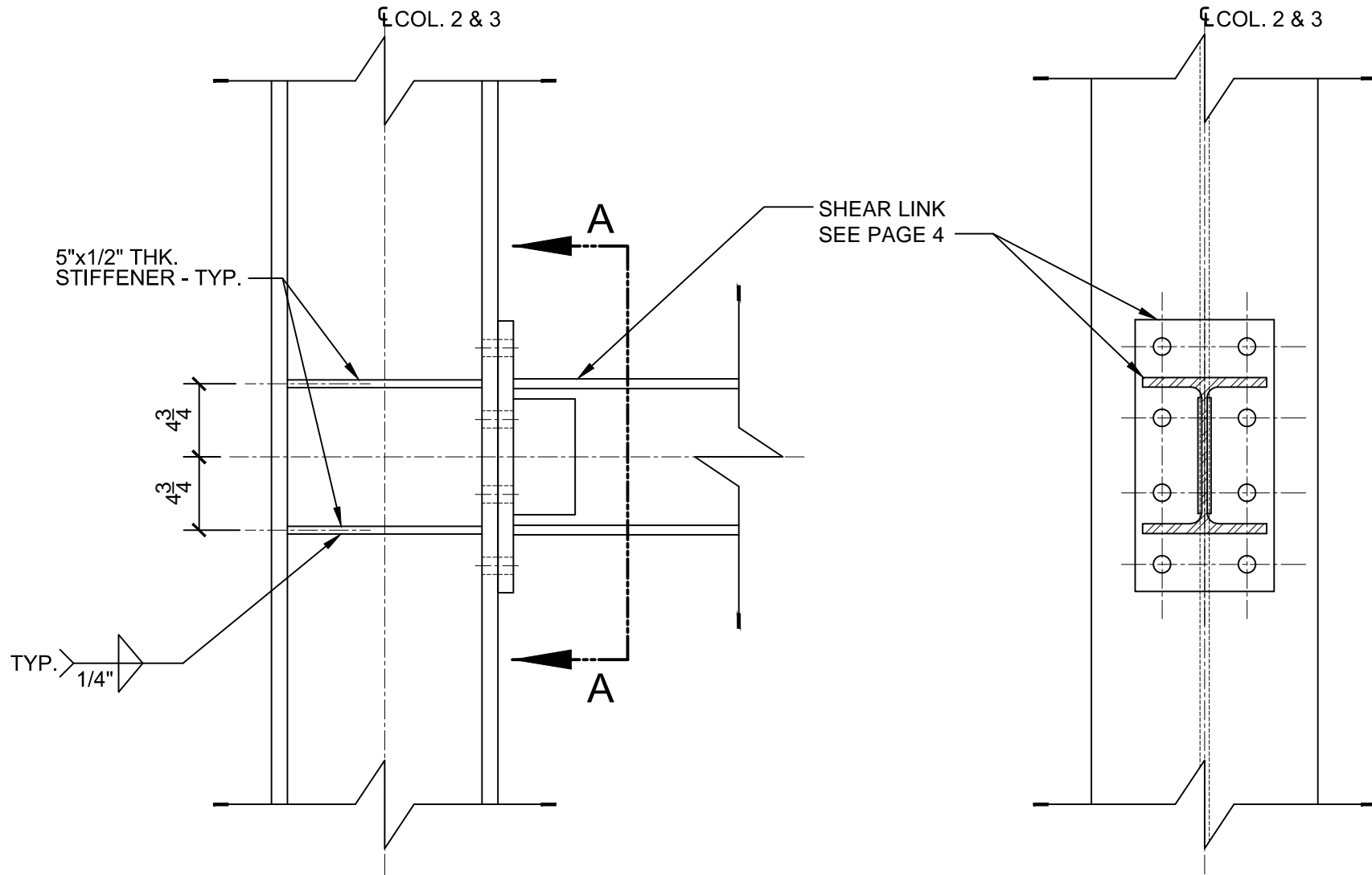


6

# ACTUATOR SPREADER BEAM DETAILS (2) REQ'D

EXHIBIT A - REVISED 080112


 <b>Portland State University</b>	<b>ACTUATOR SPREADER BEAM DETAILS</b>		
	Designed By: APL	Approved By: PD	Rev: 2
	Units: IN.	Scale: NA	Date: 28 Jun 12
			Sheet: 8/9



**SECTION A-A**

**7 SHEAR LINK CONNECTION**

EXHIBIT A - REVISED 080112

 <b>Portland State UNIVERSITY</b>	<b>SHEAR LINK CONNECTION DETAIL</b>					
	Designed By:	APL	Approved By:	PD	Rev:	2
	Units:	IN.	Scale:	NA	Date:	28 Jun 12
						Sheet: